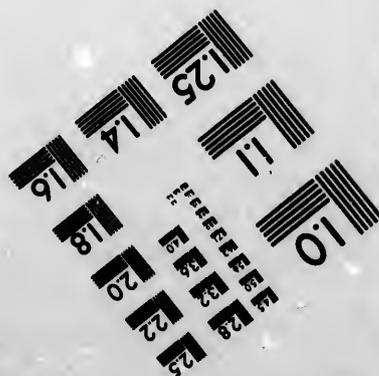
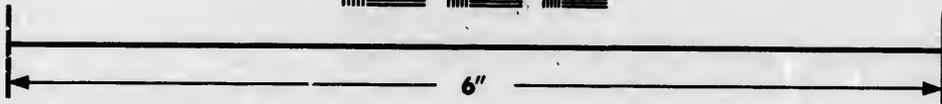
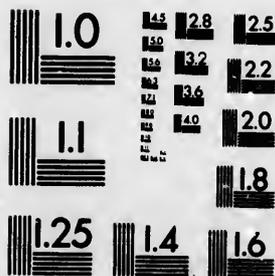


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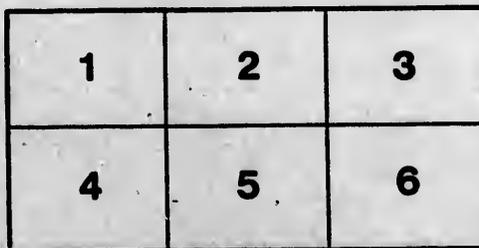
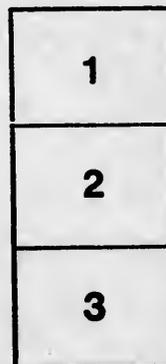
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A
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FOR THE ISLAND AND BANKS OF

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ADDRESS.

THE following work was at first intended to have been published under the title of the "CABOTIAN NAVIGATOR,"* and to form the first volume of a series which comprehends a description of the Atlantic seaboard of the American continent, by the late Mr. JOHN PURDY, whose works will remain an honourable and lasting memorial of the zeal and talent which, for upwards of forty years, were so successfully and usefully exerted in advancing the science of Hydrography.

But, as the attempt would be futile to impose a name upon a territory which has no general designation, however desirable it would be to give the name of CABOT to the country that he made known to modern times, the title of the "British American Navigator" has been adopted.

Three editions of a previous work on the same subject, under the title of the "Newfoundland Directory," have been honoured with the public approbation; but, from the more complete knowledge we now possess of those regions, it was found necessary to remodel the whole of it, and to abandon a title which would be manifestly inapplicable to its entire contents.

The former work was composed from the labours of Captain James Cook, the circumnavigator, whose survey of the western coasts of Newfoundland is still the best we have; from Messrs. Holland, Bouchette, Captain Bayfield, &c. in the Gulf and River of St. Lawrence; from Messrs. Lockwood, Des Barres, and others, on the coasts of Nova Scotia, New Brunswick, &c.; and these, as far as they were available, are retained in the present work; but, from the great amount of information we have latterly acquired of these regions, it will be found that the present volume is far more complete than its predecessors.

For the eastern coasts of Newfoundland, we have availed ourselves of the works of Captain F. Bullock, W. Bullock, and G. Holbrook, the Admiralty surveyors, which form a complete guide to this singular and rugged coast. In the description and directions for the N.E. portion, we have included the

* See Vol. I. page 29, of "Newfoundland in 1842," by Sir Richard Henry Bonnycastle; an interesting work, containing a complete history and description of the island of Newfoundland.

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ON WHICH THE RESPECTIVE DESCRIPTIONS MAY BE FOUND.**

(A copious Index, arranged alphabetically, will be found at the end of the volume.)

. The Longitudes are from the meridian of Greenwich. The Figures in Brackets, thus, [4], refer to the Notes subjoined to the Table.

NEWFOUNDLAND, COMMENCING WITH THE S.E. COAST.	LATITUDE N.		LONGITUDE W.			PAGES.	
	°	'	°	'	"		
CAPE SPEAR; <i>Light rev. 275 ft. one m.</i>	47	30	53	52	33	27	19, 49
St. JOHN'S; South Head; <i>Light F. [1]</i>	47	34	2	52	36	56	15, 19
Cape St. Francis	47	48	4	52	43	41	21
Harbour Grace; <i>Light at entrance F.</i>	47	42	48	53	5	58	21, 22
Carboniere	47	44	30	53	10	40	22
Bacalieu; North point of [2]	48	0	1	52	44	46	21
Bonaventure Head	48	16	30	53	18	10	24
Trinity Harbour; entrance	48	21	30	53	16	50	25
Horsechops	48	21	30	53	8	30	25
Catalina; South Head	48	27	38	53	0	52	25
North Head	48	32	28	52	56	6	25
CAPE BONAVIDA; <i>Light rev. 150 ft., R. and W. in two min.</i>	48	42	10	52	59	20	26
Young Harry Reef	48	48	5	52	58	15	27
Bonavista Bay; Southern Head	48	37	15	53	16	0	28
Western Head	48	37	15	53	22	0	28
Little Denier Isle	48	40	50	53	30	50	28, 29
Great Black Island; centre	48	50	8	53	32	15	30
Malone's Ledge	48	53	30	53	24	40	30
Offer Gooseberry Island	48	58	20	53	27	0	31
Shoe Cove Point	49	4	40	53	31	30	31
Fool's Isle, off the N.W. Arm	49	9	15	53	30	30	31
Stinking Islands	49	13	40	53	16	20	31, 32
Charge Rock (6 feet)	49	18	0	53	17	10	32
CAPE FREELS; Cape Ridge [4]	49	19	0	53	26	8	32
Freel's Gull Island	49	19	6	53	20	58	32
Outer Cat Island	49	23	25	53	32	20	32
Deadman's Point	49	28	18	53	37	30	33
Rugged Point	49	30	0	53	54	0	33
Brenton Rock	49	41	0	53	15	0	33
Funk Island; East point	49	44	21	53	7	20	32
Stark's Breakers	49	41	0	53	15	3	32
Durell's Lodge, or Snap Rock (10 feet)	49	54	0	53	37	48	33
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Ireland Rock (always breaks)	49	51	45	53	58	0	35
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FOGO HARBOUR; Eastern islet [5]	49	44	20	54	11	36	34

Change
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Morton
Fortune
Triton H
Cutwell
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Bishop
St. John
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POSITIONS OF PLACES.

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Fortune Harbour; N.W. point.....	49	32	0	55	10	0	35
Triton Harbour; entrance	49	33	0	55	31	0	35
Cutwell Harbour; East point	49	37	0	55	34	0	35
Nipper's Isles; S.E. point	49	47	0	55	46	0	36
Bishop's Rock	49	55	30	55	21	30	36
St. John's Gull Isle	49	59	30	55	16	0	36
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Middle Cape	49	57	30	55	22	55	36
North Bill	49	59	30	55	25	0	36
La Scie Harbour; entrance	49	58	0	55	31	0	36
Pacquet Harbour; entrance	49	58	30	55	45	18	37
St. BARBE, or Horse Isles; S.E. point	50	11	0	55	36	40	37
Fleur-de-Lis Harbour; East point	50	6	40	56	2	10	38
Partridge Point	50	9	20	56	3	30	38
Coney Arm Head	49	57	30	56	40	0	40
Cat Head; extremity	50	7	0	56	34	30	40
Little Harbour Deep Head	50	14	0	56	27	0	40
Orange Bay; entrance	50	22	0	56	21	0	40
Fourché Harbour; entrance	50	31	0	56	11	0	40
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CAPE CHAPEAUROUOE	46	54	19	55	20	31	53, 59
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Cape Miquelon	47	8	11	56	19	80	61
Connaigre Shoal	47	23	57	55	57	19	65
Pass Island	47	29	2	56	11	13	65
Cape La Hune	47	31	55	56	50	23	66
Outer Penguin Island	47	22	10	56	58	7	66
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	°	'	"	°	'	"	
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	LATITUDE N.			LONGITUDE W.			PAGES.
	°	'	"	°	'	"	
Quako Head; Lighthouse, <i>Light rev.</i>	45	18	0	65	27	0	189
Quako Ledge; centre.....	45	17	0	65	10	0	189
Cape Spencer	45	12	0	65	53	30	189
Cape Maspeck	45	12	40	65	58	45	190
Partridge Island; Lighthouse; <i>Lt. F. at 110 ft.</i>	45	14	0	66	1	15	190
CITY OF ST. JOHN (24)	45	15	30	66	1	30	190
FREDRIGTON, the Capital of New Brunswick..	45	57	0	66	59	0	190
Point Lepreau; Lighthouse, <i>Two lts. vertical F.</i>	45	4	0	66	25	0	193
Wolf Island; N.E. point	44	59	0	66	41	0	195
Beaver Harbour; S.W. point.....	45	9	30	66	45	15	197
Bliss Island, at the entrance of Etang.....	45	2	30	66	51	30	196
St. Andrew's; S.E. point of Navy Island	45	3	30	67	5	30	196
Campo Bello; Head Harbour Lighthouse, <i>Lt. F. at 60 ft.</i>	44	57	0	66	56	0	196
GRAND MANAN ISLAND, &c. (25)							
Northern point	44	46	49	66	48	0	193
S.W. Head	44	35	30	66	54	0	194
Whitehead Island; N.E. point	44	37	40	66	42	0	193
Old Proprietor Rock	44	31	40	66	34	0	194
Gannet Rock; Lighthouse, <i>Brilliant light in flashes</i>	44	31	0	66	49	0	194
COAST OF THE UNITED STATES.							
Passamaquoddy; Lighthouse on the West Head, <i>Lt. F. at 90 ft.</i>	44	48	0	66	57	0	195
MACHIAS; town of.....	44	51	0	67	23	0	199
Great Wass Island; S.E. point.....	44	30	0	67	30	0	200
Petit or Little Manan Island; Lighthouse, <i>Lt. F. 53 ft.</i>	44	24	0	67	46	0	200
Scodick or Scuttock Point	44	20	0	67	57	0	200
Mount Desert Rock; Lighthouse, <i>Lt. F. at 50 ft.</i>	43	52	0	68	3	30	199
Isle Haute; the S.W. point	44	1	0	68	30	0	201
Wooden Ball Rock; <i>Two lantern lights</i>	43	48	0	68	45	0	201
Isleboro', or Long Island; South end (26)	44	14	0	68	48	0	201
CASTINE; the town	44	24	0	68	40	0	202
White Head; Lighthouse, <i>Lt. F. at 58 ft.</i>	43	59	0	68	58	0	202

NOTES

REFERRED TO IN THE PRECEDING TABLE; SHOWING THE AUTHORITIES, WITH ADDITIONAL REMARKS, INCLUDING THE VARIATIONS OF THE COMPASS.

1. ST. JOHN'S.—The longitudes of the S.E. and south coasts of Newfoundland, as deduced from the Observations and Surveys of Capt. Jas. Cook, Lieut. M. Lane, Messrs. Cassini, Verdun, Borda, Pingré, and Owen, are generally from 8 to 3 minutes eastward of those given in the table: Fort Amherst, on which is the lighthouse at the entrance of St. John's Harbour (1' 40" east of St. John's Church) having been given as in lat. 47° 33' 30" N., long. 52° 29' W., or 4' 27" eastward of the assumed position. On the other hand, Fort Townsend (2 minutes west of Fort Amherst) according to the observations of Mr. J. Jones, master of H.M.S. Hussar, in 1828, is in lat. 47° 33' 42" N., and long. 52° 45' 29" W. or 6' 33" west of the given longitude. Amid these conflicting statements, it was thought safer to repeat the position as given in the Atlantic Memoir, 1840, page 41. The magnetic variation at St. John's is about 27° west.

Since the subsequent portion of this book has been printed, information has been received of the nearly entire destruction of the city of St. John by fire. On June 6th,

1846, it commenced, and did not terminate until the principal portion of it had been laid in ruins, and 20,000 persons rendered houseless—a calamity, the effects of which it will require much time to overcome.

2. CONCEPTION BAY, &c.—“It is a fact worthy of notice, that the whole of the land in and about the neighbourhood of Conception Bay, very probably the whole island, is rising out of the ocean at a rate which promises, at no very distant day, materially to affect, if not to render useless, many of the best harbours we have now on the coast. At Port de Grave (p. 23), a series of observations have been made, which undeniably prove the rapid displacement of the sea-level in the vicinity. Several large flat rocks, over which schooners might pass some thirty or forty years ago with the greatest facility, are now approaching the surface; the water being scarcely navigable for a skiff. At a place called the Cash, at the head of Bay Roberts (p. 23), upwards of a mile from the sea-shore, and at several feet above its level, covered with five or six feet of vegetable mould, there is a perfect beach, the stones being rounded, of a moderate size, and in all respects similar to those now found in the adjacent land-washes.”—*Newfoundland Times*, 1846.

3. BACALIEU or BACALAO ISLAND.—This island is interesting, as being probably the first land of North America discovered by Sebastian Cabot, which he did at 5 a.m. of the 24th June, 1497, (St. John's day), and named it “Primavista.” It was afterwards called by the French “Baccalaos,” a name applied to the whole of the island of Newfoundland; and it was thus called, either from its being the resort of numberless Bacalieu birds, a species of mergus, which are preserved by the legislature as forming useful sea-marks, or else from the original Indian name of the cod-fish, bacalao.

4. CAPE BONAVISTA.—The Admiralty surveyors, Messrs. George Holbrook and Wm. Bullock, have placed this cape as represented in the table; but since that, this and the coast to the northward of it have been stated as being 8° 50' farther westward: we have retained the former position. The variation is 29° west.

5. CAPE FREELS.—In the valuable Survey of the coast northward of Cape Freels, by Lieutenant Fred. Bullock, 1823-4, this cape is placed 4° 10' south of the same, as given in the survey southward, by Messrs. Holbrook and William Bullock, in 1817: to connect this with the southern parts, we have given the latter authority. Variation 30° west.

6. FOGO HARBOUR is very secure, and has good anchorage. This, with other harbours, has been surveyed by Mr. Thomas Smith, under the direction of Lieut. Bullock; and the particular plan is the best guide to the harbour. Variation 31° west.

7. CAPE ST. JOHN.—On the coasts to the northward of this cape, the French have the right of the fishery. The directions for this coast, given hereafter, are taken from the work of Captain Ch. Lavaud, of the French marine; which gives ample instructions for the navigation between Cape Bonavista and Cape Norman. The variation is here about 31° west.

8. CAPE NORMAN is placed by Capt. Bayfield in lat. 51° 38' 5", and lon. 55° 26' 21" W., or 8° 21' more to the west than in the table, which is the longitude assigned to it by Capt. Fred. Bullock. Captain Bayfield's position is probably dependent on that of Quebec; but in the Atlantic Memoir, 1840, p. 50, it is stated that the assumed longitude of Quebec is perhaps 3 minutes west of the true position; and the longitude of St. John's, as stated above, as observed by Mr. J. Jones, and recorded in Fort Townsend, is about 6° 33' west of its situation as taken by the Admiralty surveyors. These discrepancies, of Quebec being 3 minutes too far west, and St. John's 6° 33' too much to the east, would reduce the difference between these statements to about one minute; but, until they are reconciled more satisfactorily, the previous statement is adhered to. The variation at Cape Norman is 34° 20' west.

9. ST. PIERRE.—A survey of Port St. Pierre, by Lieut. Dupetit Thouars, places the government house, N.E. of the town, in latitude 46° 46' 30" N., and long. 56° 9' 38" W. The French astronomers, Messrs. Verdun, Borda, and Pingré, in the voyage of *La Flore*, 1771, gave the town of St. Pierre in 46° 46' 30" N. and 56° 10' W.: and, in the charts of Captain Ch. F. Lavaud, 1836-8, this result is repeated; thus confirming the determination of the Burgeo Islands, by Capt. Cook, from a solar eclipse in August, 1766. (*Phil. Trans.* 1767.) The variation is 27° 18' west.

10. ECLIPSE ISLAND.—See note on page 68.

11. CAPE RAY.—Captain Bayfield places this cape in lat. 47° 36' 56", lon. 59° 20' 10", or 3 minutes west of the position in the table. See note 16. Variation 24° west.

12. BAY OF ISLANDS.—The variation is about 28° west.

13. CAPE ST. LEWIS was placed by Lieut. M. Lane, in 1790, in latitude $52^{\circ} 25' 30''$, and longitude $55^{\circ} 20' W$. This, and the whole of the north coast of the Strait of Belle Isle, have been excellently re-surveyed by Captain H. W. Bayfield, whose nautical directions have been followed in the ensuing work. The variation is about 35° west.

14. ST. PAUL'S ISLAND.—This island, situated in the entrance to the Gulf of St. Lawrence, has been noted for the numerous wrecks upon its shores. It is rendered conspicuous by its two lighthouses, which will render the approach to it less dangerous and uncertain. Captain Bayfield says, "Vessels bound to Canada or any ports in the Gulf of St. Lawrence, should endeavour to make the Island of St. Paul, which being of considerable elevation, and bold all round, may, with care and a good look-out, be made even in fogs, if they are not very thick." In the night, the lights will assure a vessel of her situation. Variation $23^{\circ} 45' W$.

15. THE MAGDALEN ISLANDS.—In the Atlantic Memoir, page 49, are the following observations:—"Captain Bayfield places Cape Ray in longitude $59^{\circ} 20' 10''$, or three minutes west of that assigned in the table; and, in order to preserve the relative positions of the Magdalen Islands, &c., we are under the necessity of placing them three minutes to the east of that gentleman's positions. Therefore, by adding these three minutes, we gain the exact longitude assigned by Captain B., and as likewise shown in the beautiful chart of the islands from the survey of Lieut. P. E. Collins, R.N., 1833." Variation $23^{\circ} W$.

16. QUEBEC.—"The latitude of Quebec is $46^{\circ} 47' 30'' N$., according to the observations of M. le Marquis de Lotbinière, M. Bedard, directory of the seminary of St. Louis, and Captain Holland. M. Mechain computed the longitude to be $71^{\circ} 10'$, by several eclipses of Jupiter's first satellite, observed by Messrs. Lotbinière and Holland, and the passage of Venus that Captain Hollaud observed in 1769. All these observations, made at different times, have given very coherent results." Vide American Trans. Vol. I. &c.

The above passage, from "Analysis of a General Chart," &c., Paris, 1786, shows the position in which Quebec has hitherto been laid down on the charts; and it agrees with that given in the *Conn. des Tens*. But Quebec has since been exhibited considerably more to the eastward. Mr. Smyth, in his map of Upper Canada, has it in $69^{\circ} 52'$: the error is here enormous. Mr. Wright, in his chart of 1807, $70^{\circ} 27'$. The Requisite Tables of 1802 give lat. $46^{\circ} 48' 38''$, lon. $71^{\circ} 5' 29''$. Colonel Bouchette, in his work on Canada, 1815, gives $46^{\circ} 48' 49'' N$. and $71^{\circ} 11' W$. In the years 1819, 1820, and 1821, the officers of H.M.S. Newcastle, provided with four chronometers, made many observations in the river; and these observations may be judged of by the longitude in which they placed Quebec, for three successive years, assuming Halifax as in $63^{\circ} 33' 40''$; July 16th, 1819, $71^{\circ} 12' 48''$; June 19th, 1820, $71^{\circ} 13' 14''$; July 5th, 1821, $71^{\circ} 12' 25''$. The greatest difference is $49''$, and the mean of the whole is one second farther west than the longitude given in 1819.

From these data, we judge that the longitude of Quebec does not exceed that given in the table, which is 3 minutes less than that of Captain Bayfield.

VARIATIONS OF THE COMPASS in and about the St. Lawrence. It has been proved by numerous observations made by the American surveyors, Messrs. Jos. and B. Ellicott, that the westerly variation, in 1800, ceased at or very near the river Niagara, on the south side of Lake Ontario, or long. $79^{\circ} W$. See the particular plan of the Frontier of Niagara, given on the new map of Canada, &c., published by Mr. Laurie. The variation at Montreal was $7^{\circ} 45' W$. in 1834. In and about the same year the variations were as follow: at Contrecoeur, $8^{\circ} 45'$: Lake St. Peter, 10° : Trois Rivières, 11° : QUEBEC, and Isle of Orleans, 15° : Isle aux Coudres, 16° : at Tadousac, on the mouth of the Saguenay, 17° : off the Isle Bic, $18^{\circ} 40'$: Port Neuf, $18^{\circ} 20'$: at Father Point, $19^{\circ} 45'$: Point des Monts, 22° : Seven Isles, $20^{\circ} 27'$: West end of Anticosti, $24^{\circ} 30'$: East end, $25^{\circ} 30'$: Mingan Island, 26° : off Kegashka, $27^{\circ} 45'$: Little Mecatina, $30^{\circ} 30'$: Bradore Harbour (Strait of Belle Isle), $34^{\circ} 15'$: Red Bay, $35^{\circ} 30'$.

Off Cape de Monts, in the River St. Lawrence, there is a remarkable aberration of the compass, which renders it necessary to steer different courses according to the direction of the vessel's head: see note on p. 127-8.

The variation at the east end of Prince Edward Island is 21° ; Pictou Harbour, 19° . In Sydney River, Breton Island, and at Cape Breton, 22° west.

17. SABLE ISLAND.—In the Colombian Navigator, vol. 1, page xviii. is given a note, which is repeated on page 165 of the present work. The latitude of Sable Island appears to have been given as five miles too far north; and the west end, according to M. des

Barres, 15 minutes to the westward of that, as given by Mr. J. Jones, Master of H.M.S. Hussar, which is probably near the truth. This may have added to the real dangers of this formidable place. It may be observed that the west end is given in the table in lat. $43^{\circ} 57'$, and lon. $60^{\circ} 15'$, or $2'$ east of that of Mr. Jones, in 1829; but, as will be seen hereafter, in the copious description of Sable Island, the rapid reduction in its length will cause as much difference as this. It may be here repeated, that every precaution ought to be used on arriving near Sable Island. The variation, in 1837, was found to be $20^{\circ} 22' W$.

18. CANSO OR CANSEAU HARBOUR is the harbour or rather channel formed by George's, formerly Canso Island. M. de Chabert, in 1750, stated this harbour to be in longitude $45^{\circ} 20' N$. and $60^{\circ} 55' W$. The latitude here agrees with M. des Barres, and the longitude is only 3 minutes more to the east. Mr. Lockwood, on the contrary, makes the latitude 2 minutes more north, and the longitude 2 minutes more west.

19. HALIFAX.—In Mr. Raper's valuable work, the longitude of Halifax is assumed as a secondary meridian, in $63^{\circ} 37' 26''$; but, as this position cannot be considered as finally determined, we have repeated the longitude as given in the Atlantic Memoir, p. 55, and the Colombian Navigator, vol. i. p. 9; and, judging from the coherency of former results, the longitude above is probably nearly 4 minutes too far west. This is in some measure confirmed by the observations of Capt. W. F. W. Owen, in H.M.S. Columbia, in 1844, while on the Survey of the Bay of Fundy, &c. He gives the position of the tablet in the Dockyard, in longitude $63^{\circ} 35' 28'' W$. Variation, $16^{\circ} 46' W$.

20. SAMBRO' LIGHTHOUSE.—“In 1823, the officers of H.M.S. *Niemen* made the longitude of Sambre' light $63^{\circ} 30' 57''$. In 1822 they had made it in $63^{\circ} 30' 0''$, and it was subsequently gained by them as $63^{\circ} 30' 8''$. (Mean $63^{\circ} 30' 22''$.) M. des Barres gave it as $63^{\circ} 31'$. We, therefore, reject a statement of $63^{\circ} 35' 16''$, lately published.”—*Col. Nav.* vol. i. p. 20.

21. CAPE SABLE.—Cape Sable and the points to the north-eastward, were formerly given as represented by M. des Barres in 1776, whose longitude, as well as latitude, appeared to be nearest to the truth; but it may be observed, that M. de Chabert, the French Astronomer, in 1758, gave the latitude of the Cape, from his own observations, as only $43^{\circ} 23' 45''$; Mr. Jones, in 1829, gave it as $43^{\circ} 23' 57''$; Mr. Lockwood, in 1818, gave it as $43^{\circ} 27' 40''$; and a chart of the Bay of Fundy, dated 1st May, 1824, has it even so high as $43^{\circ} 28' 10''$.—See the next note.

22. SEAL ISLAND.—M. des Barres places the southernmost point of Seal Island in latitude $43^{\circ} 25' 25''$, and longitude $66^{\circ} 0' 35''$. Later charts have it in latitude $43^{\circ} 26' 35''$. But, under the orders of Rear-Admiral Sir Chas. Ogle, Mr. John Jones, of H.M.S. Hussar, in 1828, 1829, and 1830, made a series of observations upon the coasts of Newfoundland, Nova Scotia, New Brunswick, &c., some of which have been before adverted to. By these observations he places the south point of Seal Island in latitude $43^{\circ} 23' 51''$, longitude $65^{\circ} 59' 42''$, or 3 miles more to the southward than the above; and Lieut. Chas. Hare, R.N., made, in 1828, some observations, which places the latitude of the south point in $43^{\circ} 22' 23''$, or four miles more to the southward. This result, which may thus be depended on, will account for so many ships having been yearly cast away on coming out of the Bay of Fundy. On the supposition of these vessels being far enough to the southward to clear all danger, they may have stood away to the S.E., and thus have been lost.—See description and note on p. 183.

VARIATIONS OF THE COMPASS on the south coast of Nova Scotia.—In the year 1775 the variations were given by M. des Barres as follow:—North entrance of the Gut of Canso, $16^{\circ} 0' W$.; Crow Harbour, Chedabucto Bay, $14^{\circ} 50' W$.; entrance of Liscomb Harbour, 14° ; Sable Island, $13^{\circ} 57'$; Halifax lighthouse, $13^{\circ} 35'$; entrance of Shelburne, $13^{\circ} 30'$; Cape Sable, $11^{\circ} 15'$.

In 1798, Mr. Backhouse, of the navy, found the variation at Halifax to exceed 16 degrees. According to Colonel Bouchette, it was $17^{\circ} 0' 10''$ at that place in 1830; at Sambre' lighthouse, in 1828, $16^{\circ} 45'$; and at Cape Sable, 14° : so that since 1775 it has increased nearly $3\frac{1}{2}$ degrees; but whether it is still on the increase hereabout is questionable.

23. BRYER'S ISLAND.—M. des Barres gives Bryer's Island as in latitude $44^{\circ} 22' 5''$, and $66^{\circ} 21' W$.; but we are constrained to follow up the correction of Grand Manan and Cape Sable, and thus give it more to the southward. Mr. Jones gives the latitude as $44^{\circ} 13' 51''$.

POINT PEAR is also given by M. des Barres as in 44° 45' 30" N. (longitude 65° 46' 30" W.), four miles higher than the latitude given in the table.

24. CITY OF ST. JOHN.—M. des Barres gave the position of the Cape or Point Maspeck as 45° 18' 27", and 65° 57' 35" W. It will be seen, by reference to the table, that it is now represented nearly 6 miles more to the south; and this correction, of course, affects St. John's, and all the coast westward to Passamaquoddy Bay.

The variation at St. John's is about 16° W.

25. GRAND MANAN ISLAND, &c.—Lieut. Charles Hare, in a voyage outward and homeward, in 1828, made observations for determining the latitude of the S.E. side of Grand Manan Island, which, he concluded, must confirm, beyond all doubt, that the whole body of that part of the island must be brought southerly, in order to be correct.

At the time this information was received, we were doubtful of its accuracy, so far as these remarks affected Grand Manan, not suspecting that the charts, then recently published by authority, could possibly be incorrect.

But Mr. Jones, before alluded to, made Whitehead Isle on the S.E. of Grand Manan, in latitude 44° 36' 59", while in the chart it appears in 44° 41' 0", or 4 miles more to the northward, thus confirming the observations of Lieut. Hare, who makes the difference here about 5 miles.

26. ISLEBORO', or LONG ISLAND.—The position of this island was determined, in 1780, by Dr. Williams, Dr. Winthrop, and other American astronomers, from a total eclipse of the sun, Sept. 27th.

NEWFOUNDLAND.—On the chart of Newfoundland, &c. accompanying this work, is shown all that is known of the interior of that singular country. It is principally derived from a map by Mr. Juke, the late geological surveyor of Newfoundland, which is composed from the explorations of Mr. Cormack, in his unsuccessful search for the aboriginal Red Indians, now probably extinct (1822—27); of Mr. Peyton and Captain Buchan on the River of Exploits; from his personal observations in the River Humber and the Grand Pond, &c.; from the reports of the native Micmac Indians, and other sources.

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THE PHARONOLOGY,

OR

DESCRIPTION OF THE LIGHT-TOWERS,

AND OTHER

REMARKABLE OBJECTS FOR DISTINGUISHING HEADLANDS, ETC.

NEWFOUNDLAND, AND GULF AND RIVER OF ST. LAWRENCE.

CAPE BONAVIDA.—A lighthouse on this cape has, since Sept. 10th, 1843, exhibited a revolving light, at 150 feet, showing a red and a white light alternately. The period of its revolution is two minutes. Page 26.

CAPE SPEAR.—A lighthouse, exhibiting a powerful revolving light, at 275 feet above the level of the sea, which shows a brilliant flash at regular intervals of one minute; visible, in clear weather, at eight leagues off. Page 19.

ST. JOHN'S.—Upon Fort Amherst, on the South Head, at the entrance of the harbour, a brilliant and fixed light. See page 19. Here are, also, a small battery and signal-post.

HARBOUR GRACE.—On an islet, one of a cluster of rocks at the mouth of the harbour, a lighthouse, consisting of a square wooden house, with a square dove-cote looking top for a lantern, containing an effective and useful fixed light. The islet is accessible in moderately smooth weather only, by ladders up the face of its landward cliff. Page 22.

PORT ST. PIERRE, on the island of that name.—A modern lighthouse, on Pointe au Canon, near the town, with fixed harbour light, from the 1st of May to the 15th of November, as described in page 60.

ST. PIERRE.—In addition to the harbour light on Pointe au Canon, a fixed light on the billick of *Galantry Head*, was intended to be shown in the autumn of 1845: this light will be visible 15 miles off. Page 60.

SCATARI.—An octagonal light-tower, built of wood, on the N.E. extremity of Scatari, first lighted, with argand burners and reflectors, Dec. 1, 1839; painted white, with revolving light, about 90 feet above the sea; visible one minute, and invisible half a minute, alternately. A boat to render assistance to vessels in distress; and a gun to answer signals, when required. Page 158.

SYDNEY, BRETON ISLAND.—On Flat Point, upon the eastern side of the entrance, an octagonal tower, of wood, 90 feet high, and painted vertically red and white. It exhibits a brilliant fixed light at 160 feet above the level of the sea; seen, in clear weather, at five leagues off. Page 157.

ST. PAUL'S ISLAND, off CAPE NORTH.—Two lighthouses, octagonal, and built of wood; one near its northern, and the other near its southern extremity; of which one will always be open, unless to a vessel near the central rocks. The northern light is on a rock, separated from the main island by a passage 26 feet wide: it is painted white, and exhibits a fixed dioptric or refracted light, with concentric lamps and four burners, at 140 feet above the sea.

The SOUTHERN LIGHTHOUSE is on the S.W. extremity of the island. It exhibits a light similar to the northern one, but revolving, at the same height. Page 86.

GUT OF CANSO.—A lighthouse, on the western side of the northern entrance of the Gut of Canso, was established in 1842, in latitude $45^{\circ} 42'$, and longitude $61^{\circ} 27'$. The tower, painted white, stands at 120 yards from the shore, and exhibits a fixed light at 115 feet above the level of the sea. It may be seen from the greater part of the Bay of St. George and the shores of Breton Island, as far as Jestico or Port Hood.

There is good anchorage under the lighthouse, with the wind off the land. Page 149.

PICTOU.—An octagonal lighthouse, built of wood, on the western side of the entrance,

It is painted red and white, in vertical stripes, and exhibits a brilliant fixed light at 65 feet above the sea. The light bearing $W. \frac{1}{2} N.$ leads into the harbour. Page 146.

LOUISBOURG.—A lighthouse on the eastern side of the entrance to the harbour of Louisbourg, 60 fathoms in-shore, lat. $45^{\circ} 54' 30''$, long. $59^{\circ} 55' 30''$. It stands on the site of the old French lighthouse, (which was succeeded by a beacon,) and shows a fixed light, visible at sea from off Cape Portland to the south-eastern extremity of Cape Breton. The lighthouse, (which is a square building,) is painted white, with vertical black stripes on either side, in order to distinguish it from other lighthouses, and to render it conspicuous when the back land is covered with snow. See page 158.

ANTICOSFI.—On the *S. W.* point of Anticosfi, a circular stone tower, 75 feet high. The light, which is brilliant, revolves once in a minute, and can be seen from N. N. W., round by the west and south, to S. E. by E. The lantern is elevated 100 feet above high water, and the light may be seen at five leagues off. Lighted from the 25th of March to the last day of the year. Page 91.

On **HEATH POINT**, near the *S. E.* extremity of this island, is another lighthouse, of the same form, dimensions, and colour as the above, and also built of the island limestone. The light, however, has not yet been shown. Heath Point being low, it disappears below the horizon at the distance of a few miles, and the lighthouse then appears like a sail off the island. Page 90.

POINT DE MONTS, on the north side of the River of St. Lawrence, nearly opposite to Cape Chatte.—A tower with a fixed light, at about 100 feet above the level of the sea; lying $S. 52^{\circ} W.$ from the outer part of Caribou Point; over which, and to the eastward of it, the land may be seen.

From the lighthouse the western extremity of Point de Monts bears $S. 64^{\circ} W.$ about one mile; and when a ship is to the westward of the point, the lighthouse will appear in one with the outermost rocks off the same. In the day-time it forms a bold, distinct landmark, and from this line of bearing, ships are in the best fairway for sailing up or down the river. See further, page 109.



Lighthouse on Point de Monts, West, one mile.

BICQUETTE ISLAND.—A lighthouse having been erected on the west end of the Island of Bicquette, in the River St. Lawrence, a revolving light of the first class was shown thereon for the first time, on the 9th August, 1844; and the light will continue to be shown every night from sunset to sunrise, from the 15th April to the 15th December, in each year. The tower is 70 feet high, and the light stands 130 feet above the level of the sea, the north-west reef bearing from it due West, $1\frac{1}{2}$ mile. This light will revolve at regulated intervals of two minutes.

A nine-pounder gun is placed near the lighthouse, and will be fired every hour during foggy weather and snow storms. Page 115.

GREEN ISLAND, in the River.—On the north point of this island is a light-tower, with a fixed light, at about 70 feet, from the 15th of April to the 10th of December. Note (*) page 115, and page 131.

SOUTH PILLAR.—A revolving light will be shown from the tower lately erected on the South or Stone Pillar, on and after the night of the 28th September, 1843, during the season of the navigation. This light will revolve at regulated intervals of 21 minutes. Page 120.

TRAVERSE, near **CAPE St. ROQUE.**—A floating light in the South Traverse, on the edge of the Bank of St. Roque; five miles above a chequered buoy, and three-quarters of a mile below a black buoy on the same. Page 119.

LAKE ST. PIERRE, or **St. PETER**, above Quebec.—At about 47 miles below Montreal, a light-vessel and a buoy indicate the entrance to the south channel, at the western end of Lake St. Pierre. Page 136.

NOVA SCOTIA; SOUTHERN and WESTERN COASTS.

CRANBERRY ISLAND, near CAPE CANSO.—An octagonal tower, built of wood, 88 feet in height, painted horizontally red and white, which exhibits two lights, one above the other, with argand lamps and reflectors. Page 160.

Note.—The lighthouses of Nova Scotia and New Brunswick are now painted with black or red stripes, to distinguish the towers from the land; and, after the snow is gone off the land, the accumulations against the fences, which generally run at right angles to the coast, and which continue for some time after it has disappeared from the fields themselves, have exactly the appearance of a white tower, and frequently mislead even those acquainted with the coasts.

SABLE ISLAND, **STOWALS**.—The signals used to communicate with the establishment on Sable Island, by any vessel visiting it or passing the island, are as follow:—(For description, see page 165.)

A flag at main topmast or foregallant mast-head, denotes	All well on board.
main-mast head,	Are there any wrecks?
main gaff,	Can a boat get off?
main gaff, half hoisted,	How many persons on shore?
main rigging,	Vessel in distress.
foretopmast head,	Vessel coming to the island.
fore rigging,	Are you in want of provisions?
the mast-head in the island,	That a boat will be off immediately.
the mast-head, if kept flying,	All well on shore.
the East yard-arm,	Are you coming to the island?
the same, half hoisted,	A boat cannot get off.
the West yard-arm,	Not in want of provision.
the same, half hoisted,	In want of provision.
One ball or more, East yard-arm,	Ten persons for each ball.
West yard-arm,	One wreck or more.
A flag under one ball or more, West yard-arm	One or more of H.M. ships.
A pendant under one ball or more, West yard arm,	One of H.M. packets.

The Flag used on the Island is red, white, and blue, horizontally. A Union Jack, or any other flag, is used by the vessel.

Any of the above signals, when made, should remain up ten or fifteen minutes, or until answered. A gun fired, particularly in hazy weather, will draw the attention of the inhabitants. All other flags must be kept down when making signals. (April, 1837.)

WEDGE ISLAND, off the entrance of St. Mary's River, to the eastward of Halifax, is distinguished by a beacon of wood, rising to 140 feet above the sea, covered at the top, and painted white. It may be seen from 6 to 8 miles off. Page 162.

DEVIL ISLAND, on the eastern side of the entrance to Halifax Harbour, a beacon of wood, painted white, and 50 feet in height. Page 172.

SAMBRO' ISLAND, west of Halifax Harbour, an octagonal tower, 197 feet high, with a brilliant fixed light. Attached is a small party of artillery, with two 24-pounders for signals, &c. Latitude 44° 28' 30", longitude 63° 32' 30". Pages 171, 172.

HALIFAX HARBOUR.—*Sherbrook Tower*, on Maugher's Beach, a circular tower, with a fixed light, at 58 feet above the level of the sea, as a leading light for the harbour. Pages 171, 172, 173.

LUNENBURG.—Upon the S.E. point of Cross Island, at the entrance of Lunenburg Bay, lat. 44° 23', long. 64° 5' 10", an octagonal tower, painted red, with two lights placed vertically, and 30 feet apart. The lower light is fixed, and the upper so eclipsed as to show a flash at intervals of a minute, abruptly changing from dark to light. First lighted, Dec. 1, 1839. The island is low and thickly wooded. See page 179.

LIVERPOOL.—A lighthouse, 90 feet high, on Coffin's Island, at the entrance of Liverpool Harbour; of octagon shape, painted red and white horizontally, and exhibiting a brilliant light, revolving once in every two minutes. See page 180.

CAPE ROSEWAY.—*Shelburne Tower*, on Cape Roseway, of an octagon shape, painted black and white vertically, and exhibits, vertically, two brilliant fixed lights; the upper and larger being at 150 feet above the level of the sea, the lower light 36 feet below it. Page 180.

CAPE SABLE, **SEAL ISLAND**.—A lighthouse on the highest part of the Southern Seal

Island, latitude about $43^{\circ} 24'$, longitude $65^{\circ} 58'$. It is of an octagon shape, and 170 feet high, painted white, with a brilliant fixed light.

This is the first light seen in approaching the Bay of Fundy. The very dangerous rock, called the *Blonde*, lies about two miles S.S.W. (*magn.*) from the lighthouse. Between the rock and island are some dangers: the ground is rocky throughout, and large vessels, therefore, ought not to attempt passing between. Page 185.

CAPE FOURCHU, on the western side of the entrance to Yarmouth, in lat. $43^{\circ} 47'$, long. $66^{\circ} 10'$, a lighthouse, which, since the 15th of January, 1840, exhibits a brilliant revolving light, visible one minute and a quarter, and invisible half a minute. The building is painted red and white, vertically, and is elevated 145 feet above the level of the sea.

In a valuable communication which we have received from Mr. Wm. Reynolds, of the city of St. John, New Brunswick, dated 24th October, 1841, this gentleman says, "Several shipmasters, who have passed the Cape Fourchu light, bound in, have described it as one of the best lights on this coast: indeed there is no part of the public service that has been better attended to than the lighthouses, their lanterns, lamps, and reflectors; and, as far as lighting with oil is concerned, will vie in brilliancy with those of any similar apparatus in any part of the world. The lanterns, improved lamps, and reflectors, are highly creditable to the artisans who made them, (at St. John's,) and the laudable exertions and perseverance of the lighthouse commissioners are beyond all praise."

NOTE.—All the British lighthouses in the Bay of Fundy are of wood; and, with the exception of that on Partridge Island, have all been established since 1838. The shape of each, that of Cape L'Ange excepted, is octagonal; the last mentioned is square. The lanterns are of iron, with large plate glass, and the lamps argand, with reflectors. The diameters of the towers, at the base, are from 25 to 35 feet, tapering upward to the lanterns.

BRYER'S ISLAND; Latitude $44^{\circ} 14'$.—A lighthouse, painted white, with brilliant fixed light, (in lieu of the old and disgraceful lighthouse,) elevated 90 feet above the level of the sea, and about half a mile N.E. from the N.W. point of the island. Page 186.

ANNAPOLIS.—A lighthouse on Point Prim, on the western side of the entrance, with fixed light, at 76 feet above the sea.

The coast hereabout is very bold, and not indented; the light is therefore intended chiefly as a guide into Digby Basin. Renovated, with reflectors, &c., in 1835. Page 187.

CAPE ENRAGÉE, on the north side of CHRONZERO BAY.—A square lighthouse, exhibiting a brilliant fixed light. The house is painted white, and is elevated about 120 feet above high water.

QUAKO HEAD, on the north side of the Bay of Fundy.—A lighthouse on a small rock near this head, with a brilliant revolving light, established in 1835. Light full and dark twice in a minute. The lighthouse is painted white and red, in horizontal stripes. Page 189.

ST. JOHN'S HARBOUR.—A lighthouse on Partridge Island, exhibiting a brilliant fixed light, at 110 feet above the level of the sea, and having a bell; which is tolled in thick weather. The lighthouse is painted red and white, in vertical stripes. Page 189.

Beacon Light.—Within Partridge Island, and upon a spit or bar which extends about half a mile S.S.E. off Sand Point, and which dries at two-thirds ebb, stands a beacon tower. This tower shows a fixed light, which is eminently useful to the coasting trade of St. John, and to all other vessels having pilots on board, as it enables them to enter the harbour at all hours of the night. The house is painted white and black, in stripes vertically. The light is about 35 feet from high-water mark.

For the SIGNALS displayed on the approach of vessels to the harbour, see page 192.

POINT LEPREAU, on the north side of the Bay of Fundy.—A lighthouse, erected in 1831, exhibits two brilliant fixed lights, vertically, one being 28 feet below the other: the lower lantern is attached to the outside of the building, as shown in page 195. Both lights can be seen from every point of the compass, where they may be useful. In consequence of orders from the home government, this light was, in 1840, painted red and white, in stripes of 5 feet broad each, horizontally, in order that it may be seen more distinctly at a distance. The height from the level of high water to the lower light is 25 feet.

HEAD HARBOUR, Passamaquoddy Bay (*United States*).—A brilliant fixed light on the N.E. extremity of Porto Bello; as a guide to vessels entering the main channel to West Isles, Moose Island, and the inner bay of Passamaquoddy, and enabling vessels at all times to enter Head Harbour. The light is elevated about 60 feet from high-water mark. The building is painted white, with a red cross upon it. Page 195.

QUODDY HEAD, opposite to the north end of Grand Manan, on the west.—A lighthouse, with brilliant fixed light, at 90 feet above the sea, and which may be seen at seven leagues off. An alarm bell, near the lighthouse, strikes ten times in a minute, and may be heard, in calm weather, five miles off. Page 195.

GANNET ROCK, to the southward of Grand Manan.—A lighthouse with a brilliant *flashing*, formerly a fixed red light, as described in page 194. This light is intended to warn vessels of their approach to the dangerous range of shoals and ledges, extending from the *Old Proprietor* to the Seal Isles off Machias, a distance of about 20 miles. The brilliant flash appears for 40 seconds, and is succeeded by 20 seconds of darkness. The lighthouse is painted in stripes, vertically, black and white.

Between the northernmost and southernmost of the Murr Ledges, (see note, page 194,) there is a range of dangerous rocks and shoals, many of them always above water, and which extend westward from the lighthouse about four miles; from this range, farther westerly, about eight miles, lies a dangerous breaker, called the *Roaring Bull*. This may be avoided, by keeping three remarkable headlands near the S.W. end of Grand Manan open.

MACHIAS SEAL ISLES.—On the southernmost isle are two lighthouses, established in 1832. The distance apart is 200 feet, and they exhibit brilliant fixed lights, horizontally, at about 45 feet above high water. In a line they bear W.N.W. and E.S.E. Page 194.

Vessels standing to the northward, between these lights and the Gannet Rock, should tack or haul off the moment they bring these lights in one, as they will not then be more than three-fourths of a mile from the Murr Ledges, if more than five miles to the east of the lights.

MOUNT DESERT ROCK.—Lighthouse, with a conspicuous fixed light, appearing red, at 56 feet above the sea. Latitude $43^{\circ} 52'$, longitude $68^{\circ} 3'$, which may be safely assumed as a point of departure. Page 199.

LIBBEE or LIBBY ISLES, near Machias Bay.—On the southernmost a lighthouse, with fixed light, in latitude about $44^{\circ} 35'$, and 60 feet above the level of the sea. Page 199.

MOOSEPECK HEAD.—Lighthouse on Mistake Isle, three leagues S.W. $\frac{1}{2}$ W. from that of the Libbee Isles. It exhibits a *revolving* light at 54 feet above the sea, which is eclipsed twice in every four minutes. At six leagues off, the duration of light and dark appears nearly equal; but, on approaching, the time of darkness will diminish, and that of light increase. See page 200.

LITTLE MANAN.—A lighthouse of stone, with brilliant fixed light, at 53 feet above the level of the sea, and $\frac{1}{2}$ miles S.E. $\frac{1}{2}$ S. from the entrance of the port of Goldsboro', and five leagues to the southwestward of Moosepeck light. Lat. $44^{\circ} 24'$, long. $67^{\circ} 46'$. Page 200.

CRANBERRY ISLANDS.—A lighthouse on *Baker's Island*, the outermost of the Cranberry Isles, with brilliant fixed light, at 70 feet above the sea, bearing from that on the Little Manan W.S.W. five leagues. Lat. $44^{\circ} 15'$, long. $68^{\circ} 6'$. Page 200.

WHITE HEAD, on the western side of the mouth of the Penobscot. Lat. $43^{\circ} 58'$, long. $69^{\circ} 1'$.—Lighthouse, with brilliant fixed light, at 58 feet above the level of the sea, with that on Mount Desert Rock bearing E.S.E. 13 leagues. Page 201.

METINICUS.—On the outer *Wooden-bull Rock*, two lantern lights, one at each end of a dwelling-house, 82 feet above the sea, and which, when in one, bear N.N.W. Lat. $43^{\circ} 8'$, long. $68^{\circ} 45'$. Page 201.

OWL'S HEAD, on the western side of the Penobscot.—Lighthouse, with brilliant fixed lights, at 150 feet above the level of the sea, the fairway course to which is N.W. by N. It stands at seven miles above White Head. Page 201.

PENOBSCOT HARBOUR LIGHTS.—One on *Brown's Head*, the western side of the Fox Island Passage, with fixed light at 80 feet above high water. Another on Dice's Island, upon the eastern side of the river, at the entrance of Castine Harbour, with fixed light at 116 feet. Page 201.

* * * For a continuation of the Lights on the coasts of the United States, the reader is referred to the first volume of the "*Colombian Navigator*," which contains a description of, and sailing directions for, all the coast westward of the Penobscot, &c.

ADVERTISEMENT.

SAILING DIRECTORIES, &c. 1843.

THE following MEMOIRS and DIRECTORIES, the productions of the late Mr. JOHN PURDY, were proposed by him to form a complete series, and to be bound in volumes as described. The dates of the last editions are subjoined. These now comprise the navigation of all the coasts from the ARCTIC SEAS to CAPE HORN, the CAPE OF GOOD HOPE, and the Southern Coast of Africa; including the CATTEGAT, BALTIC, MEDITERRANEAN, EUXINE, and other inland seas.

VOLUME I.—1. Memoir, Descriptive and Explanatory, to accompany the General Chart of the NORTHERN OCEAN, Davis' Strait, and Baffin's Bay; including the Navigation from Great Britain and Ireland to Spitzbergen and the White Sea, inclusive, 1830. 2. Sailing Directory for the NORTH SEA, including the Eastern Coasts of England, Scotland, &c., 7th Edition, 1842. 3. Sailing Directory for the Cattegat, Sound, and Belts, 1843. 4. For the Baltic, 1843. 5. Gulf of Finland, 1843.

VOLUME II.—1. Sailing Directory for the English Channel, 9th edition, 1842. 2. For St. George's Channel and all the Coasts of Ireland, 4th edition, 1842.

VOLUME III.—1. Sailing Directory for the Bay of Biscay, 1839. 2. For Spain and Portugal, 1839. 3. For the Strait of Gibraltar and Western Division of the Mediterranean Sea, with Additions, 1840. 4. For the Gulf of Venice, and Eastern or Levantine Division of the Mediterranean Sea, together with the Sea of Marmara, and the Euxine or Black Sea, 1834. Additions as above.

VOLUME IV.—Memoir, Descriptive and Explanatory, to accompany the Charts of the Atlantic Ocean, and comprising Instructions, General and Particular, for the Navigation of that Sea, with an Appendix, &c., 9th edition, 1845.

VOLUME V.—1. THE BRITISH AMERICAN NAVIGATOR, or Sailing Directory for Newfoundland, the Gulf and River of St. Lawrence, Nova Scotia, &c., 1846. 2. THE COLOMBIAN NAVIGATOR, or Sailing Directory for the American Coasts and the West Indies: Vol. i. Nova Scotia to Florida and Mexican Sea, inclusive; Vol. ii. The Great Antillas, Windward Passages, and Navigation of the Gulf Stream, 1839.

VOLUME VI.—THE COLOMBIAN NAVIGATOR, Volume the third: for the Caribbee Isles, Guyana, Colombia, Mosquitia, the Bay and Gulf of Honduras, &c., 1839.

VOLUME VII.—THE NEW SAILING DIRECTORY for the Ethiopic or Southern Atlantic Ocean; comprehending the Coasts of Brazil, &c., from Maranhau to Cape Horn; the Coasts of Guinea, &c. from Sierra Leone to and beyond the Cape of Good Hope, and including the Islands between the two Coasts. 1845.

NEWFOUNDLAND, ETC.

** THROUGHOUT THIS WORK, THE GIVEN LONGITUDE IS THE LONGITUDE FROM GREENWICH. THE BEARINGS AND COURSES ARE THOSE BY COMPASS, UNLESS WHERE OTHERWISE EXPRESSED: BUT THOSE GIVEN THUS [E.N.E.] SIGNIFY THE TRUE; AND THE GIVEN DIRECTION OF WIND, TIDE, AND CURRENT, IS TO BE CONSIDERED AS THE TRUE. THE GIVEN DEPTHS ARE THOSE AT LOW WATER, SPRING TIDE.

VARIATIONS OF THE COMPASS.—The Magnetic Variation in the Environs of St. John's is from 26 to 27 degrees West: in Bonavista Bay, from 28 to 29 degrees. In the years 1833-4, near Cape Ray it was 24 degrees West: at the Isle of St. Paul, 23° 45': Magdalen Islands, 23°: Eastern point of Prince Edward Island, 21°: Pictou Harbour, 19°: Sydney Harbour, Breton Island, and Cape Breton, 22°.

Coast of Labrador.—Bradore Harbour, 34° 15' W.: Red Bay, 35° 30': Little Mecatina, 30° 30': off Kegashka, 27° 45': Mingan Island, 26°: East end of Anticosti, 25° 30': West end of the same, 24° 30'.

River St. Lawrence.—Seven Isles, 24°: Cape de Monts, 22°: Father Point, 19° 15': Port Neuf, 18° 20': off the Isle Bic, 18° 40': at Tadousac, on the mouth of the Saguenay, 17°: Isle aux Coudres, 16°: Quebec and Isle of Orleans, 15°: Trois Rivières, 11°: Lake St. Peter, 10°: Contrecoeur, 8° 45': Montreal, 7° 45'.

Nova Scotia, &c.—At Halifax it is 17½ degrees W.: off Mahone Bay, 17 degrees: near Liverpool Bay, 16 degrees: Cape Sable, Seal Isles, 14 degrees: at St. John's, New Brunswick, 16 degrees: and Penobscot Bay, 12 degrees, W.

I.—OF THE WINDS, CURRENTS, ICES, AND PASSAGES TO NEWFOUNDLAND, NOVA SCOTIA, AND NEW BRUNSWICK, ETC.

1. **OF THE WINDS**.—The Variable Winds which prevail over all the regions hereafter described, are too generally known and understood to require a particular description. The superficial currents are actuated accordingly, and they vary with winds which may probably be prevalent at a remote distance, and produce that swell of the ocean by which they are commonly preceded.

We have heretofore had occasion to notice that, to the southward of Newfoundland, shifts of wind are very common; and it has frequently happened that, after blowing a gale upon one point of the compass, the wind suddenly shifts to the opposite point, and blows equally strong. It has been known that, while one vessel has been lying-to, in a heavy gale of wind, another, not more than 30 leagues distant, has, at the very same time, been in another gale, equally heavy, and lying-to, with the wind in quite an opposite direction. This, upon Mr. Redfield's theory, is to be understood as applicable to two vessels falling under the two opposite sides or portions of the same storm.

In the year 1782, at the time the *Ville de Paris*, *Centaur*, *Ramillies*, and several other ships of war, either foundered, or were rendered unseaworthy, on or near the Banks, together with a whole fleet of West-Indiamen, (excepting five or six,) they were all lying-to, with a hurricane from E.S.E.; the wind shifted in suddenly to N.N.W., and blew equally heavy, and every ship lying-to, under a square course, foundered.

The winds within the Gulf of St. Lawrence are not so liable to sudden shifts as on the outside, or to the eastward, of Breton Island. The weather to the southward of the *Magdalen Islands*, between them and Prince Edward Island, is generally much clearer than on the North.

MEETING OF THE TWO SEAS.—The brig *Recovery*, Captain T. Hamlin, on her return

from New Orleans toward Greenock, 21st April, 1822, was proceeding E.N.E. on the parallel of 40° toward the Grand Bank. In the first part of the twenty-four hours the weather was moderate, a breeze sprung up at west, and the vessel made all sail. In the middle part strong gales succeeded, still at west, and sail was reduced. At one *a.m.* black and gloomy, with rain. At 5, a strong gale from the *eastward* took the ship aback, and drove her astern against the old sea; it struck the boat, and broke the larboard davit, and a new sea rising with the shift of wind, the two seas met in dreadful confusion. With a scend forward the brig dipped the jib-boom under, and broke it off in the cap; and, with the scend aft again, stove in the cabin window. While all hands were employed, trying to secure the boat, repeated seas struck her, and at length raised her above the stern, and unshipt the other davit. They then held on the tackle-fall that was fast to her, and dropped her astern, with the hope that a favourable opportunity might occur for taking her in, but she filled and broke adrift. From 5 to 8 the wind continued to blow a gale; sometimes at East, then at West, and back again repeatedly; while the vessel was quite unmanageable, and lying exposed to the contending elements. At 8 *a.m.* the easterly wind prevailed, and the vessel was then laid-to under close-reefed main topsail, &c. Lat. at noon by acc. $43^{\circ} 25'$, long. $53^{\circ} 0'$. At one *p.m.* of the 22nd it became calm; the vessel then drifted with the sea, going round and round; but on the next day the wind was fair at S.W., and the brig proceeded eastward.

At one *a.m.* on the 23rd, a sensible change in the atmosphere and sea was experienced: from which it was concluded that the *Recovery* had entered on the Grand Bank. At daylight the colour of the water was found to be altered, and a numerous quantity of ice-birds and murre were upon it.

On the 31st of October and 1st of November, 1822, the *Recovery*, on her return from New Orleans to London, at $3\frac{1}{2}$ degrees more to the southward, and nearly on the same meridians, met with heavy squalls, a strong gale from the N.W., and a high cross sea, which continued for nearly twenty-four hours and to longitude 48° . Hereabout, therefore, all the seaman's spirit, vigilance, and skill, are required.

Between the meridians of 52° and 47° W., 28th to 31st July, 1823, Captain Hamlin, in the ship *George IV.*, from the S.W., crossed the parallel of 40° N., all moderate and pleasant weather, with N.W. and westerly winds.

Ship *George IV.*, 3d April, 1824, homeward. "Squally and unsettled, with lightning. At noon, lat. $40^{\circ} 14'$, long. $50^{\circ} 33'$. Next day, variable, with heavy showers. On the 5th, heavy showers of hail, succeeded by a smart breeze from the North. Lat. at noon, $40^{\circ} 28'$, long. $46\frac{1}{2}^{\circ}$."

PHENOMENA WESTWARD OF NEWFOUNDLAND, as described by Captain BAYFIELD.—Among the difficulties of the navigation in the Gulf of St. Lawrence are the fogs and ices. In spring the entrance and eastern parts of the Gulf are frequently covered with ice, and vessels are sometimes beset for many days. Being unfitted for contending with this danger, they often suffer from it, and are occasionally lost; but all danger from ice is far less than that which arises from the prevalence of fogs. These may occur at any time during the open or navigable season, but are most frequent in the early part of summer; they are rare, and never of long continuance, during westerly winds, but seldom fail to accompany an easterly wind of any strength or duration. This observation is, however, subject to restriction, according to locality or season. Thus, winds between the south and west, which are usually clear weather winds above Anticosti, are frequently accompanied with fog in the eastern parts of the Gulf. Winds between the south and east are almost always accompanied with rain and fog in every part. E.N.E. winds above Point de Monts, at the mouth of the river, are often E.S.E. or S.E. winds in the Gulf, being changed in direction by the high lands of the south coast, and have, therefore, in general, the same foggy character. This is said of winds of considerable strength and duration, and which may extend over great distances. Moderate and partial fine weather winds may occur without fog at any season, and in any locality. In the early part of the navigable season, especially in the months of April and May, with clear weather, N.E. winds are of frequent occurrence, and they sometimes occur at other seasons, in every part of the Gulf and river.

The fogs sometimes last several days in succession, and to a vessel either running up or beating down, during their continuance, there is no safe guide but the constant use of the deep sea lead, with a chart containing correct soundings.

The fogs which accompany easterly gales extend high up into the atmosphere, and cannot be looked over from any part of the rigging of a ship. They however are not so thick as

those which occur in calms after a strong wind, and which are frequently so dense as to conceal a vessel within hail; whilst the former often, but not always, admit the land or other objects to be distinguished at the distance of half a mile, or more, in the day-time.

The dense fogs which occur in calms, and even in very light winds, often extend only to small elevations above the sea; so that it sometimes happens, when objects are hidden at the distance of 50 yards from the deck, they can be plainly seen by a person 50 or 60 feet up the rigging. In the months of October and November the fogs and rain, that accompany easterly gales, are replaced by thick snow, which causes equal embarrassment to the navigator.

During the navigable season, the prevailing winds are either directly up or directly down the estuary of St. Lawrence, following the course of the chains of high lands on either side of the great valley of the river. Thus a S.E. wind in the Gulf becomes E.S.E. between Anticosti and the south coast, E.N.E. above Point de Monts, and N.E. above Green Island. The westerly winds do not appear to be so much guided in direction by the high lands, excepting along the south coast, where a W.S.W. wind at the Isle Bic has been seen to become West, W.N.W. and N.W. on running down along the high and curved south coast, until it became a N.N.W. wind at Cape Gaspé. These winds frequently blow strong for three or four days in succession; the westerly winds being almost always accompanied with fine dry, clear and sunny weather; the easterly winds as frequently with the contrary, cold, wet, and foggy. In the spring the easterly winds prevail most; frequently blowing for several weeks in succession. As the summer advances the westerly winds become more frequent, and the S.W. wind may be said to be the prevailing wind in summer in all parts of the river and gulf. Light south winds take place occasionally; but north winds are not common in summer, although they sometimes occur. Steady north winds do not blow frequently before September, excepting for a few hours at a time, when they generally succeed easterly winds which have died away to a calm, forming the commencement of strong winds, and usually veering to the S.W. The N.W. wind is dry, with bright clear sky, flying clouds, and showers. After the autumnal equinox, winds to the northward of west become more common, and are then often strong steady winds of considerable duration. In the months of October and November the N.W. wind frequently blows with great violence, in heavy squalls, with passing showers of hail and snow, and attended with sharp frost.

Thunder storms are not uncommon in July and August; they seldom last above an hour or two; but the wind proceeding from them is, in general, violent and sudden, particularly when near the mountainous part of the coast; sail should, therefore, be fully and quickly reduced on their approach.

Strong winds seldom veer from one quarter of the compass to another directly, or nearly contrary: in general they die away by degrees to a calm, and are succeeded by a wind in the opposite direction. It is not here meant that they may not veer to the amount of several points. N.W. winds seldom or never veer round by north and N.E. to east and S.E.; but they do frequently, by degrees, to the S.W., after becoming moderate. S.W. winds seldom veer by the N.W. and north to the eastward, but sometimes by the south to S.E. and east. Easterly winds generally decrease to a calm, and are succeeded by a wind from the opposite direction.

In the fine-weather westerly winds of summer, a fresh topgallant breeze will often decrease to a light breeze or calm at night, and spring up again from the same quarter on the following morning; under these circumstances only may a land breeze off the north coast be looked for. The same has been observed off the south coast also, but not so decidedly, nor extending so far off shore. Captain Bayfield adds, "I have occasionally carried the north land-wind nearly over to the south coast just before day-light, but have never observed the south land-wind extend more than five or six miles off, and that very rarely. Under the same circumstances, that is, with a fine weather westerly wind going down with the sun, a S.W. land-breeze will frequently be found blowing off the north coast of Anticosti at night, and during the early part of the morning. If, however, the weather be not settled fair, and the wind does not fall with the sun, it will usually prove worse than useless to run a vessel close in shore at night, in the hope of a breeze off the land. Such is the usual course of the winds in common seasons, in which a very heavy gale of wind will probably not be experienced from May to October, although close-reefed topsail breezes are usually common enough. Occasionally, however, there are years the character of which is decidedly stormy. Gales of wind, of considerable strength, then

follow each other in quick succession, and from opposite quarters. The marine barometer, which is at all times of great use to the navigator, becomes particularly so in such seasons."

2. **CURRENTS, &c.**—It has been shown in our volume on the Navigation of the Atlantic Ocean, how the Currents generally set, from Hudson's Strait, &c., to the Eastern Coast of Newfoundland, and through the Strait of Bell-Isle into the Gulf of St. Lawrence. Hence it may be seen, that they also affect the western navigation of the island; and, with the vast ebb of the River of St. Lawrence, which constantly sets down, with great strength, into the Gulf, they produce an accumulation of water, which can escape by the southward only. In the early part of the year, when the snows and ices are in a melting state, the outlet must be considerably increased; it may, therefore, be presumed, that there is, in this season, a considerable efflux or stream of water from the Gulf, setting to the south, S.W., and south-eastward.

Captain Pornton, a commander who has long sailed in the Newfoundland trade, states that a branch of current, which appears to come from Hudson's Bay, always sets to the south-westward, off the eastern coast of Newfoundland: sometimes with a velocity of two miles an hour. Its strength, however, varies with the direction and force of the wind. Passing down the eastern coast of Newfoundland, it turns round Cape Race, and sets thence, along the south side of the island, until it meets with the current from the St. Lawrence, a little to the westward of St. Pierre and Miquelon Islands. The combined action of these two currents, with that of the Stream to the southward, may, perhaps, produce that *counter current* which has been found along the inner edge of the Gulf Stream: but, be this as it may, it is very probable, that it is owing to the influence of the Hudson's Bay current that so many shipwrecks happen on the south coast of Newfoundland, about Cape Pine, &c. For ships coming from the St. Lawrence and thence along the coast of Newfoundland, meet this current; and, if it happen that they have calms, or light or head winds, it sets them imperceptibly to the westward of their reckoning; and when, supposing that they are to the eastward of Cape Race, they alter their course more to the northward; should the weather, as it often is, be foggy, they get on shore at a time when they consider themselves clear of the land.*

At times, it seems, the westerly current may extend farther than the limit above described. In a letter from a captain of the Royal Navy, dated *Breton Island*, 13th May, 1822, we have the following expressions:—"It frequently happens that a ship bound from England to Quebec, strikes soundings on the Banks of Newfoundland, and shapes her course thence to pass between Cape North, on Breton Island, and Cape Ray, on Newfoundland, into the Gulf of St. Lawrence, without seeing the land, which is hid in fog; and, unable to make a proper allowance for a current that sometimes runs at the rate of *four miles an hour*, is swept away to the westward, and runs, with a leading wind, on our iron-bound shores, when her commander fancies he is steering directly into the gulf; a misfortune that is too often announced by the bodies of the unhappy mariners, and the fragments of their vessels with which our shores are strewed.†

* Substance of a communication to and from the late Mr. Wm. Heron, of Greenock.

† *This refluxing current* has usually been considered as an eddy caused by the Gulf Stream, but as several circumstances are incompatible with that supposition, it has attracted some enquiry as to its source; and although we are not aware of any actual experiments that have been made, which would set the question at rest, yet the concurrence of many phenomena will point tolerably clearly to the direction we are to look for its origin. Mr. W. C. Redfield drew up a summary of remarks and suggestions for the observers of the United States' Exploring Expedition in 1838; from that paper we will make a few extracts:—

".... From what source is that south-westerly current derived, which commonly prevails along the coast of the United States, in the direction which is opposite to the Gulf Stream?"

"I am aware that it is usually considered by seamen as an eddy current, derived from the Gulf Stream; but from this view I am compelled to dissent, for, in the first place, this current never assumes the gyrating form of an eddy; but continues its course, when unobstructed by gales, in a direction which is generally parallel to the coast. But, secondly, in case this current be derived from the Gulf Stream, it must necessarily partake of the same elevated temperature; whereas, the reduction of temperature which occurs on crossing the north-western limit of the Gulf Stream is most remarkable, and is almost without a parallel in the Atlantic, except in the immediate vicinity of ice.

"It appears vain to allege the proximity of soundings or shallows as explaining this extraordinary change of temperature, for this cannot avail if the waters of the counter-current be derived from the Gulf Stream, to say nothing of the erroneous character of the position here noticed.

"From the evidence which is afforded by numerous facts and observations, it appears that the current in question is neither more nor less than a more sluggish prolongation of the *Polar or Labrador Current*, which sweeps along the north-eastern shores of this continent and the Island of Newfound-

"It should be made known that there is a settlement on Ashpé Harbour, to the southward of Cape North; as, from want of this information, many an unfortunate seaman has perished from cold and hunger, after escaping shipwreck; and that vessels of any draught of water may safely anchor all round the island, as wind and weather may require. The soundings, at half to three-quarters of a mile, are 7 and 8 fathoms."

But, to revert to the currents. The British frigate, *Tweed*, on her passage to St. John's, Newfoundland, struck upon the coast, near Cape Spear, and was wrecked in the night of the 5th of November, 1813. This event, most probably, was the effect of an unknown south-westerly current, or a current setting south-westward, toward Cape Race.

To different currents must be attributed the loss of the sloop *Comus*, the transport *Harpooner*, H. M. ship *Drake*, the brig *Spence*, and the *Marshal Macdonald*, all of which were lost, at different times, upon *one spot*; the little bay, called *St. Shot's Bay*, on the south coast of Newfoundland, and lying between Cape Freels and St. Mary's Bay. The particulars of all these melancholy events are detailed in the following paragraphs.

"The Currents about Newfoundland are yet imperfectly understood, and among the first notices of them are some Remarks given by M. de Cassini, which ought, long since, to have been generally known. This voyage of M. de Cassini was undertaken for the purpose of making experiments on M. Le Roy's timekeepers, in 1768. The frigate *L'Enjouée* sailed from Havre de Grace on the 14th of June, and the mist over the Great Bank was discovered on the 9th of July. On the 11th soundings were found at 84 fathoms, and a cod was caught. The fish and the plummet came up almost at the same instant, and confirmed the ship's arrival at the Bank.

"The very next day after we had reached the Bank of Newfoundland, the fog and calm overtook us: this is the weather that commonly prevails there.† As the calm continued the whole day, we employed the time of this inaction in fishing.

"The fourteen days we spent from our arrival at the Bank to our landing, were one continued series of fogs, which made us very uneasy. The great number of ships that crowded about the Bank, kept us in continual apprehensions of running foul of some of them in the fog. Besides, having been for several days unable to observe the latitude, we durst not advance, from fear of striking against the bars of Cape Race. Our charts placed us about the longitude of those rocks, and the computed latitude brought us pretty near them. These last days of our first run were the worst we had yet met with, and indeed the worst of the whole voyage. Transplanted into a horrid climate, constantly choked with fogs, we seemed to be, for ever, excluded from the sight of the sun; nor could we hope to land, whilst this fog intercepted the coast. It was dangerous to go in search of the shore, even when the mist seemed to be dispersing. It is no uncommon thing in this latitude to see the finest clearing succeeded by a prodigious thick fog, and this within half an hour. Then the pilot repents his having approached the land, misled by the appearance of a clear sky, especially if he has not had time to take a survey of it; how can he get clear, if the wind is not very favourable? What track shall he pursue to escape running aground? Such are the inconveniences and hazards of navigation, in the latitudes we were then in; and we were not long before we experienced how critical our situation was.

"We waited only for the instant when the weather should clear up, to go and recon-

land; and this current, if I mistake not, may be traced in its gradations of temperature by the thermometer, from off the southern coasts of Newfoundland and Nova Scotia through the entire distance to Cape Hatteras, if not to Florida.

"An eddy current offsetting from the Gulf Stream, would nowhere be so likely to be met with as at the point of intersection of this stream with the extremity of the Grand Bank of Newfoundland, and sweeping from thence upon the southern shores of the island of that name; and yet, the harbour of St. John's in the southern part of Newfoundland, is known to have continued ice-bound in 1831, so late as the month of June, although in the latitude of Paris. This fact is a convincing proof of the unimpeded continuation of the polar current to the southward, in this region, notwithstanding the near proximity of the Gulf Stream."

* We trust that the Lighthouses recently established on the island of St. Paul, and which have been described, will materially contribute to facilitate this otherwise dangerous navigation.

† At and about the Great Bank, these horrid fogs infest the air most parts of the year, and will last eight or ten days successively, sometimes longer. In winter they are not so frequent; but from the middle part of spring to December, they are almost constant: they are, at times, so thick, that one cannot see at ten fathoms distance. An incessant rain drops from the sails and rigging. The sea is seldom rough about the Great Bank. The sailors commonly ask those who come from the open sea, "How is the weather abroad?"

noitre the land, from which we deemed we were not far distant. We thought we had at last attained the summit of our wishes. On the 22nd of July the finest sky imaginable filled us with hope and joy. The horizon, though not quite so clear as we could have wished, seemed, nevertheless, to promise a sight of land at five or six leagues distance. Upon the strength of this delusive appearance, we ran directly toward the landing-place, with a brisk wind; but how great was our amazement, when, without discovering any land, we suddenly perceived, at a small distance before us, the dashing of the waters, which could only be occasioned by the coast, or by rocks or breakers, which the fog concealed from our sight. No time was to be lost; we tacked about, and made all the sail we could, to get away from a coast where it is dangerous being wind-bound, on account of the violent currents, which may drive the vessel ashore, if she has the misfortune to be becalmed. Happily for us, the wind favoured our flight, and we made for the Great Bank, there to wait, till a less fallacious change of weather should permit us to go safely in quest of land.

"This we had an opportunity of effecting two days after, by the finest weather imaginable. Nothing is more gloomy than the sky darkened by that thick and damp fog, as nothing is more beautiful than that very sky, when a north-east wind drives away the fog, and exhibits a well-terminated horizon. The sun was not yet risen, when the mist, which had been constant all the 23d, dispersed in an instant; a clear sky and a fair wind determined us to make directly for land. We set sail at two in the morning; at eight we discovered a small eminence rising in the most distant horizon. At noon the figure of this, and several other points, which appeared as we drew nearer, made us conjecture that the land we saw was the coast of Newfoundland, and that this first eminence was the *Chapeau-rouge*, or *Red-hat*. However, we were still too far off to judge with any certainty; but at four in the afternoon, being but four leagues distant, we plainly saw we were not mistaken. The *Red-hat*, and, in general, the whole coast of Newfoundland, is very steep, and rises very far above the level of the sea: we first discovered it at near 16 leagues distance. The ships that sail in this latitude commonly take notice of this mountain, its form being very distinguishable."

The *Comus*, lost in *St. Shot's Bay*.—The *Comus*, above mentioned, was lost in the night of the 24th of October, 1816, at the entrance of *St. Shot's Bay*. At ten o'clock, it was supposed, "from reckoning and double altitude, (which was taken that day,) they were on the inner edge of the Green Bank; sounded, and found that they were in 25 fathoms of water, the exact depth on that bank as laid down in the Admiralty charts, which they referred to; but, for the greater safety of the ship, it then blowing very fresh, hauled her wind, with the head off-shore, and stood on under easy sail. At forty-five minutes past eleven, struck on a reef of rocks, extending from the eastern head of *St. Shot's Bay*, into the sea, owing to the *amazing indraught into the different bays*, and which threw the ship out of her reckoning. The helm was immediately put down, and the sails braced aback, to get sternway, when she was unfortunately caught by a rock, on the larboard quarter, and bilged before the boats could be got out; every exertion was used to save the ship, but in vain. At the same time, the weather was so foggy that little more than half the ship's length could be seen."

The *HARPOONER*, lost at *St. Shot's Bay*.—The *Harpooner*, which was lost on the 10th of November, 1816. On the 26th of October, detachments of the 4th Royal Veteran Battalion, with a few belonging to other corps in Canada, in all 380, embarked on board this ship, and sailed from Quebec for London, on the 27th. On the passage to the Gulf of St. Lawrence, moderate weather and favourable winds prevailed; but, on arriving in the gulf, the weather proved boisterous, and the wind contrary. Not a sight of land, nor an observation of the sun, could be depended on for several days. On Sunday evening, November 10, at a few minutes after 9 o'clock, the second mate, on watch, cried out, '*The ship's aground!*' at which time she lightly struck on the outermost rock of *St. Shot's*. She beat over, and proceeded to a short distance, when she struck again, and filled. Encircled among rocks, with the wind blowing strong, the night dark, and a very heavy sea, she soon fell over on her beam-ends, and the dreadful consequence may be readily imagined. We cannot attempt to describe it; and shall only add, that it may be found in *Bell's Weekly Messenger* of December 22, 1816.

It is worthy of particular notice, that the two wrecks occurred within three weeks of each other; and it is an extraordinary coincidence that they should happen upon the same spot. Can we doubt that they were produced by similar causes?

After the publication of these lamentable particulars, it was hardly to be expected that similar events were again to occur on this fatal spot; but the melancholy loss of his Majesty's ship *Drake* will long be remembered.

H.M.S. *DRAKE*, lost at *St. Shot's*.—The *Drake* sailed from Halifax on Thursday morning, the 20th of June, 1822, for St. John's, Newfoundland. The weather being uncommonly fine, and the wind favourable, she continued to steer a direct course for Cape Race: on Sunday morning it came on extremely thick, with a fresh breeze from W.S.W.; at noon it cleared up for about a quarter of an hour, just giving time to get a good observation of the latitude, which agreed very well with the latitude by account. At the time we supposed ourselves, by our reckoning, to be 90 miles from Cape Race. At six in the evening; having run about sixty miles since noon, and finding the fog still continued, we hauled out four points, intending to have steered S.E. during the night; about half-past seven o'clock, all hands being on deck, breakers were reported to be a-head; the ship was instantly hauled to the wind; but, not being able to clear the danger on that tack, we endeavoured to stay the vessel; but, from the heavy sea, and whilst in stay, her stern took the breakers, and she immediately fell, broadside on, the sea beating completely over her; the masts were immediately cut away, with the view of lightening the vessel, as well as affording a bridge to save the crew, but without success in either point; for in a few moments, she bilged, at which time there did not appear the slightest hope of saving a man. The cutter was launched over the lee-gangway, but immediately sunk. A man attempted with a lead-line to swim on shore, but the current setting strong to the northward, he was nearly drowned in the attempt. The only hope remained in the gig, the jolly-boat having been washed away, which was launched in the fore-castle, with the boatswain and lead-line; a heavy surf washed her upon a rock not communicating with the main, and dashed her to pieces, and the line was carried away; but the boatswain succeeded in scrambling up the rock with a few fathoms of line. The sea at this moment making heavy breaches over the ship, the crew were on the fore-castle, hanging by the ropes, each succeeding wave appearing to bring with it total destruction, when a tremendous sea lifted her quarter over the rock on which she first struck, and close to another comparatively sheltered. The fore-castle, hitherto the most sheltered part of the ship, was now abandoned for the rock; and, all hope of the vessel being gone, it was determined, if possible, to quit her. The people severally stepped from the poop to the rock; in attempting which, a few (among whom was Lieut. Stanley) were washed away, and dashed with tremendous force against the wreck. Capt. Baker, after seeing the whole of the crew on the rock, followed; but it was now found that the rock was insulated, and the rising tide would cover it. The boatswain, observing this, swam with the piece of line in his possession, and, in spite of the surf, succeeded in reaching land; and, coming opposite the rock on which we were, threw the line across; it was found just long enough for one to hold upon the main, and one on the rock, at arm's length; by this trifling assistance forty-four out of fifty landed on the rock, succeeded in gaining the main; and it is probable all would, had not a man and a woman attempted to cross together, which took the line out of the man's hand on the rock, and, in the attempt to get it back, it was washed away. Capt. Baker was repeatedly requested to cross, but every time resolutely refused, and, throughout the whole unfortunate occurrence, to save the lives of the crew appeared to be his principal object, regardless of his own. Every instant the water rose, and the surf increased, when the officers and ship's crew used every endeavour, by tying handkerchiefs together, to make another holdfast; but, proving too short, we were soon reluctantly compelled to abandon them to their fate; and, at day-break, there was not the slightest trace of the unfortunate sufferers. At this time we found the frame of the wreck broken in halves, with the after-part thrown on the top of the bow. On discovering we were on the *eastern head of St. Shot's*, we repaired to a house we found there, after having in vain searched for the body of Capt. Baker; and then proceeded, after a little refreshment, to Trepassey. The only reason for so many lives being saved, certainly was from the great order and discipline of the crew. Every man's exertion appeared to be, not for his own life, but for the general good. Had any confusion prevailed, there is little doubt but few would have remained to tell the mournful tale. The end of those left upon the rock was truly melancholy; for it is probable they might have remained half an hour after the line was gone, the tide rising rapidly, and their inevitable fate approaching nearer every instant. Captain Baker died peculiarly regretted by both officers and the crew: his uniform kindness and attention to every individual on board, during the whole of his command,

made a deep impression; and it will be long before the recollection of him and of his untimely fate will be effaced from the memory of the survivors."

The *SPENCE*, lost at *St. Shot's*.—The brig *Spence*, of Sunderland, 305 tons, M. Wilson, master, from Richibucto, bound to Liverpool, with lumber, was totally lost near *St. Shot's*, on the 16th of July, 1822, at four in the evening: but the crew were saved, and arrived at *St. John's*. The narrator says, "Scylla and Charybdis could not have been more terrifying to the mariners of old, than will the name of *St. Shot's* shortly be to our modern navigators. It is certain that, on the small extent of coast which divides the two bays of *St. Mary* and *Trepassey*, more vessels are lost than on all North America beside; yet no steps appear to have been taken by Government, or any institution connected with any of our shipping interests, to ascertain the cause, or to guard against it in future. The cost of any one of the men of war which have been wrecked within these few years, would have maintained a small military post, for the purpose of firing fog-guns, or a bell might be so constructed as to toll at intervals."

The *MARSHAL MACDONALD*, lost at *St. Shot's*.—The *Marshal Macdonald*, a vessel with fifteen hands and a passenger, sailed from Quebec on the 8th of November, 1835. In the night of December 2, off the island of *St. Paul*, she shipped a sea which carried twelve persons overboard, of whom three perished, and all were nearly suffocated by the sea passing over them. Next morning the mate, carpenter, and cook, were seen on deck, frozen to death. The vessel was now totally water-logged, and entirely at the mercy of the sea. The sufferings of the remaining crew, however sympathy may dictate, we need not describe. On the night of the 7th of December, the vessel was driven upon the fatal rocks of *St. Shot's Point*, and in this struggle for life three others perished.

These events imperiously demand an inquiry into the causes. The five vessels, it may be seen, were all from the *westward*, and all, it may be presumed, were set to the *northward*, as well as to the *westward*, of the situations which they were supposed to occupy, and the route which each intended to pursue. They can, at present, be accounted for only by the supposition of currents winding round the coast, opposing each other, and operating as above explained.

CURRENT from the *GULF* of *St. Lawrence*.—It has been already shown that the waters of the *St. Lawrence* run off partly to the *S.W.* from *Breton Island*; so that here, likewise, allowance for a westerly set is to be made: for, as Mr. Darby, the superintendent of the island, has said, "On the South side of *SABLE ISLAND*, the *Current*, in shoal water, with prevailing South and *S.W.* winds, sets rapidly eastward, until it reaches the end of the *N.E.* bar. It then unites and blends with the *St. Lawrence Stream*, which passes the Bar in a *S.S.W.* direction, and runs strongest in April, May, and June. I have sufficient reason for believing that the *Gulf Stream*, on the parallel of $42^{\circ} 30'$, running *E.N.E.*, occasions the *St. Lawrence Stream*, then running *S.S.W.*, to glide to westward. The strength of this stream has never been noticed, and three-fourths of the vessels lost on *Sable Island* have been supposed to have been to the *eastward* of the island, when, in fact, they were in the longitude of it."*

The effect of currents off the South and *S.W.* coasts of Newfoundland, may still, it appears, without great precaution, prove fatal to many vessels. "It seems," says Mr. Jeffery, "to be impossible to make a sure allowance for them; for while allowing for them in one direction they may be setting on the opposite one. The lead appears to be the only thing of any advantage. During three weeks, while we were on this coast, we had the wind from all points, and all brought thick hazy weather and rain."

PASSAGES FROM ENGLAND, &c.

On referring to our Chart of the Atlantic Ocean, it may readily be found that, from the *Land's End of England* to *St. John's*, Newfoundland, the true bearing is *W. 4° S.*; and, from the same point to *Cape Sable*, or the *S.W.* end of Nova Scotia, it is about *W. 9° S.* But the circumstances of Navigation, in general, render a direct course more

* The current from the Gulf is commonly supposed to set south-eastward, if not checked during easterly winds and calm weather, when it runs in the contrary direction: but the winds, both here and at a distance, possess so powerful and irregular an action as to render the set very variable.—*Capt. Bayfield.*

tedious and difficult than a circuitous route; and the best passages have been made by pursuing a high northerly course.

It seems probable, from all that we have said on the Winds and Currents, that, on prosecuting a north-westerly course, from the Bank of Channel Soundings, the winds and currents, respectively, may counteract and balance each other; that, on a farther prosecution of the same course, the winds will be found less westerly, and therefore more favourable, than in the more southerly parallels: and that, in advancing toward the mouth of Davis's Strait, the advantages both of wind and current may be combined.

Caution must be taken not to advance too near the Eastern coast of Newfoundland, if bound to New Brunswick or the Southern ports; nor to the Eastern coast of Breton Island, as here the vessel may be swept round by the strong westerly currents, which have been described, and which, when understood, instead of producing mischief, may prove highly advantageous in facilitating the ship's course.

The propriety of these arguments has been confirmed by experience, in one hundred and four passages made to and from New Brunswick, &c., by Lieutenant Chas. Hare, of the Royal Navy, of which the last was in the year 1842. Annexed is a copy of that gentleman's communication.

"Ships from Scotland, in the spring of the year, and bound to New Brunswick, have always arrived sooner than those from the English Channel, which is attributed to their being more to the northward on leaving the land.

"Ships from Liverpool generally arrive before those which sail from the English Channel, the cause being the same.

"In the *SPRING* of the year, I would never go to the southward of latitude 46° or 47° until I reached longitude 37° or thereabout; then edge to the southward as far as latitude 43° in order to avoid the ice-bergs, keeping a very strict look out; this parallel (43°) I should endeavour to preserve, or nearly so, but nothing to the southward, until up to Cape Sable, Nova Scotia; for it carries you to a safe and proper distance from Sable Island, a place that cannot be too much dreaded. In this track you will be without the northern edge of the Gulf-stream, and assisted by a south-westerly current from the banks until past that island.

"In the *FALL* of the year, my track is far more to the northward than in the spring. On leaving the land as late as the middle of October, or thereabout, I generally steer to the north-westward until I get as far north as 55° , and until I enter the longitude 30° , then edge to the southward, to enter the Banks in latitude 46° , shaping again a course to pass about sixty miles to the southward of Sable Island, as above. If bound to Halifax, and very sure of my latitude, I might be tempted to pass to the northward of Sable Island; but, at all events, it would be at a great risk; and I should not, under any circumstances, recommend a stranger to attempt it; as the weather is mostly foggy, and the set of the currents unaccountable. The soundings on Banquereau are incorrectly laid down in every chart that I have yet seen; being, in fact, within one hour's sail of the N.E. Bar of Sable Island; from which cause I once very narrowly escaped shipwreck. Numerous gannets are always hovering about this island, and are a very excellent indication of your near approach to it, particularly on the South side.

"By crossing the Banks thus far North, you will find the advantage as you approach the longitudes of Newfoundland and Nova-Scotia: the strong N.W. and North gales having then commenced, you will frequently be compelled to lie-to for two or three days; and should then insure sufficient drift, before you are blown into the strong influence of the Gulf-stream; which would be the case at a few degrees to the southward, and inevitably in a S.S.E. direction, at an inconceivable rate. Last November (1824) the case occurred: the vessel being hove-to, under main topsail and storm trysail, to the westward of the Banks, in latitude 45° , and was, in four days, swept into latitude $39\frac{1}{2}^{\circ}$, consequently into the Gulf-stream; when the longitude became also considerably affected, and I took the first opportunity of making a N.N.W. course, to get out of it as soon as possible.

"To prove the advantages of a northern track, late in the full of the year, I may notice that I have, in one or two instances, read, in the American newspapers, the accounts of very long passages experienced by ships which met heavy gales in the latitudes of 35° and 38° , when several vessels were disabled, and others suffered loss of sails; yet, on the

same day, in latitude 54° , I had moderate weather from the N.N.E. with top-gallant studding sails set; which strongly encourages me to believe that the blowing weather, incident to approaching winter, commences southerly, and inclines northerly as the season advances, and not the reverse; an hypothesis generally formed by English ship-masters, but, in my opinion, certainly erroneous.

"I am farther of opinion that the influence of the Gulf-stream, in the parallels from latitude 35° to 42° , whether from the warmth of the water or other natural causes, has a strong tendency to attract the wind from a western direction; as I have invariably found the wind more alterative in the northern latitudes before-mentioned than the southern ones; and it unquestionably must be allowed, by all mariners of any observation, that gales experienced in the Gulf-stream, or its vicinity, blow with much greater violence than they do in that part of the northern Atlantic not under its influence: besides, the squalls from the southward or S.W. are much more sudden and heavy, and near the Banks they are attended with dangerous lightning. The thermometer (an instrument easily understood) is of the greatest importance for ascertaining your approach to it; and, if bound to the West, I would, for my own part, endeavour to avoid its effects as cautiously as I would a lee-shore: for it may be depended on, that no ship, however well she may sail, will effect westing in the Gulf-stream with a wind from that quarter; and it is to be remembered that its velocity is accelerated according to the strength of those winds; and its extent in breadth, at a few degrees to the westward of the Azores, is many more degrees than is commonly supposed.

"These observations, I hope, may be useful to my brother mariners engaged in these voyages; and permit me to say, that they are grounded on the experience of at least one hundred times crossing the Atlantic, in his Majesty's and the merchant service, and in the command of vessels in both; at one time, in one of nearly four hundred tons burthen, the *Waterloo*, owned in St. John's, New Brunswick; and, as the Custom Books at Liverpool can testify, landed four full cargoes in thirteen following months; which, including the time required to discharge the same, then loaded outward to St. John's, there discharge and load home again, leaves but very little time for the ship to cross the Atlantic eight times in fourteen months, which, in fact, was done.

"Still further, in corroboration of my approved northern track, allow me to observe that, in the fall of 1823, by keeping in a high latitude, the brig *Ward*, myself master, also owned in New Brunswick, performed a voyage out and home in seventy-two days. The same vessel likewise, on the 3rd of October, 1824, left the English Channel, and arrived again in the Downs on the 3rd of January following.

"I must add, that a strong well-found and well-manned vessel alone can perform these voyages; for they must be maintained with unremitting attention and perseverance.

"The necessity and propriety of the above remarks was particularly exemplified by the *Ward*, which, on her passing through the Downs, in 1824, left ships there which were bound to the westward, weather-bound, and found them there on her return, having been driven back by adverse winds; while she, getting out of the Channel, performed with ease a prosperous voyage to St. John's, New Brunswick, and back, exactly in three months, assisted by chronometer, thermometer, &c.

"In the month of June and beginning of July, and sometimes later, the ices from the Arctic Seas are frequently coming down from the northward in dangerous masses. In the same season the fishing vessels are very numerous upon the Bank, on and about the parallel of 45° N.; consequently, vessels bound to the eastward, from Nova Scotia, &c., will avoid both, and most safely cross the Grand Bank at this time of the year, by keeping in, or not proceeding to the northward of, latitude 44° ."

The preceding remark, by Captain Hare, has been enforced by the pen of an intelligent writer,* who has said,

"Although the voyage to and from North America, between the parallels of 60° and 40° , has always been attended with a degree of peril, from masses of ice which drift to the southward, during the summer months from the polar regions, yet many an unwary mariner makes his run across the Atlantic without any apprehension of meeting these floating dangers, or without sufficiently exercising a proper discretion and vigilance to guard against coming in collision with them. This is not mere conjecture, but the information of persons who annually perform the voyage, beside the result of my own ob-

* *Atlantica*; Nautical Magazine, June, 1833.

servation, in accidents which have repeatedly occurred to vessels between Newfoundland and England, and in the number of missing ships on this route. Commanders of ships should therefore bear in mind the imperative necessity there is for using their utmost vigilance and attention when crossing the above-named parallels, especially between the meridians of 30° and 60° West, to guard against coming in contact with these formidable dangers of the ocean.

"The *New York packet ships*, well supplied with every essential equipment, and elegantly fitted for the accommodation of passengers, when making their winter voyage from Liverpool, keep in high latitudes until nearing Newfoundland. This they do for the two-fold object of avoiding the tempestuous weather so generally experienced to the southward, and of obtaining fairer winds; and thus, by slipping within the mighty stream from the Florida Channel, they evade its retarding influence. The voyage by this route is shortened; and, although bad weather must be expected, it is not so violent as farther south; besides which, the eastern current is avoided. I believe it is an unusual thing to meet with ice in this part of the Atlantic in the winter; but we have the following recent instance to the contrary, so that a look-out should be kept in that season, as well as in the summer, by vessels making the voyage.

"It appears that the *Emulous* packet, on the 26th of February, 1833, met with much field-ice on the coast of Nova-Scotia; and in the latitude of 43° N. and long. 49° W., those on board were much surprised by falling in with a large quantity of strongly packed ice, which reduced the vessel's way to 6½ and 7 knots, from sailing at the rate of 9 knots, under close-reefed main-topsail and reefed foresail. On the 4th of March, she fell in with three bergs, of large dimensions, in a run of 95 miles; and at nine the same evening she was obliged to pass between the two easternmost of these before heaving-to for the night; after which, by keeping a more northerly course, no more of these dangerous floating masses were seen.

"From all accounts it seems that the greatest danger is to be apprehended in the vicinity of the Banks of Newfoundland; and this, as every navigator knows, is increased by a dense fog which generally pervades the atmosphere in that quarter, and, of course, shortens the distance of vision to a very circumscribed limit."

The following note has been lately introduced in our Charts of the Atlantic Ocean.

"ICE-BERGS and ICES.—In the season between March and July, those vast masses of ice and tremendous ice-bergs, which descend with the current from the north-western regions, are found upon and to the eastward of the Newfoundland Bank, sometimes even to the parallel of 40° North.

"The indications of an ice-berg are,—1. A natural effulgence, which frequently renders them visible, at some distance, even in the darkest night. At a short distance this effulgence may appear like a white cloud, extending over, or nearly over, the vessel's masts.

"2. A considerable decrease in the temperature of the water, as shown by the thermometer, in comparison with the heat of the adjacent sea and with the air above.

"The roaring of the sea at the base of a berg, which, excepting in a steamer, with its paddles in action, may be heard, by an attentive listener, when afar off.

"To fast sailing vessels, and steamers in particular, these monitions may be useful. Such will, therefore, in the season, avoid the higher parallels of latitude, as prudence may dictate." A lengthened course, on a southerly parallel, between the meridians of 42° and 56° may insure safety.

The *Ice-blink*, or effulgence of light emanating from, and seen over, congregated ices,—the formation of ice-bergs,—and the general phenomena of the *Northern Ocean*,—are copiously described in our 'Memoir' and Nautical Instructions for that Ocean, pages 43 to 61.

The season of 1842 was peculiarly distinguished by the efflux of the Northern ices, and brief notices of the following facts are subjoined as additional cautions to future navigators.

The *HARVEST HOME* and *LADY of the LAKE*, wrecked in 1833.—On the 11th of May, 1833, the *Lima*, Captain Mardon, sailed from Newfoundland. On the morning of the 13th of May, in lat. 46° 20', long. 45° 50', when about 400 miles from Newfoundland, being completely surrounded with ice, their attention was aroused by hearing a gun fired, shortly after which they descried a boat at some distance. The Captain instantly hove-to, till the latter came alongside, when he took the individuals in her on board. They reported themselves to be the second mate and twelve of the crew of the *Harvest Home*, Captain

Hall, of Newcastle, from London, for Miramichi. They informed Captain Mardon, that, on the 9th of May, the *Harvest Home* was struck by a piece of ice, which stove in her bows. All hands were immediately put to the pumps, by which means they succeeded in keeping the vessel afloat for two days, at the expiration of which time the second mate and twelve of the crew quitted her in the long-boat, the captain and first mate having come to a determination of remaining on board. After they had been out one night, being loth to leave the latter in such a perilous situation, they returned to the vessel and requested the captain and mate to leave her, but they persisted in their determination, saying, "That they would stick to her while a timber remained afloat." They had, however, got the jolly-boat ready in case the danger should become imminent. The crew having again pushed off, they became bewildered amongst the masses of ice by which they were surrounded, and totally uncertain what course to steer. On the next day they again fell in with their own vessel, which they had mistaken for another sail. This time they found that the captain and mate had left her. Two of the crew now went on board; and while they were busy, endeavouring to get more water and provisions, they were surprised at the sight of a boat, containing about thirty individuals, approaching in an opposite direction; they immediately boarded the vessel, having, as subsequently appeared, done so in the hope of succour. They proved to be the captain and crew, and part of the passengers (including two females) of the *Lady of the Lake*, of Aberdeen, bound from Belfast for Quebec, with upward of two hundred passengers on board. Those who had boarded the wreck of the *Harvest Home*, when they saw the state she was in, with her hold full of water, made a simultaneous rush to return to the boat, which was at that moment pushed off, and several of them were precipitated into the water. One of them, however, was fortunate enough to make good his leap into the boat which contained the crew of the *Harvest Home*, and he arrived in Liverpool, in the *Lima*. He states that the *Lady of the Lake* struck upon the ice, and immediately filled, when the captain and crew took to the boat, leaving the sinking vessel crowded with the remainder of the despairing and shrieking passengers, to the number of one hundred and sixty or one hundred and seventy. The crew of the *Harvest Home* state, that after they left their vessel the last time, they saw nothing more of the other boat. Several of the individuals who had fallen into the sea when the latter was pushed off were drowning, but it was impossible to render them any assistance.

The **PRESIDENT**, 1841.—The celebrated and unfortunate *President*, steamer, sailed from New York, March 11th, 1841, with 120 persons, and has not since been heard of, nor the least vestige of her discovered. It has since been conjectured, either that she parted a-midships from want of strength beneath the great weight of her machinery, or, more probably, from a sudden and impetuous collision with an ice-berg, by which, stern foremost, she instantly foundered, with all on board. The first opinion is, however, the most generally prevalent.

The **WILLIAM BROWN**, 1841.—The *William Brown*, from Liverpool to Philadelphia, struck on an iceberg and foundered in April, 1841. On striking, the passengers and crew instantly took to the boats; thirty-three passengers, the mate, and eight of the crew, to the long-boat; the captain, three of the crew, and eleven passengers, to the jolly-boat; all the rest sunk with the vessel. The boats parted in the night; and some days after, the mate and crew determined to throw seventeen of the passengers overboard, in order to lighten the boat, which they accomplished in a most horrid and revolting manner. One hour after this catastrophe the ship *Crescent* fell in with them, and saved the survivors. Of the jolly-boat no more is known!

The **GREAT WESTERN**, April, 1841.—The "*Great Western*," steam ship, Captain James Hoaken, on Sunday the 8th of April, 1841, at 6 p. m. steering west, saw an ice-berg on the starboard bow; at 7 h. 30 m. passed it; at that time four or five others were in sight; at 9 h. 15 m. passed several small pieces of ice. In a few minutes after, the ship was surrounded with light field ice, and went on slowly, with the hope of getting through, but it became much thicker, and closely packed: but, at 10 h. 15 m. she succeeded in getting her head to the eastward, and by 11 was entirely clear. From that time went slowly, passing several ice-bergs: the night at times very clear: the aurora borealis very bright. At 3 h. 30 m. of the next morning, again embayed in the ice; stopped, hauled short round on the keel, and steered out E. by S., coasting the ice for five or six miles; at 4 h. 20 m. kept her to the westward, running through innumerable ice-bergs, until 8 h. 30 m. when she passed the last ice-berg and point of the field ice.

When the sun rose the ice was visible as far as the eye could reach, in an unbroken line

from N.E. by E, by the northward to N.W. by W.: at the same time, ice-bergs innumerable and magnificent were seen in every direction.

These ices were to the S.S.E. of the Grand Bank of Newfoundland; the first seen was in latitude 43° , longitude $48\frac{1}{2}^{\circ}$, and the last in lat. $42^{\circ} 20'$, long. 50° . There appeared to be an unbroken field of that extent, and it seems to have extended to lat. $40\frac{1}{2}^{\circ}$, where it was seen on the morning of the 18th by Captain Bailly, in the American packet ship '*United States*.'

Captain Hosken, in his report, adds, "Several other ships fell in with it in the same longitude, and were entirely stopped, giving them an opportunity of killing seals, which were on it in great numbers."

Some of the ice-bergs were estimated by Captain Hosken as little, if at all, less than a mile long, and from 150 to 200 feet high. This field of ice was in large masses, some of them not less than 20 feet square by six feet thick, or more.

The temperature of the water, when within two miles of the ice-berg first seen, fell suddenly from 50 to 36 degrees; air, 40 to 36 degrees.

When in the ice the water was 25° , air 28° . During the remainder of the night and the following morning the water was not higher than 30° , nor the air higher than 32° . Immediately after passing the last ice the water became 36 and the air 42 degrees.

The LONDON, arrived at Liverpool, 3rd June, 1841, struck, on the 12th of May, against an ice-berg, near the S.E. side of the Grand Bank, in latitude 43° , long. $50\frac{1}{2}^{\circ}$, stove in the larboard bow, and lost bowsprit, main-topmast, &c.

In the same season, the *Juliet*, from Newfoundland, was a fortnight locked up in the ice, without seeing water.

ORPHEUS, PAULINE, and ISABELLA.—Captain Cole, of the *Orpheus*, who arrived at New York, in June, 1841, reported that, in latitude $47^{\circ} 30'$, long. 49° , weather foggy, found the ship among ice-bergs, and continued sailing among ice for five days. Some were 100 feet high, and fields several miles long. Was obliged to steer south to get clear of it. The Bremenese ship *Pauline* fell in with several islands of ice on the 18th of May, one of them a berg 160 feet above the water and two miles long. The ship *Isabella*, Meredith, from London to Quebec, was struck by an ice-berg on the 9th of May, in lat. $42^{\circ} 2'$, long. $43^{\circ} 45'$. The ice broke through the bows, and caused the ship to fill with water so fast, that the crew had barely time to take to the boats, without water, provisions, or clothing. The ship immediately went down, or disappeared in the fog. The crew continued in the boat, at the mercy of the waves, until the afternoon of the 11th, when they were picked up by the *Kingston*, of Hull, bound to Pictou, and kindly treated. They arrived at Pictou, one man excepted, who died in the boat.

The ACADIA, in 1842.—On the 16th of May, 1842, Captain Alex. Ryrie, in the *Acadia*, off the eastern side of the Grand Bank, in latitude 46° , longitude 47° , saw nearly a hundred ice-bergs, some of them of large size, and one bearing so strong a resemblance, in shape and apparent magnitude, to St. Paul's in London, that it was once named after that celebrated cathedral. The dome was perfect, and it required no extraordinary stretch of imagination to supply the turrets, pinnacles, and other parts of the building. On the homeward passage of the *Acadia* to Liverpool, June 6th, the same object was seen, and the immediate exclamation on board was, "There is our old friend, St. Paul's." In the interim between the two views the ice-berg had drifted about 70 miles.

In our '*Atlantic Memoir*,' 1845, pages 446 to 448, we have given a detail of many other instances in which ships have been lost or materially damaged by the ices; and we particularly recommend to notice the important remarks of Lieut. Evans, R.N., given in pages 448 and 449 of that work.

PRESERVATION OF LIFE AT SEA.—We shall conclude this part of our subject by noticing that, on the 20th of September, 1842, it was announced that a letter had been received at Lloyd's from Lieut. Edw. Jennings, R.N., suggesting the general adoption, in rough weather, of life-lines being led fore and aft, both to windward and leeward, so that the men may have something to lay hold of in passing from one end of the vessel to another. In addition to this, he advises that each man be furnished with a belt, made gasket fashion, about a fathom and a half long. The utility of this is shown by the wearer when in an exposed situation, such as on the fore-castle, conning, steering, &c., taking two half-hitches with it, to either the life-line or any of the standing rigging, &c. He observes,

that such a belt could not interfere with the wearer's duty aloft, as at such times the end might be wound round the body and tucked in, so as to avoid inconvenience to the wearer. This hint is worthy of serious notice, and is creditable to its author.

GULF of St. LAWRENCE, &c.—Those bound to the Gulf of St. Lawrence, after passing to the southward of the Virgin Rocks, on the Grand Bank and the Island of St. Pierre, should keep a middle course between Newfoundland and Breton Island; not forgetting what has been heretofore said on the Winds and Currents; recollecting, also, that the harbours on the coast, westward of Fortune Bay, are impeded with dangers; there are many rocks about the entrances, and most of the harbours are imperfectly known. The rocks are not to be seen in thick weather, and fogs very much prevail on the coast.

Commanders bound to the Gulf will do well to observe that, off the South Coast of Newfoundland, between the meridians of 55° and $55^{\circ} 35'$, and the parallels of $45^{\circ} 10'$ and $46^{\circ} 15'$, is a deep gully in the sea, extending in a N.N.E. and S.S.W. direction, and separating the Bank of St. Pierre from the Green Bank. *The method adopted by the French vessels bound to St. Pierre, for making that island, is as follows:—*

From the longitude of 52° W., in latitude 45° , they steer a N.W. course (by compass) which carries them across the Green Bank, in about 43 and 44 fathoms of water; and when on the meridian of $55^{\circ} 15'$, in about $45^{\circ} 47'$ N. they suddenly deepen their water, from 40 to 80 fathoms. A farther run on the same course, of about ten miles, carries them across this gully, when they shoalen their water again to 35 and 30 fathoms; and, after a farther run of 23 miles, they steer about N.N.E. directly for the island, and seldom or never miss it. (*See the Chart.*)

Those who have lost their reckonings, on finding this gully, which may be known by the water shoaling on the east and west sides of it, an experiment that is frequently made for ascertaining whether they are actually in it or not, may safely take it as a *fresh departure*. Commanders, not being aware of it, when they have found their water deepen from the Green Bank to the westward, have imagined themselves entering the Gulf of St. Lawrence; and, by steering a course too far to the northward, have been lost to the eastward of Cape Ray, on the rocks of Newfoundland. The length of the gully is about sixty miles, in a N.N.E. and S.S.W. direction (by compass), and the middle of it is in latitude $45^{\circ} 35'$, and longitude $55^{\circ} 20'$.—*Communication of the French Commandant to Captain Sir Richard Grant, R.N., 1833, corrected by the new Chart.*

The little island of St. Paul, which lies to the north-eastward of Cape North, now distinguished by its lighthouses, is bold-to, steep, and high; and, with a good look-out in the day-time, cannot be considered as dangerous even in thick weather. The land of Breton Island is very high, and though fogs are about it frequently, it is seldom so much obscured as not to be seen in time. On entering the Gulf, the Magdalen and Bird Islands will be seen, as they lie in the direct course from Cape North to the River St. Lawrence.

There is, in clear weather, a safe passage between the Bird Islands and the Magdalens; but, in thick weather, it is advisable to keep either to the southward or northward of both, as the wind may permit.

In Pleasant Bay, on the S.E. side of the Magdalen Islands, there is a clear and good anchorage, very near the shore; and it is a very safe place for vessels to ride in, with a westerly wind, and infinitely preferable to beating about in the Gulf with a foul wind. There is a safe passage into it between Amherst Island and Entry Island, as fully explained hereafter.

As the weather to the southward of these islands, between them and Prince Edward Island, is generally much clearer than on the North, the passage that way is preferable, particularly after the early part of the year, when S.W. winds mostly prevail.

II. THE ISLAND AND BANKS OF NEWFOUNDLAND.

GENERAL REMARKS.—NEWFOUNDLAND is, in general, a variegated and rugged country. The shores are indented by broad and deep bays entering from forty to fifty miles into the body of the island. The western coast is generally rugged and lofty, but the eastern side of the island consists principally of low hills. The climate is humid, and

especially disagreeable on the setting in and breaking up of winter, and when the fields of ice, which float from north to south during the months of April and May, are near the coast, and the wind is from seaward. The heat in summer is often very great. There are tracts of alluvial soil along the banks of the rivers, but, from the nature of the climate, agriculture will always be a secondary branch of industry, as the fisheries on the coast are a more profitable pursuit than the cultivation of an inhospitable soil.

In the solitary tracts of the island the most perfect silence prevails. At times the wind falls to a calm, and the sky appears cloudless. At such a time the *Aurora* by night appears occasionally in all its splendour, and its rays appear to proceed, not from any point in the north, but shooting upward at right angles to the surface of the earth. The effect of this exhibition in the sky is reflected in the still waters with majestic brilliancy.

The population is estimated to amount to 100,000 persons, of whom between 80,000 and 90,000 are of British and Irish descent, the remainder being composed of French residents and a hundred or two individuals of Indian blood.

It is generally supposed in England that Newfoundland is constantly enveloped in fog and wet mist; nothing, however, can be farther from the truth. The summers are frequently so hot and dry, that from want of rain the grass perishes; the summer of 1840 was one of these;—and the nights are usually splendid; whilst, in winter, fog is very rarely seen.

Winter may really be said to commence here toward the latter end of November only; the fires are comfortable adjuncts during most of that month, and its severity begins after Christmas, runs through January and February, and becomes less and less stern until the middle of April, when it ceases altogether. In the winter of 1840, ploughing was going on after Christmas. The winter of 1841-2 was unusually changeable, and deluges of rain, storms of wind, and some share of snow, characterised it. March was also a very cold month, and characterised by an unusually furious snow storm.

In 1836 the number of acres in cultivation was 11,062, and their produce 10,300 bushels of oats, above a million bushels of potatoes, and nearly 7,000 tons of hay. The number of horses was 1,551, of horned cattle 5,835, and of sheep 3,103. The inhabitants are for the most part dependent for provisions upon importation. In fact, if it were not for the fisheries, the island would not probably be settled at all; and as it is, large numbers resort to it only during the fishing season, and leave it during the winter. The settlements are all upon the coast, the grand occupator of the population being exclusively in the fisheries, and in those branches of industry connected therewith. The peninsula of Avalon, on the S.E., which is united to the main body of the island by a low isthmus little more than three miles wide, is the chief seat of the population, the settlements on the other coasts being few and far between, and of little individual importance. In these latter settlements, from their little intercourse with each other, the character of each is singularly diversified, preserving traits of their origin as distinct as if they had been formed yesterday. The original settlers were either from Jersey, England, Scotland, Ireland, or France, and their habits vary accordingly.

The extent of the fisheries and oil trade is very great. In 1841 more than 1,000 sail of vessels entered, and more than 950 left the ports of the island, leaving out of the reckoning the numerous schooners and small craft engaged in the actual fisheries, which amount during each season to somewhere about 4,500. In the British fishery each year are engaged never less than 30,000 seamen, with 10,000 boatmen and curers; and 140,000 tons of produce are annually exported, Britain and her colonies receiving the largest share, while continental Europe and the United States also take great quantities. Cod, mackarel, herrings, capelin, cods' tongues and sounds, salmon, train-oil, seal-oil, seal-skins, some little poultry, with staves, constitute the chief items of export.

The largest portion of the exported cod-fish is caught near the island, the banks being now chiefly occupied by French and Spanish fishermen. The export trade in 1840 was 915,795 quintals of dry cod-fish, (each quintal or 100 pounds of dry fish made from three hundred weight of fresh or "green" fish,) 3,206,586 gallons of train and seal oils, 631,385 seal-skins, 3,396 tierces of salmon, and 14,686 barrels of herrings, which with minor articles were valued at £983,961, being an increase on the previous year of £82,596. The importations consist of salted provisions from Ireland and Germany; biscuit from Germany; flour from the United States and the North of Europe; Indian-corn meal from the United States, &c. The total value of the imports for 1840 was £784,045, an increase on the preceding year of upwards of £73,488.

The CITY of St. JOHN is the principal settlement, and the only considerable town in the island: it is the seat of government, and the bishopric, and chief harbour for the British vessels. Explicit directions for entering are given hereafter, but the following Remarks in addition may be acceptable. The entrance to St. John's Harbour is through the "Narrows," a strait running in a N.W. by W. direction about half a mile long, and 220 yards across in the narrowest part, with rocky precipitous heights of 500 feet on each side. There are from 9 to 12 fathoms of water in the middle of the channel, with tolerably good anchorage ground. The harbour then opens by a turn at right angles, and runs in a S.W. direction for a mile and a quarter, and in front the city of St. John appears, climbing up a hill, from Fort William to Fort Townsend, between which are seen the government house and St. Thomas's Church; the former a plain pile of dark stone-work, the latter a singular wooden edifice with a curious steeple. The ridge of hills on the S.E. side of the harbour is 750 feet high, and on the opposite side of the Narrows is a continuation of the same ridge, called Signal Hill, 510 feet high, on which is the citadel, to which place all vessels are telegraphed from Cape Spear on their first appearance off that place. On Fort Amherst on the South Head, at the entrance of the Narrows, is a brilliant fixed light. At two-thirds the distance from the entrance to the harbour itself, is a rock, on the north side, called the Chain Rock, which with Pancake Island on the opposite shore, contract the entrance at this part; and between them a chain can be stretched when required, to prevent the entrance of any hostile fleet. In addition to this, the fortifications before mentioned, other batteries which command the entrance, and the Crow's Nest, a small battery perched on the top of a pyramidal mount on the N. of the entrance of the harbour, render the place perfectly secure against any sudden attack.



The Entrance to St. John's Harbour.

The city consists of long, irregular, and in some places very narrow, streets, the principal one being called Water street, which has been much improved of late years. Duckworth street, the next great parallel to Water street, is also improving; and there are several lateral streets, but St. John's has not yet arrived at much architectural embellishment. It stretches for about two miles along the harbour, and the ground rising about 120 feet from the sea, causes many of the side streets to be inconveniently steep. The principal feature of the city is its multitude of wharfs and fishing stages which line the shore, which

with its unpainted wooden houses give it a sombre and dismal appearance. The city contains 15,000 inhabitants.*

CONCEPTION BAY, to the northwestward of St. John's, is the richest and most populous country district in the island, containing, altogether, about 30,000 inhabitants, who are distributed in a number of villages or fishing and agricultural hamlets. Upon the small island, named *Bell Isle*, in this bay, wheat flourishes and ripens well; as do potatoes, oats, hay, and vegetables. This spot is, therefore, considered as a nursery garden for the neighbourhood.

Toulinguet or *Twillingate*, in the *Archipelago of Exploits*, is the most northerly British settlement in the Island.

The BANKS, which have been, in their fisheries, the source of all the opulence in the island, are vast submarine elevations, of various depths and very unequal figures, as shown by the Chart. The depths on the Great Bank vary from 15 to 80 fathoms. The quality of the bottom varies considerably, but it generally consists of sand, or sand mixed with shells and gravel, rarely with stones. The eastern face of the Banks is a clear sand, white or whitish, and often sparkling. In the gullies and deeps which separate the banks, and more particularly in the Whale Deep or *Trou de la Baleine*, the bottom is found to consist of mud or ooze with a fetid smell, and abounds with different sorts of fish; but more particularly with cod, which is inconceivably numerous; for, although from 200 to 400 vessels have been annually freighted with this article of commerce for nearly two centuries, there appears to be no sensible decrease of the former plenty. A great swell and thick fog usually indicate the place of the bank.

The cod are usually most abundant where the bottom is sandy; and the least so where it is muddy. The best depth for them is between 30 and 40 fathoms, or less water. In the months of February and April, the fish, which in the winter retire to the deepest water, come on the banks, and fatten quickly.

The great fishery generally commences on the banks about the 10th of May, and continues until the end of September. Towards the middle or end of May the first shoal of herrings, called by the natives, spring-herrings, appear on the coasts. These are caught in nets and used as bait. In the middle of June, the capelin, a delicate species of salmon, come in, and last till the middle of July, and with them commences the height of the fishery. Towards the end of July and beginning of August the capelin leave the shores, and the young squida or cuttle-fish succeed them in myriads, and supply their place; and when these are over, they are succeeded by the fall-herrings, or the autumnal herring shoals. This is in September, and is the close of the fishery.†

* The Order in Council, 1829, which declared St. John (Newfoundland) a free warehousing port, completed the system which was meant to be established by a similar measure with regard to Quebec, Montreal, Halifax, St. John (New Brunswick), Picton, Charlotte-town (Prince Edward's Island), and St. Andrews. Under the operation of those ports, flour and bread stuffs were before imported and bonded for export with a certain duty, but they had not the privileges of British colonial productions in the home-market. The necessary effect was, however, to encourage British shipping, and to give it a considerable portion of the American carrying trade. The new Customs Act provides for securing the American carrying trade much further. A clause permits masts and timber generally to be imported *free* into the North American colonies from the United States, and allows it the privileges of British production into the English market. More of the British shipping is said to be employed in the timber than any other trade, and no doubt was entertained that the clause in question would have the effect of encouraging it. The principal advantage of the last change will, however, fall to the ports of the lower provinces.—*Newspaper*, 1829.

† In Mr. M'Gregor's work, entitled "*British America*," 2 Vol. 1832, is given a copious description of the mode of fishing on the Banks, the method of curing, &c., as shown also, in the "*Nautical Magazine*," June, 1832, page 190.—See also Jukes's "*Excursions in Newfoundland*," 1842, vol. i. page 228, and Bonnycastle's "*Newfoundland in 1842*," vol. ii. page 160.

By the Treaty of Utrecht, 1713, the French retained the liberty of fishing off the coasts, and of drying their nets on the shores of Newfoundland, within certain limits; and, by the treaty of 1763, they may also fish in the Gulf of St. Lawrence, but not within the distance of three leagues from any of the coasts belonging to Great Britain.

By the treaty of 1783, it was defined that, the subjects of France were to enjoy, under the restrictions of the previous treaties, the fisheries on the eastern, northern; and western, coasts of Newfoundland, from Cape St. John to Cape Ray; and this concession was confirmed by the treaty of 1814.

By convention with the UNITED STATES, of the 20th of October, 1818, the people of the said States, renouncing previous claims, have, for ever, in common with British subjects, the liberty of taking fish on the southern coast, between Cape Ray and the Namea Isles, and on the western and

There are, generally, in the spring, within 125 or 130 leagues of the land, and between the Outer and Grand Banks, numerous ice-bergs, or ice-islands, that float down with the current from the north-westward, and which, during the foggy weather, are very dangerous: even in the months of June, July and August, there are frequently a number of them: some of which may be seen aground, in 40 or 50 fathoms of water. In thick weather, the place of these may commonly be distinguished by the *ice-blink*, a brightness of the sky above them; or by the breaking of the sea against them, which may also be heard at a considerable distance; or by the decrease of the temperature of the water, as shown on page 11.*

On approaching the banks, there will generally be found a number of sea-fowls, as *malimauks*, *roaches*, and *divers*. The last-mentioned are seldom found at more than 30 leagues from the banks; but malimauks, and several other kinds, are frequently seen during the whole passage; although not so numerous elsewhere as in the vicinity of the banks.

VIRGIN ROCKS.—In approaching toward Cape Race, (the S.E. point of Newfoundland,) be careful to avoid the *Virgin Rocks*, a dangerous reef, lying 29 leagues S.E. $\frac{1}{2}$ E. [E. by S.] from that cape. In gales of wind a heavy sea breaks over them; and a strong current, which sets about them, often increases the danger.

The existence of the Virgin Rocks having been questioned, it is proper to communicate the following extract of a letter, addressed by Arthur Kemp, master of the brig *Indiana*, of Dartmouth, to the publisher of the *Newfoundland Gazette*:—"On the 23rd of October, 1823, at noon, I left Cape Broyle, after a strong gale from S.E., with the wind at W.N.W. steering S.E. by S. The following morning, at 8 a. m., having run 84 miles, I was alarmed with the cry of '*breakers a-head*,' and almost immediately saw them to such an alarming extent, as obliged me to alter the course from S.E. by S. to E. by N., it not being possible to clear them on the other tack. After giving the breakers a good berth, and leaving them to the southward, distant four miles, I hoisted the main top-sail to the mast, and lay by from 10 o'clock till noon, and observed in latitude $46^{\circ} 35'$, longitude $50^{\circ} 51'$; the extent of breakers appeared to be about two miles, and were more tremendously alarming than I have ever experienced, during twenty-three years that I have (chiefly in this trade) commanded a vessel."

The reef has since been surveyed by Mr. Rose, master of H. M. S. *Tyne*, who, with Captain Bishop, of H. M. brig *Manly*, has ascertained its situation. The following are the particulars.

The bank in which the shoal is situated, extends E. by N. and W. by S. $4\frac{1}{2}$ miles; its broadest part is about $2\frac{1}{4}$ miles. The soundings are regular from 28 to 30 fathoms, until they deepen suddenly on the outer edge to 39 and 43.

The rocks themselves are in $46^{\circ} 26' 30''$ N., and $50^{\circ} 51' 30''$ W. They extend in an irregular chain, S.W. by W. and N.E. by E. 800 yards, varying from 200 to 300 yards in breadth. The least depth of water is on a white rock, in $4\frac{1}{2}$ fathoms, with 5 to $6\frac{1}{2}$ fathoms all round it; the bottom distinctly visible. Toward the extremities of the shoal are several detached rocks of from 7 to 9 fathoms, with deep water between, and with a current setting over them W.S.W. one mile an hour; and with also a very confused heavy swell.

The vessels were anchored upon the rocks for the space of two days, during which the

northern coasts, from Cape Ray to the Quirpon Isles; also on the shores of the Magdalen Islands, and on the coasts, bays, harbours, and creeks, of Labrador, from Mount Joli through the Strait of Bell Isle, and thence northward, indefinitely, along the coast, but without prejudice to the exclusive rights of the Hudson's Bay Company; and the fishermen of the United States have liberty, for ever, to dry and cure fish in any of the *unsettled* bays, harbours, or creeks, of the southern parts of Newfoundland, above described, and of the coast of Labrador, but so long as unsettled only, without previous agreement with the inhabitants, &c.—See, farther, the large Map of the Canadas, Nova Scotia, Newfoundland, &c., published by the proprietor of this work.

* August the 2nd, 1836, the ship *Byrom*, from Liverpool to New York, heavily laden, and having on board 119 to 120 persons, was suddenly struck in a dark night, by an immense iceberg, estimated at more than 100 feet high, near the edge of the Grand Bank, in lat. $44^{\circ} 22'$, long. $48^{\circ} 40'$. For some time, in a scene of terror, all was considered as lost. The bowsprit was carried away; and the stem pressed down by the overhanging column of ice; but happily the hull was sound, and with day-light the vessel righted. On the next day three other mountains of ice were seen.

The progress of these lees confirms the existence and direction of the Arctic or Drift current from the North, as shown in our *Memoir on the Atlantic Ocean*.

weather was extremely pleasant, and every way favourable for taking the most accurate observations. Variation $26^{\circ} 30' W.$

A copious detail relative to the reef is given in the *Nautical Magazine*, No. 1, page 10; and it is there noticed that the longitude of the rocks, assuming Halifax dock-yard in $63^{\circ} 38' 41''$, is $50^{\circ} 56' 35''$, but if our longitude of Halifax be correct, $63^{\circ} 33' 40''$, the longitude will be only $50^{\circ} 51' 34''$; and in the chart of the rocks it is stated as $50^{\circ} 51' 30''$, although laid down in $50^{\circ} 56\frac{1}{2}'$.* The surrounding bank has been noted as a good fishery.

SHOAL NEAR THE VIRGIN ROCKS.—In the *Nautical Magazine* for May, 1845, page 267, the following notice appeared.—“A shoal with only 21 feet water upon it, was discovered by Jesse Ryder, master of the fishing schooner *Bethel* (belonging to Province Town, Massachusetts,) on the Grand Bank of Newfoundland, in lat. $46^{\circ} 30'$, having observed on the shoal, and saw distinctly, it being a rock of about 100 or 200 feet surface; supposes it to be about 50 miles East of the Virgin Rocks. Shoal bears from the Nine Fathom Bank S. by W. by compass about $1\frac{1}{2}$ mile: discovered it accidentally while searching for the Nine Fathom Bank, to fish on. Am certain it was not any part of the Virgins; for I afterwards saw them, and from my experience of the different fishing grounds, know this shoal to exist.”

SHIPS BOUND TO ST. JOHN'S are, therefore, recommended to keep on the parallel of 46° , or a degree and a half to the southward of the parallel of that port, and until they approach the outer edge of the Great Bank; and, when they obtain soundings, to steer directly to the north-westward for Cape Spear, the position of which is given as $47^{\circ} 31' N.$ and $52^{\circ} 33\frac{1}{2}' W.$ †

EASTERN AND NORTHERN COASTS OF NEWFOUNDLAND.

I.—CAPE SPEAR AND ST. JOHN'S HARBOUR, TO CAPE ST. FRANCIS.

LIGHT-HOUSE ON CAPE SPEAR.—Since the 1st of September, 1836, a light-house on Cape Spear has exhibited a powerful revolving light at 275 feet above the level of the sea, which, in clear weather, may be seen at eight or nine, and in ordinary weather, at five or six leagues off. The light shows a brilliant flash at regular intervals of one minute.

Upon *Fort Amherst*, on the South head at the entrance to St. John's Harbour, there is shown a *brilliant fixed light*, which may also, from its elevation, be seen at a considerable distance.

The HARBOUR of ST. JOHN, which is the principal harbour of Newfoundland, is an excellent one, although the entrance is narrow, being only 160 fathoms in breadth; with high, hold, and precipitous land on each side.‡ The entrance lies N.W. by W., and within will be found to narrow; as, in the inner part, there is a rock on each side, but above water. Here the breadth of the channel is only 95 fathoms, and the depth 8. When past these rocks you may run on boldly, without any fear of danger, only avoiding a rock on the south side, called *Prosser's Rock*, on which there are only 9 feet of water, and lying at about 30 fathoms from the shore, off a reef lying within the King's wharf.

Within the harbour you may anchor in any depth from 4 to 10 fathoms, land-locked from all winds, as the harbour within the Narrows lies W.S.W. It is, however, to be

• From a comparison of the distances from Cape Race, given by different mercantile commanders, we, however, admit the latter as nearest to the truth.

† We are aware that a recent chart of the S.E. and South coasts of Newfoundland places the whole about eight minutes more to the *West*, than we have given it. Former charts had it as much more to the *East*. The Admiralty Chart of Trinity and Conception Bays, 1835, places Cape Spear in longitude $52^{\circ} 33\frac{1}{2}'$, and Fort Amherst in $52^{\circ} 37'$; longitudes which may safely be adopted.

In a former work, the *Colombian Navigator*, 1839, has been shown the probability of an erroneous assumption of longitude for Halifax Dock-yard, and the consequence of so assuming it as a first meridian. If the chronometric distances have been gained from such meridian, the consequence must be obvious, and the error much more extensive than was supposed.

‡ An appearance of the entrance is given by Mr. Owen, on his particular chart of the harbour:

noticed, that there is no possibility of sailing in, unless with the wind from S.W. by S. to East. The wind from S.W. to N.E. by N., blows out of the Narrows. Here ships must then anchor, and warp in, for which purpose there are rings in the rocks on both sides.

THE FOLLOWING DIRECTIONS FOR ST. JOHN'S have been given by Mr. OWEN.

"The entrance of St. John's Harbour, is readily known by the block-house on Signal-hill on the North Head, and Amherst Fort on the South Head.* There is a sunken rock, called the *Vestal*, 50 fathoms without South Head, with only 25 feet of water on it. This rock is about 10 fathoms long and 7 broad; the marks for it are, Fort William (which stands within the harbour on the north side) open of South Head, bearing N. 39° W.; and the outer *Wash-ball Rock* open with Cuckold's Head, bearing N. 47° E. The *Wash-ball Rocks* join the North Head; they are all above water and steep-to, therefore not dangerous. The course in the Narrows is N.W. by W., distance 370 fathoms, to *Chain Rock* on the North, and the *Pancake* on the South, side. Both these rocks are above water, and steep-to. Sixty-five fathoms within the *Pancake Rock*, on the South shore, lies the *Little Pancake*, a rocky shoal, dry at low water; and 80 fathoms within the latter lies a sunken rock, called *Prosser's Rock*, running off 30 fathoms from a rock above water, in form of a saddle, with 18 feet of water in the hollow, and only 5 feet on the outside. It is steep-to, with 5 fathoms close to it. After you have passed *Prosser's Rock*, you may stand to either shore, as they are clear and steep-to. You may anchor in what water you please, from 8 to 4 fathoms, muddy bottom.

"The tide of St. John's sometimes rises 7 or 8 feet; it is not regular, but greatly influenced by the wind."

Be very cautious, if unacquainted with the coast, that you mistake not the place called *Quidi Vidi*, or *Kitty Vitty*, for the harbour of St. John's, as it shows an opening like a good harbour, but is fit only for boats, and not safe even for these at low water. *Fort Amherst*, which stands on the South head of St. John's, appears white, and the flagstaves on the hill, over the North head, will point to the harbour of St. John's: besides these, the course from *Cape Spear* is N.N.W., and the distance about 4 miles. The position of Fort Amherst, as lately given, is lat. 47° 33', long. 52° 37'.

Between the harbour of St. John and Cape Spear are three bays; the first is from St. John's to Low Point, and is called *Freshwater Bay*; the second, from Low Point to Black Head, is called *Deadman's Bay*; the third is from Black Head to Cape Spear, and is called *Cape Bay*.

ST. JOHN'S HARBOUR TO CONCEPTION BAY.—FROM ST. JOHN'S TO TORBAY the course is between N.E. by N. (being at a little distance without the harbour) and N.N.E. distance 7½ miles. Between St. John's and Torbay are several points, which have names; viz. first *Cuckold's Head*, on the south side of the Gut of *Quidi Vidi*; the next is *Small Point*, which lies 2½ miles N.E. ¼ N. from the entrance of St. John's; the third is *Sugar-Loaf Point*, and it lies N. by E. ¼ E. half a league from *Small Point*; the fourth is *Red-Head*, lying N.N.E. from *Sugar-Loaf*, about 2 miles. Between the *Sugar-Loaf* and *Red-Head* is a bay, called *Logie Bay*. The fifth point is the South point of *Torbay*, which lies a mile and a half N. ¼ E. from *Red-Head*. This point of *Torbay* is the lowest of these points.

From the South point of *Torbay* to the anchoring-place, where ships usually ride, the course is N.W. by W. Here you may anchor in 14 fathoms, against *Green Cove*. Should you be open of the Bay, the course is West; for the bay is two miles in extent between the South and the North points. The latter is a low black point, with a flat rock off it, over which the sea breaks: in passing this, from the northward, the course into *Torbay* is W.S.W. *Torbay* is a bad place for ships to ride in with the wind from seaward; for, being open to the ocean, a great sea falls into it.

From *Flat Rock Point*, or the North point of *Torbay*, the course and distance to *Black-head*, are N. ¼ E. 3¾ miles. *Flat Rock Point* is a long, smooth, sloping pavement of red sandstone; hence its name.

* At half a mile S.E. ¼ S. from Fort Amherst is the centre of a narrow bank, having 14 fathoms over it, and which breaks in rough weather. It extends nearly a quarter of a mile N.E. and S.W., and has on it, near each end, a depth of 20 fathoms.

It is high water in the harbour, on the full and change, at 7 h. 30 m. Spring tides rise 5, neaps 3½ feet.

FROM BLACK-HEAD TO CAPE ST. FRANCIS, the bearing and distance are N. by W. $\frac{1}{2}$ W. 3 miles; *Cape St. Francis* is a whitish point, and low in comparison with the other land; but, from sea, the high land over it marks a cove, called *Shoe Cove*, where boats used to come a tilting, (using the fishermen's expression,) that is, to split and salt the fish they catch, when blowing hard and in bad weather, when they cannot gain the place; they belong to in time. In this cove you may haul up a boat to save her, if the wind be out; for with northerly, westerly, and southerly winds, you will lie safely. There is a good place off it for fishing.

From Cape St. Francis to the distance of a mile off, triangular-wise, lie sunken rocks, called the *Brandys*; the outermost, east from the cape, about a mile and three-quarters. There are also islets, or great rocks above water, the outermost of which lies about three-quarters of a mile E.S.E. from the cape; and the innermost not half a mile off shore; between these islets and the sunken rocks, you may go with boats, and find fresh water; but men are generally unwilling to venture. *Shoe Cove* is protected by the rocks.

There is another cove, to the northward of the point of the cape, for boats, when the wind is off the shore; but, if otherwise, it is not safe.

II.—CONCEPTION BAY, BETWEEN CAPE ST. FRANCIS AND BACALIEU, OR BACALAO ISLE.

CONCEPTION BAY.—From Cape St. Francis to *Bell Isle* the course is W.S.W., and S.W. by W. 4 leagues. This island, already mentioned, in page 17, is two miles from the shore, against the cove called *Portugal Cove*. *Bell Island* is bounded by cliffs, at one point nearly 300 feet high; about 5 miles long and 3 broad. Near the S.E. end is *Lance Cove*, a small indentation of the cliff, which, with a beach, are the only landing-places. It is very fertile, thus differing from the surrounding land. On the S.W. side is the *Bell*, a perpendicular rock 100 feet high, divided from the island by a passage of 20 yards, passable for boats in calm weather. The vessels that fish there lie in the little cove on the south side of the island, which will contain five or six ships, according to the rate.

From Cape St. Francis to the *Island Bacalieu, or Bacalao*, the bearing and distance are N.N.E. about 6 leagues. *Bacalieu* is an island 3 miles long, from north to south, and one mile and a half broad, and is almost inaccessible. Here boats were used to fish: abundance of sea-birds, of several sorts, breed here in the summer. Between this island and the main is a channel about 2 miles broad, having a sufficient depth for ships. The *Bay Verde* and the S.W. end of *Bacalieu* lie E. by N. and W. by S. from each other about a league and a half.

BAY VERDE.—From Cape St. Francis to the *Bay Verde Head*, the bearing and distance are N. by E. about $5\frac{1}{2}$ leagues; and, from the head to the bay, or cove, where ships ride, to the westward of the head, is about three-quarters of a mile. The roadstead is not above a cable's length in extent between the points, which lie N.N.E. and S.S.W. from each other; you lay your anchors in 10 fathoms, and your ship will lie in 5, with a cable out; the stern will then be not above half a cable's length from the stages. The ships that ride here, are forced to seize their cables one to the other; and there cannot be, at once, above seven or eight ships. It is a bad and hazardous place for ships, except in the summer time, but the great plenty of fish make it desirous, although it is a wild, desert place, very deficient in wood, water, &c.

Bay Verde, or Bay of Herbs, as it is here called, may be readily known by the *Island Bacalieu*, and also by another head within *Bacalieu*, called *Split Point*; as well as by *Bay Verde Head* itself, which is the westernmost; these three heads show very bluff, and very like each other, on coming from the southward: there is no danger in going into *Bay Verde* but what may be seen.

From *Bay Verde Head* to *Flamborough Head* the bearing and distance are W.S.W. $\frac{1}{2}$ W. four miles. *Flamborough-head* is a black steep point, but no place of shelter for a boat, unless when the wind comes from the shore; neither is there any safety between *Bay Verde* and *Carboniere*, (7 leagues S.W. $\frac{1}{2}$ W.,) excepting two places for boats, the one in the S.W. cove of the *Green Bay*, which is but an indifferent place, and lies S.W. $\frac{1}{2}$ W. about 4 leagues from *Bay Verde*, and the other in *Salmon Cove*, which is about a league and a half northward of *Carboniere*.

From *Bay Verde Head* to *Green Bay* is S.W. $\frac{1}{2}$ W. about 4 leagues. This bay is about

a league over, but has nothing remarkable in it, excepting the S.W. cove above mentioned, and a place at the bottom of the bay, to which formerly the Red Indians came every year, for the purpose of obtaining ochre.

From the South point of Green Bay to Black-head is S.W. $\frac{1}{2}$ W. a league; and from Black-head to Salmon Cove, W.S.W. 4 miles. The latter is a place of shelter for boats, an island lying in the middle; a river runs up from the cove, which abounds with salmon.

CARBONIERE.—From SALMON COVE to CARBONIERE, the course is W.S.W. about 4 miles. The Island of Carboniere is at about a mile from the shore. Its south side is low. The harbour is very bold on both sides; so is the island, between which and the main are rocks, just under water. This is a good place for ships to ride in, and for catching and curing of fish. Here are good pasturage and cattle, affording milk and butter during the summer. Carboniere has declined, and therefore has, in parts, a forlorn and deserted air. There is very good anchorage, in clear ground, fair turning in or out, being more than half a mile broad, and 3 miles long; the depth 5 to 8 fathoms, and deeper water. To the northward of the point of Carboniere are two coves, in which planters live, and keep boats for fishing; the northernmost of these, called *Clown Cove*, is fit for boats only, and is about 2 miles above Carboniere Harbour; the other is called *Crocker's Cove*, and is close to the entrance of Carboniere Bay.

The proper channel in to Carboniere is on the North side of the island, which lies off its southern point; the entrance here being more than a mile wide. Ships may, however, pass on the S.W. side of the isle; but they must keep in mid-channel, because the ground is foul and shoal on each side, so as to form a narrow passage only.

To the W.S.W. of Carboniere Island is a small cove, called *Mosquito Cove*: in this cove ships may ride, but it is seldom used, as it is not convenient for fishing ships, although the ground is clean, and it has sufficient depth of water.

HARBOUR GRACE.—The entrance of Harbour Grace is a league to the southward of Carboniere Island. A rock, called the *Salvage*, stands nearly in the middle of the channel; and there is another, called the *Long Harry*, near the North shore, having only a boat-passage between it and the main. Both are of great height above the water. Harbour Grace is a pretty-looking little town, consisting of one long, straggling street, along the north side of the harbour; the houses being mostly painted white, and standing on a narrow flat, with a rocky ridge behind them. The population is about 3000.*

Within the bay, a bar or ledge extends from the South side, more than half-way over, as shown in the particular plan of the Harbour.

You may turn into Harbour Grace, all the bay over, from side to side. The *Salvage* may be passed on either side, as most convenient: and, having passed within this rock, you may turn from side to side, by the lead, till you draw toward the edge of the bank, then proceed by the North shore.

You may know when you are near the bar, or ledge, by two white rocks on the land, by the water side, in a bank on the North side, which show whiter than any other part: these are about a mile below, or to the eastward of the beach, which is proper to be known: by keeping near the North shore, you will find 3 fathoms and a half on the bar, and presently after 4, 5, 6, and 7 fathoms; but if you stand over to the southward, till you have advanced within the bar, or ledge, you shall not have above 7, 8, or 9, feet of water: this sand trends S.E. from athwart the two white rocks above mentioned, and extends close up to the South shore. Having passed its outer extremity, you may turn

* In the month of December, 1820, H.M. sloop *Favorite*, Captain H. Robinson, visited Harbour Grace, when *Lieut. R. Pearce*, of that vessel, made an accurate survey of the port. The town was then considerable, and of respectable appearance. Captain R. describes the harbour as good; for, "though the space between the end of the bar and the north shore is rather narrow, a large ship, well handled, may beat through, or back and fill, in and out, with the tide."

Port Grace is a remarkable basin, hollowed out in the cliffs by the action of frost, or the more certain operation of time, in destroying the slate-clay of which the rocks are composed. First an arch is entered, 20 feet wide by 20 high; and beyond is the basin itself, which is about 300 feet in circumference, and surrounded by perpendicular rocks, 120 feet in height, with a border of dwarf spruce at top. At one corner a little aperture, among broken masses of rock, carries off the superfluous water; the depth near the centre of the cavity is about 14 feet.

On the 18th of August, 1832, an awful and destructive fire broke out and destroyed 100 dwelling houses at this place, with the church, &c., when 600 persons, who in the morning were in comfort and opulence, were before night without shelter and food. For the particulars, see '*Nautical Magazine*,' Dec. 1832, pp. 605, 6.

from side to side till within the beach, on the North side, and ride land-locked in 4, 5, or 6, fathoms, or higher up in 7, 8, 9, or 10, fathoms, as you please.

Three islets, called *HARBOUR GRACE ISLANDS*, lie off the South point of the entrance of Harbour Grace, in an East and West direction. On one of these is a lighthouse, perched on the brink of a precipice, consisting of a square wooden house, with a square dove-cot-looking top for a lantern. The island, a block of slate, is only accessible by ladders, and in smooth weather. No vessel should attempt a passage between them and the main, as the ground is foul and shoal, and there are rocks about the islets.

From Harbour Grace to Cape St. Francis, the bearing and distance are E. $\frac{1}{2}$ S. 6 leagues.

BRYANT COVE, to the southward of Harbour Grace, is not a place for ships: it is, however, a good place for fish. In the middle of the entrance is a rock above water. You may pass it on either side, and have 4 or 5 fathoms, and then anchor within it in clean ground.

From Harbour Grace to Spaniard Bay, the distance is about two leagues. This bay is deep and large, and there is good anchoring all over it. It is divided from *Bay Robert* by a small neck of land only.

BAY ROBERT is about half a league broad. There is very good turning into it, and no danger but what may be seen. You may borrow on either side, and go close to the island which lies on the starboard side of the entrance. The bay is, at least, three miles long. Being past the island, or to the westward of it, which is bold-to, you may run up about a mile, and lie land-locked in 9 or 10 fathoms within the island.

From the point of Bay Robert to Port Grave, the distance is 3 miles. Port Grave is extensive, deep, and very bold, as the other bays are: there is a cove on the starboard side of the entrance, called *Sheep Cove*, where you may moor by head and stern, and ride in $4\frac{1}{2}$ and 5 fathoms; but your anchor to the W.S.W. will be in 22 fathoms, at about a cable and a quarter's length from the ship.

From Sheep Cove to Port Grave, the distance is a mile, or rather more; but ships do not ride within the small islands which are by Port Grave, the water within them being shoal; but they ride off without them.

From Sheep Cove to Cupid Cove, on the South coast of Port Grave, the course is S.W. about a league. This is a good place for a ship or two to ride in, in 4, 5, or 6, fathoms, and not above a point open. The cove lies in a W.S.W. direction, and the South side of the bay to *Burnt Head* trends E. by N. about two miles.

From Burnt Head to Brigus is S.S.W. two miles. The South point of Brigus is a high rugged point: the bay of Brigus is not above half the breadth of Port Grave Bay; you run up W. by S. and West, about half a league, and anchor on the North side. Small vessels only use this place, it being so far up the Bay of Conception. It is a wild, rocky, little place, and a rather considerable settlement, with a population of about 2000.

Collier Bay.—*From Brigus to Collier Bay* is S.S.W. two and a half or three miles. And from Collier Bay to Salmon Cove or Pool, the distance is nearly two miles and a half.

Harbour Main.—This is a good place for fishing, but ships seldom go up so high in the bay. *From Burnt Head, of Port Grave, or Harbour Main*, the course and distance are S. by W. about three leagues; and from Harbour Main to *Holyrood* S. by E. about two miles; then the land trends about to the eastward toward *Bell Isle*. *Holyrood Harbour* has 10 fathoms of water, and good ground.

III.—TRINITY BAY, &c., BETWEEN BACALIEU AND CAPE BONAVISTA.

TRINITY BAY.—This extensive Bay, between Bacalieu Island on the S.E. and Trinity Harbour on the N.W., is 7 leagues in breadth, and its depth, from the entrance, is 20 leagues. The south point of the entrance, westward of Bacalieu Island, is called the *POINT OF GRATES*. The next point within is *Break-heart Point*. Between these points is a small bay, in which boats may lie with a wind from the land of Break-heart Point: there is a ledge of rocks, but they are above water.

From Break-heart Point to Sherwick Point, going into *Old Pelican*, the course is S.W. by W. $5\frac{1}{2}$ or 6 miles. To the southward of Break-heart Point is an islet, at some little distance off the shore, called *Scurry Island*: between this Island and Sherwick Point, the coast falls in a pretty deep bay, and trends S.S.E. from Sherwick Point about three-quarters of a mile.

OLD PERLICAN.—Sherwick Point is bold; there is a rock off it, above water: this point is the north point of Old Perlican. They who are bound to Old Perlican, cannot go in with a ship to the northward of the island; that is, between the island and Sherwick Point; although it seems a fair passage, yet it is altogether foul ground, and a shoal of rocks extends from the main to the island; (which island is about a mile and a quarter round, and about half a mile in length;) therefore, whoever intends for Old Perlican with a ship, must pass to the south of the island, between it and the main. Within it is an anchorage, in 4 or 5 fathoms. It is, however, to be observed, that there is a rock just even with the water, and some under water, about the middle of the bay, within the island, or rather nearest to the main. Old Perlican has but an indifferent road: and, if the winds come out from N.W., you are forced to buoy the cables, from the badness of ground. The boats go a great way to catch fish, (about five or six miles,) excepting in the very middle of summer.

Sillé Cove.—From Old Perlican to Sillé Cove, the coast rounds to the Westward, S.W., and S.S.W., about six leagues. Sillé Cove is but an indifferent place for ships, such as Bay Verde, already described.

NEW PERLICAN.—From Sillé Cove to New Perlican, the distance is a league. This is a very good harbour, where you may lie land-locked in 5, 6, 7, 8, 9, or 10, fathoms. It is very bold and large going in, so that, if you can see the point before night, you may safely run in, there being nothing to hurt you but the shore itself. The easternmost point of the entrance, is called *Smutty-nose Point*, and the westernmost *Gorlob Point*; the entrance between is more than a mile broad, and has about 20 fathoms of water. On sailing in, it will be found narrower and shallower, lying in first west, and terminating in a bigit, where you may lie land-locked, in a berth half a mile broad; so that you may turn in or out, and anchor in what depth you please, from 12, 10, 8, 6, 5, or 4, fathoms, very good ground.

S. by E. $\frac{1}{2}$ E. from New Perlican, distant $2\frac{1}{2}$ miles, is *Heart's Content*, a fine spacious harbour, nearly circular, and excellently sheltered from all winds; it is a thriving place. The coast bears generally S. by E. from Heart's Content, and consists of a low shore of bright red and grey slate. Twenty miles distant from Heart's Content is *New Harbour*, a shoal place and difficult of entrance. Almost all this eastern side of Trinity Bay is inhabited. At the head of the bay is *Dildo Harbour*, and 5 miles to the W. of this is *Chapple Arm*, a small settlement.

Nine miles N. by E. $\frac{1}{2}$ E. is *Tickle Harbour Point*, the north extremity of a tongue of land, forming a deep bay on its western side, at the bottom of which is *Tickle Harbour*; it is a bad anchoring place. N. by E. from this, 9 miles, is the entrance of the *Bay of Bulls*, (*Baie des Boules*) an inlet running in the same direction for 6 miles, when it turns to the westward, and approaches *Come by Chance Inlet*, at the head of *Piacentia Bay*. The isthmus formed by these two arms connects the peninsula of *Avalon* with the main part of the island. It is about 3 miles broad, and 150 or 200 feet high, sloping toward Trinity Bay. To the east of the isthmus is *Centre Hill*, about 1000 or 1200 feet high.

Random Western Head lies $6\frac{1}{2}$ leagues N.E. $\frac{3}{4}$ E. from the entrance of the Bay of Bulls. It forms the eastern entrance to the *South West Arm*, an inlet running parallel with *Random Sound*, 4 leagues in length.

From New Perlican, the distance over to *Random Head*, is 5 leagues. These places lie N. $\frac{1}{4}$ W. and S. $\frac{3}{4}$ E. from each other. In *Random Sound* are several arms and harbours. *Random* and *Smith Sound* uniting form *Random Island*, the channel being in the whole 13 leagues in length. At the conjunction of the two sounds is a bar, nearly dry at low water. Here it is not a mile broad.

PORT BONAVENTURE.—From Bonaventure Head to Bonaventure Harbour, the course is N.W. by N. a mile and a half; but, having advanced a mile from the head, then the harbour lies N. by W. to the Admiral's Stage. Port Bonaventure lies within two small islands, between which is the proper channel, but you may go on either side, if you have a leading wind, there being no danger, and 4 or 5 fathoms of water, at least. Within the islands, you may anchor in that depth, in good ground. There is a very secure place for boats in bad weather, running in within a point, behind, or to the northward of, the Admiral's Stage, like a great pond. This place will contain above 100 boats in security.

There are several islands without, off Bonaventure; the middle one, called *Green Island*, is nearly S.S.W. from the port, distant five miles. It is so high as to be seen, in fair weather, so soon as you come out of *Trinity Harbour*.

From Bonaventure Head to the point called the *Horsechops*, the bearing and distance are East, eight miles.

From Bonaventure Head to Trinity Harbour, is N.E. $\frac{1}{4}$ E. 4 $\frac{1}{2}$ miles; between are some bays, but not for ships to ride in, unless with the wind off the shore.

The Horsechops and Sherwick Point (being the East point of Trinity Harbour) lie N.W. by W. $\frac{1}{4}$ W. and S.E. by E. $\frac{1}{4}$ E. from each other, distant 4 $\frac{1}{2}$ miles. Between the Horsechops and Trinity Harbour is *English Harbour*, at the distance of 3 miles from the Horsechops. Within the outer point this harbour trends eastward; it is a clean bay, and you ride in 4 or 5 fathoms of water.

From English Harbour to Salmon Cove, the course is N. by W. about a mile; it is a place for fishing, and there is a river which runs up about two miles to the northward.

Without Salmon Cove is a headland, called *Fox's Island*, connected to the main by a neck of beach. To the northward of the headland, between it and Sherwick Point, is a bay, called *Robin Hood's*; and in this bay, behind a point, small ships ride and fish.

TRINITY HARBOUR.—From the Horsechops to Trinity Harbour, the course and distance are W.N.W. 5 miles. Trinity Harbour is the best and largest harbour in all the land, having several arms and coves, wherein several hundred ships may ride land-locked. A lofty rocky promontory lies in the centre of the harbour, on the lower part of which, the houses composing the town are irregularly scattered, containing, with the neighbourhood, about 3000 inhabitants. It is a place which you may turn in or out of, being bold-to on each side, and having no danger but what may be seen; excepting that, at the entrance of the S.W. arm, there is a shoal, called the *Mussel Bank*, which shoots off from a point within the islet on the larboard side going in, and extends N.N.W. about a third of the breadth over that arm. Being within this bank, which will discover itself by the colour of the water, you may edge over close to the south shore, if you please, or keep your lead to avoid the Mussel Bank, giving it a little distance. You may anchor in 14, 12, or 10 fathoms, and approach so near to the stage on shore, as to make a stage with topmasts to your stage on shore, to lade or unlade your ship. This is a most excellent harbour, for after you are in the S.W. arm, you find another running up to the N.W. which is continued by another extending S.W., but there is a bar, or ledge, at the entrance of the latter. The N.W. arm is a large harbour, having good anchorage for 500 sail of ships. Besides the fore-mentioned arms, the main harbour turns up to the north.

Ships, being within the harbour's mouth, may ride in a cove, large and good, on the starboard or east side, and land-locked in good ground off the town. Over against that cove, on the larboard or west side, are two other coves; the southernmost of them is called the *Vice Admiral's Cove*, convenient for curing fish; and above, or to the northward of that, is a large cove, or arm, called *Got Cove*, where there is room enough for 300 or 400 sail of ships to ride, all in clear ground, protected from winds, sea, and tide. In this place ships lie unseen until it appears open.

There are several other places in this excellent harbour, in good clean ground. The bottom, in all the arms and coves of Trinity, is of tough clay, with 4 and 5 fathoms of water, within two boats' length from the shore; and there are 6, 7, 8, 9, 10, 12, and 14 fathoms, and some places more, in the middle of the arms and channels. You may turn in or out, as already noticed, observing your tide, which rises about 4 feet, and sometimes more.

From the Horsechops to the South Head of *Catalina Bay*, a distance of 9 miles, the coast rounds to the N.E. About two miles to the northward of the Horsechops is an indent, named *Green Bay*, but it is no place for ships to ride or fish in. Being past Green Bay, there is no place or cove for boats till you come to Rugged Harbour or to Catalina.

From the South Head of Catalina Bay to the North Head, the bearing and distance are N.W. by W. $\frac{1}{4}$ W. [*N.W. by N.*] 5 $\frac{1}{2}$ miles: between the two heads is Rugged Harbour and Catalina Harbour. The South Head is in latitude 48° 27' 38".

RUGGED HARBOUR is so called from the numerous rugged and craggy rocks which lie before and within it, above and under water. They who proceed for this harbour with a ship must pass to the northward of all the rocks or islets, and run to the northward till they bring the harbour open; then sail in between a round island which lies close to the

main, and a great black rock, which lies off the north end of all the islets. There is a river of fresh water at the head of the harbour.

CATALINA HARBOUR.—One mile and a half to the northward of Rugged Harbour is the Harbour of Catalina, which is very safe, with good ground, not above 8 fathoms, from 3 to 4, 5, 6, 7, or 8 fathoms, as you please. You may, with a leading wind, sail between the small island, which is a little to the southward of the harbour, and have 4 or 5 fathoms at the least, in going through, but it is not above a cable's length broad; or you may go without that island, to the eastward of it, giving the island a small berth, and so sail in with the middle of the harbour; for, at about half a mile distant from the south point of the harbour, to the east, is a reef, called the *Brandys*, upon which, if there be ever so small a sea, it breaks; but you may sail between the island and the reef, or you may go to the northward of it, between the reef and the north shore.

A rock, having over it but 9 or 10 feet of water, lies off the north shore of Catalina Harbour, at one-third of a mile within the *Brandys* above mentioned; but between the two is a depth of 10 fathoms, with a continued depth of 7 fathoms more than half a mile along the south shore. Within this, up the harbour, you may anchor in 5 fathoms, land-locked. You may likewise anchor in $3\frac{1}{2}$ fathoms, to the southward of the little green island, at the entrance of *Little Catalina*, or the N.E. arm of the Harbour; or you may run up toward the village or the river-head, whence fresh water runs down. A kind of bore rises in this place very often, that will cause the water to rise three feet presently, and then down again; and you may find it so two or three times in three or four hours, at certain seasons. It is a very good harbour, and abundance of the herb *Alexander* grows on the small island. Salmon abound at the head of the harbour. Near a small cove in the N.W. within the small island, is a fire-stone of a glittering colour, called *Catalina stone*, a species of iron pyrites; excellent willocks grow on the rocks.

From the North-head of Catalina Bay to *Flower Point*, the coast, which is a high cliff, trends N.E. $\frac{1}{2}$ N. $2\frac{1}{2}$ miles. Off the point is a reef of sunken rocks, called *Flower Rocks*; over which the sea breaks during a swell, and they discover themselves plainly. They lie about half a mile off shore, and extend a mile true East. You may go between *Flower Point* (which has some rocks lying about it) and the sunken rocks above described. A mark to go without them is, to keep the *Gull Island*, off *Cape Bonavista*, open of all the land to the southward: this will lead clear without them to the eastward.

Bird Islands.—From *Flower Point* to the two islets called *Bird Islands*, the distance northward is two miles. Within the *Bird Islands* is a bay, with one arm within the south point of the land, which runs up some distance to the west, where ships may ride: another arm, also, runs up within some rocks, which are above water. The bay extends to *Cape Larjan*, half a league farther north. The *Bird Islands* abound with willocks, gannets, pigeons, gulls, &c., which breed there in summer.

From *Flower Point* to *Cape Larjan*, the bearing and distance are N.N.E. [N. $\frac{1}{2}$ W.] $3\frac{1}{2}$ miles; the extremity of *Cape Larjan* is but a low point, off which lies a great rock above water.

From *Cape Larjan* to *Spiller's Point* is N. by E. half a league; between this cape and *Spiller's Point* the land falls into a bay. Over the point between it and *Cape Larjan*, you will see the high land of *Port Bonavista*, from a considerable distance off at sea. *Spiller's Point* is moderately high, steep, and bold-to.

IV.—BONAVISTA BAY BETWEEN CAPE BONAVISTA AND CAPE FREELS.

From *Spiller's Point* to *Cape Bonavista*, the course is North $2\frac{1}{2}$ miles; between is a bay, apparently deep, which persons unacquainted with would suppose to be the harbour of *Bonavista*.

CAPE BONAVISTA is in latitude $48^{\circ} 42' 10''$. The head of it appears at a distance of a sky-colour. At about half a mile N.N.E. from the cape is a small islet called *Gull Island*, easy to be known, being moderately high, but highest in the middle, and makes somewhat like the form of a *Fleur-de-lis*, or a hat with great brims; you may see it 4 or 5 leagues off in clear weather; near it there is from 4 to 5 fathoms of water. To the S.S.W. about 310 yards off is a danger which does not show.

LIGHTHOUSE ON CAPE BONAVISTA.—A lighthouse has been erected at *Cape Bonavista*, and has been in operation since September the 10th, 1843, from sunset to sunrise. This

light *revolves* at regulated intervals of two minutes, exhibiting alternately a *red* and a *white* light, and burns at an elevation of 150 feet above the level of the sea.

At N.N.E. $\frac{1}{2}$ E. $3\frac{1}{2}$ miles from Gull Island lies a rock, which bears the name of *Old Harry*, and has only 13 feet of water upon it. The sea breaks over this spot, unless when the water is very smooth. To the N.E. from the Old Harry, within an extent of nearly three miles, are several dangerous spots, with from 3 to 4 fathoms: the outer or northern edge of these is called *Young Harry*. Vessels when passing, in order to avoid these rocks, must be careful to keep Cape Bonavista open with the westernmost extremity of a high range of land to the southward, named the *Green* or *Inner Ridge*. These dangers, together with the long ledge called the *Flower Rocks*, near Flower Point, above-mentioned, render it very imprudent to attempt making Cape Bonavista in thick or boisterous weather; and, indeed, at any time, *Bacaliou Island*, between the entrances of Conception and Trinity Bays, is the best and safest land-fall for a stranger bound to any part of Bonavista Bay.

There is a channel between Gull Island and Cape Bonavista; it is nearly half a mile wide, with a good depth; but it is to be observed, that, in rounding the cape, you may not stand in close, as there is a sunken rock about 300 yards S.S.W. from the Gull Island, and another, on the opposite side within the cape, upwards of 200 yards to the N.E. of the land of *Green Island*, which will be presently noticed. Each has less than 3 fathoms of water.

Green Island is an isle half a mile in length, lying nearly parallel with the western side of Cape Bonavista. The passage between admits small vessels only, being narrow, and some spots have shoal rocks. At a mile and a quarter to the westward of *Green Island* is a small islet called *Stone Island*, with a reef on its eastern side, but the general depths between are from 8 to 16 fathoms.

At a mile to the southward of *Green Island* is a reef called the *Red Rocks*, lying off Red Cove, which is terminated by *Western Head*. In succession after this, between it and the port of Bonavista, are Red Point, Moses Point, and Swerry Head; the two last, with their surrounding rocks, marking the north side of Bonavista Harbour.

From Cape Bonavista to Port Bonavista, the courses are south-westward, about four miles. If you come from the southward, and intend for Bonavista, you must leave *Green Island* on your larboard side. You may sail between *Green Island* and *Stone Island*, with any ship, without danger, the channel being safe and bold; or, you may go to the westward of *Stone Island*, and run to the southward till you open the harbour of Bonavista, and are past *Moses Point*, and so to the southward of the rocks called the *Swerrys*, which are high rocks, having no passage to the northward of them. Here you may anchor, in from 11 to 5 fathoms, as you please, but must always have a good anchor in the S.W. and another fast in the *Swerrys*, or in the N.W., for westerly winds blow directly into the road.

With small vessels you may go between *Green Island* and the main, and so to Redhead; but the bay between the points (over against *Green Island*) and Redhead is all foul ground. At a little distance, or about a cable's length from the shore, is a sunken rock, but boats may go between the shore and it. The sea breaks on it. Being past Western or Red-head, the course to Moses Point is W.S.W.; between is a large bay or cove called *Bayley's Cove*, where you may anchor on occasion, not advancing too far in, as all its shore is rocky and shoal.

Capt. Bullock, one of the surveyors of Bonavista Bay, &c., has said of BONAVISTA HARBOUR, that it is an anchorage of little or no consideration, further than being a very eligible situation for carrying on the fishery; being so very badly sheltered that, in N.W. gales, immediately following a continuance of heavy winds from seaward, the water breaks right athwart the harbour, and sometimes the whole of the fishing-boats founder at their anchors, and not unfrequently many of their stages are destroyed: however, vessels during the summer months, moor under the Swerry Head, in 8 or 10 fathoms; but, even there, as in every other part of the harbour, the ground is so rocky and uneven, that they are necessitated to buoy up their cables. Bonavista is a large and straggling, but pretty-looking place, with a good deal of cultivated ground about it, which is more fertile than the neighbourhood of St. John's, but the want of a good harbour prevents its becoming one of the most thriving places in the whole island.

BONAVISTA BAY.—This extensive bay is limited by Cape Bonavista on the

south, and by Cape Freels to the north. The bearing and distance from the one to the other are N. $\frac{1}{2}$ E. [N.N.W.] 41 miles. The position of Cape Bonavista is, lat. $48^{\circ} 42'$, long. $52^{\circ} 59'$: that of Cape Freels, lat. $49^{\circ} 15' 30''$, long. $53^{\circ} 26' 8''$. The whole coast between is tortuous or much indented, rocky, difficult, and dangerous: on the south, the land is high and mountainous, and the coast steep and iron-bound: on the north side it is low and marshy, and from the shore the water is shoal to a considerable distance, abounds with small islands, and is encompassed with dangers on every side.

The harbours in Bonavista Bay are numerous, and safe when once gained; but they are, in general, so deeply embayed, the land is so diversified, and the passages so intricate, that their navigation is seldom attempted, unless by those who, from long experience, have a perfect knowledge of the coast: yet, should it become necessary, from stress of weather, or other circumstance, for a stranger to seek shelter, the places recommended for this purpose are, *Barrow* and *Great Chance Harbours*, in the S.W. part of the Bay; *New Harbour* and *Cat Cove* on the N.W.* These places are described hereafter.

BLACKHEAD BAY.—*Black Head* is $2\frac{1}{2}$ miles S. by W. [S.W. $\frac{1}{4}$ W.] from the Harbour of Bonavista, and *Southern Head* is 8 miles N.W. by W. $\frac{1}{4}$ W. [West] from Black Head. The latter are the two extremities of *Blackhead Bay*, which is two leagues in depth. On the S.W. side of this bay, at nearly a league and a half to the southward of Southern Head are the fishing establishments on *King's Cove*; but this is even a less desirable place of shelter than Bonavista, lying directly open to seaward, and having a foul bottom. There is also anchorage with winds between N.W. and E.N.E. northward, in a harbour to the south of this, formed by *Murphy Point* and that of *Knight's Cove*.

From Southern Head to Western Head the distance is four miles N.W. by W. $\frac{1}{4}$ W. [West.] The cove between forms five coves, on the second of which, *Keels*, is a fishing village: but neither this nor any of the other coves is a fit place for vessels of burthen.

GREAT CHANCE HARBOUR.—The entrance of *Great Chance Harbour*, which is an excellent anchorage, lies 10 miles W. $\frac{1}{2}$ S. [S.W. $\frac{1}{4}$ W.] from Western Head. The passage to it is clear, with the exception of a rock of 18 feet, the *Bacon-bone*, lying a mile and a quarter southwestward from Western Head. In sailing for this place the safest way is, not to shut in Southern Head until the isle called *Little Denier*, bearing N. $\frac{1}{4}$ W., comes on with the outer *Shag Island*. Thus the *Bacon-bone* will be avoided, and you may steer for the harbour, S.W. by W. and West, without having any danger to encounter until you approach the entrance: but here, in the southern part, lies a sunken rock with only 6 feet of water. Within this rock, and in a line with it, are two islets, called the *Mustard-bowls*; in order to avoid the rock, be careful not to shut in the western *Mustard-bowl* with the eastern; but, having passed the latter, you may stand boldly in, approaching the shore on either side as you please, and you may anchor anywhere above the narrows in from 11 to 5 fathoms, perfectly land-locked and good holding-ground. Wood and water may easily be procured here.

At two miles E. by N. from *Chance Point*, (the outer point of *Chance Harbour*), is a spot of ground with 7 fathoms, over which the sea breaks in very heavy gales from seaward, but it is not dangerous in fine weather.

To the N. by E. at one mile from *Chance Point*, is the rock of the same name: it is always visible, and has no other danger near it. *Chance Point*, as well as *Cutler's Head*, is very steep. To the west of *Chance* or *Gull Rock*, is *Deer Island*, which is $1\frac{1}{2}$ mile long and 300 yards broad; between it and the shore there is a good channel with 9 fathoms water in it.

The route from *Deer Island* to *Connecting Point*, is S.S.W. [S.W. by W.] distance 7 miles, and between these there is no danger. *Connecting Point* divides *Chandler's Reach* into two arms, one named *Clode Sound*, the other *Goose Bay*.

GOOSE BAY.—From *Connecting Point*, *Goose Bay* runs S.W. by W. to the distance of $6\frac{1}{2}$ miles; by keeping the middle of the channel, all dangers will be avoided, as they lie near the shore, and the depths will be from 46, 40, and 36 fathoms, until to the west of *Lubber's Hole*, when the depth will vary from 13, 12, 10, and 8 fathoms. After passing *Goose Head*, when a small island called *Shag Island* is seen, steer so as to keep the middle of the channel which divides it from *Goose Head*, and then anchor to the S.E. in $4\frac{1}{2}$ to 6 fathoms. This bay is very convenient for procuring wood and water.

* See the Admiralty Chart of Bonavista Bay, &c., from the Survey of Messrs. Geo. Holbrook and Wm. Bullock, 1822.

CLODE SOUND.—When two miles from Connecting Point, a vessel can also proceed W. $\frac{1}{2}$ N. to Clode Sound, where there are two good anchorages, *Long Cove* and *Love Cove*. The entrance of the first, $7\frac{1}{2}$ miles from Connecting Point, is formed by *Dividing Head*; the anchorage here is in $4\frac{1}{2}$ to $5\frac{1}{2}$ fathoms. The second is 3 miles W. by S. from *Dividing Head*: it is not very deep, but a mile wide in the opening; the depth of water is $4\frac{1}{2}$ to 10 fathoms. Clode Sound is frequented for the timber which is found at the head of it.

LONG ISLANDS.—These islands are four in number; the channels between them are narrow, and ought not to be tried without some knowledge of them. The easternmost of them is 6 miles from Goose Head, and its south point bears W. [S.W. by W. $\frac{1}{2}$ W.] from it. The islands have some covered rocks on the north side, but the most distant is not more than 600 yards from the land.

NEWMAN'S SOUND is an arm of the sea, 11 miles in length; *Swale Island*, which forms the larboard entrance, is 24 miles from Cape Bonavista, in a W. by N. $\frac{1}{2}$ N. [W. by S.] direction, and 10 miles from Western Head. This island divides the entrance into two passages, one to the south called *Swale Tickle*, the other *Newman's Sound*; the first very difficult, and therefore ought not to be used; the second leads to *Sandy Cove*, *Great* and *Little Happy Adventure*, and lastly *North Broad Cove*.

SANDY COVE is situated to the N. by W. $1\frac{1}{2}$ mile from the N.E. point of Swale Island; it is a very good anchorage, and is very easily known by its sandy beach, the only one on this side of the Sound; there is no danger in the route which leads to it, and the anchorage is in 14 to 20 fathoms. To the east of the entrance of this port, at one mile distance, and to the north of Swale Island, is the *Half-way Rock*, which is very steep, and at the foot of which is $3\frac{1}{2}$ fathoms; it forms, with the coast, a channel in which there is plenty of water, but being very narrow, it is but little frequented.

GREAT and LITTLE HAPPY ADVENTURE, at a mile westward from Sandy Cove, are two snug little coves, on the same side of the bay; but, from the narrowness of their entrances, they are adapted only for the resort of small vessels: between these places lies a sunken rock about 80 yards from the shore, with only 4 feet of water upon it. The passage into *Great Happy Adventure* is to the N. of Sydney Island.

NORTH BROAD COVE.—The entrance to this cove lies to the W.N.W. one mile from Harbour Head; it is a very commodious harbour; the anchorage is good, and is easily known by the direction which it takes to the West, and by *Black Duck Island*, which is to the South of the larboard side of the entrance, at the distance of half a mile. In coming from the east to this anchorage, after passing Harbour Head, steer for *Black Duck Island*, for $1\frac{1}{2}$ mile, to avoid a sunken rock at 300 yards from the shore; then proceed N. $\frac{1}{2}$ W. or else N. by W. $\frac{1}{2}$ W. in order to pass to the North or South of a danger which lies in the middle of North Broad Cove, and which does not show. The north shore is clear, the south less so, but all danger is avoided by keeping 250 yards distant from it. When at the end, there is anchorage in less than 22 fathoms, muddy bottom. More to the West on the north shore, there are several dangerous rocks, the outermost being half a mile from the land. Wood and water may be procured here.

SOUTH BROAD COVE.—There is another harbour on the south side of Newman's Sound called *South Broad Cove*, 3 miles distant from the North Cove, and lying S.W. by W. $\frac{1}{2}$ W. [S.W. by S.] from *Black Duck Island*. There is at its entrance a small island, which is clear except on the western side, where there is a danger close to it. To enter it, steer so as to leave the island to the larboard, and when in mid-channel between it and the west side of the entrance, bear away to the anchorage which is toward the end, and between 10 and 11 fathoms depth. To the West of South Broad Cove, and W.S.W. from *Minchin's Point*, is *Minchin's Cove*, to anchor in which, keep along shore from the point till you have from 9 to 6 fathoms.

BARROW HARBOUR.—The island called the *Little Denier*, which lies off the entrance of Barrow Harbour, is situate in latitude $48^{\circ} 41'$, and long. $53^{\circ} 31'$. The harbour, which lies south-westward of it, is safe and convenient: it is formed by three islands, *Richard*, *Goodwin*, and *Keat*; the entrance is about 500 yards wide, and not very difficult of access; the harbour is a mile long; the lower part is rocky, and not well sheltered; but the upper part is completely land-locked, and has good holding-ground. The course to this place, from Bonavista' Gull Island, is N.W. by W. $\frac{1}{2}$ W., 22 miles.

On approaching *Little Denier*, you must be careful to avoid the *Outer Rock*, lying three-quarters of a mile E. $\frac{1}{2}$ N. from that island. It has only 4 feet of water on it; but

as the sea constantly breaks, it is easily guarded against. Between Little Denier and Richard's Island, there is also a range of rocks, called the *Brandishes*, at distances from each other, and extending nearly half-way over toward Little Denier, with from 14 to 17 feet upon them; between are channels of 7 and 8 fathoms. These make the northern channel preferable for strangers without a pilot. To run clear of the Brandishes, you must keep *Wedge Point*, (the projection within the harbour,) a little open to the southward of *Smoky Ridge*, (a range of high land at the top of the harbour,) until you bring Broom Head N. by E. $\frac{3}{4}$ E., on with the middle Shag Island: the passage is then without obstruction till you near *Wedge Point*, off which, at 70 yards, lies a sunken rock, with 8 feet of water: you may then sail up abreast *Pudner's Cove*, until you are entirely shut in from the sea, and anchor in from 10 to 18 fathoms. There is a small fishing establishment here; good water in *Pudner's Cove*, and abundance of fire-wood.* The land about *Barrow Harbour* is higher than the neighbouring coast, and may be easily recognised by its projection.

Cow Head, which lies S.W. by W. $\frac{3}{4}$ W. (West) from Cape Bonavista, forms the Eastern point of *Salvoe Bay*, which is about 4 miles in length, and contains several fresh-water streams, but does not offer any shelter.

DAMNA HARBOUR, (vulgo *Damnabla*.) The little island called *Ship Island*, lies in latitude $48^{\circ} 45\frac{1}{2}'$, long. $53^{\circ} 34'$, and at 8 leagues N.W. $\frac{1}{4}$ W. [*W. $\frac{3}{4}$ N.*] from Cape Bonavista; and *Damna Harbour* lies W. $\frac{3}{4}$ S. six miles from *Ship Island*. The island may be known by a remarkable bald point like a sugar loaf. The harbour is well adapted for small vessels, but its very narrow entrance disqualifies it for ships of burthen: there is a rock off the southern part of the entrance, and another off the northern side of the island, which lies in the middle of the harbour; there is good anchorage all round the island, in 4 to 5 fathoms, sandy bottom: water may be easily procured, but very little wood.

MORRIS COVE is a safe anchorage, situated on the North side of the island bearing that name, which lies to the northward of *Damna*: in sailing for it keep *Ship Island* well on board; as you will thus avoid the reef called the *Ship Rocks*, which lies to the northward. Having got inside *Ship Island*, avoid shutting in *Lackington Rock* with *Varket Island*, (known by its forming two remarkable hummocks,) as there are several clusters of rocks between *Ship* and the *Horsechop Islands*, on the South side: steer for the *Varket* until you get abreast of *Lackington Rock*, then keep *Lackington Rock* on the northern extremity of *Ship Island* until the *Varket* bears North, to clear two sunken rocks off the N.E. end of *Morris Island*: you may then sail directly for the *Cove*, which you can enter without fearing obstruction, and anchor in any part of it, in 25 to 5 fathoms, but the western side of the *Cove* is preferable. Wood plentiful; water scarce in the summer season.

To the N. and N.E. of *Morris Island*, there is a great number of islands, surrounded by rocks; the principal of which are *Willis*, *Cottel*, and *Pit-Sound Islands*, but they offer no anchorages, except some coves which are only frequented by the boats which cruise in these parts.† From *Ship Island*, at the distance of 9 miles in the direction of E. by N. $\frac{1}{4}$ N. [*N.E. $\frac{1}{4}$ N.*] is *Malone's Ledge*, and from the same point, E. by N. $\frac{1}{4}$ N. [*N.E. $\frac{3}{4}$ N.*] 10 miles, the rocks of the same name. These dangers also lie N.N.W. $\frac{1}{4}$ W. [*N.W. by W.*] 20 miles from Cape Bonavista. On *Malone's Ledge* there is 4 fathoms water. The *South Brown Rocks* lie N.N.E. $\frac{1}{4}$ E. [*North*] 4 miles from *Malone's Rock*. Five miles N.N.E. $\frac{1}{4}$ E. [*N. $\frac{1}{4}$ W.*] from *Malone's Rock*, are *South Brown Rocks*; *Middle Rock* lies N.N.E. [*N. $\frac{1}{4}$ W.*] 3 miles distant, and S.E. by E. $\frac{1}{4}$ E. [*East*] is a rock called *Eastern Rock*.

* All the wood on the coast-side is very diminutive, but it is, generally, much larger inland.

† Mr. Jukes, in his *Excursions in Newfoundland*, (London, 1842) vol. ii. p. 91, describes the singular nature of some parts of this Archipelago. "In the passage between *Trinity*, or *Lewis's Island*, (to the N.W. of *Pit-Sound Island*) and the *Frying-pan*, the bottom of the sea consisted of huge peaks and mounds of this white granite, rising from the deep and dark hollows. The extreme clearness of the water rendered these cliffs and peaks all visible as we approached them, though none reached to within three or four fathoms of the surface; and the sensation experienced in sailing over them was most singular, and to me very uncomfortable. I could not look over the boat without extreme giddiness, as if suspended on some aerial height, leaning over a tremendous gulf. The same sensation was described to me by a gentleman I afterwards met with, an experienced hunter and sailor, as assailing him upon his once, in smooth water, taking a boat within the space of some sunken rocks off the *Wadham Islands*, on which the water broke in bad weather. These rocks he described as three peaks, rising from an apparently unfathomable depth; and the sensation, as his boat gently rose and fell between them, was so unpleasant, and indeed awful, that he gladly got away as fast as he could."

These rocks are the outermost of those that extend from Ship Island to Offer or Outer Gooseberry Island.

VARIATION.—It may not be unworthy of remark, that the polarity of the Needle is subject to several localities in different parts of Bonavista Bay, becoming gradually less as you get embayed; and this derangement is supposed to arise from the land's being impregnated with a mineral substance. At the Capes, which form the Bay, the variation of the compass was $30^{\circ} 28'$; at Barrow Harbour $28^{\circ} 30'$; and at Great Happy Adventure not more than 28° , in the year 1819.

GOOSEBERRY ISLES, &c.—The Gooseberry Islands are a cluster of islets, near the middle of Bonavista Bay. The Offer or Outer Gooseberry is in latitude $48^{\circ} 58\frac{1}{2}'$, longitude $53^{\circ} 27'$. From Cape Bonavista, to sail clear of the *Eastern Rock*, which lies at a mile and a half to the E.S.E. of the Offer Gooseberry Island, the course is N. by W. $\frac{1}{2}$ W. and from thence to Copper Island, (at the mouth of Greenspond Tickle) N. $\frac{1}{4}$ E. Here it is possible to obtain pilots for this and the adjacent anchorages, which are NORTH-WEST-ARM, NEW HARBOUR, and CAT COVE; there is also good holding ground between Greenspond Island and the main; but the water is so deep, that a vessel is liable to drift on shore in the act of weighing, nor is there sufficient room to veer to a lengthened cable in heavy gales from the S.W., to which quarter it is much exposed.*

SHIPS COMING IN FROM THE EASTWARD, to round *Cape Freels*, have to avoid the *Charge Rock*, which lies S.E. $\frac{1}{4}$ S. $2\frac{1}{2}$ miles from Cape Freels' Gull Island; the rock has only 6 feet of water upon it, and is circumscribed by a large spot of rough fishing-ground, having from 8 to 30 fathoms; from the Gull Island you may run immediately southward for the Stinking Islands, taking care not to open CAPE FREELS to the eastward of the Gull; this will carry you inside the danger; keeping a good look for the Mid-rocks, which are just above water, and lie two miles to the N.E. by E. $\frac{1}{4}$ E. of the Stinking Islands; but a vessel, not bound up the bay, is enjoined to keep well outside; for should the weather become suddenly thick and foggy (which is not unfrequent with an easterly wind) she runs a great risk of getting bewildered among the innumerable rocks for which this part of the coast is remarkable, and from which neither chart nor compass can direct the stranger.

At three-quarters of a mile N.W. from this Gull Island is a rock with 3 fathoms of water upon it. In the winter months, when the north-easterly gales are very heavy and continuous, the sea breaks exceedingly high over several spots of the Stinking Banks, which lie E.N.E. $\frac{1}{4}$ E. from the Stinking Islands: in two places there is as little as 7 fathoms: in such weather, although a vessel would not strike, she would be in very great danger of foundering in the tremendous sea which would be apt to break over her; but in fine weather, no danger of them is to be apprehended. Having rounded the Stinking Islands, and wishing to sail into *New Harbour* or *Cat Cove*, steer directly for the Offer Gooseberry Island, S.W. by W. $\frac{1}{4}$ W. until you bring *Pouch* and *Flower's Islands* to touch each other: you will be then two miles outside the *Three Rocks*, which lie at a mile and a half to the southward of Flower's Islands. The outer of the Three Rocks has on it 3 fathoms of water, the middle 14 feet, and the inner only 11 feet. Now alter the course to W. $\frac{1}{4}$ S., keeping the white face of Chalky Hills, in Locker Reach, a little on the starboard bow, which will carry you clear of Copper Island dangers lying without Shoe Cove Point: should the roughness of the weather prevent your getting a pilot on board thereabout, continue on this course until you bring Shoe Cove Point (which may be distinguished from its bearing a semblance to white marble) to bear N.W. $\frac{1}{4}$ W.: then shape your course for Indian Bay W.N.W.

NEW HARBOUR is two miles to the westward of Shoe Cove Point. With easterly winds it is quite inaccessible, from its narrow entrance: in which case you must continue onward for *Cat Cove*, lying four miles farther up the bay on the same side. The Cove is formed by Cat Island, and may be easily recognised, it being the only part in the vicinity that is covered with LIVE woods, the surrounding forests having been destroyed by conflagration; on sailing in, keep the island open on your starboard bow. Off the upper part of Cat Island lie two high green rocks, which you must round, the passage formed by them being too shoal to pass between: you may then run till you get some distance inside the upper point of the island, and then anchor in from 5 to 13 fathoms, with the hawse

* The course to *Barrow Harbour*, from the eastern Gooseberry Rock, is S.W. $\frac{1}{4}$ W. 18 miles; steering from the latter place to Barrow Harbour you have to avoid *Malone's Ledge*, a shoal lying S. $\frac{1}{4}$ W. one mile from the rock (above water) which bears the same name; it has never less than 4 fathoms, so that, in fine weather, no danger is to be apprehended.

open to N.W., the winds from that quarter being in general most heavy and squally. In working in, you may stand close to either shore, except off the point of the island, as there is a sunken rock within 100 yards of it, with not more than 10 feet water.

NORTHWEST ARM (lat. $49^{\circ} 6' 30''$) is the best anchorage near Cape Freels; but its access is not without difficulty, from the multiplicity of islands that lie in the neighbourhood, and which are almost undistinguishable from their great semblance of each other: the greatest danger you have to encounter, in making this place from the southward, is the *Northern Rock*, which lies N.E. $1\frac{1}{2}$ mile from Copper Island, (known by its height and without wood); it has never less than 22 feet of water upon it; so that, in fine weather, vessels which generally frequent this coast, may pass over it in perfect safety; but, in hard gales, the sea breaks over it incredibly high: to avoid it, be careful not to open **FOOL'S ISLAND**, at the entrance of N.W. Arm (which is somewhat higher and more prominent than the rest, and which is covered with trees, except the crown), to the westward of the *Western Pond Rock*, until you bring *Butterfly Island* to touch the inner point of Flower's Island, or until Puffin and Copper Islands touch each other; then leaving the Pond Rocks on the starboard hand, steer in for Fool's Island; which island it is advisable to keep well on board, as there is a sunken rock lying exactly in mid-channel, between it and Partridge Island Rocks, with 18 feet upon it; to clear which, it is impossible to give a *Descriptive Mark*. The course then into the ARM is N.W. $\frac{1}{4}$ W., and as soon as you get inside **OOD ISLAND**, you may anchor in muddy ground with from 7 to 9 fathoms, Fool's Island Hill bearing S.E. to S.E. by S. During the dry summer months, vessels are compelled to send to Loo Cove for water, nor is wood to be procured on this part of the coast within the distance of twelve miles.

GREENSPOND TICKLE.*—This is a small harbour in latitude $49^{\circ} 4'$ on the eastern side of Greenspond Island, formed by several smaller ones which lie off it, and is of very little importance, not being capable of receiving vessels whose draught of water exceeds 14 feet; its dangers are in the *Northern*, the *Cookroom*, *Puffin*, and *Harbour Rocks*, but it is impossible to get in with a foul wind; or with a fair one without a pilot. Ships sometimes anchor between the island and the main; but the place is contracted, and the water is very deep, and to which it is much exposed to S.W. winds, so that it cannot be recommended as a place of safety: to sail into it, you must pass to the westward of Copper Island, in doing which you must cautiously avoid the *Midsummer Rock*, which lies one mile off south-westward from that island, and has only 6 feet of water on it: when you shut in Silver Hair Island, with Shoe Cove Point, you are inside the danger. Greenspond is a straggling place, and has several good houses and a church; but the inhabitants sometimes are in want of fresh water, being obliged to fetch it from the mainland, three miles off.

From Copper Island, in the direction of N.E. $\frac{1}{4}$ N. [*N. by E.*] which is the bearing of Cape Freels, the coast is strewed with dangers, the outermost of which bear about E. $\frac{1}{4}$ N. from Copper Island; among these, are the *Three Rocks*, $1\frac{1}{2}$ mile from Flower Islands, bearing S. by E. from them, and on which there is but from 11 to 1 feet water; *Mid Rock*, N. by E. $\frac{3}{4}$ E. 2 miles, from *Stinking Islands*; two banks off the *Stinking Islands*, the first E. by S. $2\frac{1}{2}$ miles, and the other E. by N. 3 miles, from the first; there is 7 fathoms water on each of them; the *Charge Rock*, $4\frac{1}{2}$ miles N.N.E. from the first *Stinking Islands*, and $2\frac{1}{2}$ miles S.E. $\frac{3}{4}$ S. from the middle of Gull Island, off Cape Freels; on this rock there is but 6 feet water.

V.—THE N.E. COAST FROM CAPE FREELS TO CAPE ST. JOHN, INCLUDING THE BAY OF NOTRE DAME AND ARCHIPELAGO OF EXPLOITS.

CAPE FREELS is formed of three points, *South Bill*, *Cape Freels* or *Middle Bill*, and *North Bill*; it is lined with very dangerous rocks and shoals, and therefore, it is necessary to give it a wide berth. To the W. of the point of Cape Freels is a tolerably high hill called the *Cape Ridge*; its position is lat. $49^{\circ} 15' 30''$ N., and long. $53^{\circ} 26' 8''$ W. *Gull Island* lies S.E. $\frac{1}{4}$ S. $2\frac{1}{2}$ miles from Cape Freels: it is clear, although at nearly a mile N. by W. from its western point there is a rock called *Gull Island Rock*.

FUNK ISLAND lies N.E. by E. 31 miles from Cape Freels; it is a low and sterile rock, 100 fathoms long from E. to W., and cannot be seen more than 10 miles off, but is easily

* The word *Tickle* is a local name, in common use at Newfoundland, and signifies a passage between islands or rocks.

known from the great quantity of sea-birds constantly hovering over it. It is in latitude $49^{\circ} 44' 15''$, and longitude $53^{\circ} 7'$. At 60 fathoms to the northward of it, is a sunken rock of 10 feet, on which the sea generally breaks, and more to the westward are two islets, called the *Island Rocks*, with a clear passage between them, 70 fathoms in breadth.

BRENTON ROCK, between Funk Isle and the Wadham Isles; a dangerous rock was discovered on the 28th of September, 1836, during a gale and a very heavy sea, by Capt. Evan Percy, in the brig *St. John*, on the autumnal circuit with the Hon. Judge Brenton. Heavy breakers were distinctly seen upon a rock bearing $W. \frac{1}{4} S.$ a little southerly, about 7 miles from Funk Island. The bearing was taken in a fine clear evening, and it was the opinion of all on board, that the rock, though not appearing above water, would take up any vessel. The position is about lat. $49^{\circ} 41'$, long. $53^{\circ} 15'$.

At 7 miles N. by $W. \frac{1}{4} W.$ [$N.W. \frac{1}{4} W.$] from Funk Island, it is said that a rock exists, but it was carefully sought for by Capt. F. Bullock, and was not found by him. There is a shoal, discovered in 1841, called the *Cleopatra Shoal*; its position is doubtful, but it lies N.W. by $W. \frac{1}{4} W.$ [*West*] about 20 miles from Funk Island, and at $11\frac{1}{2}$ miles E. by S. [*E. by N. \frac{1}{2} N.*] from *Fogo Head*.

SNAP ROCK, or *Durell's Ledge*.—At the distance of $22\frac{1}{2}$ miles N.W. by N. [$N.W. \frac{1}{4} W.$] from Funk Island is the Snap Rock. It is in latitude $49^{\circ} 54' N.$ and longitude $53^{\circ} 37' 45''$; the sea continually breaks on it, at least in moderate weather, and there is but 10 feet water over it. At one mile E. by N. from it there is from 52 to 46 fathoms, and to the S. by E. 2 miles, 62 to 63 fathoms.

CAT ISLAND lies N.N.W. $\frac{1}{4} W.$ 6 miles from Cape Freels; it is connected with the land by a tongue of sand covered by the sea. It is an excellent place for the fishery, and in summer is crowded, though in winter nearly deserted. Before arriving on the meridian of this island there will be seen on the coast to the south, a remarkable hill, called the *Windmill*. In coming from Cape Freels, care must be taken not to approach the coast too nearly. The soundings off *Windmill Mount*, at 3 or 4 miles, in the direction of the Wadham Islands, are from 26 to 27 fathoms, bottom of large stones or gravel; and on nearing *Penguin Island*, the depth will not be more than 22 to 24 fathoms, with pebbles; and then in proceeding to *Peckford Island*, the depth will be from 22 to 27 fathoms.

DEADMAN'S OF TRÉPASSÉS BAY.—*Deadman's Bay* is formed on the S.E. by *Cat Island*, and on the N.W. by *Deadman's Point*; the soundings between them are from 6 to 10 fathoms, the greatest depth being near the point. It is partly sandy and very clean, but of little importance, as it does not offer any shelter against winds north of W.N.W. and E.S.E.

After passing *Deadman's Point*, to N. $\frac{1}{4} W.$ at the distance of $4\frac{1}{2}$ miles from the point, are the two *Penguin Islands*. There is a passage between them and the land, but to the W. of the largest, there are several dangers, which render the channel narrow and difficult, and it therefore ought not to be attempted without a pilot. The coast in this part is low and sandy.

RAGGED HARBOUR is 5 miles N.W. $\frac{1}{4} W.$ from the larger *Penguin Island*, and is open to the N.E. without shelter. The passage to it between the *Penguin Islands* and the *Wadham Islands* abounds with rocks and shoals.

WADHAM ISLANDS.—These islands are seven in number, and form several channels between them, the widest of which is about $1\frac{1}{2}$ mile broad. The largest of the islands is *Peckford Island*, which is one mile long from N. to S.; it lies 21 miles E. by N. $\frac{1}{4} N.$ [$N.E. \frac{1}{4} N.$] from Cape Freels. The easternmost, and also the most to the N., is called *Offer Wadham*. The position of the centre of the island is latitude $49^{\circ} 35' 30'' N.$, longitude $54^{\circ} 40' 13'' W.$

One mile and three-quarters to the E.S.E. of this last island, is the *E.S.E. Ground*, a shoal on which there is but 10 feet water. To the S.S.W. lies the *S.S.W. Rock*; and between these two reefs, and nearly a mile S. by W. from *Offer Wadham*, there is a rock called *Tom Cod's Rock*. As before stated, to the S. of *Peckford Island*, there are, between it and the coast of Newfoundland, several reefs and shoals, which render this passage very difficult: the best passage, if it is necessary to traverse these islands, is between *White Island* and *Duck Island*, or rather between this last and *Copper Island*, in mid-channel. *White Island* is the only one which is quite clear all around; it may be approached with safety. On the *Wadham Islands*, the sea-fowl, called *Mother Cary's Chicken*, breed in vast numbers. These birds make holes in the ground, in which they lay their eggs;

generally consisting of three or four. The mouth of the hole is invariably just large enough to admit one bird at a time, and the stench proceeding from it is very offensive. Eggs may be obtained; but the operation of collecting them is so disgusting that, unless in case of great necessity, they are not worth the trouble and pain which they cost.

ROCKY FISHING GROUND.—To the N.W. of Copper Island, at the distance of 2 miles, is a bank called the Rocky Fishing Ground, on which there is from 15 to 28 fathoms depth of water; and around it the depth is between 32 and 44 fathoms. It is $2\frac{1}{2}$ miles long, and half a mile broad; and it extends in a W. by N. and E. by S. direction; its western extremity lies precisely south (true) from the mount on Cape Fogo, 5 miles off.

ROCKY BAY.—At the distance of $10\frac{1}{2}$ miles W.S.W. from Copper Island is *Rocky Point*, situate in latitude $49^{\circ} 25' 15''$, longitude $54^{\circ} 4' 45''$, forming the entrance of Rocky Bay, which is shut in by three islands, *White Island*, *Green Island*, and *Noggin Island*, the passages between which are quite clean. Between Rocky Point and White Island, there is from 8 to $7\frac{1}{2}$ fathoms; between White Island and the point to the S. of it, $3\frac{1}{2}$ fathoms; between White and Green Islands, from $3\frac{1}{2}$ to 11 fathoms; between Green and Noggin Islands, 6 fathoms; and lastly, between Noggin Island and the W. point, 14 to 15 fathoms. To the S. of these last two isles, that is, between them and the bay, the depth is generally from 5 to 8 fathoms. At the bottom of Rocky Bay, are three coves, but they are so rocky, that vessels cannot anchor in them, unless it is in that to the S. of Noggin Island, which is rather better than the others; but this ought not to be used but in passing.

FOGO ISLAND.—CAPE FOGO, the western extremity of the island, lies N.N.W. $\frac{1}{2}$ W., $9\frac{1}{2}$ miles from the Offer Wadham Island, of which we have given the position. Fogo Island is $13\frac{1}{2}$ miles in its greatest length from E. by N. to W. by S. The northern side of the island is very bare and rocky, with lofty headlands rising perpendicularly from the sea. It has several harbours, which are, on the North, *Shoal Bay* and *Fogo Harbour*; on the West, *Hare Bay*; on the South, *Stag Harbour*, *Seldom-come-by Harbour*, and *Little Seldom-come-by Harbour*; and lastly, on the East, *Tilton Harbour*.

SHOAL BAY.—The largest of all these harbours is Shoal Bay. In making for this harbour, coming from the East, keep in-shore to avoid *Dean's Rock*, which is under water, $1\frac{1}{2}$ mile N.W. by W. $\frac{1}{2}$ W. from *Joe Batt's Point*, and N.W. $\frac{1}{2}$ N. nearly a mile from the larboard point of Shoal Bay. The depth of water in this bay, at an equal distance from either shore, is from 10 to 14 fathoms, diminishing toward the land. It is open to N.E. winds. A vessel can anchor in it in 5 or 8 fathoms, at the end, on the starboard side in entering, leaving to the larboard, all the islets and rocks at the bottom of the bay. This anchorage is called the *Watering Place*.

FOGO HARBOUR is considered as a good fishing place, but its entrance is difficult and dangerous. There is a *current*, running to the S.E., chiefly when the winds are from the West; this must be avoided as much as possible by keeping close in-shore on Fogo Island, until the entrance to Fogo Harbour is clearly seen; it is narrow and shut in by several islets; as soon as this is seen, steer directly in the middle, where the depth will be 8, 5, and 4 fathoms; this entrance is called *West Tickle*. When within, if it is thought proper to anchor in the Western Bay, steer S.S.E. $\frac{1}{2}$ E. towards the eastern side of the harbour, until the point called *Fogo Head* is on with the heights in N. by W. $\frac{1}{2}$ W., in order to avoid the reefs off this point, which extend easterly, as far as the Harbour Rock, which lies in the middle of the passage and shows but seldom, except sometimes at low water of spring tides; after this, run S.W. by S. and close in to the W. by S. or W. by N. to anchor in $4\frac{1}{2}$ or $5\frac{1}{2}$ fathoms, good holding ground and well sheltered. This harbour is very small, and it merits the attention of those who enter in here.

To the South of Fogo Harbour, there is another, called *Hare Bay*, which runs to the South. The entrance by closing in with the larboard side, is not difficult, and there will be found a depth of 10, 17, 11, 7, and 4 fathoms.

The other harbours have such narrow entrances, and otherwise so embarrassed with dangers, that it would be imprudent to attempt them without a pilot. There is no danger in coming from the East in making Cape Fogo, after seeing Funk Island or the Wadham Islands, and waiting for a pilot between the Cape and *Burnt Point*, which lies $6\frac{1}{2}$ miles W. $\frac{1}{2}$ N. [W.S.W.] from it. By not proceeding more to the West than Burnt Point, and keeping a mile or perhaps half a mile from the shore, there is nothing to fear, the only danger being near Burnt Point, and extending to the W. by S.

SHOALS TO THE NORTH OF FOGO.—To the N.E. of Fogo, there are several reefs, the outermost of which are as follows: to the N.E. $\frac{1}{2}$ E. [*N. by E. $\frac{1}{2}$ E.*] 8 miles from the extremity of Cape Fogo, is the *Inspector Rock*, which breaks in bad weather. From the same point, $8\frac{1}{2}$ miles N.N.E. $\frac{1}{2}$ E. [*North*] are the *Barrack Rocks*, extending above a mile in a S.S.E. and N.N.W. direction. To the N.N.E. [*N. $\frac{1}{2}$ W.*] at the distance of $11\frac{1}{2}$ miles, lies *Ireland Rock*, which sometimes breaks. This shoal is the northernmost of those that surround Fogo Island, and is situated in lat. $49^{\circ} 51' 50''$, and lon. $53^{\circ} 58' 3''$. From this rock, in the direction W.N.W. $\frac{1}{2}$ W. [*W. by S.*] are several reefs, the chain of which, after a distance of 7 miles, runs W. by S. to within 2 miles off *Fogo Head*, the N.W. point of the island: it is a bold precipice, 500 feet high.

BAY OF NOTRE DAME.—Here commences the large Bay of Notre Dame, which comprehends the *ARCHEPELAGO OF EXPLOITS*, and the bays within it. It may be considered as limited on the E. by the W. point of Fogo Island, and on the W. by Cape St. John. The outermost dangers of this bay are as follows:

BERRY'S GROUND.—To the N.W. $\frac{1}{2}$ N. from Fogo Head, $6\frac{1}{2}$ miles distant, is the reef called *Berry's Ground*, on which the sea generally breaks, although it is covered with 10 fathoms water; it lies also N. by W. $\frac{1}{2}$ W. from the middle of *Bacalieu Island*, and $4\frac{1}{2}$ miles from its N.E. point; between this point and the reef, are other shoals, called *Bacalieu Rock* and *Walrond Ground*.

BACALIEU ISLAND.—The middle of this island is in lat. $49^{\circ} 41' 50''$, and long. $54^{\circ} 28' 48''$. It is $\frac{1}{2}$ mile long from E. by N. to W. by S., and has no shelter whatever for vessels.

OLD HARRY.—To the N.W. $\frac{1}{2}$ W. [*W. $\frac{1}{2}$ N.*] 10 miles from the N.E. point of Bacalieu Island, is *Old Harry Shoal*, on which there is but 16 feet water: this danger generally breaks, and is only 2 miles N.E. $\frac{1}{2}$ N. from *Shag Rock*, at the N.W. point of *Toulinguet Island*; between this island and the coast there is found a depth of 37, 50, and 68 fathoms.

TOULINGUET.—The harbour of Toulinguet or Twillingate Island, is exposed to N. and N.E. winds. The sea comes in very heavily, and it is otherwise of little service. The island is the resort of the fishers, and the most northern British settlement, except Fogo Island. It contains, with Fogo, &c., above 4000 inhabitants.

To the South of Toulinguet is *NEW WORLD ISLAND*, which forms, with it, a channel called *Main Tickle*, and to the S.W. a bay named *Friday's Bay*; the depth of water varies considerably, particularly in the bay.

New World Island possesses several harbours; the most frequented are *Herring Neck*, *Morton's Harbour*, and *Chance Harbour*; all three will shelter vessels anchoring in them.

In proceeding to Morton's Harbour, coming from the North, care must be taken to avoid the *Old Roger* shoal, which lies W. $\frac{1}{2}$ N. [*S. W. by W. $\frac{1}{2}$ W.*] 4 miles from the N.W. point of Toulinguet, and $3\frac{1}{2}$ miles N.N.E. $\frac{1}{2}$ E. [*North*] from *Western Head* on New World Island. Having taken this precaution, steer, according to the wind, either toward *Gull Island* off Western Head, or directly for the entrance of the harbour; the coast is clear at less than half a mile. When the entrance is well made out, proceed into it, keeping at an equal distance from either side, until arrived off the heights of a small peninsula, which must be left to the larboard, passing it to anchor behind it, in 10 or 11 fathoms water.

Chance Harbour cannot be entered without some knowledge of it, as there are dangers in approaching it which cannot be avoided by written directions.

Twelve miles and a half W. by N. [*W.S.W. $\frac{1}{2}$ W.*] from Gull Island, is the entrance of the bay, at the end of which is *Fortune Harbour*. The N.W. point is in lat. $49^{\circ} 32'$, and long. $55^{\circ} 10'$. It is a good, but intricate harbour, the entrance being extremely narrow and dangerous, and the winds baffle from the high lands around. It is inhabited only during the fishing season, and in summer, water is scarce.

Triton Harbour lies $26\frac{1}{2}$ miles W. by N. $\frac{1}{2}$ N. [*W. by S.*] from Gull Island. It is on the N.E. side of *Great Triton Island*. Its entrance lies between the isles called *Great* and *Little Denier*: the shoals are bold, and water deep, but there are coves in which secure berths may be found. The land is covered with spruce, birch, and fir, but the quantities have been much reduced by the annual cutting. Water in general is plentiful here.

To the North of Triton Harbour is *Long Island*, on the N.W. side of which is *Cutwell Harbour*; the east point of the harbour is in lat. $49^{\circ} 37'$, long. $55^{\circ} 34'$, and lies $28\frac{1}{2}$ miles

N.W. by W. $\frac{1}{4}$ W. [*W. $\frac{1}{4}$ N.*] from Gull Island. It has so spacious an entrance, that the largest ships may beat into secure anchorage in from 10 to 5 fathoms, sand and mud. The S.W. arm has a narrow entrance of 15 feet in depth, but within are 3, 4, and 5 fathoms, sand and mud. Here is abundance of wood and water, with conveniences for heaving down and refitting.

If a vessel is forced by stress of weather to pass between Gull Island and Western Head, the middle of the channel must be avoided, on account of a rock which lies there, and therefore the passage must be made on either shore.

In *Hall's Bay*, which lies in the south-western angle of Notre Dame Bay, and the entrance of which is S.S.W. $\frac{1}{4}$ W., 21 miles from Cape St. John, is a salmon-fishery.

Nippers Harbour, to the north-westward of the Nippers Isles, is a little confined harbour, yet the most secure on the shore of Cape St. John, with an excellent anchorage in 7, and in the outer part, 14 fathoms. The land around is high and barren, but well supplied with good water, and may easily be known by the isles.

From Gull Island, at the west point of New World Island, to Cape St. John, outside the islands, there is no danger which is more than a mile from the land: thus a vessel can always tack within this distance, and if it is necessary to go more inwards, there are several points where there is room.

Bishop's Rocks lie S. $\frac{1}{4}$ W., 2 $\frac{1}{2}$ miles, from Cape St. John. It is a reef over which the sea breaks in bad weather, and is about 600 yards in diameter; there is from 29 to 45 fathoms around it. To the West of this, and in mid-channel between it and the coast, there is a bank, on either side of which you can pass. To the N.E. of Bishop's Rocks, at the distance of 2 miles, there is another bank, on which is 29 fathoms. On the coast to the South of Cape St. John, there are several fishing-harbours, amongst which are *Shoe Cove*, *Tilt Cove*, *Snooks Arm*, &c. If it should be found necessary to attempt to put into these ports, they will be found sheltered from all winds between E. and N.; but with south-easterly winds, it would be better to anchor in Snooks Arm.

VI.—THE EASTERN COAST AND WHITE BAY, FROM CAPE ST. JOHN TO CAPE NORMAN.

CAPE ST. JOHN is in lat. 49° 57' 30" N. and long. 55° 22' 55" W. It lies S. by E. $\frac{1}{4}$ E. [*S.E. $\frac{1}{4}$ E.*] 30 miles, from Toulouquet Island, and is high and steep. It is the southern limit of the French fishery on the eastern coast of Newfoundland.

At 4 $\frac{1}{2}$ miles E.N.E. from Cape St. John is *Gull Island*, which is quite safe all around; the depth between it and the coast varies between 39 and 64 fathoms; at a mile to the east there is 82 fathoms.

La Scie Harbour is the most southern port occupied by the French fishers. From Cape St. John, hither, bear north for 2 $\frac{1}{2}$ miles to double the point called *North Bill*, then N.W. by W. $\frac{1}{4}$ W. $\frac{1}{4}$ mile, and then W. $\frac{1}{4}$ S. [*S.W. by W.*] for 3 $\frac{1}{2}$ miles, to clear to the northward of *Point Lachenais*, which is that on the left of the entrance of the harbour. The whole of the coast is safe, and can be, if the wind will permit, kept close the whole distance. *La Scie Harbour* is exposed to northerly winds, which cause a heavy sea. The anchorage is in from 8 to 3 $\frac{1}{2}$ fathoms; it is not very good holding ground, and chain cables are necessary. The fishery in this port fluctuates; it is sometimes so considerable as to nearly engross the entire fishery, and sometimes the fish is not found in abundance.

To the N.W. by W. $\frac{1}{4}$ W. of Point Lachenais, 3 $\frac{1}{2}$ miles distant, is a shoal, lying nearly half a mile north of *Cape Brent*, which is very remarkable from a high mountain; the sea breaks over this bank at all times, and particularly on the uncovered rock. Cape Brent forms the entrance of *Confusion Bay*, in which is *Harbour Round*; to make which, on leaving Cape Brent, bear S.W. $\frac{1}{4}$ W. [*S. by W. $\frac{1}{4}$ W.*] 3 miles. The entrance to the port is narrow, but without danger; there is never a heavy sea, and if it is wished, you can anchor outside the port, in the first cove, in a depth of 9 or 10 $\frac{1}{2}$ fathoms, good ground. The anchorage within the port is at the end, on the left hand, and within a rock which lies nearly in the centre of the harbour. In either case it will be necessary to moor both fore and aft. It is an excellent place to put into, when the wind blows too strong from the N.W. quarter to enter *Pacquet Harbour*, or, when lying on the coast, bad weather is expected. Care is necessary, on account of the smallness of this harbour, to have the anchor ready for mooring, and to shorten sail in good time.

If the first bay is anchored in, the larboard anchor ought to be dropped as soon as you have doubled the starboard point, and carry the starboard anchor towards the point of the inner entrance, veering both cables equally, and then having two anchors aft, to haul as much as possible in the bay.

At one mile N.E. $\frac{1}{2}$ E. from Harbour Round, is *Brent Cove*, called by the French, *Petit Coup de Hache*; it is a fishing-place for boats, but ships should not come here, for there is but little depth of water, and the bottom is uneven and rocky. These two harbours are of little importance to the fishery, lying too deep in Confusion Bay for the cod-fish to enter.

On the whole of the coast between La Scie harbour and Harbour Round there is not less than ten fathoms water close in-shore.

On leaving Harbour Round for *Pacquet Harbour*, do not approach the left-hand shore too nearly, as there is a rock about midway between the entrance of the harbour and the point which forms the entrance of the lower part of Confusion Bay; it is close in-shore. This last bay is not frequented, as it is open to the winds from the N.E.

PACQUET HARBOUR.—From Harbour Round to Pacquet Harbour, first steer E.N.E. for 2 miles, then N.W. by N. [*N.W. by W. $\frac{1}{2}$ W.*] $3\frac{1}{2}$ miles, taking care to avoid the rocks which lie three-quarters of a mile from the *Gros Morne*.

Pacquet Harbour may be known at its entrance by the high lands which lie to the S.; it is very safe, and can be used by all vessels. The position of the *Gros Morne* is in lat. $49^{\circ} 58'$ N. and long. $55^{\circ} 45' 8''$ W. At the starboard point, which is low, are three small rocks and a shoal. The depth of water in the entrance is 23, 21, and 19 fathoms; the harbour then separates into two arms; the one to the N.W., where the fishing establishments are, is commonly called Pacquet, and the other, to the S.W., is called by the French the *Baie de Paris*. In the north-western arm, and a little on the left-hand on entering, is a shoal, on which there is but little water; it is uncovered sometimes. Vessels anchor more to the N., mooring both forward and astern; the depth is from $11\frac{1}{2}$ to 14 fathoms, and diminishes in approaching the end. The anchors will lie in $5\frac{1}{2}$ fathoms; a vessel which only anchors in passing ought to lie in $11\frac{1}{2}$ to 13 fathoms.

In the *Baie de Paris* the depth is 20, 18, 13, 11, 9, and 6 fathoms, and when this last depth is attained, you ought to anchor; it is good holding ground, and moor in the direction of the coast. The entrance to Pacquet Harbour ought never to be attempted with a strong breeze from between the N.W. to the S.W., as the land-squalls here are very strong and changeable, and it would be dangerous to miss stays in a place so narrow as this; it would be better to lie to outside till the wind dropped, or if bad weather should be feared, to make for Harbour Round before night.

ST. BARBE OF HORSE ISLANDS.—At 14 miles N.E. by E. [*N.N.E. $\frac{1}{2}$ E.*] from the entrance of Pacquet Harbour, is the S.E. point of *Great St. Barbe Island*; the smaller island is N.N.E. [*N. $\frac{1}{2}$ W.*] from the same, at the distance of 13 miles. Between these two islands is a clear and good passage, with a depth of 36 to 44 fathoms, with black mud. To the S. of these islands there is the same quality of ground at 96 and 76 fathoms; but in the middle of the channel which separates them from Newfoundland, no bottom was found at 70 fathoms. Between them and Ming's Bight (*Baie des Pins*) the depth is generally great.

The rocks which border these islands are too near the shore for a vessel to fear them, with the exception of those which are at the eastern point of the larger island, some of which are half a mile distant from it. To the N.E. of the centre of this island, at nearly $1\frac{1}{2}$ mile distant, there is also a rock, around which is from 13 to 18 fathoms; there is between it and the coast a passage, with a depth of 43 fathoms in the middle of it.

On the south side of Great St. Barbe is a small shut-in bay, where boats can find shelter in bad weather. At one mile to the S.E. of this bay is a shoal, about one-third of a mile from the shore, and near which there is $4\frac{1}{2}$ fathoms.

Hardy Harbour.—Wood Island lies N. $\frac{1}{2}$ E. [*N.N.W. $\frac{1}{2}$ W.*] 3 miles from Pacquet Harbour, forming Hardy Harbour; it is a good fishing-place, but inconvenient during strong winds at sea, on account of the difficulty that boats find in entering. The ships anchor at Pacquet Harbour, and from thence the fishing utensils and other necessaries are sent during the season.

The N. shore of Wood Island must not be approached too near, on account of the rocks, which extend from 300 to 400 yards from it.

MING'S BIGHT.—At 4 miles N.W. by W. of Wood Island, is the entrance of Ming's Bight, or *Baie des Pins*, at the end of which there is an anchorage; but, besides that, this

bay offers few resources for the fishery; it is inconvenient from its distance from the ships, thus it is but little frequented. There is no danger, but a shoal on the left-hand shore, which extends 400 yards at the most from the shore, and which is two miles from the islet. There is abundance of timber in this bay. Leaving the Ming's Bight, going to the westward, we come to the *Ming's Islands*, or the *Isles of Pines*; these consist of two large rocks, having between them and the W. point of the bay, a passage, in which is a depth of from 18 to 66 fathoms, and is about half a mile long; but generally the Isles are left on the larboard in going out. To the west of these Islands is GREEN BAY, which is about ten miles deep, and three in its greatest width. Its depth is very unequal, and varies from 90 to 18 fathoms, but is very irregular, except at the end, where it lessens from 22 to 5½ and 3½ fathoms. At the entrance of this bay, in the direction of N. ½ W. [*N.W. ½ N.*] and at a distance of 1½ mile from Ming's Islands, is a low rock, called *The Sisters*, around which the sea almost continually breaks; and to the N. by W. ½ W. from this, at half a mile distance, is a shoal, on which there is but three feet water. These are dangerous shoals.

From Isle of Pines to *Pigeon Island*, which forms the southern entrance of Fleur-de-Lis Harbour, the route is N. ½ W. [*N.W. ½ N.*] and the distance 5½ miles. On the north side of this island, but close to it, is a small rock.

FLEUR-DE-LIS HARBOUR is difficult to distinguish when near the shore, although when at a sufficient distance, its position is indicated by a mountain over it, which has the form of the head of a fleur-de-lis, and from which it derives its name.

There is no danger to be feared in approaching the entrance; but when in the harbour, it will be necessary to keep close on the right-hand shore, to avoid a rock, on which there is but 5 or 6 feet water, and which lies nearly two cables' length east of the south point of the harbour islet. When within the islet, you can anchor in 3½ to 4½ fathoms, sheltered from all winds. Vessels should not attempt to beat into this harbour; it is better to anchor to the N.E. of the isle, and then haul further in. There is more water to the west of the islet than there is in its channel; also a ship drawing more than 16 feet, should not endeavour to pass it, but ought, on the contrary, to anchor to the S.E. or to the S. of the islet, where will be found from 10½ to 5½ fathoms water.

WHITE BAY.—At 2½ miles N.W. from the point which forms the starboard entrance of Fleur-de-lis Harbour, is *Partridge Point*, situate in lat. 50° 9' 15", and long. 56° 3' 8" W. It forms the south point of the entrance of White Bay. The western point of Little St. Barbe Island bears E.S.E. [*E. by N.*] 10 miles from it. The soundings between these two places are 64, 72, 106, 66, and lastly 26 fathoms near to Little St. Barbe Island, with a bottom of black mud. The depth of White Bay is more than 46 miles, and above 16 in breadth; it is very safe in its whole extent. Generally, at two miles from the south shore, there is no bottom at 90 fathoms; nor on the north shore at 70 fathoms; and this continues proceeding into the bay until within a mile of the *River Head*, or nearly at the end, close to a small isle called *Miller Island*; then it is 32, 27, 6, and 10 at the mouth of the river; but it is seldom that the bay is penetrated so far as this, as it has good harbours on either shore, and of easy access. In the middle of the bay there is no bottom at 119 fathoms.

The current runs out of this bay on the south side, bears S.E. ½ E. to the heights of Cape Partridge, and enters the bay on the north side.

Lobster Harbour lies W.S.W. ½ W. [*S.W. ½ S.*] at a distance of 12 miles from Point Partridge; it is a small port of a circular form, having a very narrow entrance, and in which there is but 7 or 8 feet water, although there is found a depth of 10½ and 11½ fathoms when inside. Vessels of a slight draught of water can enter at the proper state of the tide; but it is as well to remark that the tide rises but 4 feet at neap and 6 feet at spring tides, and which is the case in the whole of the bay. It is high water, full and change, at 6½ hours. It is necessary, in entering Lobster Harbour, to keep on the larboard shore till to the west of the south point of the entrance, on the north of which there is a small rock near the land.

At 4 miles S.W. by W. ½ W. from Lobster Harbour, is the *Southern Arm*, the first indentation met with in proceeding along the coast from Partridge Point; it is a large and safe harbour for a man-of-war; the anchorage is in 15 to 17 fathoms. When the larboard point is shut in by that of the starboard, a second point will be seen in a S.E. direction, which leaves, between it and the coast, a very small passage, entirely closed by a mussel-bank, which dries at low water. Beyond this, there is again a depth of 16 fathoms. Between Cape Partridge and this harbour there is, close in-shore, a depth of at least 9 fathoms, and at a mile distant, 35, 39, and 49 fathoms.

To the S.W. by W. $\frac{1}{2}$ W. of the W. point of the South Arm, and $1\frac{1}{2}$ mile distant, is the *Middle Arm*; at the entrance is a small rocky isle, from whence runs a bank, on which there is but from 5 to 10 feet water. On the eastern side there is another shoal, which runs out from the coast as far as the preceding, so that the entrance may be said to be shut in by them, though there is a very narrow channel, which is nearer the isle than the eastern side. Within this shoal the harbour enlarges, and has a depth of 9 to 25 fathoms water. This port cannot be used but by very small vessels.

Hauling Point bears W. $\frac{1}{2}$ S. [S.W. $\frac{1}{2}$ W.] $6\frac{1}{2}$ miles from the point of the *Middle Arm*; it forms the entrance of the *Western Arm*. This part of the coast is not so clear as the parts just described, but by keeping at a distance of one mile, the rocks and shoals may be avoided, and of which, those farthest out are near the *Pigeon Islands*, and the two points we have just mentioned. The *Western Arm* extends for 2 miles to the S.E., and vessels can enter in safety in 14 and 15 fathoms water; at the entrance, to the N.E., is *Bear Cove*, where small vessels can moor, sheltered from the wind in 10 $\frac{1}{2}$ fathoms. There is a second called *Wild Cove*, exposed to winds from the N.W., and with a rocky bottom. This part of *White Bay* is much narrower, it not being more than $6\frac{1}{2}$ miles. The N. point of *Sop Island* bears W.N.W. $\frac{1}{2}$ W. [W.S.W. $\frac{1}{2}$ W.] from *Hauling Point*, 8 miles distant; and that of *Cony Arm Head*, N. $\frac{1}{2}$ W. [N.W. by N. $\frac{1}{2}$ W.] at a distance of 9 miles.

Proceeding to the S.W., towards the bottom of the bay, at 6 miles from *Hauling Point*, there is a small inlet called *Purbeck Cove*, where vessels can safely anchor in 10 and 11 fathoms. This is the last anchorage on the S.E. side of *White Bay*, and its approach is without danger.

To the W. by N. [W. by S. $\frac{1}{2}$ S.] of the entrance of *Purbeck Cove*, at the distance of $1\frac{1}{2}$ mile, lies the North point of *Grandby's Island*, called also *Middle Island*; it has no shelter or cove for boats; at about 400 yards from the S.E. shore is a shoal, with 8 feet water on it; *Grandby's Island* is distant 11 miles from *Miller Island*, which is within one mile of the end of *White Bay*; continuing the coast, there is found to the N.W. of *Miller Island*, *Gold Cove*, where the river divides into several branches, the streams from which determine the currents. Proceeding thence toward the N.E., and then to the northward, we arrive at *Spear Point*, which is directly W. (true) of *Grandby's Island*, which is $15\frac{1}{2}$ miles from the river at the end. The whole of the coast between *Spear Point* and the end of the bay, is very safe, and there is not less than from 19 to 59 fathoms water close to the shore.

Sop Island, to the N. of *Cape Spear*, bears W. $\frac{1}{2}$ S. [S.W. $\frac{1}{2}$ W.] 33 miles from *Partridge Point*; it is about $3\frac{1}{2}$ miles long from W. to E., and $1\frac{1}{2}$ broad from S. to N.; near its South side is a small island called *Goats' Island*; they form together, a long passage called *Sop's Arm*; a vessel can anchor just within the northern extremity of *Sop Island*, where from 20 to 28 fathoms water will be found. To proceed more to the S.W., it is necessary to keep close to *Sop Island*, because the coast of the continent is not so safe; there is a rock at half-way between it and the island, at nearly 3 cables' length from the uncovered rock in mid-channel; but having passed this rock, there is anchorage either between *Sop* and *Goat Islands*, or between the latter and the continent, in a depth of 4 $\frac{1}{2}$ or 8 fathoms.

There is a cove on *Sop Island* which bears its name, and to the North of *Goat Island*, on the continent, two other bays, called *Deer Coves*.

At the distance of $3\frac{1}{2}$ miles N.E. [N. by E.] from the North point of *Sop's Island*, is the entrance of *Jackson Arm*; in which there is a depth of 23 to 25 fathoms, except in a small bay called *Godfather Cove*, lying on the right-hand in entering, and in which a vessel can moor fore and aft. This port produces the best timber of all those in *White Bay*.

Frenchman's Cove is $2\frac{1}{2}$ miles N.E. by E. $\frac{1}{2}$ E. [N.N.E. $\frac{1}{2}$ E.] from the entrance of *Jackson Arm*, after doubling a low point which advances a little to the S. by E.; it offers a good and safe anchorage in 9 or 11 fathoms.

Proceeding from the entrance of *Frenchman's Cove* N.E. $\frac{1}{2}$ N. [N. by E.] 4 miles, we come to *Cony Arm Head*, which is the most remarkable land on the western side of *White Bay*; it lies W. $\frac{1}{2}$ N. [S.W. by W. $\frac{1}{2}$ W.] 25 $\frac{1}{2}$ miles from *Partridge Point*, and advances, nearly in a straight line, in the form of a peninsula, leaving between it and the continent, *Great Cony Arm*, which affords no shelter to the fishing vessels; but in the smaller arm of the same name, lying to the west of *Cony Arm Head*, there is a very good anchorage for small vessels; its entrance is not sufficiently deep for vessels of a large draught.

Three and a half miles north of *Little Cony Arm*, is *Devil's Cove*, which is very narrow, and open to winds from the S.E.; its depth is about $4\frac{1}{2}$ fathoms. To the N.W. by W. $\frac{1}{2}$ W. [$W. \frac{1}{2}$ S.] 18 $\frac{1}{2}$ miles from *Partridge Point*, and also N.E. by E. [$N.N.E. \frac{1}{2}$ E.] 10 $\frac{1}{2}$ miles from *Cony Arm Head*, is *Great Cat Arm*, and 2 $\frac{1}{2}$ miles farther in the same direction, *Little Cat Arm*. In *Great Cat Arm* the depth of water is from 37, 35, 29, 27, 24, 20, to 15 fathoms, at the end of the arm, where it is quite safe, and sheltered by the land. At the end of the north point lie some rocks, which are above water; to avoid them, keep quite close to the south shore; but in going into *Little Cat Arm*, it is better to keep on the north side, as there is a rock near the land on the opposite side. The entrance to this arm is narrow, and there will be found in it a depth of 22, 9, and 3 $\frac{1}{2}$ fathoms; the least depth of water will be found on the south side of the harbour, within the points. To the N.W. $\frac{1}{2}$ N. [$W. by N. \frac{1}{2}$ N.] 15 miles from *Partridge Point*, and N.E. by E. $\frac{1}{2}$ E. 6 miles from *Little Cat Arm*, is *Little Harbour Deep*, much exposed to winds from the eastern quarter, and by no means good as a harbour; off the north point of its entrance, there are some uncovered rocks, about half a mile from the shore, and inside of them there is a passage, the depth being 13 fathoms; but the height of the land frequently causes sudden and strong gusts of wind, when it blows from between the S.W. and N.W., and it is therefore advisable, if it is not necessary to close in with the land, to go outside of them. There is no great depth of water in any part of the bay, and the extremity of the bay, from about midway from its entrance, is shoal water; this will be found by the lead, as toward the entrance there is about 20 fathoms, which suddenly shoalens to 5 fathoms on the edge. The north point of *Little Harbour Deep*, is that of the peninsula which separates it from *Union* or *Grandes Vaches Cove*, of which it consequently forms the southern point. This harbour has no more shelter than the former, and is but little, if at all frequented. The north point of its entrance appears like an island, and lies N.W. $\frac{1}{2}$ W. [$N.W. by W. \frac{1}{2}$ W.] at a distance of 15 miles from *Partridge Point*.

From the north point of *Grandes Vaches*, running 7 miles N.E. by E. $\frac{1}{2}$ E., we meet with *Orange Bay* or *Great Harbour Deep*, which is easily recognised by the low lands at its entrance, which are less elevated than any of the coasts north of *White Bay*; it is distant 16 miles N. by W. [$N.W. \frac{1}{2}$ N.] from *Partridge Point*; this bay is spacious, and has on the north side of the entrance a small cove, that is frequented by the fishing vessels. At 2 $\frac{1}{2}$ miles from the points of the entrance, *Orange Bay* divides into two arms, one to the north-west, and the other to the west; these two arms have no anchorage, on account of the great depth of water, unless it is at the end of the first arm.

FOURCHÉ HARBOUR.—In proceeding along the coast to the north-east, the next is *Fourché Harbour*, at a distance of 10 $\frac{1}{2}$ miles from the entrance of *Orange Bay*. This harbour runs to the west for 2 miles from its south point, then to the north, forming a small bay, and then continues to the west. It is in this northern bay, which is very narrow, short, and surrounded by very high land, that vessels anchor in sixteen fathoms water, mooring fore and aft; but it can only receive small vessels; if ships are necessitated to enter *Fourché*, they are obliged to proceed to the end, nearly 3 $\frac{1}{2}$ miles, to anchor in 18 fathoms. The soundings met with from the entrance are, on the north side, 43, 57, 45, 19, 20; on the south side, 46, 33, 31, 15, 20; and at the end there are 18 and 14 fathoms.

HOOPING OF SANS-FOND HARBOUR, lies N.E. $\frac{1}{2}$ E., 5 miles from the North entrance of *Fourché Harbour*; it separates into two bays, one to the North, the other to the West. You can anchor in the northern bay in 6 fathoms; it is, in reality, exposed to winds from the south, but there is no danger, if the vessel is properly moored; in the western bay it is more sheltered, but the depth there is not less than 20 or 16 fathoms. The anchorage in the north bay, is that also recommended by *Captain Bullock*, having been occupied by his ship, while surveying this coast. The entrance of *Hooping Harbour* lies N.N.E. $\frac{1}{2}$ E. [$N. \frac{1}{2}$ W.] at a distance of 27 miles from *Partridge Point*, and the western end of the smaller *Horse*, or *St. Barbe Island*, bears S. $\frac{1}{2}$ W. [$S.S.E. \frac{1}{2}$ E.] 28 $\frac{1}{2}$ miles distant.

CANADA OF CANARY BAY.—*Canada Head*, on the South side of the entrance of the bay of the same name, is very high land, and may be distinguished at a great distance, in coming from the north or from the south, but from the high lands of the interior at its back, is difficult to be recognised in coming directly from the east. It is situated 5 miles N.E. by E. $\frac{1}{2}$ E. [$N.N.E. \frac{1}{2}$ E.] from *Hooping Harbour*.

The entrance of *Canada Bay* is nearly 2 miles broad; formed, on the south by *Canada Head*, and on the north by *Point Aiguillettes*; the bay is upwards of 12 miles long; is

divided into several arms, which are very safe, and consequently can give shelter to vessels that are obliged to make for them, from strong winds at sea. Among these anchorages are *Biche's Arm* and the *Gouffre*. If a vessel is obliged to seek shelter in Canada Bay on account of bad weather, with the wind between south and east, it can anchor in Biche's Arm, on the north-east of *Englée Island*, between it and the coast eastward of it, or at the end of Biche's Arm. To make for the first of these anchorages, on entering Canada Bay, a berth must be given to Point Aiguillettes, so as to pass it at 5 cables' lengths, proceeding till the most westerly part of the cape is to the north; then steer along *Englée Island*, which is only divided from the continent by a few islets, keeping close, so as to anchor on its north-east side, between it and the land; the depth is great, but the holding ground is good, and there never is a heavy sea. In this passage, there is no other danger but the rock which lies off Point Aiguillettes, about 700 or 800 yards distant.

To proceed into Biche's Arm, bear to the North, after passing *Englée Island*, taking care to keep nearer to the eastern shore than to the western, and anchor when 18, 16, or 14 fathoms are attained. There is no danger in this arm, after having avoided those of Point *Blanche*, which lies to the N.N.E. of *Englée Island*, and which is bordered with dangers, particularly on its west and north sides. The rock which is farthest off from it, is W. by S. $\frac{1}{2}$ S. [*S.W.* $\frac{1}{4}$ *S.*] nearly one mile distant, and N. by W. $\frac{1}{4}$ W., one mile from the south point of *Englée Island*. This rock is never uncovered. Within the southern extremity of *Englée Island* there is an anchorage for small vessels; and boats can, at half tide, pass between the island and the continent, from this to the anchorage on the north-east side before-mentioned.

The best anchorage in Canada Bay is, without doubt, that of the *Gouffre*, which is to the west $3\frac{1}{2}$ miles from the north point of the bay. To make for this harbour, after leaving the north point of the bay, steer towards it, until a white point which trends a little to the north is seen ahead, and which must be passed at a little distance; as soon as this is doubled, bear towards a small rocky islet, which often appears part of the land, and when this is recognised, stand to larboard and enter the harbour, dropping the first anchor a little within the islet, and mooring N.W. and S.E. The depth in this anchorage is from 14 to 15 fathoms, good holding ground, and sheltered from the wind and sea. By attending to the lead a small vessel can tack into this small harbour, there being a great depth of water close to the shore. Coming from the South, the direction of the White point of the entrance of the *Gouffre des Canaries* is N.W., and the distance to run $1\frac{1}{2}$ mile.

Canada Harbour, which is the first on the larboard hand on entering the bay from which it derives its name, is exposed to winds from the N.E., the anchorage is very bad, and the bottom rocky; it would be imprudent to anchor here, as a vessel would be exposed to great damage if the wind should blow strongly from between north and east; it is not frequented except by the fishing-boats, the ships belonging to the fishery anchoring in the *Gouffre*. The fishing establishments of Canada Bay are in *Canada Harbour*.

There are other anchorages in the *North* or *Chimney Arm*, such as *Beaver Cove*, but they are too distant, unless a vessel finds itself obliged to put into them; should this be the case, and being near the S. point of *Englée Island*, run N.N.W. $\frac{1}{4}$ W. for two miles, when the Point of Biche's Arm will bear E. by N. $\frac{1}{4}$ N.; then bear N.E. by N. until to the west of an islet which lies across a small bay, called *Hell's Mouth*; thence keep close to the eastern shore of the Arm, in order to avoid a shoal, the eastern extremity of which is E.N.E. from the islet; and lastly, when two points are seen, which approach each other and contract the Arm at this part, which is $1\frac{1}{2}$ mile from the islet, the small harbour of *Beaver Cove* will lie on the left hand, and is beneath *Clouds Hills*; the anchorage in this harbour is in 7 fathoms, mooring S.E. and N.W. Spars and timber can be obtained in the *North Arm*.

HILLIER'S OR BOUTITOU HARBOUR.—Proceeding from Canada Bay to the E. by N. for $4\frac{1}{2}$ miles from Point Aiguillettes, we arrive at Hillier's or Boutitou Harbour, which is a good fishing-place, but too small for more than three vessels to lie in safety: it is separated into two small bays by a high point; it is in the first of these bays to the starboard in entering, that the anchorage is; the depth at the entrance is from 16 to 18 fathoms, and vessels moor fore and aft, hauling as much as possible into the bay. Half-way between Point Aiguillettes and the north point of Hillier's Harbour, is a reef running about 600 yards from the shore; all the rest of the coast is without danger. At the distance of $6\frac{1}{2}$ miles E. by N. [*N.E.* $\frac{1}{4}$ *E.*] from Hillier's Harbour, lies *Fox Cope*, the south point of a peninsula, forming, with the coast, the entrance of *Conche Harbour*; at the foot of *Fox*

Cape, which is high and perpendicular, is a shoal, which extends nearly 600 yards in a south direction.

CONCHE HARBOUR is open to winds from the S.S.W. and S.E., which send a very heavy sea into it, notwithstanding which, vessels anchor before the fishing establishments, mooring fore and aft. There is also anchorage at the end of the harbour, near the isthmus of Cape Rouge Harbour, in 5 fathoms. There is no danger in the harbour, and at an equal distance from either shore, there is, proceeding from Fox Cape, 50, 42, 39, 25, to 5 fathoms.

CAPE ROUGE.—Cape Rouge Harbour is one of the largest on the coast of Newfoundland; its entrance is two-thirds of a mile broad, and a vessel can easily beat into it; wood and water are also obtained here. From Fox Cape, the distance hither is rather more than three miles, in a N.E. by E. $\frac{1}{2}$ E. direction, to the S. point of the entrance, which is called *Point Frauderesse*, in lat. $50^{\circ} 54' 30''$ N. and long. $55^{\circ} 46' 2''$ W. The *Frauderesse* is a shoal, near the point, which projects nearly 400 yards to the N.E. From this shoal to the S.W. end of the harbour, the coast is lined with flat rocks, which render it necessary not to approach too near: the Chanip-Paga is a rocky bank, of which the S.W. extremity lies exactly W., true, of the *Frauderesse*, and the N.E. part W.N.W. of the cape forming the northern side of the entrance of the harbour; its centre, on which there is but 6 or 7 feet of water, is in the direction of the *Frauderesse*, on with the most southern point of Groais or Groix Isle; it lies at an equal distance from each side of the S.W. part of the harbour, so that it may be avoided by keeping two-thirds of the breadth of the channel from either coast, after passing *Point Frauderesse*. On the east of it there is 5 fathoms, on the west, 8, and to the south, 18 fathoms. Many vessels anchor here, as the fishing establishments are to the S.W., but the bottom is not very good holding ground. It is better to anchor in the northern Arm, and all large ships or men-of-war ought to anchor here; the entrance is easy, and there is nothing to fear at a cable's length from the shore; proceed up the Arm till abreast of a strong stream, which falls from the mountains to the west, and anchor here in 19 to 24 fathoms; the bottom is good, and the sea is never heavy. There is another anchorage to the N.W. of *Point Frauderesse* at the foot of a bill, of which a part is of loose stones, and the rest wooded; the depth here is 12 or 14 fathoms; this anchorage is called *Priest's Cove*: although in the opening of the harbour the wind is not felt here, it is better that not more than one vessel should anchor at Cape Rouge, and not to stay more than 24 or 30 hours; if there is any appearance of bad weather abroad, this harbour should not be made for. To the S.E. of *Point Frauderesse*, at the distance of $2\frac{1}{2}$ miles, is a small islet called *Rouge Island*; which is quite safe all around; the soundings between it and Cape Rouge Harbour are 18, 32, 31, and 14 fathoms. On leaving Cape Rouge Harbour the land runs to the N.E. to the *Gonde mountain*, which is peaked and joined to the land by a low isthmus, and appears as if separated from it.

BELLE ISLE SOUTH.—The N.E. point of this island is in lat. $50^{\circ} 48'$, and long. $55^{\circ} 22' 52''$; it is 9 miles long from N.E. to S.W., and 6 broad from N.W. to S.E. It is safe all around except on the south, where there are several rocks, both above and beneath the water, some of which are more than two miles from the land. The most distant is nearly half a mile to the W. of a rocky islet lying S. of the Belle Isle, named *South Rock*: it is S.E. $\frac{1}{2}$ E. [*E. by S.*] at a distance of 19 miles from *Point Aiguillettes*. The harbour of Belle Isle is on its S.W. side; it is very incommodious, and can receive but one or two vessels at most. They are obliged to anchor outside, and to haul aft into a small channel between the island and the shore, using four anchors besides the first, which ought to be a bower-anchor and chain-cable. In this position the *South Rock* will bear, on with an island nearer the land, to the S. $\frac{1}{2}$ W. Between the reefs on the S.W. side of the island and the *South Rock*, the passage is more than a mile broad; the depth of water varies from 7, 12, 17, to 24 fathoms, the depth increasing nearer the *Rock*, and diminishing toward the reefs. On the south part of the west side of Belle Isle is *Green Island*, which is small and about a third of a mile from the shore; about 600 yards to the N.W. of this is a shoal, near which is 16 fathoms. Between Belle Isle and the coast of Newfoundland there is no bottom at 60 or 65 fathoms, excepting near the land; but in mid-channel between it and Canada Bay the depth is 82 fathoms, black mud. The soundings to the E. of Belle Isle, 11 or 12 miles off, are 87 fathoms, black mud; at 7 miles E. of the N. end of the island, 86 fathoms, mud and shells; and 4 miles from the N.E. point to the E. 82 fathoms, brown mud.

GROAIS or GROIX ISLAND.—The channel between Groais and Belle Isle is $5\frac{1}{2}$ miles broad, the depth on the N. is 43 fathoms, to the S. 39, and in the middle 54 to 58 fathoms,

and generally the bottom here is of brown mud mixed with rotten shells. There is no shoal or danger in this passage. Groais Island is very high, and its surface is even; its most northerly point is in lat. $56^{\circ} 59' 15''$, and long. $55^{\circ} 27' 23''$. It is nearly 7 miles long from N. to S. and $3\frac{1}{2}$ miles in its greatest breadth. It is very safe on its E., S., and W. sides; but to the N.W. there are several rocks above and beneath water, which extend to the North. To avoid these rocks, keep the north point of the island always to the S. of S.E. $\frac{1}{2}$ E. At the N.E. point are three small islands called the *Sisters*, but they ought not to be passed too closely. In fine weather Groais Island may be seen at a distance of 15 or 18 leagues. To the E. of the island there is no bottom at 60 fathoms, 3 miles off; but to the N.N.E. at 2 miles the soundings are 67 fathoms, and between the island and the coast, 47, 66, 70, 62, and lastly, 33 fathoms, at less than a mile from the shore. The channel between Groais and Newfoundland is rather above 7 miles broad.

From Gonde Mount, at the north extremity of Cape Rouge, the coast runs to the W.N.W. for nearly a mile and a half, and then again to the E. by N. for 6 miles, as far as *Cape Vent*, forming a large bay, which comprehends within it two smaller ones, separated from each other by a large cape called *Eagle Cape*. The first or southern bay is called *Pillar Bay*, and is a good fishing-place, but scarcely affords security to the boats. The second to the North, named *Millions Bay*, has not more shelter than the former, and is also an excellent fishing-place. The coast of this bay is very high, and may be distinguished from that to the south of it, because it is not wooded in the interior, as well as by being barren near the sea. Millions Bay is on a line which joins the south point of Groais Island, and the N.E. point of Belle Isle.

If the mountains on the coast should be covered with the fog on approaching the land, Cape Vent or Cape Rouge may be easily found, according as it is from the north or south that they are sought.

CROC HARBOUR.—The entrance of this harbour is formed on the S. by Cape Vent, which is in lat. $51^{\circ} 2' 25''$, and long. $55^{\circ} 41' 32''$, and on the N. by *Grouis Point*. At the foot of the cape there are two black, rocky islets, which leave between them a passage for boats, when the sea is calm; a ship can pass quite close to the outer one. The entrance of Croc Harbour is two-thirds of a mile wide; the S. shore runs first W. by N. and then to the W. by S. forming the S.W. bay, which offers no shelter from N. or N.E. winds; and consequently is never used. A small vessel drawing 9 or 10 feet water, can, however, run to the end of the bay, and lie between the S.W. islet and the fishing establishment called *Petit-Maitre*, opposite the fishing stage of this place, but it will be necessary to moor fore and aft. A little within the S.W. bay, there is an uncovered rock on which the sea always breaks; it is known by the name of the *Folle*, although the fishers generally call it the *Whale Rock*. In going to the S.W. it must be left to the starboard, and as soon as it is passed, bear towards a small bay called *Biere Cove*, to avoid a breaker which lies in the direction of the islet; after this, steer between the islet and Petit-Maitre. From the entrance of the S.W. bay, the harbour runs N. by W. and at $1\frac{1}{2}$ mile divides into two arms, one to the N. the other to the S.W.; the first is called the *Fond*, and the other *Epine-Cadoret*. There is anchorage in any part of Croc Harbour, the depth not being more than from 22, 19, 18, 16, 10, and 9 fathoms, though all parts of the bay are not equally good; a vessel is well moored (N. and S.) when Cape Vent is shut in by *Point Genille*; the depth then is 18 or 19 fathoms, and the bottom of hard mud of a slate colour. There is also anchorage in Epine-Cadoret, but it is not necessary to proceed so far into the bay. The winds which are strongest in Croc Harbour are those between S.W. and N.W., which generally are in squalls. North-easterly winds are also felt in bad weather, but they never cause a very heavy sea in the harbour. In Epine-Cadoret, just after passing by a narrow creek, which dries almost entirely at low water, there is a convenient place, on the rocks, for heaving a vessel down to careen; the French ships of war, *Oliviere* and *Philomèle*, were hove down here, and the rocks prepared for the rigging and a capstan. At the end of the arm, toward the W. there is a small river which runs 2 or 3 leagues into the country, and leads into a part of the forest where spars may be procured.

Croc Harbour is the central point of the French station, and is easy to enter and get out of; wood and water are also readily procured. A frigate can tack into it, but great attention must be paid to veer about in good time, as under the land the wind is uncertain, and frequently takes aback at the moment of tacking about, particularly when the wind is from the N.W. and in squalls. Cape Vent is not easily recognised by strangers, particu-

larly in making the land directly from the E.; it lies N.W. $\frac{1}{2}$ N. [W. by N. $\frac{1}{2}$ N.] 9 miles from the north point of Groais Island.

In leaving Croc Harbour to proceed to the north, after passing Point Grouts, two black rocks are seen, called by the fishers the *Ravens*. The land hence to Irish Island, runs E. by N. $\frac{1}{2}$ N. nearly 3 miles; from thence to the N.E. to the S.W. point of *St. Julien Island*, which extends a mile to the east. *Irish* or *Black Island* is half a mile from that of *St. Julien*: it is a barren rock, beaten by the sea, and very abrupt. *St. Julien Island* to the N. and 8 miles from the N.E. point of Groais, forms the entrance of the large harbour of the same name: there are two shoals, one at the south point a little to the E., the other on the N.W. side, but they do not extend above 300 yards from the land. All around and close in-shore there is 12, 14, 20, and 23 fathoms. The passage between this island and the continent should not be attempted.

ST. JULIEN HARBOUR.—The harbour of Great *St. Julien* lies to the S.W. of the northern part of *St. Julien Island*; to enter it, pass to the N.E. of the Island, and then steer so as to keep one-third or half a mile off, until the channel which separates it from the coast is seen; then keep on the larboard shore to clear a shoal which extends from the western shore over nearly a third of the breadth of the harbour. When at the rise of some very low land between two mountains, or nearer the end of the harbour than the establishments, you can anchor in 7 or $3\frac{1}{2}$ fathoms, mooring fore and aft.

To enter *Little St. Julien Harbour*, proceed as if for Great *St. Julien*, to avoid a rocky shoal which projects from *Grandes Oies Island*, and terminates in a tolerably large bank; thence as soon as abreast the entrance of *Grandes Oies*, steer for *Little St. Julien*, and anchor then in $4\frac{1}{2}$ or $3\frac{1}{2}$ fathoms. Like the foregoing harbour, it is necessary to moor fore and aft.

The *Harbour of Grandes Oies*, shut in by the island of the same name, is not fit for the reception of ships, but is very convenient for fishing-boats. From this harbour the coast runs $1\frac{1}{2}$ mile to the E. by N., then for the same distance to the N. by E. $\frac{1}{2}$ E., and then to the N.N.W. for one mile, to *Grandes Ilettes* harbour. The route hither is quite clear, and there is from 10 to 14 fathoms near the coast. Although open to S.E. winds, *Grandes Ilettes Harbour* being situated at the foot of high mountains, the wind is seldom strong, being checked by them: vessels lie safely in it in $5\frac{1}{2}$ fathoms water.

THE ILETTES.—The *Petites Ilettes* form a harbour, which lies E. $\frac{1}{2}$ S. from *Grandes Ilettes*; the entrance is exposed to the N.E., and can only receive vessels of a less draught of water than 11 feet. The entrance is narrow, and vessels must moor fore and aft. At high water, boats can find a passage to the W. communicating with *Grandes Ilettes*. Half a mile to the S. of *Petites Ilettes*, and from thence bearing to the N.W. by N. towards *Grandes Ilettes*, there are several rocky islets and some shoals; and on account of this, a vessel proceeding to *Grandes Ilettes* ought to leave to starboard all rocks and isles that may be in sight. Those who go to *Petites Ilettes*, if coming from the S. of *Fishot Islands*, should steer so as to pass these islands at not less than half a mile off, in order to clear the shoals of *Monk's Island*. The depth of 10 fathoms when to the S. of these islets, will be a guide when to bear to the starboard, and which may be done at one or two cables' length from the shoal, if it is judged expedient, steering N.N.E. in order to pass between *Fishot Island* and the shoal which separates into equal parts the channel formed by it, and those of *Petites Ilettes*; then, when a little to the N. of E. from this shoal, which is almost always visible, steer so as to pass to the N. of *Madame Island*, which should not be kept too close, but so as to be east from the entrance of *Petites Ilettes Harbour*, and from thence proceed in to the middle of the passage. Some vessels also pass between the shoals on the *Ilettes Island* and that which divides the channel.

LE FOUR HARBOUR.—This harbour, which is to the N. of that of *Petites Ilettes*, and W. by N. from *Fishot Harbour*, is very convenient for large vessels that cannot enter *Fishot Harbour*. For a vessel going to *Le Four* the route is the same as before described for *Petites Ilettes Harbour*, only when the entrance of the last-named harbour bears W. $\frac{1}{2}$ N., a look-out must be kept for *Répisse Shoal*, which lies precisely true E. from the N. point of the entrance of *Le Four*, and to the N.N.E. of that of *Petites Ilettes*. Care must also be taken to avoid a shoal near the larboard point, a little to the S. on entering. The passage to the north of *Répisse Shoal* is most used; the marks for keeping in the proper channel and avoiding all the dangers are, "the islet in front of *Fishot* harbour open a sail's breadth of *Point Cala* on *Fromy Isle*." At the point northward of the northern point of the entrance of *Le Four*, there is a considerable reef of rocks; but it is very near

the shore, and extends to about midway between the two points. The anchorage in Le Four harbour is to the left of the entrance, farther within than an islet which lies in the middle of the arm extending to the S.W., and which forms the road.

FISHOT ISLES are a group of islands, of which the largest is on the S. and is called *Fishot*, and forms the harbour of this name; the others are called *Fromy*, *Serpillière*, and the *North-East Island*; they leave between them a passage for ships, and two smaller ones for boats; but these are not practicable in all weathers, sometimes on account of the wind, and at other times by reason of the wind and sea. In *Fishot harbour* there are several rocks; one near the establishment of *Anse à l'Eau*, called the *Rusé*, is very dangerous; another is situated near the middle of the harbour, and at a certain state of the tide there is not sufficient water over it for a small boat. A vessel coming from the S. to enter *Fishot harbour*, must proceed as we have described for the *Ilettes* and *Le Four*, until it comes to the shoal in mid-channel to the W. Thence, instead of bearing to the larboard, continue along shore until abreast of *Point Vide-Bidon*, and then steer E. by N. $\frac{1}{4}$ N. to find the passage, leaving the small islet to larboard. Proceed toward the establishment on *Fromy Island* to avoid the *Rusé* rock, then toward *Cape Croix*, and lastly toward the islet in the harbour. To a vessel coming from the North, there is no danger, and it can range along the *Fishot Isles* at a third of a mile off. Vessels drawing more than 11 feet water should not make for *Fishot harbour*, but rather for *Le Four harbour*. There is no wood, for firing or otherwise, on *Fishot Isles*.

To the N. of the island on the N.E. of *Fishot Island* there are several rocks and islands. The nearest is called *The Verdons*, and the farthest the *Cormorandiers*. The *Great* and *Little Verdon* are clear, but to the W. of N. from the larger island, and in mid-channel between it and the *Cormorandier*, there is a rock which is rather dangerous. The *Cormorandiers* themselves are surrounded with shoals, and there is a bank at a quarter of a mile E. from the largest. Between the *Cormorandiers* and *Le Four* in the direction of W. by S. $\frac{1}{4}$ S. there are several shoals, and an uncovered rock, which is rather more to the west; but in all the eastern part between the bank of *Great Cormorandier* and the S. of *Fishot Isles*, there is no danger at a distance of a quarter of a mile from the shore.

HARE BAY.—*Fishot Isles* on the south and *Goose Cape* on the north form the entrance of *Hare Bay*, which extends to the west for 17 or 18 miles, and is about 6 miles broad. This large bay contains several harbours, which are not frequented on account of their being so deeply seated in the bay. The whole of the south side of this bay is bordered with rocks, but these may be all avoided by keeping to the north of a line between *Cormorandier Island* and *Springs Island*, and also thence to *Brents Islands*. The soundings between *Cormorandier* and *Springs Island* are in 23, 30, 36, and 14 fathoms; between the last and *Brents Islands*, 11, 17, 15, 12 fathoms, close on the shoals which are W. $\frac{3}{4}$ S. from *Springs Island*. Thus the route to the anchorage in *Southern Arm* is as follows: from *Great Cormorandier* run toward *Springs Island*, and it is better to pass to the N. of it, although there is a channel of nearly a mile broad to the south of it, and in which there is not less than 12 fathoms (but it should be passed in mid-channel); proceed thence toward the middle of *Brents Island*, or toward the *North Island*, according as the passage is to the N. or S. of *Springs Island*; proceed thus till the western point of the entrance of the *Southern Arm* is open; it lies to the west of a small island, and then bear up: the depth now will be 15 fathoms, and it is less than half a mile from *Brents Islands*. Continue towards the last-named point, and the entrance to the *Arm* will be seen; on entering it the course is to the S.W. by W. that is, in mid-channel; the depth will be 17, 19, 10, 12, and then 10 and 11 fathoms when arrived in the broadest part, where the anchorage is. Vessels can also anchor to the W. $\frac{3}{4}$ N. of the most southerly of the *Brents Islands*, in 4 $\frac{1}{2}$ and 5 fathoms. The north side of the bay is quite clear and safe in its whole extent, and there is a much better harbour here called *How's Harbour*. Its entrance is precisely N. (true) of the eastern side of *Brents Islands*, and N.W. $\frac{1}{4}$ W. [*W. by N.*] 11 $\frac{1}{2}$ miles from *Goose Cape*. The hills around it are barren, but small stunted wood may be found in the valleys. This harbour is two miles deep by two-thirds of a mile broad; it is open to the S.W. and turns to the N.N.W. by which it is shut in like a basin. The depth of water is 10 fathoms. It is easy and safe of access, because on all the north side of *Hare Bay* from *Goose Cape* to *Hare Island*, which is 4 miles to the west of this harbour, there is not the smallest rock; and there does not exist a single shoal north of the line which joins *Brents Islands*, *Springs Island*, and the *Great Cormorandier*. Between *Brents Islands* and *How Harbour*, the soundings give 18, 22, 23, 24, and 15 fathoms at the entrance of the harbour; between *Springs Island* and the north coast the depths are 18, 27, 34, 45;

40, 38, 34, and 35 fathoms; between Cormorandier Island and Goose Cape, 27, 32, 31, 25 fathoms; and along the middle of the bay from its entrance to the end, passing to the northward of Brents Islands, there is 32, 35, 39, 46, 41, 25, 27, 21, 17, 12 and 9 fathoms. Spars and other timber can be procured in Hare Bay.

GOOSE CAPE is one of the most remarkable points on the coast of Newfoundland; it is to be seen from a great distance, and projecting into the sea with a gentle declivity, it has the appearance of a tongue of low land, which in certain positions seems like an island, and separated from the land. It may be also remarked, that Hare Bay being deep and the shores low, Goose Cape will appear entirely detached from the coast to the S., which runs northerly. Its latitude is $51^{\circ} 17' 20''$, long. $55^{\circ} 32' 32''$; it is 18 miles N.N.E. [*N. $\frac{1}{2}$ W.*] from the north point of Groais Island: A little to the N. of Goose Cape and nearly over it, there are three very distinct mountains that are near the coast, and more in the interior, to the N. of Hare Bay, the *Capillaire Mountains*, which are very high. The soundings to the E. of Goose Cape, at the distance of 9 to 12 miles, are about 83 fathoms; the bottom of fine grey sand, and the same depth is found before Crémaillère Harbour.

GOOSE HARBOUR is to the north, and under the cape of the same name, after doubling it; it is open to the W. by N. At its entrance is an islet, on which iron rings are fixed, on which tow ropes may be affixed, by which vessels can haul into the harbour with contrary winds. The passage is to the N. of the islet, at a short distance to the N., as there is a small covered rock near it. In the middle of the harbour is a rock called the *Baleine*, or *Whale*, but it is never covered. Vessels must moor fore and aft in Goose Harbour.

THREE MOUNTAINS.—The harbour of Three Mountains is to the W. of Point Enragée of Goose Cape, and at the back of Notre Dame Island; the entrance is on either side of this island. If the south passage is used, keep closer to the island than to the southern side, because there is a rock to the E. of Cape Enragée at two cables' length from it; the depth in mid-channel is 20 fathoms, then 10, when off the islet, which is about mid-way between Notre Dame Island and the land. If the northern passage is used, it is also necessary to keep close to the island, because of a shoal which is about half a mile to the northward; after which run into the harbour, leaving, in preference, the islet on the starboard. Vessels, anchoring fore and aft, lie here in perfect safety.

Crémaillère Harbour is one of the finest on the coast of Newfoundland, and is an excellent port for men-of-war to put into. It has excellent water and abundance of fire-wood. Its entrance is about half a mile broad, formed, on the South, by Cape *Haut-et-Bas*, beneath which is a cave, washed by the sea, called *Whale-Hole*; and on the North by a low, rocky, sea-worn point, called *Anchor Point*. In coming from the South to Crémaillère Harbour, there is a shoal to the north of Notre Dame Island, which care must be taken to avoid; to do this, keep outside of a line joining the larboard point of the entrance and the N.E. point of the island, and when *Anchor Point* bears to the E. by N. run to the N. by E. to clear a point on the left hand, from which runs a shoal for a cable's length from it; then bear towards the end of the harbour, at an equal distance from either shore, and anchor in 12, 10, or 9 fathoms. In coming from the East or the North, run along shore a cable's length distant from *Point Sauvages*, a steep, rocky point, sea-worn, and on the starboard side on entering Crémaillère, running to the East from *Anchor Point*, and then steer N. by W. to enter the anchorage. The bottom is good, and is better in front of the establishment called *Banc a l'Ours* than in any other part. From *Anchor Point*, and in a N. by E. direction, there is a reef of rocks, on which there is but 10 or 12 feet water; thus it would not be prudent to approach this point too nearly, in case the wind should fail. In tacking into Crémaillère Harbour, bear round as soon as $4\frac{1}{2}$ fathoms are attained; and care ought to be taken on account of the land-squalls and flaws which are met with under Cape *Haut-et-Bas*. Between Crémaillère and Fox Cape the coast is quite clear and safe. At the distance of $4\frac{1}{2}$ miles E. by N. $\frac{1}{2}$ N. from Point Enragée is Cape St. Anthony; and in the same direction, $1\frac{1}{2}$ mile farther, is French Point, which is often mistaken for the Cape, although it is to the East of it. This point is in lat. $51^{\circ} 22'$, and long. $55^{\circ} 23' 42''$.

ST. ANTHONY.—Cape St. Anthony, with Fox Point, form the opening of *St. Mein Bay*, in which, on the left-hand side behind Fox Point, is the entrance of St. Anthony Harbour. *St. Mein Bay* is open to winds between S. and E.; the depth of water in it is 36, 35, 34, and 23 fathoms; it affords no shelter, and the bottom is of coral. Fox Point lies to the N.W. by W. $\frac{1}{2}$ W. of Cape St. Anthony, at the distance of one mile and two-thirds; it is very safe, and may be approached as well as either side of the harbour. Vessels may anchor in any part, from the Horse's Back to the end of the harbour; and also in *Margaret*

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Bay, which lies on the right-hand side of the harbour; the depth at the entrance is 24 fathoms, abreast of the Horse's Back 10 fathoms, and nearer the end 8, 7, 5, and 4½ fathoms, good bottom. Vessels moor E. and W. To anchor in Margaret Bay, keep toward the starboard point, because on the opposite side the depth for about two-thirds across is not more than 5 to 11 feet. N.W. by W. from the most southern point of the starboard side of the entrance of St. Anthony, and off the first bay that is met with on the same side, there are some rocks beneath the surface of the water; they can be avoided, if the South point before mentioned does not bear to the north of S.E. by E. before passing to the W. of the aforesaid bay.

BREHATS, or BRAHA.—In proceeding N.E. by N. for three miles from French Point, we arrive at the south point of *Brehats Bay*. This bay is nearly a mile broad, and is bounded on the north by a point of rocky islets, called the *Epées de Bréhat*. To the eastward of the south part of this point, and a mile and a half off, is *Brehat Shoal*, on which there is but 12 feet water; although it is of small extent, the sea, in bad weather, breaks over it with great fury. It is the most dangerous shoal on all this coast. Between it and Brehat Bay there is a very good passage, the depth near the *Epées* being 22 fathoms; more to the south 46 and 57; near the shoal there is 17, 20, and 21; at 1½ mile to the east, 41; to the S.E. two or three miles, 34 and 53, sandy bottom; and 1½ mile to the north, 45 fathoms water, bottom of brown sand. There are fishing establishments, both in Great and Little Brehat, but ships anchor in Great Brehat; the entrance of it is narrow and difficult, and with strong winds at sea, the sea breaks in such a way that it is difficult to find out the harbour.

ST. LUNAIRE BAY.—From the *Epées de Bréhat* to St. Lunaire Bay, the coast runs to the N.N.E. ¼ E.; at the south part of the entrance of the bay there are two islands, called *Granchain Islands*, which have between them a narrow, rocky passage, which is sometimes used, it is said, by boats; the passage for ships and other vessels is to the north of these islands, and is about one-third of a mile broad. When between the two points of the entrance, there will be seen ahead *Haute-et-Plate Island*, *Salut Island*, and the *Plate Islands*; the passages between them are not practicable but for schooners, being connected by a chain of rocks; on account of this, it is necessary to keep to the North of them all. On the north side of the bay is *Amelia Harbour*, in which, within Rouge Island, there is an anchorage. This little bay is sheltered by some islands, of which the largest is called *High Island*. It is a safe and commodious roadstead, and wood and water can be obtained. To the north of High Island there is a small sandy port, with some islets in front of it, but the depth at the entrance is not above three fathoms. To the west of the North-West bay the two shores are elevated, and the passage free from all danger; the depth there is 16, 11, 7, and 4½ fathoms; then, in approaching nearer, the depth quickly diminishes. There is also another small passage to the North-West bay, at the back of a large, high island, which forms its southern limit; it is called *Haute-Terre Island*; but this passage is rocky, and practicable only for schooners. Between this island and the two islands at the entrance of St. Lunaire there is a large space, in which is found 14, 18, or 20 fathoms, and vessels are here secure from winds that come from between the south and east. In going into this, there is a rock which must be avoided, and over which there is but 10 feet water; it is to the W.N.W. of the low point of *Haute-et-Plate Island*, at 500 yards distance, and 550 yards from the east point of *Haute-Terre Island*, which forms the southern limit of the entrance to the N.W. bay. There is another bay to the south-west; its entrance is very narrow, and the shores rocky; the depth of water in it is from 9, 5, to 3½ fathoms. If obliged to do so, the passage to the south of the most northern of the *Plate Islands* can be tried by a vessel of not greater draught than 8 or 9 feet; but great care must be taken to keep the channel and not touch, and for this reason it should not be tried unless there is absolute necessity. St. Lunaire bay offers very good anchorage to men-of-war.

WHITE CAPE and GRIGUET HARBOURS.—From St. Lunaire Bay the coast runs N.E. ¼ N. rather more than a mile, to White Cape: it is high, and has a remarkable whitish appearance, and, with the most southern of the Griguët Islands, forms the entrance of *White Cape Harbour*. The entrance is narrow, and to enter the anchorage keep close to the Cape, and then shut it in with the south point of the island; the depth is 3½ to 4½ fathoms. The *Griguët Islands* are four in number, including Camel Island, forming between them several channels and small harbours, where fishing vessels can lie in security. They are entered by leaving Camel Island on the starboard, and the smallest of the Griguëts on the larboard hand. There is also a passage between the centre island and that on the North, but it is difficult. *Camel Island*, the most north and west of these islands, is very high in its

centre, and difficult to distinguish from the continent, from which it is only separated by a small channel, in which there is not always a passage even for the smallest boat; this communicates with the end of the *South-West* bay, formed by the continent and the island. There is anchorage in this bay, which is long and narrow, and has from 10 to 4½ fathoms depth in it. To enter it, keep well off Camel Island, then close in with the West point of the islet in the middle of the entrance, and steer to the West till the South-West bay is seen, and then take the middle of it. To enter the North-West bay, steer toward the West point of the North bay, leaving the islet on the right; double the starboard point at a little distance off, and then proceed to anchor in 15, 16, 10, and then 8 fathoms.

NORTH BAY.—To enter this bay, in rounding the point of the entrance, steer towards the islet lying in the harbour, and pass on either side of it, proceeding toward the end, and anchor in 7 or 5 fathoms. The bottom of this anchorage is not good, and winds from the south and east quarters cause a heavy sea. Ships of war ought to prefer the N.W. bay. *Storm Cape*, which is to the north of the North Bay of the Griguets, lies N.N.E. and S.S.W. [*N. and S.*] with Cape Partridge, at the entrance of Kirpon, or Quirpon, distant two miles. A little to the south of Storm Cape there is an islet, between which and the land boats can pass; near to Cape Partridge, also to the south of it, there is a second, larger than the former, but equally clear. Between these two islets the coast forms several small coves; there is also, near the land, and nearer Cape Partridge than Storm Cape, a shoal called the *Madeleine*, on which the sea breaks in bad weather; to avoid this, whether coming from or going to the North, keep the highest part of Row-Galley Head outside of the islet on the S.E. of Cape Partridge. The soundings on this route will be 20 to 24 fathoms. The *White Islands*, to the E. ¼ N. of Storm Cape, are clear; the outer island has some rocks on the S. and S.E., but they are close to it. To the W. by S. of the largest, half a mile off, there are several rocks on a shelf which breaks and extends a mile from N.W. to S.E. There is a passage between this reef and the White Islands, but it ought not to be tried, except under necessity. To the West of the breakers the passage is above a mile in width, and the depth is 40 fathoms. The White Islands are small and low, in lat. 51° 35' N. and long. 55° 15' 28" W.

LITTLE KIRPON, or QUIRPON, is thus called, because it is only separated from Great Kirpon Harbour by a very narrow channel, in the middle of which there is a rock; the tide runs sometimes very strong in this channel. The entrance of Little Kirpon is formed by *Point Partridge* and *Point Grands-Galets* of Kirpon Island. To enter it, keep the middle of the channel, to keep clear of the Whale shoal on the right hand, on which there is but little water, and occupying one-third of the entrance; as soon as this is passed, keep on the starboard side, and steer toward *Point Noble*, and anchor in the centre of the harbour, in 6 or 7 fathoms.

DEGRAT, or ROW-GALLEY HEAD, is the easternmost hill on Kirpon Island; its extremity forms the entrance of *Degrat Harbour*, before which are some islets and rocks, which shelter the vessels anchoring here. It is only proper for small vessels.

PIGEON COVE is rather more to the north than Degrat Harbour, but it is unfit for the anchorage of vessels. Cape Bauld, which is the north extremity of Kirpon Island, is in lat. 51° 38' 15", and long. 55° 20' 33" W.; it is steep and rocky, and may be approached with safety. After passing the Cape, a point will be seen in the W.S.W. showing Kirpon Harbour: along all the coast, and close to it, the depth is not less than 15 fathoms.

KIRPON, or QUIRPON HARBOUR.—The entrance of this harbour is formed by Kirpon Island and *Jacques Cartier Island*; it is the most northern harbour of Newfoundland: to arrive at this harbour, keep the Black Head of Kirpon Island clear of all the land until *Point Raven* is hidden by Point Noddy; then proceed towards the entrance of the harbour in the direction of the islets, taking care to keep at least half a cable's length from Jacques Cartier Point; as soon as this is passed, proceed to the anchorage between this island and *Green Island*; this is *Jacques Cartier Road*, and has good holding ground, with a depth of 7 fathoms. The passage within either side of Green Island is good for small vessels; the depth is three fathoms, but beyond the island it is perfectly secure in 6 fathoms. Wood is scarce in Kirpon, but can be readily procured in Ha-Ha or Pistolet Bays.

NODDY HARBOUR is situated a little to the west of that of Kirpon, and between Point Noddy and Cape Raven: there is no danger in entering; and a vessel ought to keep to the larboard of the island, which is nearly a mile beyond the entrance, and anchor behind it in 4½ fathoms. The *Gull Rock* lies W. by N. ¼ N. from Cape Bauld, and N. by E. rather more than 2 miles from Cape Raven; this rock is always uncovered. Maria Ledge

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is N.N.E. $\frac{1}{2}$ E. [N. $\frac{1}{2}$ W.] five-sixths of a mile from Cape Raven, and E. by N. $\frac{1}{2}$ N. [N.E. $\frac{1}{2}$ E.] two-thirds of a mile from the starboard point of Maria Bay. It is nearly $1\frac{1}{2}$ mile N.E. [N. by E. $\frac{1}{2}$ E.] from the Gull Rock. This reef extends 1200 yards nearly from E. to W. and 600 yards from N. to S.; between it and Gull Rock there is from 21 to 27 fathoms. In coming from the north, whether for Kirpon or Noddy Harbour, these two dangers need not be feared, as they are always visible; the passage between them is half a league broad; although safe, it is nevertheless, prudent to pass near the Gull Rock on account of the *North-West Ledge*, which does not show but in bad weather; it is situated West [S.W. by W. $\frac{1}{2}$ W.] $1\frac{1}{2}$ mile from Gull Rock, and is about 600 yards long and 400 broad. A ship is outside its eastern extremity when the North points of the two *Sacred Islands* are in one. But all dangers will be avoided by keeping the South point of the large, in one with the North point of the smaller island. Between Gull Island and the North-west Ledge there is 14 and 18 fathoms. The passage between the continent and the North-west Ledge, ought not to be tried when it can be avoided.

SACRED ISLANDS.—Farther to the West are the Sacred Islands: the North point of the largest lies N.W. by W. $\frac{1}{2}$ W. [West] 5 miles from Cape Bauld, and E.S.E. [E. $\frac{1}{2}$ N.] 12 miles from Cape Norman. *Little Sacred Island* is nearly one mile S.E. $\frac{1}{2}$ E. [E. by S. $\frac{1}{2}$ S.] from Great Sacred Island: the passage between them is very good, and has a depth of 15 to 19 fathoms. These islands are clear, high, and steep. Within them to the S.W. by W. is *Sacred Bay*, tolerably large, and containing a large number of islets and rocks. The coasts are covered with wood, and it is frequented by the fishers. *Cape Onion* forms the north point of Sacred Bay, and is high and steep; near it is a remarkable rock, the *Mewstone*, called so from its resemblance to that rock at the entrance of Plymouth. To the south of the Mewstone is a small cove where a vessel can, on occasion, find refuge. From Cape Onion to Burnt Cape, the direction is W. $\frac{1}{2}$ N. [W.S.W.] rather above $4\frac{1}{2}$ miles; Burnt Cape appears of a whitish colour. On the eastern side of the cape is *Ha-Ha Bay*, which extends 2 miles toward the South; it is exposed to northerly winds, and can be anchored in when within the cape in 5 or 6 fathoms. This bay, like Sacred Bay, is furnished with wood.

BAY OF PISTOLET is situated between Burnt Cape and the reefs of Cape Norman; it is 4 miles deep by as much in breadth. The depth is generally from $4\frac{1}{2}$ to 3 fathoms in the part south of a line W.S.W. and E.S.E. of the Wood Islands, and from 13 to 8 at its entrance. The best anchorage is at the western part, a little within the islands, in $4\frac{1}{2}$ fathoms. North-west winds beat full into it. *Cape Norman* and *Burnt Cape* bear from each other S.E. by S. and N.W. by N. [S.E. by E. $\frac{1}{2}$ E.] and [N.W. by W. $\frac{1}{2}$ W.] 4 miles apart. At the entrance of the bay, to the E.N.E. from a point called *North Point*, there is a reef which is not more than a mile from it; it lies also to the North of *Goelette* or *Schooner Island*, forming the western side of the entrance. To avoid this danger, keep Cape Norman to the south of W.N.W. till the eastern extremity of Goelette Island bears a little to the S.W. by S.

Cape Norman.—This cape is, next to Kirpon Island, the most northern part of Newfoundland; it is level land, moderately high and of a barren appearance. Its latitude is $51^{\circ} 37' 10''$. The coast of Newfoundland from this cape trends to the West [S.W. by W. $\frac{1}{2}$ W.]

THE SOUTHERN COASTS OF NEWFOUNDLAND.

I.—THE S.E. COAST FROM ST. JOHN'S HARBOUR TO CAPE RACE.

HAVING already described, on pages 15 and 19, the environs of St. John's Harbour, we now resume the coast to the southward, commencing with Cape Spear.

From Cape Spear to the north point of *Petty Harbour Bay*, the course and distance are S.W. $2\frac{1}{2}$ miles; and thence to the south point, S.W. by S. $2\frac{1}{2}$ miles. *Petty Harbour* lies two miles inward from the heads, and is a small cove, capable of containing only two or three vessels. The settlement, a cluster of white houses, surrounds a small creek in a narrow ravine between dark precipices.

From the South point of *Petty Harbour Bay* to the *Bay of Bulls*, the course is S.W., and the distance eight miles. About midway between, is *Shoal Bay*, the coasts here being composed of lofty precipices of hard red sandstone. In this bay is a place called the

Spout, which is very remarkable in rough weather; it is a cavern into which the sea runs; and, having a vent on the top of the land, it spouts up the water to a great height, so that it may be seen a great way off.

BAY OF BULLS.—From the South head of the *Bay of Bulls* to the North head, called *Bull Head*, the bearing and distance are N.E. by E. $1\frac{1}{2}$ mile; between these heads the bay runs in N.W. by W. for two miles, and then N.W. by N. to the river-head. In this bay is good riding, in from 20 fathoms, at the first entrance between the heads, to 18, 16, &c., after you are within *Bread and Cheese Point*, which is about half-way up the bay, on the North side, where there is a cove. Off this point, nearly half a cable's length, lies a sunken rock, which must be avoided; every other part of the bay is bold-to and free from danger. Being past the point, run up and anchor (or turn up) against *John Clay's Hill*, bringing it to bear N.E. by N., and anchor in 12 or 14 fathoms of water; merchantmen run farther in, and anchor in from 10 to 7 fathoms, and lie not above a point open.

From the *Bay of Bulls* to *Cape Broyle* the course and distance are S.W. $\frac{1}{2}$ S. fourteen miles.

WITLESS BAY lies about $1\frac{1}{2}$ mile to the southward of the *Bay of Bulls*; it is in some degree sheltered by *Green Island*, and *Gull Island*, which lie before it, but is not safe for ships. To the southward of *Witless Bay Point* is *Morable Bay*, quite exposed to sea-winds. About two miles southward from *Morable Bay* is *Toad Cove*, near which lies *Fox Island*. About two miles to the southward of *Fox Island* is *Baleine Head*; between them lie *Spear Island* and *Goose Island*.

From *Baleine Head* to *Cape Neddick* the bearing and distance are S.W. by W. about half a league; and, from *Cape Neddick* to *Brigus Head*, S.W. by S. $2\frac{1}{2}$ miles. *Brigus Harbour* lies to the northward of *Brigus Head*, and it is fit for small vessels only.

CAPE BROYLE, &c.—From *Brigus Head* to *Cape Broyle* is about two miles South. *Cape Broyle Harbour* lies in about N.W. by W. $\frac{1}{2}$ W. about two miles; but it is exposed to the sea winds. *Cape Broyle* is the most remarkable land on all the South coast of Newfoundland; it is a fine bold headland, 400 or 500 feet high; coming either from the southward or northward, it appears like a saddle. The coast to the southward gradually diminishes in height, from *Cape Broyle* to *Cape Ballard*. S.E. by E. from the northern point of *Cape Broyle*, about half or three-quarters of a mile, lies a sunken rock, called *Old Harry*, on which is but 18 feet of water: the sea breaks upon it in bad weather; but, between it and the shore, there is 12 or 13 fathoms of water. In very bad weather, the sea breaks home almost to the shore from *Old Harry*, by reason of the current, which generally sets strong to the southward.

From *Cape Broyle Head* to *Ferryland Point*, the bearing and distance are S.S.W. about $2\frac{1}{2}$ miles; between are three islands, which lie before *Capelin Bay*, and ships may sail between them to that place: of these the northernmost is called *Stone Island*; the middlemost, *Goose Island*, which is the second in size; and the southernmost, *Isle au Bois*, which is the greatest. There is room for ships to turn between these islands, excepting between *Stone Island* and *Cape Broyle*, where there is a great rock.

CAPELIN BAY is large and good, and runs in a considerable way within the islands above mentioned, where a number of ships may ride in good ground, in from 10 to 20 fathoms of water.

From the North part of *Ferryland Head* to *Ferryland*, the bearing and distance are W.N.W. more than a mile. It is a picturesque and pleasant place, and has several large and good houses. To go into *Ferryland Harbour*, you must sail between the North part of *Ferryland Head* and *Isle au Bois*; it is not wide, but there is water enough, and clean ground: when within the *Isle au Bois*, you may run in and anchor where you please, it being of a good breadth. The *Pool* is a place on the larboard side going in, within a point of beach, where you lie in 12 feet at low water. From *Isle au Bois* almost into the land to the westward, are small islands and rocks, which make *Ferryland Harbour*, and divide it from *Capelin Bay*; there is a passage for boats between the said rocks in some places. Spring-tides rise from 3 to 4 feet.

AQUAFORT.—From the South point of *Ferryland Head* to *Aquafort*, the course and distance are W. by N., about 3 miles. *Crow Island* lies about a mile E. by N. from the mouth of *Aquafort*; and from the S.E. end of *Crow Island* lies a shoal, about a cable's length. *Aquafort Harbour* lies in W.N.W. It is a long inlet, the cliffs rising to a height

of 200 feet. On the North side there is a cascade over the cliffs, which gives the name to this place. There is a great rock above water on the South side of the entrance, which is bold-to; you run up about 2 miles within the harbour's mouth, and anchor on the North side, quite land-locked.

From Aquafort Point to *Black Head*, the bearing and distance are S.E. one mile; from *Black Head* to *Bald Head S.* by W., about a mile; and thence, about a mile southward, is the North point of *Fermowes*.

FERMOWES is a very good harbour, and bold going in; no danger but the shore itself; it lies in N.W. by N. and N.W. Being past the entrance, there are several coves on each side, in the harbour, where ships may ride. The first, on the North side going in, is *Clear's Cove*; the next within it at a little distance, on the same side, is *Admiral's Cove*, where you may lie land-locked from all winds, in 7 or 8 fathoms of water, good ground. On the South side is *Vice Admiral's Cove*, farther westerly, where several ships may lie; and farther westward, is another cove, equally good. There are 20 fathoms of water in the entrance of the harbour, and within from 14 to 4 fathoms.

FERMOWES to CAPE RACE.—From FERMOWES to RENOWES, the bearing and distance are S.W. by S., about $1\frac{1}{4}$ league. Between these places is a cove called *Bear Cove*. Off the South point of Renowes Harbour, at a small distance from the shore, is an island; and, S.E. from the same point, about half a league, high above water, is *Renowes Rock*, which may be seen 3 leagues off. *Renowes* is but a bad harbour, being full of rocks, with shallow water. From Renowes to *Cape Ballard*, the course and distance are S.S.W. $\frac{1}{2}$ W. $2\frac{1}{2}$ leagues; between are *Burnt Head*, *Freshwater Bay*, and *Small Point*. From *Cape Ballard* to *Cape Race*, the bearing and distance are S.W. by W. $2\frac{1}{2}$ leagues; between which, and near *Cape Ballard*, is *Chain Cove*, with several rocks lying before it, but no harbour, and about half-way is *Clam Cove*, which is fit for boats only. The land about *Cape Race* is comparatively low, and bare of wood, with a steep cliff of about 50 feet in height.

II.—THE COAST OF AVALON, FROM CAPE RACE TO PLACENTIA BAY, INCLUDING TREPASSEY, ST. MARY'S BAY, AND PLACENTIA HARBOUR.

From *Cape Race* the land trends away to the westward, and W. by S. one mile and a half: then W. $\frac{1}{4}$ N. one league, to *Mistaken Point*; and from *Mistaken Point* to *French Mistaken Point*, about N.W. by W. 2 miles. From *French Mistaken Point* to the *Powles*, it is N.W. 8 miles.

The *Powles* is the east point of the entrance into *Trepassey Harbour*: from the *Powles* to *Cape Mutton*, it is E.S.E. $\frac{1}{2}$ E., 2 miles. Between these points lies *Mutton Bay*, which is about 2 miles deep, with 12 to 3 fathoms of water, rocky bottom. The N.W. part of the head of this bay is separated from *Trepassey Harbour* by a low, narrow, sandy, stony beach, over which the vessels in the harbour may be seen.

From *Mistaken Point* to *Cape Pint*, the course and distance are W.N.W. $\frac{1}{4}$ leagues.

TREPASSEY HARBOUR.—The entrance of *Trepassey Harbour* lies nearly 5 miles N.E. from *Cape Pine*; it is about three-quarters of a mile wide, and runs nearly of the same breadth for $2\frac{1}{2}$ miles, where it narrows to one quarter of a mile, but again increases to three-quarters of a mile, where the ships ride. The land slopes gently on all sides towards the harbour, and is comparatively bare of wood. The dangers of sailing into this harbour are, a small rock on the east shore, about a mile within the *Powle Head*, and about one-third of a cable's length from the shore; and, on the west shore in the harbour, off a stony beach, a shoal, which runs along shore up the harbour to a low green point. *Baker's Point* on with a low rocky point on the entrance of the harbour, will carry you clear of this shoal. When you are nearly up with the low green point, you may steer more to the westward, and anchor either in the N.W. or N.E. arm, in 5 or 6 fathoms.

From *Cape Pine* to *Cape Freels*, the course and distance are west $1\frac{1}{2}$ mile. The land about *Cape Pine* is moderately high, and barren. From *Cape Freels* the land trends about W.N.W. one mile, to *Blackhead*, then N.W. $\frac{1}{4}$ W. one mile, to the eastern reef and head of *St. Shot's Bay*.

From the eastern head of *St. Shot's* to the western head, the bearing is N. by W. $\frac{1}{2}$ W., distance 2 miles: *St. Shot's Bay* is about a mile deep, and entirely open to the sea.*

* On the rocks extending from the eastern side of the bay, the *Comus*, *Harpooner*, and other vessels were wrecked, as already shown on pages 6 to 8.

ST. MARY'S BAY.—From the eastern head of *St. Shot's* to *Point Lance*, the bearing and distance are N.W. $\frac{3}{4}$ N. 20 miles. These points form the entrance of *St. Mary's Bay*, which runs up 9 leagues to the E.N.E. with several good harbours in it, the land on each side being moderately high. The current frequently sets with great force on the eastern shore of the bay, which is the cause of many accidents here.

The land from *Point Lance* lies E. by N. $2\frac{1}{4}$ leagues to a *high bluff cape*, from which the land along the west side of the bay trends E.N.E. 7 leagues, up to the head of the bay.

From the afore-mentioned bluff cape to *Cape English*, on the east shore, the bearing and distance are S.E. $\frac{3}{4}$ S. 10 miles.

From the western head of *St. Shot's* to *Gull Island*, the bearing and distance are N. $\frac{1}{4}$ E. $3\frac{1}{4}$ miles; this island is small, and close to the main land.

From *Gull Island* to *Cape English*, the bearing and distance are N. by E. $\frac{1}{4}$ E. 5 miles. This cape is high table land, terminating in a low rocky point, forming a bay about a mile deep, to the southward of it; at the bottom of which is a low stony beach, within which is *Holyrood Pond*, extending to the E.N.E. about 8 leagues: being situated within the cape, it makes *Cape English* appear like an island.

From *Cape English* to *False Cape*, the course is N.E. $\frac{1}{4}$ N. one mile distant.

From *Cape English* to *Point la Haye*, the bearing and distance are N.E. by E. $2\frac{1}{4}$ leagues. This is a low point, from which a ledge of rocks extends a quarter of a mile into the sea, and above a mile along the shore, on which the sea breaks in bad weather. It is the only danger in all *St. Mary's Bay* that will take a ship up.

ST. MARY'S HARBOUR.—From *Point la Haye* to the south point of *St. Mary's Harbour*, called *Double Road Point*, the course and distance are E.N.E. $\frac{1}{4}$ mile; the land between is low and barren. From *Point la Haye* to *Ellis Point*, which is the low point on the starboard side going into *St. Mary's Harbour*, it is two miles. The entrance of this harbour is above a mile wide, and bears from *Point Lance* E. $\frac{1}{4}$ S. 20 miles. Within the points that form the entrance, it divides into two branches, one to the S.E., the other to the E.N.E. When you are within *Ellis Point*, haul in to the southward, and anchor abreast of the houses and stages, upon a flat, in 4 or 5 fathoms, where you will lie land-locked. This flat runs off about half a mile from the above; and without it is from 15 to 40 fathoms of water over to the other side; but the best anchorage is about two miles above the town, where it is above half a mile wide, opposite *Brown's Pond*, which may be seen over the low beach on the starboard side; here you will lie land-locked in 12 fathoms of water, and excellent ground all the way up to the head of the bay. The E.N.E. arm lies open to the sea, and is not resorted to by ships.

Holyrood Pond, which once was an arm of the sea, is now separated from it by a bank of pebbles, 2 miles long, having at times a narrow channel; but during the autumn, the currents which sweep up the bay along this shore, completely close up the entrance, which is opened by the inhabitants in June: a fishery is thus kept in it all the year round.

MAL BAY lies to the westward of the north-east point of *St. Mary's Harbour*: it is about a mile wide, and about two miles deep: but there is no good anchorage, a heavy swell generally setting into it; hence the name.

Shoal Bay Point lies one mile distant from the east end of *Great Colinet Island*.

Above *St. Mary's Harbour* lie *two islands*, the largest of which is about one league long, and is called *Great Colinet Island*, the south end of which bears from *Cape English* N.N.E., distant 3 leagues. On either side of this island is a safe passage up the bay, taking care to give *Shoal Bay Point* a berth of a quarter of a mile, to avoid some rocks which lie off that point. On the north side of *Great Colinet Island* is a stony beach, off which lies a bank for about a quarter of a mile, on which is from 7 to 17 fathoms of water, rocky bottom.

Little Colinet Island lies two miles N.E. by N. from *Great Colinet Island*; it is above one mile long, and half a mile in breadth.

GREAT SALMON RIVER.—The entrance into **GREAT SALMON RIVER** lies E. by N. 5 miles from the north part of *Little Colinet Island*; it is about three-quarters of a mile wide, and runs from the E.N.E. 7 or 8 miles. There is very good anchorage in it; but the best is about three miles from the entrance on the north side, in a sandy cove, in 5 or 6 fathoms of water.

NORTH HARBOUR lies N.N.E. three-quarters of a mile from the north part of *Little*

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Colinet Island; it is about a mile wide at the entrance, and extends to the northward about three miles: in it is very good anchorage, in about 6 or 7 fathoms of water, about two miles within the entrance, where it is not above half a mile wide; or you may run farther up, taking care to keep the starboard shore close on board, and anchor within the point of the narrows.

COLINET BAY lies N.E. by E. $5\frac{1}{2}$ miles from the north point of *Little Colinet Island*; in it is very good anchorage, in from 5 to 12 fathoms of water.

CAPE ST. MARY.—From POINT LANCE to CAPE ST. MARY, the bearing and distance are N.W. $7\frac{1}{2}$ miles: *Cape St. Mary* is a pretty high bluff cape, and the land along shore from it, for a considerable distance, appears even, and nearly of equal height with the cape itself.

From *Point Lance* W.N.W. 3 miles, lie the *Bull and Cow Rocks*; they are two flat rocks, and very near together, with several small rocks around them, all above water, and may be seen four leagues off, when open from the land. They bear S.E. by S. from *Cape St. Mary*, $5\frac{1}{2}$ miles, and one mile from the nearest part of the main land; at about two-thirds of the distance from them to the main, is a small rock, which appears above water at half-tide; there are 10 fathoms of water between it and the main, and 15 fathoms between it and the *Bull and Cow*.

St. Mary's Kays or Rocks lie W. by S. from *Point Lance*, W.S.W. $\frac{1}{2}$ W. from the *Bull and Cow*, and S.W. by S. $7\frac{1}{2}$ miles from *Cape St. Mary*. These are two rocks that appear just above water, and the sea always breaks very high upon them. They lie S.S.E. and N.N.W. from each other, about three cables' length; and there are 15 fathoms at a small cable's length all around them, excepting to the S.S.E., where there are but 6 fathoms at two cables' length. Between them and *Cape St. Mary* is a depth of 26 and 30 fathoms.

PLACENTIA BAY.—From *Cape St. Mary* to *Cape Chapeau Rouge*, the bearing and distance are N.W. by W. $\frac{1}{2}$ W. $16\frac{1}{2}$ leagues. These capes form the entrance of *Placentia Bay*. *Cape Chapeau Rouge* is the highest and most remarkable land on that part of the coast, appearing above the rest like the crown of a hat, and may be seen in clear weather 12 leagues off.

From *Cape St. Mary* to *Point Breme*, the course is N. by E. $\frac{1}{2}$ E., distance 8 miles; and from *Point Breme* to the *Virgin Rocks*, N.E. $\frac{1}{2}$ E. 12 miles. These rocks lie about two miles from the main, and show above water.

From the *Virgin Rocks* to *Point Verde*, or *Green Point*, the bearing and distance are N.E. by E. $\frac{1}{2}$ E. $5\frac{1}{2}$ miles. There is no shelter for ships or vessels between *Cape St. Mary* and *Point Verde*; the land between is of a moderate, and appears nearly of an equal, height all the way; but over *Placentia*, and to the northward of it, the land is very high and uneven, with many peaked hills.

PLACENTIA HARBOUR.—*Point Verde* is low and level, and forms the south side of the entrance of *Placentia Road* and *Harbour*, which is situated on the east side of the great Bay of *Placentia*.

GREAT PLACENTIA was once a very considerable place, being the French capital, when they held possessions on the island, and even under the English was formerly much more important than it is now. If you are coming from the southward, and going into the road, you should keep a league from the shore to avoid the *Gibraltar Rock*, which lies W. by N. from *Point Verde*, till you bring the *Castle Hill* open to the



View of *Cape Chapeau Rouge*, or the *Mountain of the Red Hat*, N. $\frac{1}{2}$ W. $9\frac{1}{2}$ miles; taken by the circumnavigator, Captain James Cook, F.R.S.

northward of that Point. The Castle Hill is on the north side of the road on which stand the ruins of a fort, called the castle, and is distinguishable far out at sea. *Gibraltar Rock* has only 8 feet of water over it, at low water, spring tides, and lies $2\frac{1}{2}$ miles from Point Verde. When you have the Castle Hill on with the Point, it will lead you a quarter of a mile to the northward of it; run in with the mark on, keeping your lead going, as there are regular soundings on both sides, and giving the Point a berth of near two cables' length, passing it in 4 fathoms of water, you may proceed to the anchorage under the Castle Hill, at three-quarters of the distance over from that side, where you lie in 6 or 7 fathoms of water, good ground. At the bottom of the road is a long beach, which terminates to the north in a point, on which stand the houses and a fort; between which and the Castle Hill is the entrance into *Placentia Harbour*; this entrance is very narrow, with $3\frac{1}{2}$ fathoms of water; but within the narrows it widens to one-third of a mile, with 6 or 7 fathoms of water, where ships may lie in perfect security. In going in, keep nearest to the starboard side. The inner harbour divides into two arms; one called the *North-East Arm*, about 9 miles long, and nearly straight, with bold cliffs and hills rising to the height of 400 or 500 feet; and the other the *South-East Arm*, with a very winding course of about 5 miles. The South-East Arm nearly surrounds a steep rocky piece of ground which was once an island, but is now connected by a long pebble beach, with the main land on the south side of the harbour, blocking up what about 60 years ago was the entrance of the South-East Arm.

THE FOLLOWING DIRECTIONS HAVE BEEN GIVEN ON THE CHART OF
THE ROAD AND HARBOUR OF PLACENTIA, BY MR. F. OWEN.

"THE Road and Harbour of Great Placentia are on the east side of the Bay of Placentia. The southern entrance of this road is Point Verde, which bears from Cape St. Mary N.E. distance 25 miles; from the Outer Virgin Rock N.E. by E. $\frac{1}{2}$ E., and from the south side of Red Island S.S.E. distance 14 miles.

"Point Verde is a low level point, with a pebble beach on the east side, nearly half a mile long, with several fishing-stages just within the point. At the end of this beach is a high rocky cliff, that extends to the S.E. corner of the bay, where it again terminates in a pebble beach. This beach runs E.N.E. one mile, to the old fort, or south entrance of the harbour: on the inside of this beach stands the town of Placentia, which faces the S.E. arm of the harbour. A little to the southward of the town is a high hill, with a remarkable cliff on the middle of the beach.

"The outer point on the north side is level, with a clay cliff on the outer part. It bears from Point Verde N.E. by N. nearly, distant one mile and a half: from this point the land forms a small bay, with a stony beach round it, to the corner of the cliff under Signal Hill, which is the first hill on the north side of the road from this point. The cliff continues to Freshwater Bay, which is formed in a small valley between Signal Hill on the west, and Castle Hill on the east, with a pebble beach round it. A small rivulet runs down this valley, where ships can water. On the east side of this bay is Castle Hill, with an old fortification on its top; within this hill is a narrow beach, which forms the north entrance into the harbour. At low water, the entrance of the harbour is not more than 60 fathoms across, and the tide into it runs more than four knots an hour.

"The only dangers near Placentia are, the Virgin Rocks and Gibraltar Rocks, on the south, and Moll Rock on the north. The outer Virgin Rock bears from Point Verde S.W. by W. $\frac{1}{2}$ W. distant $5\frac{1}{2}$ miles, and from Point Breme N.E. $\frac{1}{2}$ E. distant 12 miles. These rocks are all above water, with 10 and 12 fathoms round them. The Gibraltar Rock bears from Point Verde, west rather southerly, distant $2\frac{1}{2}$ miles, and is near two miles from the shore.

"The Moll Rock bears from Point Verde N. by E. $\frac{1}{2}$ E. distant two miles, and from Moll Point nearly S.W. three-quarters of a mile. There are only 12 feet of water on this rock, with 10 fathoms around it.

"The land from Cape St. Mary to Placentia is of moderate height, and nearly even; but, to the northward of it, the land is high and uneven, with several peaked hills.

"When bound to Placentia, after you have passed Cape St. Mary, the course from Point Breme to the Outer Virgin Rock is N.E. $\frac{1}{2}$ E. distant 12 miles; and thence to Point

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Verde N.E. by E. $\frac{1}{2}$ E. $5\frac{1}{2}$ or 6 miles. Before you get the length of the Virgins, if the weather be clear, you will see Point Verde, a long low point under the high land of Signal Hill and Castle Hill. The latter is remarkable by its having an old fortification on its summit, which may be seen a great way off at sea.

"When you have gotten the length of the Virgin Rocks, you must steer to the northward, till you bring the old fort on Castle Hill on, or open to the northward of, Point Verde. It bears from Point Verde E. $\frac{1}{2}$ N. This mark will bring you to the northward of the Gibraltar Rock; you may then steer for the road, taking care not to come nearer Point Verde than two cables' length, as a flat runs off to the northward with only 12 and 15 feet of water on it. The soundings of the road are regular; from 6 to 3 fathoms, sandy bottom; but the deepest water is on the north side, as there are 5 and 6 fathoms close to the rocks. On the south side the water is shoal, as there are not more than 12 feet, at 100 fathoms from the shore. The best anchorage for ships of a large draught of water, is abreast of Freshwater Bay, at about one quarter of the distance from the north shore; where you will have 5 or $5\frac{1}{2}$ fathoms, with sandy bottom. Point Verde will then bear W. $\frac{1}{4}$ N., and the outer point of Signal Hill N.W. $\frac{1}{2}$ N. The whole bay has a sandy bottom, and good holding ground.

"The tide rises 7 or 8 feet; it is felt but little in the road, but runs 4 or 5 knots in and out of the harbour. Here it flows on the full and change days of the moon, at 9 h. 15 m. in the morning. The variation of the compass in the road, by observation on the 22nd of August, 1800, was $22^{\circ} 40' W.$ " It is now about 24° .

MAGNETIC BEARINGS AND DISTANCES OF PLACES ON THE EAST SIDE OF PLACENTIA BAY, AS TAKEN IN 1800.

	Miles.
From Cape St. Mary to Point Brene	N. $14^{\circ} E.$ or N. by E. $\frac{1}{2}$ E. 8
	the south side of Red Island N. $22^{\circ} E.$ or N.N.E. 34
From Point Brene to the Virgin Rocks	N. $48^{\circ} E.$ or N.E. $\frac{1}{2}$ E. 12
	the south side of Red Island N. $14^{\circ} E.$ or N. by E. $\frac{1}{2}$ E. 28
From the Virgin Rocks to Point Verde	N. $61^{\circ} E.$ or N.E. by E. $\frac{1}{2}$ E. $5\frac{1}{2}$
	Point Latina N. $46^{\circ} E.$ or N.E. 12
	the south side of Red Island N. $1^{\circ} E.$ or North 46
From Point Verde to Point Latina	N. $29^{\circ} E.$ or N.N.E. $\frac{1}{2}$ E. 6
	the south side of Red Island N. $21^{\circ} W.$ or N.N.W. 14
From Point Latina to the south side of Red Island N. $43^{\circ} W.$ or N.W. $\frac{1}{2}$ N. 11	

III.—THE NORTHERN PORTION OF THE BAY OF PLACENTIA, AND COAST THENCE TO CAPE CHAPEAU ROUGE.

Point Latina lies about 5 miles to the northward of Placentia Road; between which are several sunken rocks lying along the shore, about half a mile off. A large mile to the eastward of Point Latina lies *Point Roche*, off which a shoal stretches nearly one-third of a mile.

From Point Roche $1\frac{1}{2}$ mile S. by E. $\frac{1}{2}$ E., is the entrance of **LITTLE PLACENTIA HARBOUR**, which extends W. by S. above $1\frac{1}{2}$ mile, and is near half a mile broad. *Little Placentia*, as well as *Great Placentia*, stands on what was once an island, being connected to the main by a beach of large pebbles. It is a straggling place, on the low side of an inlet, with bold rocky hills on the opposite side. Here is good anchorage in a cove on the north shore, which may be known by the west point being woody: off the east point of the cove lies a shoal nearly one-third of the distance across; in the cove are 7 or 8 fathoms of water.

From Point Latina to **SHIP HARBOUR** the course is E. $5\frac{1}{2}$ miles: this harbour extends N.N.E. $2\frac{1}{2}$ miles, and is a quarter of a mile wide. The anchorage is in a cove on the west side, in 10 fathoms, about a mile from the entrance.

FOX ISLAND is small and round, and lies N.E. $\frac{1}{2}$ N. 3 miles from Point Latina, and N.W. by W. a league from *Ship Harbour Point*, which is a low stony point, lying about $1\frac{1}{2}$ mile to the westward of Ship Harbour. Fox Island and this point are connected by a range of rocks, which sometimes break quite across.

N.N.W. $1\frac{1}{2}$ mile from Fox Island is a steep rock above water, called *Fishing Rock*; and N.N.E. $1\frac{1}{2}$ mile from Fishing Rock lies a sunken rock, which almost always breaks.

RED ISLAND is high barren land, about 4 miles long, and $2\frac{1}{2}$ miles broad, composed of red granite. The S.E. point bears N.N.W. 11 miles from Placentia Road; and nearly east 12 leagues from MORTIER Head, which is on the west side of the bay.

The **RAM ISLANDS** are a cluster of high islands lying N.E. $\frac{1}{2}$ E. of Fox Island about $2\frac{1}{2}$ miles. East 3 miles from the south point of Ram Islands is the entrance into *Long Harbour*; there is no danger in going in; the best anchorage is on the north side, to the eastward of *Harbour Island*, between it and the main, where you will lie secure from all winds, in 7 or 8 fathoms of water.

From **RAM ISLANDS** to **LITTLE HARBOUR** it is N.N.E. $\frac{1}{2}$ E. about 5 leagues; there are several low islands and rocks along shore between these places; but not the least shelter, even for boats along the coast. Little Harbour has bad ground, and lies quite exposed to S.W. winds.

LONG ISLAND.—From Point Latina to the south point of Long Island, the course is N. $\frac{1}{2}$ E. 4 leagues; this island is 8 miles long, high land, the south point being of remarkably steep rocks. On the east side of it, about a league from the south point, lies *Harbour Buffet*, which is tolerably good; the entrance to it is narrow, but has 13 fathoms of water in it. This harbour has two arms, one extending westward, the other northward; the best anchorage is in the north arm, in 15 fathoms of water. This harbour may be known by the islands which lie in its mouth, and to the southward of it, and by *Harbour Buffet Island*, which lies E. $\frac{1}{2}$ S. one mile from the entrance. To sail into it you must pass to the northward of all these islands.

About 4 miles from the south point of Long Island, on the west side, lies *Mussel Harbour*, the entrance to which is between Long Island and Barren Island, and opposite the north end of the latter; the depth is from 10 to 22 fathoms, rocky bottom.

SOUTH HARBOURS.—*Little South Harbour* lies one mile to the westward of *Little Harbour*; and it has several rocky islands before its mouth, which, in going in, must be left on your starboard side, excepting one, on either side of which is a safe passage of 15 fathoms of water. On the east shore, within the islands, is a sunken rock, about a cable's length from the shore, which generally breaks. Nearly opposite on the west shore, are some rocks, about half a cable's length from the shore, that show at one-third ebb. This harbour is about $1\frac{1}{2}$ mile long, near half a mile wide, with 7 fathoms, good bottom.

Great South Harbour is about a mile to the northward of Little South Harbour: there is no danger in sailing into it, and near the head is very good anchorage in 6 or 7 fathoms of water.

One mile to the westward of Great South Harbour is *Isle au Bordeaux*; a high round island near the main.

COME-BY-CHANCE.—The entrance into *Come-by-Chance Harbour* lies N.N.E. 4 miles from the *Isle au Bordeaux*; it extends N.E. by E. 3 miles, and has from 20 to 3 fathoms of water, sandy bottom, but is quite exposed. The head of the harbour is about 3 miles from the Bay of Bulls in Trinity Bay, the isthmus here connecting the peninsula of Avalon to the main portion of Newfoundland.

NORTH HARBOUR is N.N.W. 2 miles from *Come-by-Chance*, and S.E. by S. $2\frac{1}{2}$ miles from *Piper's Hole*; about two miles from the entrance is good anchorage in 7 fathoms of water, and no danger in sailing in.

From *Piper's Hole* to *Barren Island*, the distance in a S.W. direction, is nearly 3 leagues; between is a series of islands, about half a mile from the west shore, having from 4 to 17 fathoms of water within, good anchorage all the way.

Barren Island is about $3\frac{1}{2}$ miles long, and one mile broad; it lies about half a mile from the main, and more than a league from the north end of *Merasheen Island*.

SANDY HARBOURS.—Nearly four miles W. $\frac{1}{2}$ S. from the south end of *Barren Island* is *Great Sandy Harbour*, the entrance to which is narrow, but within there are 6 or 7 fathoms of water.

Little Sandy Harbour lies a quarter of a mile to the southward of *Great Sandy Harbour*, and is tolerably good, having 6 or 7 fathoms of water, good bottom. In going in, you pass to the northward of a low rock above water, which lies in the mouth of it. This harbour may be known by *Bell Isle*, which lies S.E. $\frac{1}{2}$ E. $1\frac{1}{2}$ mile from the mouth of it; and N.E. $\frac{1}{2}$ N. 13 miles from the west point of *Merasheen Island*: off the south point of the island, is a remarkable rock, resembling a bell with the bottom upward,

Nearly 3 leagues S.W. from Bell Isle, is the north end of *Great Valen Island*, which is about 2 miles in length. On the main, to the westward of it, is *Clatise Harbour*, the entrance into which is half a mile wide; in it are 40 or 50 fathoms of water. The best anchorage is in the west cove, which is one mile long, but not a quarter of a mile wide, in from 17 to 20 fathoms of water, good bottom.

Grandmère's Rocks are just above water, and $1\frac{1}{2}$ mile northeastward from the north end of *Great Valen Island*.

The *Little Valen Island* lies near the south end of *Great Valen Island*, and about a quarter of a mile from the main; it is high and round.

W.S.W. $\frac{1}{2}$ W. $3\frac{1}{2}$ miles from *Little Valen Island* lies *Presque*, within which there is very deep water, but no safe passage; there being a number of rocks lying before the entrance.

MERASHEEN ISLAND.—E.S.E. 4 miles from *Presque*, and S. $\frac{1}{2}$ W. from *Little Valen Island*, lies the west point of **MERASHEEN ISLAND**; this island is high, and trends to the N.E. by E. more than 6 leagues; it is very narrow, the broadest part not being more than two miles. At the south part of the island, near to its west end, is a very good harbour, but small, with from 6 to 10 fathoms water. To go into it, keep the starboard shore on board, in order to avoid a sunken rock, that lies a cable's length off a rugged rocky point on the larboard side when going in.

Indian Harbour lies on the east side of *Merasheen Island*, at about 3 leagues from the south point.

S.W. $\frac{1}{2}$ W. two miles from *Presque* is a sunken rock: a quarter of a mile without this rock is a rock above water, called the *Black Rock*, which lies East two miles from *Marticot Island*.

The harbour of **LITTLE PARADISE** lies one mile to the northward of the east point of *Marticot Island*; the only safe anchorage is in a cove, at the head, on the larboard side. One mile to the eastward of *Little Paradise* lies *La Perche*, in which there is no safe anchorage. The harbour of **GREAT PARADISE** lies to the westward of *Little Paradise*, and is fit for boats only.

From *Marticot Island* to *Corbin Head*, the course is W.S.W. $\frac{1}{2}$ W. $11\frac{1}{2}$ leagues: this course will lead just without the rock called the *Saddle Back*, which is $9\frac{1}{2}$ miles from *Marticot Island*. Between *Marticot* and the main is an islet called *Fox Island*: between these islands is a safe passage, with not less than 9 fathoms of water; but none between *Fox Island* and the main.

PARADISE SOUND.—To the westward of *Fox Island* is the entrance of *Paradise Sound*, which extends N.E. by E. $4\frac{1}{2}$ leagues, and is about a mile broad, with very deep water, and no safe anchorage till you get near the head of it.

One mile to the westward of *Paradise Sound* lies *Pettit Fort Harbour*: a very good harbour, having in it from 14 to 7 fathoms of water, good bottom. The entrance is more than a quarter of a mile wide, and lies N.E. 5 miles from the south point of *Long Island*, and N. by E. $2\frac{1}{2}$ miles from the north point of the same. There is no danger in going in; and the best anchorage is on the starboard or eastern side. S.E. winds heave in a great swell on the western shore when it blows hard.

CAPE ROGER HARBOUR lies close to the westward of *Cape Roger*, which is a high round barren head, lying N. $\frac{1}{2}$ E. $3\frac{1}{2}$ miles from the south point of *Long Island*. There are several low rocks and islands lying off the eastern point of the entrance. In the harbour, at a quarter of a mile within, on the western side, lies a small island; to the northward of which, between it and the main, is very good anchorage in 7 or 8 fathoms of water, or farther up in 6 or 7 fathoms.

N.N.W. 2 miles from the south point of *Long Island*, lies a small *Green Island*, which has a shoal all round to nearly a cable's length. From *Green Island* N.N.W. $2\frac{1}{2}$ miles, lies *Great Gallows Harbour Island*, which is a high land. Vessels may pass on either side of this island into *Great Gallows Harbour*, which lies one mile to the E.N.E. of the island. In this harbour is exceedingly good anchorage, in 7 fathoms of water, on the starboard side, just within a low stony point, taking care to give the point a small berth, in order to avoid a rock which is alternately covered and uncovered with the tide.

AUDIÈRE ISLAND lies half a mile to the northward of *Cape Judas* or *Middle Island*, on the west side of which there is a tolerably good harbour. At about a cable's length from *Audière Island*, to the southward of the harbour, is a sunken rock; the mark for avoiding

which, in coming in from the southward is, not to haul in for the harbour till you open a remarkable green point on the southern side of the harbour. The best anchorage is on the north shore, just within a small island. A spit of rocks stretches just off the Green Point on the south shore, which are covered at high water.

Vessels bound for Audierno Harbour may pass between Cape Judas or Middle Island and Audierno Island; and between *Crow* and *Patrick's Island*, which are two small islands lying off the S.W. point of Audierno Island. Off the N.E. point of Audierno is *Ford's Island*, on the west of which is a sunken rock, about a cable's length from the island, and another on the eastern side, which almost always breaks.

The *Saddle Back* is an islet lying E.N.E. $\frac{1}{2}$ E. 8 leagues from Corbin Head; E. by N. from Mortier West Point, and E.S.E. $\frac{1}{2}$ E. 3 leagues from *John-the-Bay Point*. Between it and the main are a great number of rocks and islets, which render this part of the coast very dangerous. A chain of rocks extends N.E. by E. one mile and a half from the *Saddle Back*.

CAPE JUDAS OF MIDDLE ISLAND is about $2\frac{1}{2}$ miles in length, and 2 in breadth, and lies $1\frac{1}{2}$ mile north of the *Saddle Back*; on the south end of it is a round hill, which is called the Cape. Between this island and the main are a cluster of islands and low rocks, with a great number of sunken rocks about them, called the *Flat Islands*, the innermost of which lies about one mile from the main.

Two miles to the N.N.W. of *John-the-Bay Point* lies *John-the-Bay*, in which there is tolerably good anchorage, with about 8 fathoms of water, sandy bottom.

From *John-the-Bay Point* to *Mortier East Head* the bearing and distance are S.W. $\frac{1}{2}$ W. 3 miles. Two miles S.W. by W. from *John-the-Bay Point* lies *Rock Harbour*, not fit for shipping. Between lie two sunken rocks, nearly half a mile from the shore.

MORTIER BAY.—Two miles W.S.W. from *Rock Harbour* is the entrance into *Mortier Bay*: at the entrance of which, on the west side, is a small harbour, called *Beauvois*, of only 9 feet of water. The course into *Mortier Bay* is N.N.E. for about two miles, and in it there are from 50 to 70 fathoms of water, the land on each side being high; it then extends westward about two miles, and nearly two miles wide. On the eastern side, at about three miles from the entrance, is an exceedingly good harbour, called *Spanish Room*, in which vessels may anchor in from 4 to 6 fathoms of water, good ground, and secure in all winds. There is not the least danger in going into this harbour, giving the low rocks above water, at the entrance, on the larboard hand, a berth of one cable's length.

About a mile westward of *Mortier East Head* is *LITTLE MORTIER BAY*, at the entrance of which is a round island, called *Mortier Island*, lying one-third of the distance from the west side; it is bold-to all round, and may be passed on either side. Close to the first point beyond the island, on the larboard side, going in, is another little island, close under the land; and two cables' length from it, in a direct line toward the outer island, is a sunken rock, on which the sea breaks in bad weather, which is the only danger in the bay. At the bottom of it, $1\frac{1}{2}$ mile from *Mortier Island*, on the east side, is a cove, called *Fox Cove*, where there is good anchorage, and room for one ship to moor in 9 fathoms, good holding-ground, two points open to the sea, from S.S.E. to S.E. On the west side of the bay is the harbour, which is small and narrow; but a very good one for small ships, where they lie moored to the shore. Off the starboard point, going in, is a rock, which is always covered at high water.

About 3 miles S.W. from the entrance of *Little Mortier Bay* is *Iron Island*; and S.E. by E. 5 miles from *Iron Island*, and S.W. $\frac{1}{2}$ W. 5 leagues from *Cape Judas*, lies the *Mortier Bank*, the shoal part of which is about one league over, and on which there are only four fathoms. The sea breaks heavily on it in blowing weather.

Iron Island is a small high land; and S.W. $\frac{1}{2}$ W. one league from it, is the S.E. point of *Great Burin Island*; and W.N.W. $1\frac{1}{2}$ mile from it is the north part of *Pardy's Island*. On the main, within these islands, lie the harbours of *Great* and *Little Burin*. Vessels bound for *Burin* may pass on either side of *Iron Island*; the only danger in passing to the northward is the ledge called the *Brandys*, which almost always break; they lie near a quarter of a mile to the southward of a low rock, above water, close under the land of *Mortier West Head*. By keeping *Mortier West Head* open to the westward of *Iron Island*, you will avoid *Gregory's Rock*, on which is only 2 fathoms of water, and which almost

always breaks. Vessels may pass with safety between this rock and Iron Island, by giving the latter a berth of above a cable's length.

On the main, within Pardy's Island, are two remarkable white marks in the rocks; the northernmost of these brought on with the North part of Pardy's Island and Iron Island N.E. $\frac{1}{2}$ N. will lead on the *Galloping Andrews*, a shoal with 5 fathoms of water on it.

The *White Horse* is a shoal with 8 fathoms of water on it, which bears S.S.E. one mile from Iron Island.

The *Dodding Rock* lies about a quarter of a mile from the easternmost part of Great Burin Island.

Great Burin Island is about $2\frac{1}{2}$ miles in length N.N.E. and S.S.W.; and near its South end is *Cat Island*, high and round, lying E.N.E. $3\frac{1}{2}$ miles from Corbin Head.

From *Corbin Head* to *Shalloway Point*, the bearing and distance are N.E. $\frac{1}{2}$ N. $4\frac{1}{2}$ miles. Between them, and nearly in the same direction, lie Corbin and Little Burin Islands, both high and round, and not more than a cable's length from the shore.

Shalloway Island lies N.N.W. $\frac{1}{2}$ W. one mile from Cat Island, and N.E. by E. a quarter of a mile from Little Burin Island; the passage into BURIN HARBOURS, from the southward, is to the westward of Shalloway Island.

In sailing in, take care to give *Poor Island* a berth on your larboard hand; and, when within Shalloway Island, you may anchor in safety between it and Great Burin Island, in from 12 to 18 fathoms. The best anchorage in Great Burin Harbour is in *Ship Cove*. The course up to it, after you are within *Neck Point*, which is to the westward of the Shalloway Island, is N.N.E. about $1\frac{1}{2}$ mile. It is about a quarter of a mile wide: in sailing up, keep the West shore on board, in order to avoid a sunken rock on the East shore; at about half-way up, and about a cable's length from the shore. Another rock, with $2\frac{1}{2}$ fathoms on it, lies above a cable's length to the S.W. of *Harbour Point*, which is round and green, and of moderate height, joined to Great Burin Island by a low, narrow, sandy neck.

BURIN BAY is about one mile N.N.E. of Little Burin Island: it is clear, and about a mile wide every way: here ships may occasionally anchor, and lie almost land-locked. In this bay are two islands, one called *Poor Island*, low and barren; the other lies to the northward, before the entrance of Burin Inlet, and is high and woody.

BURIN INLET may be entered on either side of the island; it extends up 5 miles: a little within the entrance on the East side, half a cable's length from the shore, is a rock covered at three-quarters flood; and $1\frac{1}{2}$ mile from the entrance, near the middle, is another rock, to the westward of which is good room, and good anchorage, in from 7 to 12 fathoms. There are 15 fathoms in the entrance; and, in the middle, two miles up, 15 to 23 fathoms; and thence up to the head are from 10 to 5 fathoms.

The East passage in is between Pardy's Island and Iron Island: but is not safe without a commanding gale, and that between the N.N.E. and S.E.

CORBIN HARBOUR is about a mile to the northward of Corbin Head, and is a good harbour for small vessels. A quarter of a mile eastward from this harbour, and 2 cables' length from the shore, is a sunken rock, of 5 or 6 feet of water, on which the sea breaks in bad weather. Vessels bound for this harbour must also avoid a shoal of 2 fathoms of water, which lies E.S.E. from the South point of the entrance about half a mile. The best anchorage is in the North arm, about half a mile within the entrance, opposite a cove on the starboard side.

From Corbin Head to *Small Point* the course and distance are W.S.W. $2\frac{1}{2}$ miles; and from *Small Point* to *Sauker Head* W. $\frac{1}{2}$ S. 2 miles: there are many head-lands between, which form coves, but afford no shelter. The coast is clear of rocks; and there are 30 fathoms of water close to the shore.

From *Sauker Head* to *Cape Chapeau Rouge*, the bearing and distance are W. by N. 3 miles; between lie the harbours of *Great* and *Little St. Lawrence*.

The harbour of LITTLE ST. LAWRENCE is the first to the westward of *Sauker Head*. To sail in, you must keep the West shore on board, to avoid a sunken rock, which lies a little without the point of the peninsula, which stretches off from the east side of the harbour. The anchorage is above the peninsula, (which shelters it from the sea-winds,) in 3 or 4 fathoms of water, a fine sandy bottom. Ships may anchor without the peninsula in 12 fathoms, good ground, but this place is open to S.S.E. winds.

The harbour of **GREAT ST. LAWRENCE**, which is the westernmost, is close to the eastward of Cape Chapeau Rouge. To sail in, you should be careful with westerly, particularly with S.W. winds, not to approach too near the *Chapeau Rouge*, or *Red-Hat Mountain*, in order to avoid the flaws and eddy winds under the high land. There is no danger, but what is very near the shore. The course in is first N.N.W. till you open the upper part of the harbour, then N. $\frac{1}{2}$ W. The best anchorage for large ships is before a cove, on the east side of the harbour, in 13 fathoms of water. This harbour has 200 inhabitants.

A little above *Blue Beach Point*, which is the first on the West side, you may lie only two points open: you may anchor anywhere between this point and the point of *Low Beach*, on the same side, near the head of the harbour, observing that, close to the West shore, the ground is not so good as on the other side.

Garden Bank, whereon are from 7 to 16 fathoms of water, lies about half a mile off Little St. Lawrence, with Blue Beach Point on with the east point of Great St. Lawrence.

IV.—THE COAST WESTWARD OF CAPE CHAPEAU ROUGE, WITH THE ISLANDS OF ST. PIERRE AND MIQUELON.

FERRYLAND HEAD lies W.S.W. one mile from Cape Chapeau Rouge; it is a high rocky island, just separated from the main.

W.N.W., 5 miles from Ferryland Head, lies the *Bay of Laun*, in the bottom of which are two small inlets; called *Great and Little Laun*. Little Laun is the easternmost, lies open to the S.W. winds, and therefore is no place to anchor in. Great Laun lies in about N.E. by N. 2 miles; is near half a mile wide, and has from 14 to 3 fathoms of water. In sailing in, be careful to avoid a sunken rock, which lies about a quarter of a mile off the east point. The best anchorage is on the east side, about half a mile from the head, in 6 and 5 fathoms, tolerably good bottom, and open only to South and S. by W. winds, which cause a great swell.

LAUN ISLANDS lie off the west point of *Laun Bay*, not far from the shore; the westernmost and outermost of which lie W.N.W. westerly 10 miles from Ferryland Head. Nearly a quarter of a mile to the southward of this island is a rock, whereon the sea breaks in very bad weather; there are other sunken rocks about these islands, but not dangerous, being very near the shore.

Taylor's Bay lies open to the sea, about 3 miles to the westward of Laun Islands. Off the east point are some rocks, near a quarter of a mile.

Point Aux Gaul is a low point of land, which stretches out a little to the westward of Taylor's Bay: a rock lies off it above water, half a mile from the shore, called *Gaul Shag Rock*, which bears from Ferryland Head W.N.W. $\frac{1}{2}$ W. 5 leagues: there are 14 fathoms close to the off-side of it.

From Point Aux Gaul Shag Rock to the **LAMELIN ISLANDS**, the bearing and distance are N.W. by W. one league; between is the *Bay of Lamelin*, which lies behind two islets, with a flat marshy shore on the other side; it is used by the fishing-boats. There is a considerable number of houses here, but from the want of wood the inhabitants mostly leave it in the winter. Near the south point of the westernmost Lamelin Island is a rock pretty high above water, called *Lamelin Shag Rock*.

From Lamelin Shag Rock to *Point May*, the distance is 8 miles; between lie the *Lamelin Ledges*, which are very dangerous, some of them being 3 miles from the land. To avoid them in the day-time, you should not bring the Lamelin Islands to the southward of E.S.E. until Point May bears N.E. by N. from you: you may then steer northward between Point May and Green Island with safety. By night, approach no nearer than in 30 fathoms of water.

ST. PIERRE, or **ST. PETER'S ISLAND**.—The island of St. Pierre lies 11 leagues W. by N. from Cape Chapeau Rouge; it is about 4 leagues in circuit, and is barren in the extreme; it is a mass of rocky hummocks rising to a height of 400 or 500 feet directly from the water, and destitute of any trees. On coming from the westward, *Galuntry Head*, which is the S.E. point of the island, makes in a round hummock, like a small island, separated from St. Pierre, on which is a fixed light, visible 15 miles off. The port is on the eastern side of the island, at only a mile to the northwestward of *Point Cromer*, the easternmost point; and it is bounded on the East by *Chien* or *Dog Island*,

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eastward of which are several islets and rocks. The passage in, between Chien Island and St. Pierre, is very narrow, and bordered with rocks, but in mid-channel are 6, 4, 3½, 5, and 6 fathoms.

Upon Canon Point, on the north side of the entrance to the inner harbour, in latitude 46° 46' 52", long. 56° 8' 44", is a modern light-house, with fixed harbour-light, about a quarter of a mile eastward of the town, which is kept up from the 1st of May to the 15th of November. With this light-house bearing W. by N. or W. ½ N. about 2 cables' length, there is anchorage in 5½ and 6 fathoms of water.

The Harbour of St. Pierre is small, and well sheltered from all winds. It has three entrances, all of which can be taken with a little attention. It has from 20 to 12 feet of water. The only danger that cannot be seen is a small rock (*l'Enfant Perdu*), lying about one mile East, true, from the *Isle aux Bours*, the *Vainqueur* of the late charts. The road lies on the N.W. side of Chien or Dog Island, and will admit ships of any burthen in 8, 10, or 12 fathoms of water. The best anchorage is on the north side: but in general it is rocky, and exposed to the N.E. winds.

The *Colombier*, so called from its similarity to a dove-cote, from the great flocks of puffins which breed here, and are always flying about it in great flocks, lies very near to the N.E. point of St. Pierre, and is pretty high; between is a passage of one-third of a mile wide, with 12 fathoms of water, but there is a reef on the south side. On the north side of the island is a rock called *Little Colombier*, and about one-quarter of a mile E.N.E. from it is a sunken rock, with 2 fathoms on it.

GREEN ISLAND is about three-quarters of a mile in circuit, and low: it lies E.N.E. about 5 miles from St. Pierre, and nearly in the middle of the channel between it and Newfoundland; on its south side are several rocks above and under water, extending 1½ mile to the W.S.W.

LANGLEY or **LITTLE MIQUELON**.—This island lies to the N.W. of St. Pierre, with a passage of about 2½ miles wide between, free from danger. It is about 8 leagues in circuit, of a moderate and pretty equal height, excepting the north end, which is low, with sand-hills; off which, on both sides, it is flat a little way; but every other part of the island is bold-to. It is a much more pleasant place than St. Pierre, and has a settlement in the N.E. bay. There is anchorage on the N.E. side of the island in 5 or 6 fathoms, a little to the southward of the *Sand-hills*, on a fine sandy bottom.

MIQUELON was formerly distinct from Langley, and on all old charts a channel of 2 fathoms is marked as running between them. This, however, is now entirely filled up, and a long, narrow line of sand-hills, with a beach on each side, occupies its place. Instances have been known, even of late years, of vessels in stress of weather making for this channel, and being wrecked on the sands. Miquelon is 4 leagues in length from north to south, and is about 5 miles in breadth at the widest part: the middle of the island is high land, called the *High Lands of Dunn*; but down by the shore it is low, excepting *Cape Miquelon*, which is a lofty promontory at the northern extremity of the island.

Miquelon Road, which is large and spacious, lies at the north end, and on the east side of the island, between Cape Miquelon and Chapeau; the latter is a very remarkable round mountain near the shore, off which are some sunken rocks, at the distance of about a quarter of a mile; but everywhere else it is clear of danger. The best anchorage is in 6 or 7 fathoms, near the bottom of the road, on fine sandy bottom; but you lie exposed to easterly winds.

Miquelon Rocks stretch off from the eastern point of the island, under the high land, 1½ mile to the eastward: some are above, and some under water; the outermost are above water, and there are 12 fathoms of water close to them, and 18 or 20 a mile off. N.E. by E. ½ E. about 4 miles from these rocks lies Miquelon Bank, on which are 6 fathoms of water.

The *Seal Rocks*, two in number, are above water, and lie about 5 miles off from the middle of the west side of Miquelon; the passage between them and the island is very safe; and there are 14 or 15 fathoms of water within a cable's length, all around them.*

* The Islands of St. Pierre, Langley, and Miquelon, were ceded to France by England, on condition that no forts should be built on either; that no more than fifty men of regular troops should be kept there, and that they should have no military stores, or cannon, capable of making a defence. During the late hostilities, these isles were annexed to the Government of Newfoundland, having been taken possession of by the British forces, 14th May, 1793; but they were ultimately restored to France, on the original conditions, by the treaty of 1814.

V.—FORTUNE BAY AND THE COAST WESTWARD TO THE BURGEO ISLES.

FORTUNE BAY, &c.—From *Point May*, on the south, to *Pass Island*, on the north, the bearing and distance are N. by E. 12 leagues: between is the entrance to **FORTUNE BAY**, which is about 22 or 23 leagues deep: and in which are several bays, harbours, and islands.

The Island *Brunet* lies pretty nearly in the middle of the entrance into Fortune Bay; it is about 5 miles in length: on its N.E. side is a bay, wherein there is tolerably good anchorage for ships, in 14 or 16 fathoms of water, sheltered from southerly and westerly winds. In the bottom of the bay, at about a quarter of a mile from the shore, are some rocks, which must be avoided. Opposite to this bay, on the south side of the island, is a small cove, with 6 fathoms of water. The islands lying off the west end of *Brunet*, to the southward, are called the *Little Brunets*, which, with *Brunet*, may be approached within a quarter of a mile all round.

The *Plate Islands* are three rocky islets, of a moderate height, the nearest of which lies W.S.W. one league from the west end of *Great Brunet*. The southernmost is about 2 miles farther off, and bears from *Cape Miquelon* E. $\frac{1}{2}$ S. 11 miles; and, in a direct line between *Point May* and *Pass Island*, 17 miles from the former, and 19 miles from the latter, E.S.E. a quarter of a mile from the *Great Plate* (which is the northernmost) is a sunken rock, whereon the sea breaks, which is the only danger about them.

There are several strong and irregular settings of the tides or currents about the *Plate* and *Brunet Islands*, which seem to have no dependency on the moon and the course of the tides on the coast.

Segona Island, which lies N.E. 2 leagues from the east end of *Brunet*, is about a mile across each way, of a moderate height, and bold-to all round.

POINT MAY is the southern extremity of Fortune Bay, and the S.W. extremity of this part of Newfoundland; it may be known by a great black rock, nearly joining to the pitch of the point, and something higher than the land, which makes it look like a black hummock on the point. At about a quarter of a mile directly off from this black rock are three sunken rocks, on which the sea always breaks.

N. by E. $1\frac{1}{2}$ mile from *Point May*, is *Little Dantzick Cove*; and 2 miles farther is *Great Dantzick Cove*. From *Dantzick Point* (which is the north point of the coves) to *Fortune Head*, the bearing and distance are $2\frac{1}{2}$ leagues E.N.E.; and thence to *Fortune*, $1\frac{1}{2}$ mile S.E. by E. This is a fishing village, and the road where the ships lie has 6 to 10 fathoms of water, quite exposed to nearly half the compass. It lies S.S.W. from the east end of *Brunet*.

The **CAPE OF GRAND BANK** is pretty high, and lies one league E.N.E. from *Fortune*. To the eastward of this cape is *Ship Cove*, where there is good anchorage for shipping in 8 or 10 fathoms of water, sheltered from southerly, westerly, and N.W. winds. *Grand Bank* lies S.E. half a league from the cape: this is a fishing village, and here is no security for shipping.

From the *Cape of the Grand Bank* to the *Point Enragée*, the course is E.N.E. $\frac{1}{2}$ E. distance 8 leagues: the coast between forms a bay, in which the shore is low, with several sandy beaches, behind which are bar-harbours, fit only for boats, of which the principal is *Great Garnish*, lying $4\frac{1}{2}$ leagues from the *Cape of Grand Bank*: it may be known by several rocks above water lying before it, at two miles from shore, the outermost of which are steep-to; but, between them and the shore are dangerous sunken rocks. To the eastward, and within these rocks, is *Frenchman's Cove*, where small vessels may anchor in 4 or 5 fathoms of water, tolerably well sheltered from the sea-winds. The shore is bold all the way from *Point May* to *Cape of Grand Bank*, there being 10 or 12 fathoms within 2 cables' length, and 30 or 40 at a mile off: between the latter and *Great Garnish* the water is not so deep, and ships may anchor anywhere in 8 or 10 fathoms of water, sheltered only from the land-winds.

From *Point Enragée* to the head of the bay, the course is, first, E.N.E. $\frac{1}{2}$ E. 3 leagues, to *Grand Jervey*; then E. $\frac{1}{2}$ N. $7\frac{1}{2}$ leagues to the head of the bay.

Seven leagues to the eastward of *Point Enragée* is the *Bay L'Argent*, where there is anchorage in 30 or 40 fathoms of water, sheltered from all winds.

HARBOUR MILLÉ.—The entrance of *Harbour Millé* lies to the eastward of the east point

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of *L'Argent*. Before this harbour, and the Bay *L'Argent*, is a remarkable rock, which, at a distance, appears like a shallop under sail. Harbour *Millé* branches into two arms, one lying to the N.E., the other to the east; at the upper part of both is good anchorage. Between this harbour and Point *Enragée* are several bar-harbours, in small bays, wherein are sandy beaches: but the water all along the coast is very deep.

Cape Millé lies N.E. $\frac{1}{2}$ E. one league from the Shallop Rock above mentioned, and nearly 3 leagues from the head of Fortune Bay: it is a high reddish barren rock. The width of Fortune Bay at *Cape Millé* does not exceed half a league; but, immediately below it, it is twice as wide, by which the cape may readily be known; above this cape the land on both sides is high, with steep craggy cliffs. The head of the bay is terminated by a low beach, behind which is a large pond, or bar-harbour, fit only for boats.

Grand Pierre is a good harbour, situated on the north side of the bay, half a league from the head. The entrance cannot be seen until you are abreast of it; there is no danger in going in, and you may anchor in any depth from 8 to 4 fathoms, sheltered from all winds.

English Harbour lies a little to the westward of *Grand Pierre*; and to the westward of *English Harbour* is the *Little Bay de l'Eau*, both of which are small.

New Harbour is situated opposite to *Cape Millé*, to the westward of the Bay de l'Eau: it is a small inlet, and has good anchorage on the west side, in from 8 to 5 fathoms, sheltered from S.W. winds.

The *Harbour Femme* lies half a league to the westward of *New Harbour*; and one league to the westward of *Harbour Femme*, is *Brewer's Hole*, fit only for boats.

HARBOUR LA CONTE is situated one mile to the westward of *Brewer's Hole*, before which there are two islands, one without the other. The best passage in is on the west side of the outer island, and between the two; so soon as you begin to open the harbour, keep the inner island close on board, to avoid some sunken rocks that lie near a small island, which you will discover between the N.E. point of the outer island, and the opposite point on the main: also another rock which appears at low water, and lies higher up on the side of the main. So soon as you are above these dangers, you may keep in the middle of the channel, and will open a fine spacious harbour, wherein you may anchor in any depth, from 6 to 16 fathoms of water, on a bottom of sand and mud, shut in from all winds.

LONG HARBOUR lies 4 miles to the westward of *Harbour La Conte*, and N.E. by E. 5 leagues from *Point Enragée*. It may be known by *Gull Island*, which lies at its mouth, and a small rock, which lies half a mile without the island, and has the appearance of a small boat: this harbour runs 5 leagues into the country, but the only anchoring is in *Morgan's Cove*, on the N.W. side of the harbour, about 2 miles within *Gull Island*, in 15 fathoms of water, unless you run above the *Narrows*.

A little to the westward of *Long Harbour* is *BELLE BAY*, which extends about three leagues each way, and contains several bays and harbours. On the east point of this bay is *Hare Harbour*, fit for small vessels only.

Two miles to the northward of *Hare Harbour* is *Mal Bay*: and, to the westward of *Mal Bay*, near the shore, lie the *Rencontre Islands*, the westernmost of which is the largest, and has a communication with the main at low water.

BELLE HARBOUR lies 4 miles N.W. by N. from the westernmost *Rencontre Island*; it is but an indifferent harbour. About $1\frac{1}{2}$ mile westward of *Belle Harbour* is *Lally Cove*, fit for small vessels only, behind an island; the west point of this cove is high and bluff, and is called *Lally Head*; to the northward of this head is *Lally Back Cove*, where ships may anchor in 14 or 16 fathoms water.

Two miles to the northward of *Lally Cove Head* is the Bay of the *East* and the Bay of the *North*; in both of these there is deep water and no anchorage near the shore.

The bay of *Cinq Isles* lies to the southward of *North Bay*, and opposite to *Lally Cove Head*; there is tolerably good anchorage for large ships on the S.W. side of the islands, in the bottom of the bay. A little to the southward of the bay of *Cinq Isles* is *Corben Bay*, where there is good anchorage for any ships in 22 or 24 fathoms of water.

About 2 miles south-eastward from *Lally Cove Head* are two islands, about a mile distant from each other; the north-easternmost is called *Bell Island*, and the other *Dog Island*; they are bold-to all round.

Between Dog Island and *Lord and Lady Island*, which lies off the south point of Corben Bay, something nearer to the latter is a sunken rock, with deep water all round it; and, about a quarter of a mile to the northward of Lord and Lady Island, is a rock, which appears at low water.

BANDE DE L'ARIER Bay lies on the west point of Belle Bay, and N. $\frac{1}{4}$ W. 3 leagues from Point Enragée; it may be known by a very high mountain over the bay, which rises almost perpendicular from the sea, called *Iron Head*. *Chapel Island*, which forms the east side of the bay, is high land also; the harbour lies on the west side of the bay, just within the point formed by a narrow low beach, and is a snug place: between the harbour and Iron Head there is tolerably good anchorage in 18 or 20 fathoms.

Bande de l'Arier Bank has 7 fathoms of water on it, and lies with the beach of Bande de l'Arier Harbour just open of the west point of the bay, and Boxy Point on with the north end of St. Jacques Island.

Two miles to the westward of Bande de l'Arier is the harbour of *St. Jacques*, which may be readily known by the island before it being high at each end, and low in the middle. The passage into the harbour is on the west side of the island, free from danger, as is the harbour, where you may anchor in from 17 to 4 fathoms.

About $1\frac{1}{2}$ mile westward of St. Jacques, is the harbour of *Blue Pinion*; a little to the westward of which is English Cove.

Boxy Point lies W. $\frac{1}{2}$ S. 8 miles from St. Jacques Island, and E.N.E. $\frac{1}{2}$ E. $12\frac{1}{2}$ miles from the east end of Brunet Island; it is of a moderate height, and the most advanced to the southward of any land on the coast. *Boxy Harbour* lies N.E. 3 miles from Boxy Point, in which there is anchorage in 4 or 5 fathoms of water, fine sandy ground.

W.N.W. one mile from Boxy Point is the *Island of St. John*, and N.N.W. half a league from St. John's Island is St. John's Head, high, steep, and craggy. Between St. John's Head and Boxy Point is St. John's Bay, quite exposed.

On the north side of St. John's Head are two rocky islets, called the Gull and Shag; at the end of which there are several sunken rocks.

GREAT BAY DE L'EAU is about $1\frac{1}{2}$ league to the northward of *St. John's Head*. In the bay there is good anchorage in various depths, sheltered from all winds. The passage in is on the east side of the island, which lies in its entrance.

To the westward of Bay de l'Eau, about 3 miles north from St. John's Head, is *Little Barrysway* or *Barachois*, on the west side of which there is good anchorage for large ships in 7, 8, or 10 fathoms.

HARBOUR BRITON lies to the westward of Little Barrysway, N.N.E. $1\frac{1}{2}$ league from the Island of *Sagona*, and N.E. by N. from the east end of Brunet. The heads which form the entrance are pretty high, and lie from each other S.E. and N.W., distant about 2 miles. Near the east head is a rock above water. The only danger in going in is a ledge of rocks, which stretch 2 cables' length from the south point of the S.W. arm, which is more than a mile within the west head. The only place for large ships to anchor in is above this ledge, before the entrance of the S.W. arm, in 16 or 18 fathoms, mooring nearly east and west; the bottom is very good, and plenty of wood and water is to be obtained here.

Opposite to the S.W. arm is the N.E. arm, or *Jerseyman's Harbour*, which is capable of holding a great number of ships, secure from all winds, in 6, 7, and 8 fathoms of water: it has a bar at the entrance, on which there are 3 fathoms. The mark to sail over the bar is, the point of *Thompson's Beach*, which is the south point, at the entrance into the S.W. arm, open of Jerseyman's Head, which is high and bluff, on the north side of the entrance into Jerseyman's Harbour; so soon as you open the harbour, haul up to the northward, and anchor.

From the West End of Harbour Briton to Connaigre Head, the bearing distance are W. $\frac{1}{2}$ N. $5\frac{1}{2}$ miles; between are *Gull Island* and *Deadman's Bay*, off which there is a bank stretching from the shore between 2 and 3 miles, whereon the depths vary from 34 to 4 fathoms.

CONNAIGRE BAY.—From *Connaigre Head*, which is high and craggy, to *Baseterre Point*, the bearing and distance are N.W. $\frac{1}{2}$ W. 7 miles; between is Connaigre Bay, which extends about 4 leagues inland. In the mouth of the bay lie the Connaigre Rocks, above water, which may be approached very near, there being no danger but what shows

itself: the channel between them and Connaigre Head is the safest, as a ledge of rocks extends a mile from the north shore, which renders the other channel rather dangerous.

Connaigre Harbour is near 5 miles above the head, within a point on the south side of the bay; it is very small, and the depth of water is 7 fathoms; the passage in is on the S.E. side of the island, which lies before it. Abreast of this harbour, nearly in the middle of the bay, are two islands; and on the south side of the westernmost, are some rocks above water.

Dawson's Cove is on the N.W. side of the bay, and bears N.N.W. about 4 miles from the head; and W.N.W. 2 miles from the west end of the westernmost (and the greatest) island: the anchorage is in 6 or 5 fathoms, quite exposed to southerly winds.

From Basseterre Point, which is clear of wood, to *Pass Island*, the bearing and distance are N.W. by N. one league. This island forms the N.W. extremity of Fortune Bay; it lies very near the shore, and is above a mile long. On its S.W. side are several rocks above water, which extend a mile off; and on the N.W. side is a sunken rock, at a quarter of a mile from the island.

In the night-time, or in foggy weather, too great dependence should not be placed on the soundings in Fortune Bay; for there is more water in many parts near the shore, and in several of its contained bays and harbours, than in the middle of the bay itself.

HERMITAGE BAY.—From *Pass Island* to the west end of *Long Island*, the bearing and distance are, N.E. eight miles: between is the entrance of *Hermitage Bay*, which extends $7\frac{1}{2}$ leagues east from *Pass Island*, with very deep water in most parts of it.

Hermitage Cove is on the south side of the bay, about $3\frac{1}{2}$ leagues above *Pass Island*, opposite which, and nearly in the middle of the bay, lie the two *Fox Islands*: to go into the cove, keep between the islands and the south shore, where there is not the least danger. In the cove there is good anchorage in 8 or 10 fathoms.

LONG ISLAND, which separates the *Bay of Despair* from *Hermitage Bay*, is of a triangular form, about 8 leagues in circuit. The west entrance into the *Bay of Despair* from *Hermitage Bay* is by the west end of *Long Island*. About half a mile from its S.W. point are two rocks above water, with deep water all round them. The east passage is also very good, and is between the east end of *Long Island* and the main, called the *Passage of Long Island*.

There are four harbours on the south side of *Long Island*, the easternmost of which is called *Galtaus*: the latter is but small, and lies near the east point of the island: the best channel into the harbour is on the west side of several rocky islands, which lie at the entrance, wherein are four fathoms, but in the harbour are from 15 to 24 fathoms. The next is *Picarre*, which lies N. by E. half a league from the easternmost *Fox Island*; in going in here, keep near the west point, in order to avoid some sunken rocks off the other: the anchorage is in the first cove on the east side, in 9 or 10 fathoms, sheltered from all winds.

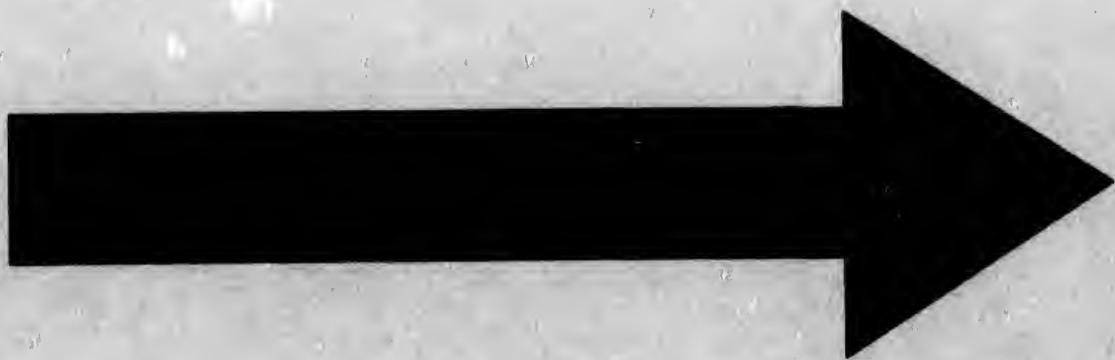
The next harbour, called *Round Harbour*, is fit only for small vessels.

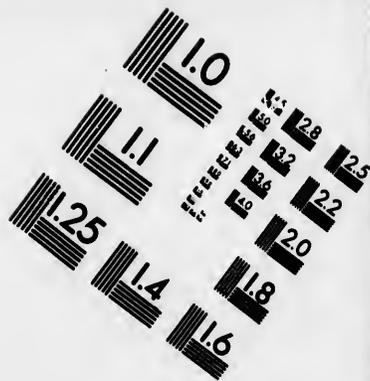
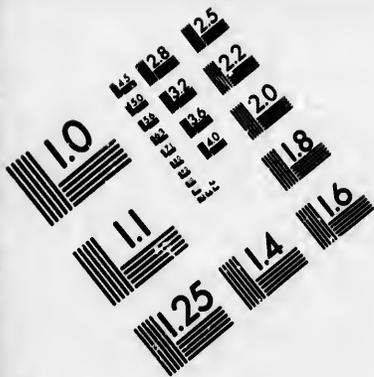
Long Island Harbour is the fourth, and it lies about $2\frac{1}{2}$ miles from the west end of *Long Island*. This harbour has two arms, one lying in to the north, the other eastward: they are both very narrow, and have from 40 to 7 fathoms of water; the eastern arm is the deepest, and affords the best anchorage. The passage in is on either side of an island which lies off the entrance, and has several rocks above water about it, but they are both narrow.

BAY OF DESPAIR.—The entrance of the *Bay of Despair* lies between the west end of *Long Island* and *Great Jervis Island* (which lies in the mouth of the harbour of that name); the distance between is one mile and a quarter, and midway no bottom is found with a line of 280 fathoms.

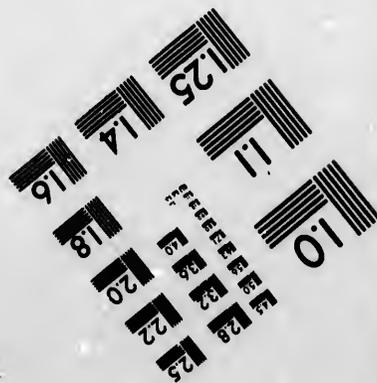
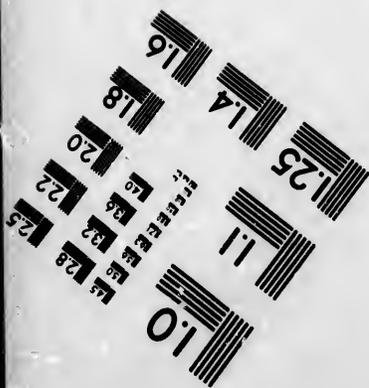
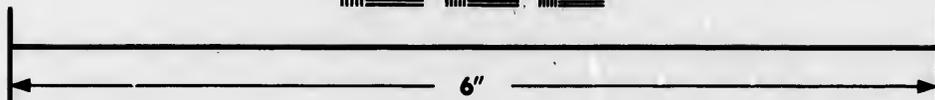
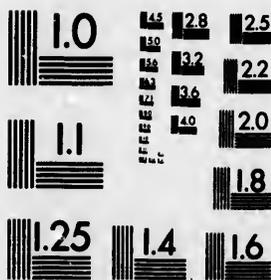
The *Bay of Despair* forms two capacious arms, one extending to the north-eastward, the other northward: in the north arm there is very deep water, and no anchorage excepting in the small bays and coves which lie on each side of it. In the N.E. arm are several arms and islands, and tolerably good anchorage in several places.

GREAT JERVIS HARBOUR is situated at the west entrance into the *Bay of Despair*; it is a safe harbour, with good anchorage on every part of it, in from 16 to 20 fathoms, secure from all winds, and plenty of wood and water. The passage in is on either side of *Great Jervis*





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Island; but the southernmost channel is the safest, there being no danger in it but the shore itself. In the northern channel are several sunken rocks.

BONNE BAY lies about a league to the westward of Great Jervis Head, and N.N.E. 7 miles from Pass Island; it has several islands in its mouth, the westernmost of which is the largest and highest. The best passage in is to the eastward of the largest island, between it and the two easternmost islands. The bay lies in north 4 miles, and there is no danger but what shows itself; you may go on either side of *Drake Island*, which is small, and nearly in the middle of the bay; and between which, and two small islands on the west side of the bay, within Great Island, there is anchorage in 20 or 30 fathoms; but the best place for large ships is near the head of the bay, in 12 or 14 fathoms, clear ground, and convenient for wood and water. On the N.W. side of Great Island, within the two small islands, is very good anchorage in from 16 to 24 fathoms, secure from all winds; the entrance to this from the bay is to the northward of the two small islands. In sailing in or out of the bay, approach not too near the south point of Great Island, as there are some sunken rocks lying at one-quarter of a mile from shore.

W.N.W. 4 miles from *Bonne Bay*, is the entrance to the Bays of **FACHEUX** and **DRAOON**: this entrance being very conspicuous at sea, the coast may here be readily known.

Facheux, which is the easternmost branch, lies in N.N.E. 2 leagues, and is one-third of a mile wide at the entrance, with deep water in most parts of it. On the west side of the bay are three coves, where ships may anchor in from 10 to 20 fathoms. **Dragon Bay** lies in N.W. one league, and is near half a mile wide, with 60 or 70 fathoms of water, and no anchorage excepting near the head.

One league to the westward of **Facheux** is *Richard's Harbour*, a place fit only for small vessels. N.W. by W. one league from *Richard's Harbour* is *Hare Bay*, which runs in N.N.E. about 5 miles, and is about one-third of a mile wide, with deep water close home to both shores on all parts of it, except about one league up on the west side, where there is good anchorage, in from 8 to 15 fathoms, with plenty of wood and water; and a small cove about one mile up on the east side, where there are 20 fathoms, with gradual soundings to the shore.

N.W. by W. $\frac{1}{2}$ miles from *Hare Bay*, and one league N.E. from *Hare's Ears Point*, is *Devil's Bay*, a narrow inlet, extending a league to the northward, with deep water, and no anchorage until you come close to the head.

The *Bay of Rencontre* lies to the northward of *Hare's Ears Point*, and runs in N.W. by W. 2 leagues; it has deep water in most parts of it, and is near half a mile wide at the narrowest part. The anchorage is in 30 fathoms, above a low woody point on the south shore, quite land-locked.

Hare's Ears Point is pretty large, with a ragged rock upon it, which, from some points of view, looks like the ears of a hare. It divides the Bays of **Rencontre** and **Chaleur**, and lies N.W. $\frac{1}{2}$ W. 6 leagues from *Pass Island*.

W.N.W. 2 miles from *Hare's Ears Point* is the Bay of **Chaleur**; which runs in about 2 leagues N.N.W. It is very narrow, and has deep water in most parts.

West, near half a league from the Bay of **Chaleur**, is the *Bay François*, a small inlet; and west, 4 miles from the *Bay François*, on the east side of *Cape la Hune*, lies *Oar Bay*; off the east point of the entrance of the latter is a low rocky islet: and, in the entrance of the bay is another with a passage on each side of it. The bay runs in northward about 5 miles, and is one-third of a mile wide, with deep water close to both shores all the way up; at the head is a harbour for small vessels.

CAPE LA HUNE is the southernmost point of land on this part of the coast, lat. $47^{\circ} 31' 55''$, long. $56^{\circ} 50' 23''$, N.W. by W. $\frac{3}{4}$ W. 8 $\frac{1}{2}$ leagues from *Pass Island*, and N. by W. $\frac{1}{2}$ W. 10 $\frac{1}{2}$ leagues from *Cape Miquelon*; its figure much resembles a sugar-loaf: this cape may also be known by the high land of *Cape La Hune*, which lies one league to the westward of it, appears pretty flat at the top, and may be seen from a distance of 16 leagues.

The **PENGUIN ISLANDS** lie S.W. by W. $\frac{3}{4}$ W. 11 miles from *Cape La Hune*, and N.W. $\frac{1}{2}$ N. 10 leagues from *Cape Miquelon*; they are an assemblage of barren rocks lying near to each other, and altogether about two leagues in circuit; and may be approached in the day-time to the distance of half a league all round.

E.S.E. $\frac{1}{2}$ E. 7 miles from the *Penguin Islands*, and S. by W. 3 leagues from *Cape La*

Hune, lies the *Whale Rock*, on which the sea generally breaks; it is about 100 fathoms in circuit, with 10, 12, and 14 fathoms of water close to all round. From this rock a narrow bank extends, one league to the westward, and half a league to the eastward, with from 24 to 58 fathoms of water on it, rocky and gravelly bottom. In the channel between the shore and this rock, and also between the shore and the Penguin Islands, are 120 and 130 fathoms of water, muddy bottom, and there are the same bottom and depth of water at one league without them.

LA HUNE BAY lies close to the westward of Cape La Hune; it is about 2 leagues deep, and one-third of a mile wide, with deep water in most parts of it; but there is a sunken rock which lies off the west point of the entrance, nearly one-third of the channel over.

LA HUNE HARBOUR lies half a league to the westward of Cape La Hune; it has an island before its entrance, and is fit for small vessels only.

Four leagues N.W. $\frac{1}{2}$ W. from Cape La Hune, is the entrance of *Little River*, which is about 100 fathoms wide at the entrance, and 10 fathoms deep; a little way up there is anchorage in 10, 8, and 7 fathoms of water, good ground. Between Cape La Hune and Little River, the land is tolerably high, and forms a bay, where there are several small islands and rocks above water, the outermost of which lie N.N.E. $\frac{1}{2}$ E. 3 leagues from the Penguin Islands, and are called the *Magnetic Rocks*.

S. by W. $\frac{1}{2}$ W. 7 miles from the entrance of Little River, and N. by W. $\frac{1}{2}$ W. from the Penguin Islands, lie the *Little River Rocks*, which are just above water, with very deep water all round them.

RAMEA.—THE ISLES OF RAMEA, which are of various extent, both in height and circuit, lie N.W. $\frac{1}{2}$ N. $5\frac{1}{2}$ leagues from the Penguin Islands, and one league from the main: they extend east and west 5 miles, and north and south 2 miles, and have several rocks and breakers about them; but more on the south side than on the north. The easternmost island is the largest, and is very high and hilly: the westernmost, called *Columbe*, is a remarkably high round island, of small circuit, with some rocky islands and sunken rocks near it. There is a harbour for small vessels, formed by the islands which lie near Great Ramea and the Columbe, called *Ramea Harbour*, where they may lie sheltered from all winds.

The Ramea Rocks are two in number, close to each other; they lie about south 4 miles from the east end of Great Ramea: W.S.W. one league from these rocks is a small bank with only 6 fathoms of water on it; and, nearly in the middle, between Ramea and the Penguin Islands, is a bank with from 14 to 50 fathoms of water.

Four miles to the westward of Little River is *Old Man's Bay*, which lies in N.N.E. about 7 miles, and is about a mile wide; the water throughout the bay is very deep; the best anchorage is at the head, in 14 or 16 fathoms.

MOSQUITO HARBOUR lies about half a league to the westward of Old Man's Bay; it is a snug and safe harbour, but the entrance is so narrow, being only 48 fathoms in breadth, that it is difficult to get in or out.

Fox Island Harbour is formed by an island of the same name: it lies about half a league to the westward of Mosquito Harbour: between are several rocky islands and sunken rocks. This is a commodious harbour for small vessels, which may anchor in 8, 9, and 10 fathoms of water. You may go in on either side of the island, and there is no danger but what shows itself.

WHITE BEAR BAY lies about two miles to the westward of Fox Island Harbour, and N.N.E. one league from Great Ramea Island; it has several islands in its mouth: It lies in N.E. $\frac{1}{2}$ N. about 4 leagues, is near half a mile wide in the narrowest part, and has deep water close to both shores in most parts, to the distance of 8 miles up; then the ground rises at once to 9 fathoms, whence it shoalens gradually to the head with good anchorage. The best passage into the bay is to the eastward of all the islands. On the S.W. side of *Bear Island*, which is the easternmost and largest in the mouth of the bay, is a small harbour, lying in east half a mile, with from 10 to 22 fathoms of water; but there are several sunken rocks before its mouth, which render it difficult of access.

Six miles to the westward of White Bear Bay, and N. $\frac{1}{2}$ E. from Ramea Columbe, are two small harbours, called *Red Island Harbours*, formed by *Red Island*, which lies close under the land. The westernmost is the largest and best, and has from 6 to 8 fathoms of water, good anchorage. In going in, keep the island close on board, the outer part of which is composed of steep red cliffs.

VI.—THE SOUTH COAST FROM THE BURGEO ISLANDS* TO CAPE RAY.

The **BURGEO ISLES** are a cluster of islands extending about 5 miles along shore, and forming several snug and commodious harbours. They lie about 3 leagues N.W. by N. from Ramea Columbe. To sail into Burgeo from the eastward, the best passage is on the N.E. side of *Boar Island*, which is the northernmost, and lies N.N.W. from Ramea Columbe. S.E. by S. from this island half a league, is a rock uncovered at low water, on which the sea generally breaks; you may go on any side of this rock, the water being deep all round it: so soon as you are to the N.W. of it, keep the north side of *Boar Island* on board, and steer W. $\frac{1}{2}$ N. for *Grandy's Cove*, the north point of which is the first low point on your starboard bow; haul round that point, and anchor in the cove in 14 fathoms, and moor with a fast on shore. The best place for large ships to anchor in is, betwixt *Grandy's Cove* and a small island, lying near the west point of *Boar Island*, in 20 or 24 fathoms, good ground, and sheltered from all winds. To sail into *Grandy's Cove* from the westward is dangerous, unless well acquainted; there are several safe passages in from the southward and eastward, between the islands, and good anchorage; and in bad weather all the sunken rocks discover themselves, and you may run in without any fear.

WOLF BAY extends inward N.E. by E. one league; the entrance is E.N.E. 2 miles from *Boar Island*, and two miles to the westward of *Red Island Harbour*; the east point of the entrance is composed of low rugged rocks, off which is a sunken rock, at the distance of a quarter of a mile. Near the head of the bay is tolerably good anchorage, and plenty of wood and water.

King's Harbour lies round the west point of *Wolf Bay*, and lies in N.E. by E. three-quarters of a mile; before its mouth is a cluster of little islands. To sail in, keep the east point of the islands on board, and steer N. by W. and North from the entrance of the harbour, and anchor under the east shore in 9 fathoms.

HA-HA.—On the south side of the islands before *King's Harbour*, and north one mile from *Boar Island*, is the entrance into the *Ha-Ha*, which lies in W.N.W. one mile, and is about a quarter of a mile broad, with from 20 to 10 fathoms of water, and good ground all over. Over the south point of the entrance into this harbour is a high green hill; and a cable's length and a half from the point is a sunken rock that always shows itself. Over the head of the *Ha-Ha*, is *Richard's Head*, mentioned as a mark for running upon *Ramea Shoal*.

About 4 miles to the westward of the *Burgeo Isles*, is the **GREAT BARRYWAY POINT**, which is low, white, and rocky; and N.E. by E. half a league from this point is the west entrance into the *Great Barryway*, wherein are room and depth of water for small vessels. Between the *Burgeo Isles* and the *Great Barryway Point*, are several sunken rocks, some of which are half a league from the shore.

CONNOIRE BAY.—N.W. $\frac{1}{2}$ N. 4 leagues from the *Burgeo Isles*, is the east point of the **BAY OF CONNOIRE**: this point is so far remarkable that it rises with an easy ascent to a moderate height, and much higher than the land within it: the west point of the bay is low and flat, and to the westward of this are several small islands. The bay lies in N.E. by N. about a league from the east point to the middle head, which lies between the two arms, and is half a league wide, with 14, 12, 10, and 8 fathoms, close to both shores, good anchorage, and clear ground, but open to S.W. winds. The N.E. arm affords shelter for small vessels from all winds. To sail in, keep nearest the starboard shore, and anchor before a small cove on that side, near the head of the arm, in 3 $\frac{1}{2}$ fathoms.

The **BAY OF CUTTEAU** lies about two leagues to the westward of *Connoire*; its depth will admit small vessels only. Round the west point of *Cutteau* is *Cinq Serf*, wherein are a number of islands, which form several small snug harbours. Right off *Cinq Serf*, about half a league from the shore, is a low rocky island, westward of which is the safest passage into the largest harbour.

Four miles to the westward of the rocky island of *Cinq Serf*, is the harbour of *Grand Brutt*, which is small and commodious; and may be known by a very high remarkable mountain over it, half a league inland, which is the highest land on all the coast: down this mountain runs a considerable brook, which empties itself in a cascade into the har-

* The position of the *Burgeo Isles* was given by Captain Cook, from a solar eclipse, in August, 1766, as 47° 36' 20" N. and 57° 36' 30" W., as shown in the *Philosophical Transactions* of 1767. The same spot, *Eclipse Island*, as communicated by the late surveyors, is lat. 47° 36' 6" N. and long. 57° 36' 15" W.

bour. Before the mouth of the harbour are several little islands, the largest of which is of middling height, with three green hillocks on it. A little without this island is a round rock, pretty high above water, called the Columbe of Great Bruit; and a quarter of a mile to the southward of this rock, is a low rock: in the direct line between the low rock and the rocky isles of Cinq Serf, half a league from the former, is a sunken rock, whereon the sea does not break in fine weather. The safest passage into Grand Bruit is to the N.E. of this rock; and of the islands lying before the harbour, between them and the three islands (which are low, and lie under the shore): and after you are to the northward of the sunken rock above mentioned, there is no danger but what shows itself. The harbour extends N.N.E. half a mile, and is but a quarter of a mile wide in the broadest part; but it is bold-to on both sides, and has a depth of from 4 to 7 fathoms.

To the westward of Grand Bruit, between it and La Poile Bay, lies the *Bay of Rotte*, wherein are a great many islands and sunken rocks. The southernmost is a remarkable high round rock, called the *Columbe of Rotte*, which lies N.W. by W. $8\frac{1}{2}$ leagues from the southernmost of the Burgeois. Between this island and Grand Bruit is a reef of rocks, some above, and some under water, but they do not lie to the southward of the direct line between the islands. Within the islands of Rotte there is shelter for shipping.

LA POILE BAY is large and spacious, and has several commodious harbours. It is also the seat of a rising population, and there are now inhabitants in almost every cove in this part of the coast. It may be known by the high land of Grand Bruit, which is only five miles to the eastward of it; and likewise by the land on the east side of the bay, which rises in remarkably high craggy hills, rising from a table land of 200 or 300 feet high. About $1\frac{1}{2}$ mile S.W. from the east point lies *Little Ireland*, a small low island, environed with sunken rocks, some of which are one-third of a mile off: north, about half a mile from Little Ireland, is a sunken rock that shows itself at low water, which is the only danger in going into the bay, excepting such as lie very near the shore.

Two miles within the west point of the bay, and N. $\frac{1}{4}$ W. 2 miles from *Little Ireland*, is *Tweeds or Great Harbour*; its south point is low, and it extends inward W.N.W. one mile: it is about $1\frac{1}{2}$ cable's length wide in the narrowest part; and the anchorage is near the head of the harbour, in 18 or 20 fathoms, clear ground, and sheltered from all winds. Half a mile to the northward of Great Harbour, is *Little Harbour*, the north point of which, called *Tooth Head*, is the first high bluff head on the west side of the bay: the harbour extends inward W.N.W. about a mile. In sailing in, give the south point a small berth. You may anchor about half-way up the harbour, in 10 fathoms of water.

GALLY BOY HARBOUR lies on the east side of the bay, opposite *Tooth Head*; it is small, snug, and convenient for ships bound to the westward. The north point is high and steep, with a white spot in the cliff. To sail in or out, keep the north side on board. You must anchor so soon as you are within the inner south point, in 9 or 10 fathoms, good ground, and sheltered from all winds. One mile to the northward of Gally Boy Harbour, between two sandy coves on the east side of the bay, and nearly two cables' length from the shore, is a sunken rock, that just uncovers at low water.

Broad Cove is about two miles to the northward of *Tooth Head*, on the same side of the bay. In this there is good anchorage in 12 or 14 fathoms.

About two leagues up the bay, on the eastern side, is the N.E. Arm, which is a spacious, safe, and commodious harbour. In sailing in, give the low sandy point on the S.E. side a small berth, and anchor above it where convenient, in 10 fathoms of water, good holding ground, sheltered from all winds, and very convenient for wood and water.

Indian Harbour and *De Plate* lie just within the outer west point of La Poile Bay; but they are not fit for shipping.

Little Ireland bears from the southernmost of the Burgeois N.W. by W. $\frac{1}{4}$ W. $9\frac{1}{2}$ leagues; and lies nearly 12 leagues to the eastward of *Cape Ray*.

From Little Ireland to *Harbour la Coue*, and *La Moine Bay*, the course is W.N.W. $\frac{1}{4}$ W. 11 miles; between lies the bay of *Garia*, and several small coves, fit only for small vessels; before these there are several small islands, and sunken rocks lying along the shore, but none of them lie without the above course. In bad weather, all the sunken rocks discover themselves. The bay of *Garia* affords plenty of timber, large enough for the building of shipping. A ridge here runs into the country with three high bluffs on it, the high range of *Cape Ray* being visible over the intermediate country.

The S.W. point of the entrance into Harbour la Coue, called *Rose Blanche Point*, (near to which are rocks above water,) is tolerably high, and the land near the shore over Harbour la Coue and La Moine Bay is much higher than any other land in the vicinity; by this they may be known. La Moine Bay extends inward N.E. $\frac{1}{2}$ E; about 4 miles, and is one-quarter of a mile broad in the narrowest part. Off the east point are some small islands and rocks above water. In sailing in, keep the west point on board, until you have entered the bay; then edge over to the east shore, and run up to the head of the bay, where you may anchor in 10 or 11 fathoms, good ground: here is plenty of wood and water. To sail into Harbour la Coue, which lies at the west entrance into La Moine Bay, steer in N.N.W. between a rock above water, in the mouth of the harbour, and the west shore; so soon as you are within the rock, haul to the westward into the harbour, and anchor in 6 or 8 fathoms of water, and moor with a hawser on shore; or you may steer into the arm, which lies N.E. by E. from the harbour, and anchor in 20 fathoms, sheltered from all winds.

To the westward of Rose Blanche Point, is the harbour of the same name; it is small and snug, and the anchorage is in 9 fathoms of water.

Mull Face is a small cove two miles to the westward of Rose Blanche Point, wherein is anchorage for small vessels in 4 fathoms. Off the west point of the cove are two small islands, and several sunken rocks.

Seven miles to the westward of Rose Blanche Point are the *Burnt Islands*, which lie close under the shore, and are not to be distinguished from it; behind these is shelter for small vessels. On these islands are sunken rocks, some of which are half a mile from shore.

Ten miles to the westward of Rose Blanche Point, are *Coney Bay* and *Otter Bay*, both of which are rendered difficult of access by several sunken rocks without the passage.

W.N.W. $\frac{1}{2}$ W. 4 leagues from Rose Blanche Point, are the *Isles aux Morte*, or *Dead Islands*, which lie close under the shore; in the passage between them and the main is good anchorage for shipping in 6 or 8 fathoms, sheltered from all winds; but it is very dangerous of access to strangers, as there are several sunken rocks in both the east and west entrances.

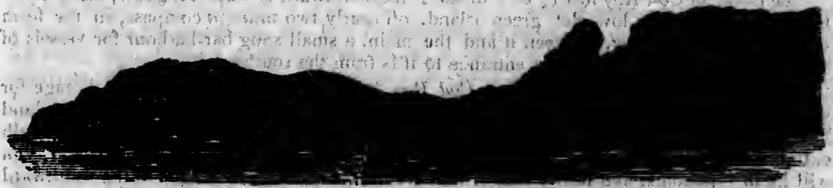
PORT AUX BASQUE.—From the *Isles aux Morte* to Port aux Basque, the course and distance are W.N.W. about 4 miles; between lie several small islands close under the shore, and there are sunken rocks, some of which are half a mile from the shore. *Port aux Basque* is a small commodious harbour, which lies about 2 $\frac{1}{2}$ leagues to the eastward of *Cape Ray*. To fall in with it, bring the *Sugar Loaf* over *Cape Ray* to bear N.N.W. $\frac{1}{2}$ W., or the West end of the *Table Mountain* N.N.W. Steer in for the land with either of these marks, and you will fall directly in with the harbour: the S.W. point, called *Point Blanche*, is of a moderate height, and white; but the N.E. point is low and flat, and has, close to it, a black rock above water. In order to avoid the outer shoal, on which are three fathoms, and which lies E.S.E. three-quarters of a mile from *Point Blanche*, keep the said point on board, and bring the flag-staff which is on the hill over the west side of the head of the harbour, on with the S.W. point of *Road Island*; that direction will lead you in the middle of the channel, between the east and west rocks, the former of which always show themselves, and which you leave on your star-board hand: continue this course up to *Road Island*, and keep the west point on board, in order to avoid the *Erying-pan Rock*, which stretches out from a cove on the west shore, opposite the island; and, so soon as you are above the island, haul to the E.N.E. and anchor between it and *Harbour Island*, where you please, in 9 or 10 fathoms, good ground, and sheltered from all winds: this is called the *Road* or *Outer Harbour*, and is the only anchoring-place for *men-of-war*, but small ships always lie up in the *Inner Harbour*. To sail into it, run in between the west shore and the S.W. end of *Harbour Island*, and anchor behind the said island in 3 or 4 fathoms. In some parts of this harbour ships can lay their broadside so near to the shore as to reach it with a plank. This place has been frequented by fishermen for many years.*

* The *Lady Sherbrook*, Gambles, master, sailed from Londonderry, Ireland, in June, 1831, with upwards of 300 persons on board. After passing the Banks of Newfoundland, nothing but thick fogs were met with until July 19, when they cleared off about midnight, and breakers were seen ahead. The ship was immediately hove in stays, but it was of no use; for, on wearing round, she struck on *Morte Island*, near *Port aux Basque*. The passengers all crowded on deck; the scene was most distressing; shrieks and cries rent the air. In less than an hour the vessel was full of water.

GRAND BAY lies about two miles to the westward of Port aux Basque; there are several small islands and rocks in and before it, the outermost of which are not above a quarter of a mile from the shore, on which the sea generally breaks: it is fit for small vessels only.

From Port aux Basque to Point Enragée, the bearing and distance are W.N.W. about a league, and thence to Cape Ray N.N.W. nearly $\frac{1}{2}$ league. Off Point Enragée, which is low, and to the eastward of it, are some sunken rocks a mile from the shore, on which the sea breaks.

CAPE RAY is the S.W. extremity of Newfoundland, situated in lat. $47^{\circ} 37'$, and long. $59^{\circ} 17'$: the land of the cape is very remarkable; near the shore it is low, but three miles inland is a very high Table Mountain, which rises almost perpendicular from the low land, and appears to be quite flat at the top, excepting a small hillock on the S.W. point of it. This land may be seen, in clear weather, from the distance of 16 or 18 leagues. Close to the foot of the Table Mountain, between it and the point of the cape, is a high round hill, resembling a sugar-loaf, (called the *Sugar-Loaf of Cape Ray*), whose summit is a little lower than the Table Mountain; and to the northward of this hill, under the Table Mountain, are two other hills, resembling sugar-loaves, which are not so high as the former; one or other of these sugar-loaf hills is, from all points of view, seen detached from the Table Mountain.



Cape Anguille. Cape Ray, on entering the Gulf.

There is a sandy bay between Cape Ray and Point Enragée, wherein ships may anchor with the winds from N.N.W. to East, but they must be cautious that they be not surprised with the S.W. winds, which blow directly in, and cause a great sea. The ground is not the best for holding, being fine sand. Toward the east side of this bay is a small ledge of rocks, one mile from shore, on which the sea does not break in fine weather. The best place for large ships to anchor in is, to bring the point of the cape N.W., and the high white sand-hill in the bottom of the bay N.E., in 10 fathoms of water. Small vessels may lie farther in. Be careful not to run so far to the eastward, as to bring the end of the Table Mountain on with the sand-hill in the bottom of the bay, by which means the ledge of rocks before mentioned will be avoided.

N.W. & W., nearly one mile from the point of the cape, is a small ledge of rocks whereon the sea always breaks; and, one mile to the northward of the cape, close under the land, is a low rocky island; there is a channel between the ledge and the cape, also between it and the island, with 14 or 15 fathoms of water; but the tides, which run here with great rapidity, render it unsafe to shipping.

The soundings under 100 fathoms do not extend above a league from the land to the southward and eastward of the cape, nor to the westward and northward of it, except on a bank which lies off Port aux Basque, between 2 and 3 leagues from the land, whereon are from 70 to 100 fathoms, good fishing ground. S.E. $\frac{1}{2}$ S. 8 leagues from Port aux Basque, in the latitude of $47^{\circ} 14'$, is a bank, whereon are 70 fathoms.

THE TIDES.—Between Cape Chapeau Rouge and Cape Ray, in all the bays, &c., the tide generally flows till 9 o'clock, on full and change, and its perpendicular rise is about 7 or 8 feet on springs: but it must be observed, that the tides are every where greatly influenced by the winds and weather. On the coast, between Cape Chapeau Rouge and St. Pierre, the stream sets generally to the S.W. On the south side of Fortune Bay it sets to the eastward; and on the north side to the westward. Between Cape La Hune and Cape Ray, the flood sets to the westward in the offing, very irregularly, but generally 2 or 3 hours after it is high water by the shore. The tide or current is inconsiderable, excepting

The unhappy result was, that of the whole none were saved excepting the captain, mate, three men, one woman, and one child, who were picked up from the sea, and carried to Sydney in Breton Island. We give this as another serious caution to those approaching.

near Cape Ray, where it is strong, and at times sets quite contrary to what might be expected from the common course of the tides, and much stronger at one time than at another: these irregularities seem to depend chiefly on the winds.—See the Remarks on Currents, &c., pages 1 to 8.

THE WESTERN COAST OF NEWFOUNDLAND, FROM CAPE RAY TO CAPE NORMAN.

From Cape Ray to Cape Anguille, the course and distance are N. $\frac{1}{2}$ E. nearly 6 leagues. Cape Anguille is the northernmost point of land you can see, after passing to the westward of Cape Ray; it is high table land, covered with wood, in the country over it. Between the high land of the two capes the land is low, and the shore forms a bay, wherein are the great and little Rivers of Cod Roy: the northernmost is the great river, which is a large harbour, formed by a long spit of sand across the mouth of the river. At low water most of it is dry, with the exception of the channel of the river, which has a depth of 10 or 12 feet. The shore may be approached between the two capes to half a league, there being no danger so far off.*

The island of Cod Roy lies $1\frac{1}{2}$ or 2 miles to the southward of Cape Anguille, close under the high land; it is a low, flat, green island, of nearly two miles in compass, in the form of a horse-shoe, forming, between it and the main, a small snug bar-harbour for vessels of 10 or 12 feet draught; the safest entrance to it is from the southward.

South-eastward from the island is Cod Roy Road, wherein is very good anchorage for shipping, in 8, 7, or 6 fathoms, on a clay bottom. With the south point of the island bearing about W.N.W., and the point of the beach on the inside of the island, at the south entrance into the harbour, on with a point on the main to the northward of the island, you will lie in 7 fathoms, and nearly half a mile from the shore: one league to the southward of Cod Roy Island is a high bluff point, called Stormy Point, off which a shoal stretches full half a mile; this point covers the road from the S.S.E. winds, and there is good anchorage all along the shore, between it and the island.

ST. GEORGE'S BAY.—From Cape Anguille to Cape St. George, the course and distance are N.N.E. $\frac{1}{2}$ E. 11 leagues; these two capes form the Bay of St. George, which extends inward E.N.E. 18 leagues from the former, and E.S.E. 11 leagues from the latter. It is a fine bay, rapidly narrowing towards the head, with two straight shores, each of which affords good anchorage. The only harbour is just at the head, formed by the projection of a narrow spit of sand; and even that seems rapidly filling up with sand, as it is only near the entrance there is water enough for vessels, while the rest of the basin is nearly dry at low water, and is at no place deep enough for any thing but a punt. On these low sandy shores, at the head of the bay, the tide, though not great, becomes very apparent, rising and falling from 5 to 8 feet. The low spit of sand forming the harbour, is in some places covered with a stunted vegetation of fir trees. Just at the point, however, these are cleared away, and there is a collection of wooden houses scattered about, containing a transitory population of 500 or 600.

On the north side of the bay, before the isthmus of *Port-au-Port*, is good anchorage in 7 or 8 fathoms, with northerly winds: from off this place a fishing-bank stretches two-thirds across the bay, with from 9 to 19 fathoms of water on it, dark sandy bottom.

CAPE ST. GEORGE lies in latitude $48^{\circ} 28' 54''$, long. $59^{\circ} 14' 34''$; it may be readily known, not only by its being the north point of the Bay of St. George, but also by the steep cliffs, of a light yellow limestone, on the north part of it, which rise perpendicularly

* "The fishery along the whole western and north-eastern coasts of Newfoundland, from Cape Ray round the north point, to Cape St. John, is claimed exclusively by the French; the words of the treaty admit of some dispute; but it is provided that, though the property of the land is vested in the British crown, neither nation shall make permanent settlements, and the French shall have the right of drying fish on any part of the coast they choose. The provision for non-settlement is practically disregarded by both parties, as the English settle for their own advantage, and the French connive at, or encourage their doing so, on condition that they take care of their stores and fishing establishments. They also allow the English settlers to fish within the bays. There is, however, no law nor authority, nor means of establishing any, along this coast; every man depending on his own strength to protect himself. A man-of-war of both nations goes round once a year, to prevent great disturbances; but, to the honour of the settlers be it said, there are none to prevent."—*Jukes' Excursions in Newfoundland*, vol. i. p. 120.

from the sea to a considerable height; and by *Red Island*, which lies 5 miles to the northward of the cape, and half a mile from the shore: this island is about $1\frac{1}{2}$ mile in length, and of a middling height: the steep cliffs around it are of a reddish colour: there is anchorage with off-shore winds under the N.E. end of the island, before a sandy cove on the main, which lies just to the northward of the steep cliffs, in 12 or 14 fathoms.

From *Red Island* to *Long Point*, at the entrance into the bay of *Port-au-Port*, the bearing and distance are E.N.E. $\frac{1}{2}$ E. 7 leagues; from *Red Island* to *Tweed Island*, in the mouth of the Bay of Islands, E.N.E. 16 leagues: from *Red Island* to *Cape St. Gregory*, N.E. by E. $\frac{3}{4}$ E. 20 leagues: and from *Red Island* to *Point Rich*, which is the north point of *Ingornachoix Bay*, N.E. $\frac{1}{4}$ E. 49 leagues.

PORT-AU-PORT.—The land between *Red Island* and the entrance into *Port-au-Port* is rather low, with sandy beaches, except one remarkable high hillock, called *Round Head*, close to the shore, about 3 leagues to the E.N.E. of *Red Island*: but, up in the country, over *Port-au-Port*, are high lands; and, if you are 3 or 4 leagues off at sea, you cannot discern the *Long Point* of land which forms the bay, and which is covered with wood; this bay is capacious, being above 5 miles broad at the entrance, and 4 leagues deep, lying-in to the south and south-west, with good anchorage in most parts of it.

Long Point is the west point of the bay; it is low and rocky, and a ledge of rocks extends from it E.N.E. nearly a mile. S.E. by E. $\frac{1}{4}$ E. 4 miles from *Long Point*, and half a league from the east shore, lies *Fox Island*, which is small, but of middling height; from the north end of this a shoal stretches nearly 2 miles to N.N.E., called *Fox Tail*; and, nearly in the middle of the bay, between *Fox Island* and the west shore, lies the *Middle Ground*, on one place of which, near the S.W. end, there are not above 3 or 4 feet of water. From the head of the bay, projecting out into the middle of it, is a low point, called *Middle Point*, off which, extending 2 miles N.E. by N., is a shoal spit, part of which dries at low water: this middle point divides the bay into two parts, called *East* and *West Bays*. From the head of the *East Bay*, over to the *Bay of St. George*, the distance is a large quarter of a mile: this isthmus is very low, and on the east side of it is a tolerably high mountain, rising directly from the isthmus, and flat at top; on the north side of this, and about 5 miles from the isthmus, is a conspicuous valley, or hollow, hereafter to be used as a mark. N.E. by E. $\frac{1}{4}$ E. above two leagues from *Long Point*, and half a league from the shore, lies *Shag Island*, which appears at a distance like a high rock, and is easily to be distinguished from the main: and W.N.W. about a league from it, lies the middle of *Long Ledge*, which is a narrow ledge of rocks stretching E.N.E. and W.S.W. about 4 miles; the eastern part of them is above water, and the channel into the bay of *Port-au-Port*, between the west end of this ledge and the reef which stretches off from the west point of the bay, is a league wide.

In sailing in, if coming from the S.W., advance no nearer to the *Long Point* of the bay than $1\frac{1}{2}$ mile, until you have brought the valley, in the side of the mountain before mentioned, (on the east side of the isthmus,) over the east end of *Fox Island*, or to the eastward of it, which will then bear south, a little easterly; you will then be clear of the *Long Point Reef*, and may haul into the bay with safety; but, if coming from the N.E. without the *Long Ledge*, or turning into the bay, in order to keep clear of the S.W. end of *Long Ledge*, bring the isthmus, or the foot of the mountain, (which is on the east side of the isthmus,) open to the westward of *Fox Island*, nearly twice the breadth of the island, and it will lead you into the bay clear of *Long Ledge*: and when *Shag Island* is brought on with the foot of the high land on the south side of *Coal River*, bearing then E. $\frac{1}{4}$ S. you will be within the *Long Ledge*; there is also a safe passage into the bay, between the *Long Ledge* and the main, on either side of *Shag Island*, taking care to avoid a small shoal, of 2 $\frac{1}{2}$ fathoms, which lies W. by N. one mile from the island.

To sail up into the *West Bay* and *Head Harbour*, keep the western shore on board: this shore is bold-to. In turning between it and the *Middle Ground*, stand no nearer to the *Middle* than into 8 fathoms: but you may stand to the spit of the *Middle Point* into 6 or 5 fathoms. The anchorage in *West Bay* is in about 8 fathoms, and in *Head Harbour*, in about 5 fathoms. The *West Road* lies before a high stone beach, about 2 miles south-westward from *Long Point*, where you may lie very secure from westerly and N.W. winds, in 10 or 12 fathoms of water.

The *East Road* lies between *Fox Island* and the east shore: to sail up to it, you should keep the high bluff head, which is about a league to the E.N.E. of the island, bearing to the southward of S.E. by E. $\frac{1}{4}$ E. until the isthmus is brought to the eastward

of Fox Island; you will then be within the shoal called the Fox's Tail, and may haul to the southward, and anchor any where between the island and the main, in from 10 to 18 fathoms.

To sail up the East Bay, pass between the island and the east shore, and after you are above the island, come no nearer to the main than half a mile, until you are abreast of a bluff point above the island, called Road Point, just above which is the best anchorage with N.E. winds, in about 12 fathoms of water; and to sail up the East Bay, between the Middle Ground and the Fox Tail, bring the said bluff point on with the S.W. point of Fox Island; this mark will lead you up in the fair way between the two shoals; give the island a berth, and anchor as before, in from 8 to 12 fathoms of water.

BAY OF ISLANDS.—From the Long Point at the entrance of Port-au-Port to the Bay of Islands, the bearing and distance are N.E. by E. 8 leagues. Be careful to avoid the Long Ledge: the land between is of considerable height, rising in craggy barren hills, directly from the shore. The Bay of Islands may be known by the many islands in the mouth of it, particularly the three named Guernsey Island, Tweed Island, and Pearl Island, which are nearly of equal height with the land on the main. If you are bound for Lark or York Harbours, which lie on the S.W. side of the bay, and are coming from the southward, run in between Guernsey Island and the South Head, both of which are bold-to; but with southerly and S.W. winds approach not too near the South Head, lest calms and sudden gusts of wind should proceed from the high land, under which you cannot anchor with safety. There are several channels formed by the different islands, through which you may sail in or out of the bay, there being no danger but what shows itself, excepting a small ledge of rocks, which lie half a mile north-eastward from the north Shag Rock, and in a line with the two Shag Rocks in one. The safest passage into this bay from the northward, is between the two Shag Rocks, and then between Tweed Island and Pearl Island.

From Guernsey Island to Tortoise Head, which is the north point of York Harbour, and the S.E. point of Lark Harbour, the course and distance are S. by W. $\frac{1}{4}$ W. 5 miles; Lark Harbour extends inward W.S.W. nearly 2 miles, and is one-third of a mile broad in the entrance, which is the narrowest part: in sailing into it with a large ship, keep the larboard shore on board, and anchor with a low point on the starboard side, bearing W.N.W., N.N.W., or N.N.E., and you will ride securely from all winds.

From Tortoise Head into York Harbour, the course and distance are W.S.W. nearly a league; there is good turning room between the Head and Governor's Island, which lies before the harbour; but you must be cautious to avoid a shoal which spits off from a low beach point on the west end of Governor's Island, called Sword Point; there is also a shoal which spits off from the next point of Governor's Island, which must also be avoided: Tortoise Head just touching Sword Point will lead clear of it; in sailing in, give Sword Point a berth, passing which, the best anchoring ground is in 10 fathoms, along the sandy beach on the main, with Tortoise Head open of Sword Point: westerly and S.W. winds blow here with great violence.

Harbour Island lies at the entrance of Humber Sound, and S. by E. $\frac{1}{4}$ E. 7 miles from Guernsey Island: at its S.W. point is Wood's Harbour, which is unfit for shipping. Humber Sound is about 17 miles long, and the shores are rocky and wooded, and has some few settlers: at the head of it, at the mouth of the river, is only 8 feet water, muddy bottom. The river Humber is so rapid in some places, for about 4 leagues up, to a lake, that it is with great difficulty that even a boat can be gotten up against it. The banks of this river are well clothed with timber.

The North and South Arms are long inlets, with very deep water up to their heads. On the east side of Eagle Island, between the north and south arms, is anchorage in 8, 10, or 12 fathoms of water. Under the north side of Harbour Island, is good anchorage with S.W. winds; and opposite to the S.E. end of Harbour Island, on the south side of the bay, is Frenchman's Cove, wherein is good anchorage in from 20 to 12 fathoms.

From Guernsey Island to Bonne Bay the course is N.E. $\frac{1}{4}$ E. 5 leagues to Cape St. Gregory, and thence E.N.E. $\frac{1}{4}$ E. 5 leagues to the entrance of Bonne Bay. The land near the shore from the north Shag Rock to Cape St. Gregory is low, along which lie sunken rocks, a quarter of a mile from the shore; but a very little way inland it rises into a mountain, terminating at top in round hills.

CAPE ST. GREGORY is high; and between it and Bonne Bay the land rises directly from the sea-shore to a considerable height.

BONNE BAY may be known, at the distance of 4 or 5 leagues, by the land about it; all that on the S.W. side of the bay being very high and hilly, and that on the N.E. side, and thence along the sea-coast to the northward, being low and flat; but, at about one league inland, is a range of mountains, which run parallel with the sea-coast. Over the south side of the bay is a very high mountain, terminating at top in a remarkable round hill. This bay extends inward E.S.E. nearly 2 leagues, then branches into two arms, one of which runs into the southward, and the other to the eastward: the *southern arm* affords the best anchorage; small vessels must anchor just above a low woody point at the entrance into this arm, on the starboard side, before a sandy beach, in 8 or 10 fathoms of water, about a cable's length from the shore; there is no other anchorage in less than 30 or 40 fathoms, excepting at the head of the arm, where there are from 25 to 30 fathoms of water. In sailing into the *East Arm*, keep the starboard shore on board; and, short round a point at the entrance, will be found a small cove, with good anchorage in 17 or 20 fathoms, but you must moor to the shore. There is a snug cove also within the North Point, with anchorage in 6 or 7 fathoms of water. In sailing in or out of Bonne Bay, with S.W. winds, come not near the weather shore, lest you should happen to be becalmed, or should meet with heavy gusts of wind, as the depth of water is too great to admit of your anchoring.

Ten miles to the northward of Bonne Bay is *Martin Point*, pretty high and white, off which, about three-quarters of a mile, is a small ledge of rocks, whereon the sea breaks. *Broom Point* is low and white, and lies about a league to the northward of Martin Point; about half a mile W.S.W. from it, lies a sunken rock that seldom shows itself: on the north side of Broom Point lies the Bay of St. Paul, wherein vessels may anchor with off-shore winds, but it is quite exposed to the sea-winds.

Cow Head lies about one league to the northward of the Bay of St. Paul: this is a promontory, which has the appearance of an island, it being joined to the main only by a very low and narrow neck of land: about three-quarters of a mile off this head lies *Steering Island*, which is low and rocky, and is the only island on the coast between the Bay of Islands and Point Rich. It is considered as one of the best stations on the coast for the fishery, and the environs are very fertile and productive. *Cow Cove* lies on the south side of Cow Head, and ships may lie there in from 7 to 10 fathoms, sheltered from northerly and easterly winds. *Shallow Bay* lies on the north side of Cow Head, and has water sufficient for small vessels; at the N.E. side of the entrance is a cluster of rocky islands, extending E.N.E. and W.S.W., and at the S.W. side are two sunken rocks close to each other, which generally show themselves; they lie a cable's length from the shore, and there is a channel into the bay on either side of them. *Steering Island* lies right before this bay, which you may pass on either side, but come not too near its N.E. end, as there are some sunken rocks extending from it.

INGORNACHOIX BAY.—From Cow Head to Point Rich is $17\frac{1}{2}$ leagues in an E.N.E. $\frac{1}{2}$ E. [N.E.] direction. *Point Rich* is the northern point of the Bay of Ingornachoir. From Shallow Bay to the southern point of Ingornachoir Bay the coast is nearly in a straight line, there being all the way neither creek nor cove, where a vessel can find shelter from the sea winds, although there are a few places where they might anchor occasionally with land winds. About 6 leagues from Steering Island there is a hill, standing half a mile inland, which is commonly called *Portland Hill*, probably because it resembles Portland Bill in the English Channel, and alters not its appearance in whatever point of view it is taken.

Port Saunders and *Hawkes Harbour* are situated within, and to the eastward of Ingornachoir Bay; at the entrance lies *Keppel Island*, which, at a distance, will not easily be distinguished from the main land; there is a passage on both sides of the island.

To sail into **PORT SAUNDERS** there is no impediment or danger; you will leave *Keppel Island* on your starboard side, and when you get about half a mile within the entrance, you can anchor in 12 or 14 fathoms water; but if you are intending to run up to the head of the harbour, you must keep the larboard shore on board, in order to avoid a ledge of rocks which lies near the mid-channel; this is considered to be the best harbour for vessels that are bound to the southward.

HAWKES HARBOUR.—To enter this harbour, vessels commonly go to the southward of *Keppel Island*; the starboard shore is shoal, and has a sand-bank, which stretches along the land, and runs out two-thirds of the passage over, great part of which dries at low water; your course in will be E.S.E., keeping nearer to *Keppel Island* than to the main, until the eastern end of the island, which is a low stony beach, bears N.E. by N. or N.N.E.; then

steer S.S.E. $\frac{1}{2}$ E. for a small island you will see, situated further up the harbour; keeping the larboard shore well on board, run direct for this island, and when you have brought the point at the south entrance of the harbour to bear N.N.E. $\frac{1}{2}$ N., and are at the S.S.E. point of a bay on the starboard side of the harbour, you will then be beyond the shoal ground, and may anchor in 12 fathoms water; or else run within half a mile of the small island, and anchor there, which will be more convenient for both wood and water. This is the best harbour for ships bound to the northward. The land round about these harbours is generally low, and covered with wood: you may occasionally anchor outside, in the Bay of Ingornachois, according as you find the prevailing winds.

POINT RICH is in latitude $50^{\circ} 41' 47''$ N., and longitude $57^{\circ} 24' 14''$ W.; it is the south-western point of a peninsula, which is almost surrounded by the sea, being every where of moderate height, and projecting further to seaward than any other land on this side of Newfoundland, the coast from thence, each way, taking an inward direction.

PORT AU CHOIX.—Rounding *Point Rich*, on its northern side, you will meet with *Port au Choix*, small, but yet capable of admitting a ship of burthen, mooring head and stern; to sail in you should keep the starboard shore on board, and anchor just above a small island lying in the middle of the harbour. In this place, and also in *Boat Cove*, which lies a little to the north-eastward, there are several stages and places for drying fish.

OLD PORT AU CHOIX lies to the eastward of *Boat Cove*; it is a small but safe harbour, having at its entrance an island called *Harbour Island*, and on its western side some rocks, both above and under water: there is also another island lying E.N.E. $\frac{1}{2}$ N., distant nearly a mile from *Harbour Island*, about which are several rocks, some of which stretch out towards *Harbour Island*, and render the passage very narrow between them; there are 4, 5, 6, and 7 fathoms water between *Savage Island* and the main, and 4 and 5 fathoms between *Savage Island Rocks* and *Harbour Island*; and nearly the same depth between *Harbour Island* and the western shore. To sail into *Old Port au Choix*, on the western side of *Harbour Island*, you must keep the island close on board; but to go in on the eastern side of the island, give the north-eastern point of the island a berth, and having well entered, you may anchor any where on the larboard side of the harbour, only avoiding the starboard side, for a shoal of sand and mud runs all along it.

BAY OF ST. JOHN.—This is an open and extensive bay, bounded by *Point Rich* to the southward, and *Point Ferolle* to the northward, having several islands within it, and some sunken rocks; the largest of these islands is *St. John's*, about $2\frac{1}{2}$ miles in length, and $1\frac{1}{2}$ broad: this lies E.N.E. distant $8\frac{1}{2}$ miles from *Point Rich*; on its south-western side is a small harbour, well calculated for the cod fishery, but too much exposed for shipping, as south-westerly winds commonly drive in a heavy sea. On the south-eastern, or inner side of the island, and between it and *One Head Island*, vessels may lie much more secure, in 14 or 16 fathoms water, and sheltered from most winds; and this is considered to be the only safe anchorage in the whole bay. West from *St. John's Island* one large mile, is *Flat Island*, having a rock above water at its southern end; the channel between *St. John's* and *Flat Island* has from 13 to 25 fathoms in it, and they are both bold-to: the *Twin Islands* lie N.E. by N. from *Flat Island*, distant one league, and have no danger about them. To the westward of the *Twins* are several scattered rocks above water, named the *Bay Islands*: they have deep water around them, but no anchorage. The land at the bottom of the bay is very high, and there is the little river of *Castors*, the entrance to which is dangerous and shallow, therefore seldom frequented. From the northern point of this bay a rocky shoal extends all the way to *Point Ferolle*, stretching out $2\frac{1}{2}$ miles from the shore.

POINT FEROLLE lies N.E. by E. from *Point Rich*, distant 22 miles; it is of moderate height, and joined to the main by a neck of land, which divides the *Bay of St. John's* from *New Ferolle Bay*, making it appear like an island when seen from a distance; its northern shore is bold-to, and this part of the coast will easily be known by the adjacent table land of *St. John's*, the west end of which mountain lies from the middle of *Ferolle Point S.* by W., and its eastern end S.E. $\frac{1}{2}$ S.

NEW FEROLLE BAY is a small cove lying to the eastward of the point, and is quite flat all over, there being not more than 2 and 3 fathoms at any part; it is quite open to the northerly winds, has a stage on each side of it, with plenty of room for others.

St. Margaret's Bay is large, and has several islands within it, also various inlets or coves, affording good anchorage, particularly on its western side, which is the best situation for

ships, being most clear of danger, and convenient for wooding and watering; on its banks are spruce and fir trees in plenty, and many rivulets of fresh water. *Dog Island* is to the eastward of Point Ferolle full three miles, and only divided from the main at high water; it is higher than any land near it, which gives it the appearance, when seen from the eastward, of an island situated at some distance from the main.

OLD FEROLLE.—To the eastward of Dog Island about five miles is *Ferolle Island*. This island lies parallel to the shore, and forms the harbour of Old Ferolle, which is very good and safe: the best entrance to it is at the S.W. end of the island, passing to the southward of a small island in the entrance, which is bold-to: as soon as you are within it, haul up E.N.E. and anchor under the S.W. end of Ferolle Island, in 8 or 9 fathoms, good ground, quite land-locked. There is also good anchorage any where along the inside of the island, and a good channel up to the N.E. end thereof. There are some little islands lying at the N.E. end of Ferolle Island, and on the outside are some ledges of rocks a small distance off.

BAY OF ST. GENEVIEVE.—From the north end of *Ferolle Island* to *St. Genevieve Head* the course is E.N.E. $4\frac{1}{2}$ miles, and thence to the west end of *Currant Island* it is north-eastward about three miles. There are several small islands lying in and before this bay, only two of which are of any considerable extent. *Currant Island* is the northernmost of the two, and the largest; it is of a moderate height, and when you are to the E.N.E. of it, the western point will appear bluff, but not high; and when you are to the westward of it, it appears flat and white. The other, called *Gooseberry Island*, lies nearly a mile to the southward of it, and its west point bears from the west point of *Currant Island* S.S.W. $\frac{1}{2}$ W. nearly a mile. *Gooseberry Island* has a cross on its S.W. end, from which point stretches out a ledge of rocks, nearly half a mile to the southward; there is also a shoal about half a mile to the W.S.W. from the S.W. point of *Currant Island*. The best channel into this bay is to the southward of these islands, between the rocks which stretch off them and a small island lying S.S.W. from them, (which island lies near the south shore;) in this channel, which is very narrow, there are not less than 5 fathoms at low water, and the course in is E. by S. southerly, until you come the length of the aforementioned island, passing which you should haul to the southward, and bring *St. Genevieve Head* between the small island and the main, in order to avoid the middle bank. You may either anchor behind the small island in 5 or 6 fathoms water, or proceed farther, with the said mark on, until the S.W. arm is open, and anchor in the middle of the bay, in 7 or 8 fathoms water. Here are wood and water to be had. There is tolerably good anchoring in most parts of the bay; but the snuggest place is the S.W. arm; the entrance to it is narrow, and has only 4 fathoms at low water. In coming into the bay, if you get out of the channel on either side, you will shoalen your water immediately to 3 or 2 fathoms.

BAY OF ST. BARBE.—From the west end of *Currant Island* to *St. Barbe Point* it is E. by N. $2\frac{1}{2}$ miles, and from *St. Barbe Point* to *Anchor Point*, it is N.N.E. nearly $1\frac{1}{2}$ mile. Between them lies the *Bay of St. Barbe*; it runs in S. by E. about two miles from *Anchor Point*. To sail in, give *Anchor Point*, and all the east side of the bay, a good berth, to avoid the sunken rocks which lie along that shore: you must be well in before you can discover the entrance into the harbour, which is but narrow; then steer south, keeping in the middle of the channel, and anchor as soon as you are within the two points, in a small cove, on the west side, in 5 fathoms water, on sand and mud, quite land-locked. Near this place branch out two arms or rivers, one called the South, and the other the East River; the latter has 3 fathoms a good way up; but the former is shoal. Between the S.W. point of the bay and west point of the harbour is a cove, wherein are sunken rocks, which lie a little without the line of the two points; in the open bay are 7, 8, or 9 fathoms; but the N.W. winds cause a heavy sea to fall in here, which renders it unsafe.

From *Anchor Point* to the extremity of the *Seal Islands*, the course is N.E. $\frac{1}{2}$ E. one league; off *Anchor Point* a ledge stretches itself W. by S. about one-third of a mile; there are no other dangers between it and the *Seal Islands* but what lie very near the shore.

The *Seal Islands* are white and rocky, and must not be approached but with care on their northern and western sides, because there are some sunken rocks near them.

From the N.W. *Seal Island* to the N.W. extremity of *Flower Ledge*, it is N.N.E. near two miles; part of this ledge appears at low water, and there are 10 fathoms close on its off-side.

MISTAKEN COVE.—From the north part of *Flower Ledge* to *Grenville Ledge* it is about $1\frac{1}{2}$ mile E. by S., and *Grenville Ledge* lies about two-thirds of a mile W. by N. from the

eastern point of Mistaken Cove, between which and Seal Islands lie also *Nameless Cove* and *Flower Cove*, neither of which is fit for ships.

SAVAGE COVE.—Close to the eastward of Mistaken Cove is Savage Cove, which has a little island in its entrance, and is only fit for small vessels and boats.

Sandy Bay lies two miles eastward from Savage Cove, where small vessels may ride in 3 or 4 fathoms water, with the winds from E. to S.W.

About E.N.E. 5 large miles from Sandy Bay is *Green Island*; between them, at three miles distance, W. $\frac{1}{2}$ S. from Green Island, is the north extremity of *Double Ledge*, which extends nearly two-thirds of a mile from the shore, and has only 8 or 9 feet water on it.

Green Island lies about three-fourths of a mile from the main, is two-thirds of a mile in length, very low and narrow, and agreeable in colour to the name it bears: from the east end of it a ledge of rocks extends three-fourths of a mile to the eastward, on which the sea breaks in bad weather. There are 4 or 5 fathoms water in the channel between the island and the main, where ships may anchor if necessary. To go in from the westward, keep the island close on board for the deepest water, which is 4 fathoms; and going in from the eastward, keep the main on board.

Between Green Island and Ferolle, there are some dangerous ledges, which render it desirable to avoid this side of the Strait of Belle Isle at night or in thick weather; the opposite side is much more free from danger, and has several good roadsteads.

From Green Island to *Boat's Head* it is E. $\frac{1}{2}$ N. 8 leagues; between there is no shelter on the coast, but to the south-eastward of Boat's Head is a cove, called *Boat Harbour*, where small vessels and boats may lie very secure, except with N.E. winds.

From *Green Island* to CAPE NORMAN the direction is E. $\frac{1}{2}$ S. [N.E. by E. $\frac{1}{2}$ E.] 29 miles. The coast between them is straight and low, consisting of limestone, partially wooded with spruce trees.

II.—THE STRAIT OF BELLE ISLE AND THE COAST OF LABRADOR BETWEEN CAPE ST. LEWIS AND FORTEAU POINT.

GENERAL REMARKS.—The Strait of Belle Isle divides Newfoundland from the American continent, and is about 60 miles long. The eastern entrance, between Cape Bauld and Fork Point, is about 26 miles wide; the western, about 18 miles. The narrowest part, between Point Amour and Newfoundland, is 9 $\frac{1}{2}$ miles. The depth of water in the Strait is usually greatest on the north side; it varies between 70 and 20 fathoms, but is very irregular; the quality of the bottom is equally various, so as to afford very little assistance to a vessel passing through in foggy weather.

WINDS from the south and east invariably bring the fogs which are so prevalent here, and which are also frequently brought with winds from the south-west; clear weather is only certain in north and west winds. The climate here is very severe, much more so than the coasts more to the north, the mean temperature of the year being below the freezing point.

A branch of the current which passes southward, through Davis Straits, down the coast of Labrador, enters the Strait of Belle Isle, bringing with it the numerous icebergs with which the strait frequently abounds, and which are carried into the Gulf of St. Lawrence, sometimes as far as Anticosti. The strength of this current is very much increased by a prevalence of N.E. winds, after which it sometimes runs, at a rate of 2 miles per hour, through the strait, and spreading outward into the gulf, gradually diminishes in force after a course of 30 or 40 miles; while at other times it is inappreciable. This prevailing current comes along the Labrador shore, between it and Belle Isle, and is very often at a freezing temperature; as before said, it is sometimes as strong as 2 knots per hour, but it is usually much weaker, and sometimes, with a prevalence of S.W. winds, entirely ceases, and a current is even known to run in a contrary direction, to the N.E. This N.E. stream sets along the Newfoundland shore; and at times, while the current from the Atlantic is running westerly along the north side of the strait, there is a stream of the warmer water of the gulf passing along the southern shore; and at others, this southern current runs obliquely across the western entrance of the gulf.

There is usually a regular alteration of flood and ebb near the shores, in fine weather, but it is not constant. The flood comes from the northward.

* See "Atlantic Memoir," 9th Edition, p. 220.

The navigation of the strait, it is evident, from all these causes, is difficult, and should not be attempted at night, or during foggy weather; for a vessel cannot, under these circumstances, be sure of its position or course; therefore, to avoid the drifting icebergs, which are frequently aground, and generally exist in large numbers in the strait, as well as other dangers, it would be better to come to some anchorage. During calms or light winds, as well as in foggy weather, or the night, it would be better to anchor in one of the bays on the north side, than drift about; if this be not practicable, it would be advisable to bring-to with a stream anchor, keeping a look-out for icebergs. In entering the strait from the eastward, with a leading wind, and being obliged to seek anchorage, the first secure place that can be put into on the north side, is Black Bay. Red Bay cannot be entered with an easterly wind. But in proceeding to the east, and not within the western entrance, it would be better to stand off and on under easy sail, on the Newfoundland shore, till morning, sounding occasionally, or else make for Forteau Bay.

BELLE ISLE, which gives its name to the strait, lies at the eastern entrance of the strait; it lies $13\frac{1}{2}$ miles N.E. $\frac{1}{4}$ N. [$N. \frac{1}{4}$ E.] from Cape Bauld, in Newfoundland, and $15\frac{1}{2}$ miles from York Point, on the coast of Labrador, in a S.E. $\frac{1}{4}$ S. [E. by S. $\frac{1}{4}$ S.] direction. It is composed of a range of hills of a moderate height, and a very barren appearance, and is much frequented by American and English fishermen. It is about $9\frac{1}{2}$ miles long and $4\frac{1}{2}$ wide. It is steep from the water's edge all round, except on the N.E. end of it, where there is a small cove between two points, where very small vessels may find shelter. *Lark Cove*, or harbour, near the middle of the north side, is the only other shelter; it is formed by *Lark Island*, but it can only be used by fishing boats. These are the only safe anchorages, and the coast is clear all around it.

CAPE ST. LEWIS is in lat. $52^{\circ} 21' 24''$ N., and long. $55^{\circ} 41' 23''$ W. It lies N. $\frac{1}{4}$ E. about 26 miles from the N.E. end of Belle Isle. It is the north point of St. Lewis Sound, and is about 600 feet high. To the east is *St. Lewis Rock*, close to the shore.

ST. LEWIS SOUND is above 4 miles wide at the entrance between Cape St. Lewis and *North Battle Island*; the bearing between them is S.W. $\frac{1}{4}$ W. It is about 8 miles deep, and the south side is formed by several islands. The shores are bold, and the water every where very deep, often exceeding 50 or 60 fathoms. In the fall of the year, a heavy ground swell, called the *undertow*, sometimes rolls in from the east into St. Lewis Sound, through the islands, as far as the entrance of the inlet. It comes in tremendous waves, often without wind, bursting over islets 30 feet high, and proceeds with irresistible force against the sides of the precipices. It is, however, not so dangerous as the short breaking sea of the gulf; and it discovers shoals, as everything with less than 4 fathoms on it is sure to break.

For Harbour is $1\frac{1}{2}$ miles N.W. of the south point of Cape St. Lewis, extending nearly a mile E.N.E., and is a perfectly secure anchorage in from 5 to 8 fathoms. Its east point is low, with several fishermen's houses on it, and a small rock close off it, to the north, which must be left about 50 fathoms on the starboard, to avoid a shoal, partly above water, off the S.W. of the point, which forms the north side of the entrance. Water may be procured, but wood is extremely scarce. The principal entrance to *Deer Harbour* is 5 miles N.W. of Cape St. Lewis; the sides are bold-to, and the depth of the entrance is from 19 to 31 fathoms; the harbour is formed by *Marnham Island*, and is perfectly land-locked, and there is room for any vessel to beat in or out: the depth in it from 16 to 25 fathoms. *Open Bay* is immediately to the S.W. of the entrance of Deer Harbour; there is good anchorage near its head, but is exposed to the S.E.

St. Lewis Inlet is at the west end of St. Lewis Sound. It is nearly a mile wide at the entrance, and the depth is often above 30 fathoms, on account of which there is no good anchorage until at *Black Fly Island*, 9 miles N.W. $\frac{1}{4}$ N. from the entrance, under the west side of which there is a good anchorage, in 5 and 9 fathoms; wood and water are plentiful here. Above this the navigation is intricate. The entrance to the channel leading to St. Lewis inlet, is between *Black Reef*, half a mile S.E. $\frac{1}{4}$ E. from the south point of Open Bay, and the Seal Islands; steer N.N.W. $\frac{1}{4}$ W. from it, for $2\frac{1}{2}$ miles, to the *North Middle Rocks*, giving them a berth of two cables to the west, keeping the same course for 2 miles more, to within 400 fathoms of the two *Seal Isles*; then proceed N.W. by W. $\frac{1}{4}$ W. through the channel, to the north of the River Islands, which is three-quarters of a mile wide, and clear, except two small islands, which must be passed to the southward. $3\frac{1}{2}$ miles on this course will bring you abreast of *Telegraph Point*, at the entrance of the inlet.

The *River Islands* form the south side of St. Lewis Sound; they consist of *Kalmia*,

Pocklington, and the *Seal Islands*; the first separated from Telegraph Point by a deep and clear channel, 400 fathoms wide. These islands are bare granite, and to the west of them; between them and the main, it is possible to anchor, though the depth is great, above 30 fathoms.

Full Harbour is on the south of Telegraph Point. It is small, only fit for small vessels, and has 3 fathoms water. *Cutter Harbour*, another harbour of the main, has several rocks in it, and is only fit for small vessels. *Muddle Harbour* is a snug little harbour between Surf Island, Size Island, and Muddle Island. To enter it from St. Lewis Sound, steer W.N.W. $\frac{1}{2}$ W. 2 miles, to *Surf Cape*, the north-west extreme of *Great Caribou Island*, which may be kept close to, and steer from it S.W. by W. one mile, to the narrows of Caribou Channel, between the south-east end of Surf Island, and the west end of Great Caribou; then proceed for 600 fathoms north-west between Surf and Muddle Islands, and then haul in to westward, and anchor when you please. The *Battle Islands* form the south point of St. Lewis Sound, and the south-east island is the extremity, both south-west and north-east, of the coast of Labrador. The *Ribb Reefs* are about half a mile apart, and bear north and south from each other; the north reef bears east $1\frac{1}{2}$ mile from North Battle Island; the sea always breaks on them, and vessels ought to pass outside of them. West of these is *Great Caribou Island*, which is 9 miles in circumference; its south-east side is broken to coves open to seaward, and there are several islets and rocks along it, and one sunken, the *Foam Rock*, which is the only danger between Battle Islands and the Great Caribou. *Battle Harbour* is between the Battle Islands and the east end of Great Caribou. It is only fit for small vessels, the entrance being about 30 fathoms wide, 70 or 80 fathoms wide within, and half a mile long. It is generally crowded with the vessels and boats of the fishermen, which moor to the rocks on either side, and the shores are covered with their houses and stages. There is a good house and store on *Signal Island*, with a high flag-staff which may be readily seen at sea, and from which the island derives its name. The south entrance is only fit for boats; vessels must therefore approach from the northward, passing to the west of the North Battle, and the islands lying between it and Signal Island. There are two small round islets, the southernmost in the entrance of the harbour; these may be passed close on either side. This harbour is secure during the summer months, but is unsafe in the fall of the year, from the heavy ground swell before mentioned.

CAPE ST. CHARLES may be easily recognised by St. Charles Hill, which is round, and 654 feet above the sea, and is the highest land on this part of the coast. *St. Charles Harbour* is on the east side of the Cape, and is formed by three islands; the depth in it is from 5 to 12 fathoms. *Fishflake Island* is the south-eastermost. *Blackhill Island*, which is high, black, and precipitous, is the next, and *Spare Island* is the innermost. The channel out of the harbour to the N.W. of Spare Island, is intricate, and only fit for boats. The entrance into the harbour is between Fishflake and Blackhill Islands, and is quite clear. The S.E. extreme of Fishflake Island appears like the extremity of the Cape, and bears E. by S. $1\frac{1}{2}$ mile from St. Charles Hill. St. Charles Channel is between the Caribou, Size, and Muddle Islands; it is deep water, and has no detached shoals. The course up the centre of this fine channel to the narrows, is N.W. $\frac{1}{2}$ N. $3\frac{1}{2}$ miles. A run of half a mile north, through the narrows, leads into the channel, between Muddle Island and the main, which is deep, and free from all dangers. The course through this channel to the mouth of St. Charles River is N.N.W. $1\frac{1}{2}$ mile; and a vessel may either run up that bay to the westward, or through Muddle Channel eastward, into St. Lewis Sound. *St. Charles River* runs east, and is nearly a mile broad; about 2 miles up, it becomes narrow and intricate. Wood and water may be had in plenty up this inlet.

NIGER SOUND.—The entrance is between Cape St. Charles and the *Camp Islands*, the S.E. extreme of the latter bearing S.W. $\frac{1}{2}$ W. $3\frac{1}{2}$ miles from the S.E. extreme of Fishflake Island. *Niger Island* lies $2\frac{1}{2}$ miles within this entrance, nearer the north than the south side of the Sound. 300 fathoms south of this is *Smooth Island*, much smaller and lower; the channel between these islands is unsafe, but north and south of them the channels are quite free. There is good anchorage in *Horn Bay*, at the head of the Sound; and in *Inlet Bay*, north of Niger Island.

CAMP ISLANDS.—The Inner Camp Island, about 300 feet high, and three-quarters of a mile diameter, lies off the S.W. point of Niger Sound, leaving a boat-channel between. The Outer Camp Islands, $1\frac{1}{2}$ mile long, and three-quarters of a mile broad, are not quite so high, and are also of pure granite; they are separated from the former by a clear channel. There is a small cove on their west side, 200 fathoms wide, where small fishing vessels moor to the rocks; but the shelter is very indifferent in S.W. winds.

Table Head is a remarkable isolated mass of basaltic columns upon sandstone, flat at top, and precipitous all round. It lies S.W. by W. $\frac{1}{2}$ W. 5 miles from Camp Islands.

St. Peter Bay is open to the S.E., but the force of the sea is broken by the islets and reefs. It lies within the *St. Peter Islands*, which are small and low, with many rocks above and under water; the easternmost of them lies S.W. by W. 6 miles from the Camp Islands. *St. Peter Bay* is 2 miles deep, in a N.N.W. direction, and there is anchorage three-quarters of a mile from its head, in 13 to 20 fathoms. The entrance between Point Peter and the innermost islet is three-quarters of a mile wide, and 6 or 7 fathoms deep: it has a 2-fathom shoal in it to the West of the islet, and a reef off Point Peter, the passage between them being about 400 fathoms wide, and must be approached from the south, passing to the west of all the *St. Peter Islands*, not less than one-quarter of a mile. The anchorage in this bay is but indifferent, and wood and water can be procured.

Castle Island lies W. $\frac{1}{2}$ S. $6\frac{1}{2}$ miles from the S.W. *St. Peter Island*, and about midway between them are *Sandwich Head* and *Cove*, the latter only useful to boats. Off the East end of *Castle Island*, at the distance of 150 fathoms, is a 3-fathoms ledge. Between *Sandwich Head* and *Castle Island* is *Bad Bay*, which is rocky and dangerous, and affords no shelter.

CHATEAU BAY is easily recognised from the offing, by its position with reference to the remarkable *Table Head* and the *St. Peter Islands*, by the high land in the rear of it, and by there being a straight, unbroken coast free from islands to the West of it; and also by the two hills on *Castle* and *Henley Islands*, which are perpendicular and flat-topped, and 200 feet high. This bay has within it, *Henley*, *Antelope*, and *Pitt's Harbours*. The principal entrance to *Chateau Bay* is between *Chateau* and *York Points*, the latter bearing from the former W.N.W. $\frac{1}{2}$ W. $1\frac{1}{2}$ mile.

Temple Bay runs $4\frac{1}{2}$ miles in a N. by W. direction, deep water, and no good anchorage. The mouth of the bay is closed by *Whale Island*, at the head of *Chateau Bay*. *Temple Pass* is on the south of *Whale Island*; it is only 80 fathoms wide, and 4 fathoms deep, and bears $1\frac{1}{2}$ mile N.N.E. $\frac{1}{2}$ E. from *York Point*. On the north side of *Whale Island*, is a passage into the Bay called *Whale Gut*, the navigable channel of which is 100 yards wide and 4 fathoms deep.

Henley Harbour is only fit for small vessels; the only navigable entrance faces the south, in which direction are the basalt columns of *Castle Island*.

Antelope Harbour is on the east side of the bay, to the north of *Henley Island*, and between it and *Barrier Point*, which, with its reef, separates it from *Pitt's Harbour* to the northward. The passage leading into both these harbours is between *Stage* and *Henley Islands* to the eastward, and *Whale* and *Flat Islands* to the westward. There are three dangerous ledges which must be avoided in coming into this harbour; the outermost with 2 fathoms, lies in the line from the extremity of *Chateau Point* and the eastern extreme of *Whale Island*, and the south extreme of *Seal Islands*, seen through the narrow channel between *Castle* and *Henley Islands*, bearing E. $\frac{3}{4}$ N.; the second with 3 fathoms least water, in the line, 100 fathoms from the east side of *Flat Island*; and the third with only 9 feet water, between the eastern extreme of *Whale Island* and *Black Point*, the N.W. point of *Henley Island*.

Pitt's Harbour is very superior to *Antelope Harbour*; it is a mile long, and three-quarters of a mile wide, and has a depth of 4 fathoms close to the shores, deepening to 18 fathoms in the centre. You may anchor in any part, as it is perfectly sheltered. Water and wood are plentiful. To enter these harbours, and being between *Chateau* and *York Points*, bring *Grenville Point* on the north side of *Antelope Harbour* and *Black Point*, both of steep, black rock, in one, bearing N.N.E. $\frac{1}{2}$ E., and run in on this course, which leaves the first ledge to the right, till you arrive between *Flat* and *Stage Islands*, leaving the second ledge on the left; bear a little to the north, just to clear to westward of the *Black Rock*, off *Black Point*, and then round it to eastward and enter *Antelope Harbour*. To enter *Pitt's Harbour*, as soon as the *Black Rock* bears east, change course to N.W. by N., and run on till the east end of *Whale Island* and the western extreme of *Chateau Point* on *Castle Island* are in one, bearing S. $\frac{1}{2}$ W.; then proceed N. $\frac{3}{4}$ E., and enter the harbour, which course will clear the shoal water off *Pitt's Point*.

YORK POINT is quite bold, and so is *Chateau Point*, to the west, but has shoal water 50 fathoms off it, to the S.E. It may be considered as the north point of the east entrance of the *Strait of Belle Isle*; to the N.W. of it is a high ridge, called the *High Beacon*, 959 feet above the sea.

The coast runs westward, straight and bold to *Wreck Bay*, which is W. $\frac{1}{2}$ S. 10 $\frac{1}{2}$ miles from York Point. It affords no shelter. Two miles and a half S.W. of its east point is a rocky patch, with 5 fathoms. *Barge Bay* is W. $\frac{1}{2}$ S. 16 $\frac{1}{2}$ miles from York Point, and affords no anchorage. *Greenish Bay* is about 5 $\frac{1}{2}$ miles W. by N. from Barge Bay, and is open to the S.E.; the holding-ground is not good, but it is sometimes used by small vessels. Between this and Red Bay is the *Sunk Ledge*; the rocks are awash, bearing S.E. $\frac{1}{2}$ S., half a mile from *Twin Island*, close to the east point of Red Bay.

RED BAY is a beautiful little harbour, perfectly sheltered from every wind. It is formed by *Saddle Island*, lying off the entrance of a bay; it has a hill at each end, about 100 feet high. To the west of this is *West Bay*, exposed to easterly winds, but with tolerable anchorage in 10 or 12 fathoms in westerly winds. The outer harbour of Red Bay is between Saddle and Harbour Islands, at the entrance of the inner harbour, with a depth of 6 to 9 fathoms. Immediately to the N.E. of this is the entrance to the inner harbour; it is 100 fathoms wide, but shoal on each side, the depth in the middle being 7 fathoms; within is a capacious basin, where any number of vessels might safely winter. It is easily entered with a leading wind, but the entrance is too narrow for a large vessel to beat into.

Carrol Cove is 3 $\frac{1}{2}$ miles W. by S. of Red Bay; it is very small, and used by a few fishing vessels. Off the eastern point of *Black Bay*, there are two small islands, a mile apart, called the Little St. Modest Islands. They have a dangerous rock off shore, half a mile S.E. by S. from the W. extreme of the western isle; this must be carefully avoided. *St. Modest Isle* is on the opposite or west side of *Black Bay*; it is bare, and within it, fishing vessels moor to the rocks on either side.

BLACK BAY is 11 miles west of Red Bay; it is 3 miles wide, and about 2 miles deep. It is open to S.E. winds, which send in a heavy swell, but there is tolerable anchorage in 10 fathoms off a fine sandy beach, to the west of a river at the head of the bay. There is a rocky shoal of 3 fathoms, one mile N.W. of St. Modest Island.

From St. Modest Island, 1 $\frac{1}{2}$ mile S.W., is Cape Diable, and to the west of this is *Diable Bay*, which with *Loup Bay*, 3 miles further, may be readily known by the magnificent cliffs of red sandstone, 300 or 400 feet high, which extend two or three miles between them. *Schooner Cove* is on the S.W. side of *Loup Bay*; it is open to the eastward, but fishing vessels use it in the summer months. There are a fishing establishment and several houses in this cove. The anchorage in *Loup Bay* is extremely good; it is best in the N.E. corner of it; although open to the south, vessels ride here all the summer.

FORTEAU BAY is 4 miles west of *Loup Bay*; it is 4 miles broad between *Point Amour*, the S.E. point, and *Point Forteau*, the S.W. point, and which bears E. $\frac{1}{2}$ S. from the other; it is about 2 $\frac{1}{2}$ miles deep, and runs to the northward. At the head of the bay is a large and rapid river, abounding in salmon, and a fine sandy beach. There is a fine fall of water $\frac{1}{4}$ mile within the bay, from *Point Forteau*, which, with a remarkable high rock off the S.W. of *Point Amour*, will serve to point out the bay to strangers. It is the best roadstead in the Strait of Belle Isle, and the Jersey vessels employed in the fishery lie moored all the summer; they have large fishing establishments on the west side of the bay. The best anchorage is on the N.W. side, opposite the fishing establishments. From *Point Amour*, across the entrance of the Strait of Belle Isle, to the N.W. extremity of Newfoundland, the distance is 9 $\frac{1}{2}$ miles.

PART II.

THE GULF AND RIVER OF ST. LAWRENCE.*

THE entrance of the Gulf of St. Lawrence lies between Cape North, the N.E. point of Breton Island; and Cape Ray, the S.W. point of Newfoundland. The distance between these Capes is $18\frac{1}{2}$ leagues: and the bearing from the former to the latter E.N.E. $\frac{1}{2}$ E.

At the distance of four leagues E.N.E. $\frac{1}{2}$ E. from Cape North, lies the little island of St. Paul, which has a light-house at each end of it, and deep water all round. From Cape Ray, the bearing and distance to this island are W.S.W. $\frac{1}{2}$ W. 14 leagues. (See page 71.)

COMPASS BEARINGS AND DISTANCES.

Cape Ray to the Bird Islands, N.W. $\frac{1}{2}$ W. 22 leagues.

Cape Ray to the east point of Anticosti, N.N.W. $\frac{1}{2}$ W. 43 leagues.

Cape North to the N.E. end of the Magdalen Islands, N. by W. $\frac{1}{2}$ W. 16 leagues.

Cape North to the Bird Islands, North $18\frac{1}{2}$ leagues.

N.E. end of the Magdalen Islands to the Bird Islands, N.E. by E. $\frac{1}{2}$ E. 17 miles.

N.W. end of St. Paul's Island to the east side of the Bird Islands, N. by W. $\frac{1}{2}$ W. 53 miles.

I. GENERAL PHENOMENA.—WINDS, WEATHER, CURRENTS, ICES, &c.

WINDS.—The prevalent wind, in the summer, in all parts of the River and Gulf of St. Lawrence, is from the S.W. Westerly winds are almost always accompanied with fine, dry, sunny weather; easterly winds as frequently the contrary. Steady N.W. winds do not blow frequently before September, except for a few hours at a time, when they generally succeed easterly winds that have died away to a calm, and usually veer round to the S.W. In the spring, easterly winds are the prevailing winds, sometimes blowing for several weeks in succession. Strong winds seldom veer quickly round from one point of the compass to another directly contrary; in general they die away to a calm, and are succeeded by a wind in the opposite direction.

The direction of the winds in the river is generally directly up or down its course, following the direction of the high lands on either shore. Thus a S.E. wind in the Gulf becomes E.S.E. between Anticosti and the S. coast; E.N.E. above Point de Monts; and N.E. above Green Island.

FOGS.—The prevalence of fog is one of the greatest sources of danger in the navigation of these parts, and during their prevalence there is no sure guide for the mariner but the constant use of the lead. These fogs prevail when the wind is in the eastern quarter. They sometimes come with westerly winds, but they are rare, and never of long continuance. Winds between south and east bring rain and fog in almost every part; and E.N.E. winds in the River, above Point de Monts, becoming S.E. winds in the Gulf, have the same foggy character.

These fogs are probably occasioned by the unequal temperature of the water brought down by the river and that of the gulf, which is colder, from the influx of the northern stream through the Strait of Belle Isle, and between these and the air. The eddy flood

* A description of the harbours, &c. on the western and southern sides of the Gulf of St. Lawrence below Cape Rosier, is reserved for the next Part.

mixing with the waters of the River, besides occasioning the dense and low fogs, are also probably the occasion of the phenomenon of Mirage, which sometimes occurs, and which is caused by terrestrial refraction from unequal temperatures in the different strata of the air and water.*

Amongst other phenomena met with in the Gulf and River of St. Lawrence, is the *local attraction or deviation of the compass*, but this has probably been over-rated; this subject is noticed in the directions for sailing up the River, given hereafter. Capt. Bayfield says, "The magnetic oxide of iron does exist abundantly, and attracts the needle very powerfully at some points, particularly along the coast from the Bay of Seven Islands eastward. Among the Mingan Islands we found the variation to vary from this cause from 19° to 31° west. At Port Neuf, and on Manicougan Point, the needle was also disturbed; but these effects were only noticed when the instrument was placed on the shore. In two instances only, when sailing within two miles of the shore, have we observed any effect of the kind upon the compasses on board the *Gulnare*, and then only to the amount of a few degrees."

CURRENTS.—The current which prevails through the Strait of Belle Isle passes along the north shore of the Gulf, at a short distance from it, leaving a space between it and the land, in which the alterations of tide are tolerably regular, when not otherwise affected by the winds: Pursuing this S.W. direction towards Cape Whittle, and gradually losing its force as it advances, it takes the direction given it by the trending of the coast at this part, and meeting with the current which comes from the west, from the river on the north side of Anticosti, and which perhaps is deflected by the projection of the land at Natashquan

* A remarkable instance of *Mirage*, or terrestrial refraction in the atmosphere, was seen by Capt. Bayfield, June 19, 1832, in the surveying vessel *Gulnare*, then off Point de Monts, which bore N. 61° E., seven miles distant. The temperature of the air at the time (10h. 30m. a.m.) was 49°; of the sea, at the surface, and the dew point of the air, 44°. At the time of making the observations, there was a very light breeze from the westward, with partially cloudy weather.

To the southward were 12 or 14 sail of merchant vessels, at the estimated distance of 6 or 7 miles, and beyond them the south coast near Cape Chat. This land is bold and high, with mountains which attain an elevation of several thousand feet at a few miles from the sea. It was not in the least disturbed by *Mirage*, except for a short time in the lower part of the coast to the eastward. The vessels were all affected by *Mirage*, in the most distinct manner, presenting triple images.

First there was the vessel herself, with her hull occasionally raised, so as to show it distinctly above the horizon, although the height of the eye on board was not over eleven feet. Her sails appeared elongated laterally, but were perhaps only shortened vertically, which made them appear so elongated.

Over the vessel appeared her inverted image, the upper sails joining. This inverted image was, at times, so perfectly distinct that we could distinguish the colour of the paint on the vessel's sides more plainly by it than by the vessel herself. It was perfectly like the appearance of a vessel seen through an inverting telescope, excepting that it was distorted like the vessel herself, being shortened vertically.

Above the inverted image, but touching it, was a well-defined white line, which showed plainly, in consequence of the dark land beyond. This line was evidently the reflected horizon, for the inverted image of the vessel appeared as if hanging from it.

Above the inverted image was another of the vessel, in her natural position, distinct; but, like the others, much shortened vertically. This third image and the inverted one appeared placed keel to keel, or more correctly speaking, as if each had been cut off at the water line, and then the vessels placed together, the white line forming the only separation between them.

As the white line rose or fell, which it did continually, so the inverted image rose and fell also; and the vessel herself became elongated or shortened vertically in the same proportion, the connection between their upper sails being always continued, sometimes nearly touching and others overlapping.

Flying showers of rain soon after occurred, in various directions; and the relative temperatures of the air, dew point, and surface water, were found to be changeable during the day. Thus at 3h. 30m. p.m. the air was 49°, the dew point 45°, and the surface water 42° of Fahrenheit.†

Upon this subject *Mr. Edw. Sabben*, in *H.M.S. Niemen*, August, 1823, near Cape Chat, said, "On our passage downward the houses along shore were frequently seen considerably depressed or elevated, and sometimes inverted by refraction."

"Varying results of observations taken in Gaspé Bay also evinced extraordinary refraction. The insulated rock close to Cape Gaspé, and distant from the ship about six miles, appeared on the morning of the 25th very high and out of the water, seeming an object of equal size to a schooner, then passing near it. On the 26th, at the time of observation, it was scarcely perceptible."

Here we may add that, in the summer nights, in weather calm and fine, with bright aurora and heavy dew, such circumstances are usually indicative of an easterly wind in the succeeding morning, with thick weather, its constant accompaniment.

† Extract from the description by Capt. H. W. Bayfield, *Nautical Magazine*, Feb. 1835, pp. 91, 92, 93.

Point, it gradually takes a S.S.E. course, across the Gulf, and then meeting with the main current of the St. Lawrence, coming to the south of Anticosti, between it and the Magdalen Islands, the whole of the waters take a S.E. course, through the principal entrance of the Gulf, between Cape Ray on Newfoundland and the Island of St. Paul.

These currents are modified by various causes, and their strength and direction are difficult to estimate, although it is of great importance that a proper allowance should be made for them, as, from their *southern* tendency, many vessels are lost, from want of due precaution, on the coasts of Gaspé and its neighbourhood, on the Magdalen Islands, &c. "This current," says Capt. Bayfield, "is checked by easterly winds, and may sometimes run in a contrary direction from the same cause." Northerly winds may also cause it to set to the southward, towards Breton Island. In corroboration of this is the following communication from Mr. James Jeffery, M.R.N.:—

"*St. Pierre to the Gulf of St. Lawrence.*—We sailed from St. Pierre with a fresh easterly wind and clear weather; but when about ten miles off the land it came on thick, with small rain. Toward the evening it cleared up, and we gained sight of the land about eight, near Cape Blanche. On steering to pass between St. Paul's Island and Cape Ray the wind increased, and at midnight it blew fresh with clear weather; at daylight it blew a gale, with a heavy sea and thick weather. The vessel was hove-to, with her head to the northward, under close-reefed foresail. At 5 h. 30 m. it cleared up a little, and we again bore up, in hope of making St. Paul's Island. At 5 h. 40 m. the land was seen ahead, making high, like an island, and as it agreed with our reckoning, no doubt was entertained as to our exact position. We kept away to pass to leeward of it, and could just keep it in sight, as it came on thick immediately after we discovered the land. At 7 a.m. a low point was seen right ahead, and breakers about a mile or a mile and a half off the starboard bow. There being no low point on St. Paul's Island, it was evident that the land seen must be about Cape North on Breton Island, and that, since 8 p.m. the preceding evening, we had been set in a S.W. direction at two miles an hour. We now had the disagreeable task of beating off a lee-shore, blowing a gale, with a heavy sea and an iron-bound coast to leeward; and it will appear evident that, had the weather but partially cleared up, to have given a sight of the land, and if we had continued hove-to, we must have been set down on St. Paul's Island, having escaped the set on Cape North. Sail being made, we stood S.E. by S. and succeeded in berthing the point at about a mile and a half.

"At 9 h. 10 m. a.m. having gained an offing of about 4 or 5 miles, with a very heavy sea, our bowsprit went short off at the stem; the fore-mast and main-mast followed it instantly, and all the wreck fell overboard: thus totally dismasted, on a dead lee-shore, without any anchorage, by setting a sail on the stump of the fore-mast we managed to keep the head off. Once toward evening the wind and sea abated, but very thick weather still continued. During the whole day there was heavy rain and sleet. On the next morning the weather cleared up, and at 7 we saw the land near Scatari Island, and succeeded in anchoring in Miray Bay at night."

The flood-tide entering the River St. Lawrence, proceeds upwards in the wide and deep channel of the estuary, till it is obstructed by the contracted breadth of the river near Red Island, and the sudden shallowing of it near this part; from this cause it is prevented from continuing in its upward course, and in consequence of the quantity of water here collected not finding a sufficient outlet, it is *reverted*, and forms an *eddy-flood*. The stream of flood, therefore, runs in opposite directions, on either side of the river. This stream coming from the eastward, as it approaches the northern part of Red Island Bank runs very strong, sometimes at a rate of 4 knots, bearing round at this part, and proceeding in a different direction towards the Razadé Islands, with a velocity of from 2 to 3 miles per hour, and then proceeds onward with a constant current downwards, thus adding to the current or water from the river itself, and increasing its strength. It is strongest in-shore, and extends about half-way over, diminishing in strength towards the middle; and from this difference in its velocity, and the unequal depth of the river, occasioning those violent whirls and ripples which occur in its strongest parts.

On the south coasts of the part of the River between Cape Gaspé and Green Island, there is no upward current from the tides that is available for navigation: during the floods at spring-tides, there is a westerly current felt close in-shore, the line between the two streams being marked by strong rippling.

Off Point de Monts there is very little or no stream of flood, excepting close in-shore, and the downward current is constant off that point. The point diverts the current to the

S.S.E., which runs at a rate of from one to two miles an hour, so that it is difficult for a vessel to beat round it with a westerly wind.

During the ebb tide, the stream runs down on both sides, strongest on the south, and weakest in the middle of the estuary. On the N. shore, it is turned to the southward by the projecting points at the Bay de Mille Vaches, Port Bersimis, the Peninsula of Manicougan, and Point de Monts; this fact is important, and ought to be attended to, as this southern tendency is increased at these points, by the water brought down by the large rivers between them.

On the south side, the stream of the ebb tide is also increased, by the efflux of water from the Saguenay River, which, setting with great velocity across the tail of the Red Island Bank, adds to the downward course of the stream. The tides in the River above this part are described hereafter.

ICES.—On the approach of winter the navigation of the Gulf is greatly impeded by floating ices, and the river is at length choked with broken fields of ice, exhibiting the most varied and fantastic appearances; the whole country on each side is then covered with snow, and all the trees, excepting the stern fir-tribes, are denuded of their foliage.

In crossing the Gulf, even during the summer months, islands of ice have frequently been met with. The ice that drifts out of the rivers all disappears by the latter end of May, but these masses make no part of it. The conjecture is, that they are not formed on any of the neighbouring coasts, but descend from the more northerly regions of Davis's Strait, &c., where, it is presumed, they are severed by the violence of storms, from the vast accumulations of the arctic winter; and passing near the coast of Labrador, are drawn by the in-draught of the current into the Strait of Belle Isle. They often are a hundred feet in height, with a circumference of many thousands; the indications of their presence in the night, or during fogs, have been described on page 11. By day, from the dazzling reflection of the sun's rays, also by moonlight, at a safe distance, their appearance is brilliant and agreeable.

II.—THE ISLAND OF ST. PAUL, MAGDALEN ISLES, AND ANTICOSTI.

The ISLAND of ST. PAUL lies N. 57° E. true, ten miles from Cape North, on Breton Island. The northern extremity of the island is in lat. 47° 14' N., and long. 60° 8' 17" W. It is nearly three miles long and one mile broad. The margin is rocky and precipitous almost all round, indented by coves, in which ships may obtain shelter during the prevalence of certain winds. On this island are two lighthouses, one near the northern, the other near the southern extremity; of which one will always be open, unless to a vessel near the central rocks. The northern light, *brilliant and fixed*, is about 140 feet above the level of the sea; it can be seen to the southward on any bearing between N. by E. and E. by N. (by compass), when it is obscured by the hills to the southward of it. The southern light may be seen from the northward on any bearing except between S.S.E. and West, when it is obscured by the hills to the northward of it. These lights are visible at a distance, from each tower, of six leagues.

In *Trinity Cove*, at the north point of it, is a provision post. This cove is a mile from the S. point on the W. side; on the opposite side of the island is *Atlantic Cove*, and a landing may be effected in either of these. The cove on the N.W. affords a small and bold beach, about 150 feet long, where a landing may be effected, but generally with difficulty, by reason of the continual swell of the sea. The interior of the island rises into three hills, the highest being nearly in the centre, and terminating in a square summit of about 50 feet on each side, and nearly perpendicular, which is estimated to be about 500 feet above the level of the sea. The surface of the island is, in general, rocky, with some spots of marsh or bog, which probably supply the fresh water found issuing from the rock. Stunted fir and white birch trees are the only products of the isle, but some drift wood may be picked up.

There is anchorage all round the island, and close in-shore, which circumstance enables vessels to lie there with any winds, by shifting their stations as the wind and weather require;—a mode practised by the privateers of the United States during the late war. There are tolerably regular soundings off the north side, at the distance of half or three quarters of a mile; on the N.E. side a bank lies off about three-quarters of a mile, with from 7 to 8 fathoms of water. The general depth of the soundings around the island, at half a mile from the shore, is from 20 to 40, but the water soon deepens to 100, fathoms. There is a plentiful fishery of cod and mackerel around the coast, and also an abundance of seals.

This island has been noted for the great number of wrecks which have been found on its shores, arising from the frequent fogs and tempestuous weather, the uncertain currents, and abrupt nature of its coast, &c.; which, it is hoped, will be obviated, by the two light-houses, established in 1840.

Four wrecks occurred in the first week of May, 1834: three were the *Jane* of Workington, Crooks, master; the *Moon* of Sunderland, Phillips; *Isabella* of Workington, Morrison, from Drogheda, with 130 passengers, (seven drowned,) and a bark, name unknown.

The *Jane* sailed from Workington on the 10th of April, had a fair run to near St. Paul's, when, on the 7th of May, in a very dark and sleety night, the vessel struck on the N.E. end of the island, at about 12 o'clock, with a tremendous crash, on the rocks, although steering wide of the island, after a good observation. Though immediately under high cliffs, the land could not be seen. The vessel filled with water immediately, and the boats floating on deck, the crew and passengers embarked in one, from which, after suffering in a raging sea and snow storm, during four hours, they landed, and climbing up the rocks for three hours, at length reached the station-house, where they were kindly received by a Mr. Perry, who supplied them with clothing and provisions, nothing having been saved.

The *Moon* was wrecked about 60 feet from the *Jane*, and nearly at the same time, but all lives were saved; also the *Isabella*, with 130 passengers, seven of whom were drowned. The fourth vessel, supposed a bark, name not ascertained, was also wrecked near the same place, and it was supposed that all the crew were lost. The *Jane* was wrecked at the N.E. end of the island.

MAGDALEN ISLANDS.—The Magdalen Islands, within the entrance of the Gulf of St. Lawrence, is a group of irregular isles, between the parallels of 47° 13' and 47° 37' North. They are named respectively *Entry Island*, *Amherst*, *Grindstone*, *Albright*, *Wolfe*, *Grosse*, and *Coffin Islands*; exclusive of *Bryon* or *Cross Island*, and the *Bird Islets*, which lie more to the north. These isles, although so near to the coast of Newfoundland, are included in the government of Canada, being annexed to the district and county of Gaspé. They contain a population of nearly 1100 souls, chiefly French Acadians and Catholics. A few English and Irish families are settled among them, all of whom derive their principal subsistence from the fisheries. Beyond the cultivation of potato gardens, agriculture seems wholly unknown on the islands; but natural meadows and pasturing grounds are common, and afford wholesome sustenance to a tolerable proportion of live stock. The inhabitants are, in general, remarkably hale and healthy, light in complexion, with flaxen hair. They are cheerful in character, and the females remarkably modest and ingenuous. The highest range of Fahrenheit's thermometer has been marked 76°. It has been also observed, that the islands are devoid of reptiles of any description; and that, besides the fox, rabbits are to be found. There are two churches on the islands, and a parsonage house for the resident missionary.

Gypsum and ore abound on the Magdalens: there appears to be no large timber on them, and only stunted spruce. The inhabitants are, therefore, not well furnished with fuel; but the deficiency is commonly but too well supplied by wreck timber. Small quantities of grain are produced; for barley and oats, potatoes, and other vegetables, are occasionally destroyed by early frost, or will not ripen in cold seasons; in consequence, both man and beast suffer severely in the winter months. Fish, seal-skins and seal-oil, feathers, and gypsum, are, it appears, their only exports.

Amherst is the most southern and principal island, connected with Grindstone Island by a double line of sand-bars, enclosing an extensive lagoon, five or six miles long, and from one to three wide, the southern part of which is called *Basque Harbour*: it has three outlets into Pleasant Bay; the southernmost is the deepest, but has but 3 feet at low water. *Pleasant Bay*, to the E. of this, and N.E. of the island, deserves the name. It is the best harbour in the Magdalens, and the only one that vessels can venture to ride in with all winds. The best anchorage is in 4 fathoms, the rocky point of the entrance of Amherst Harbour bearing S.W. $\frac{1}{2}$ W. two-thirds of a mile. *Amherst Harbour* is in the S.W. corner of Pleasant Bay; its entrance is very narrow and crooked, and over the bar is 7 feet least water.

The *Demoiselle*, a remarkable hill of Amherst Island, on the S. side of Pleasant Bay, is about 280 feet high above the sea.

It often happens, from the prevalence of westerly gales in the fall of the year, that ships bound to Quebec, after entering the Gulf, have been driven out again, or they have con-

tended until their crews were worn out, and have gone to the low ports for cargoes, when, by taking an anchorage, they would have secured their passage. These islands may be approached, generally, by the lead, to seven fathoms of water.

To the west an islet or rock, called *Deadman Islet*, stands alone in the sea, at $7\frac{1}{2}$ miles N.W. $\frac{1}{2}$ W. from the western point of Amherst Island, and is extremely remarkable. In shape it is an irregular prism, and about three cables' length long by one wide: seen end on, it looks like a pyramid, and about 170 feet high above the sea. It appears to be quite inaccessible, and sharp at the top. The waves foam around its base, and dash their white spray far up its sides, beautifully contrasting with the remarkable colours of the rock, which appears of a dark reddish brown at each end, and bluish green in the centre, the colours passing into each other. A reef extends from it, for one-third of a mile, toward Amherst Island.

The *White Horse*, a very dangerous reef, lies N. 60° E. 7 miles from Deadman Islet, and W.N.W. $8\frac{1}{2}$ miles from Gull Island, on the coast of Grindstone Island. It is small, and has 10 feet water over pointed rocks, on which the sea often breaks.

The *Pierre de Gros Cap* is another dangerous reef, on the west of Grindstone Island; it has 18 feet least water, and lies N.E. by E. $\frac{1}{2}$ E. 6 miles from the White Horse; N.W. by W. from Hospital Cape, and $3\frac{1}{2}$ miles from Cape la Trou, the nearest point of Grindstone Island.

Entry Island is the highest of the Magdalens, and 580 feet high above the sea. It may be seen, in clear weather, from 8 to 9 leagues off. The eastern side is bold close-to. There are high and magnificent cliffs of trap, porphyry, new red sandstone, and red marl around it, excepting the N.W. point, which has a long sandy spit off it: on the N. point is the remarkable Tower Rock. The cliffs of Amherst Island are also red of different shades; these contrasted with the green pasture of the hill-sides, the darker green of the spruce trees, and the bright yellow of the sand-bars and beaches, produce an effect extremely imposing in a brilliant sunny day, which sometimes occurs.

Fine weather, even in June, is not generally of long continuance; and dark cloudy weather is commonly indicated by a heavy swell rolling in from the eastward. Winds are frequently strong from W.N.W., but S.W. are the prevalent winds during the summer months.

The *Pearl Reef* lies E. by N. $4\frac{1}{2}$ miles from the N.E. point of Entry Island, and S.E. $\frac{1}{2}$ S. $8\frac{1}{2}$ miles from Cape Alright; it is small and dangerous, having 9 feet least water.

To the north of Amherst Island is *Grindstone Island*, the second in size of the group: it is 550 feet high; and to the N.E. of this, *Alright Island*. Its S. point is Cape Alright, which is remarkable; the cliffs of a greyish-white colour, with occasional brick-red low down, are 400 feet high. The S. extremity of the cape is low, with a small rock close off it. *Alright Reef* lies E. by S. $3\frac{1}{2}$ miles from Cape Alright; there is 6 feet water over it.

From Grindstone Island the W. coast is a continuance of sand-beaches and sand-hills, for 9 to 10 miles, to *Wolfe Island*, which is of low sandstone cliffs, three-quarters of a mile long; after which the sand-beaches recommence, and continue with high sand-hills occasionally 9 or 10 miles further to the *North Cape*, or *Grouse Island*, a precipice of considerable height. Off this are the *North Cape Rocks*, 600 fathoms off shore.

The *East Point* of the Magdalens is of low sand, with several sand-hills, which extend W. to the N.E. Cape. Off the East Point is the *Long Spit*, a ridge of sand, with from 2 to 3 fathoms of water, extending $1\frac{1}{2}$ mile S.E. $\frac{1}{2}$ S. from the point; and for $1\frac{1}{2}$ mile further the depth is from 4 to 6 fathoms. To clear this spit in 5 or 6 fathoms, take care not to bring Old Harry Head to bear to the southward of west. It is extremely dangerous, and there is a heavy breaking sea on it.

Doyle Reef lies S.E. $\frac{1}{2}$ E. $6\frac{1}{2}$ miles from the East Point. The least water on it is 3 fathoms on one spot, and 12 to 13 fathoms all round it. It seldom shows, but is one of the worst dangers of the Magdalens. The only mark to clear it is the North Cape of the Magdalens open two-thirds of its breadth to the N.E. of the *North-East Cape*, which is a remarkable hill, 230 feet high, on *East Island*, which stands at the head of Grand Entry Harbour, and can be seen over all the sand-hills.

S.W. of East Point is *Coffin Island*, the N.E. point of which is *Old Harry Head*, lying W.S.W. $4\frac{1}{2}$ miles from it. From this head $2\frac{1}{2}$ miles S.S.W. $\frac{1}{2}$ W. lies the outermost of

the *Columbine Shoals*, a patch of rocks with 3 fathoms water. Between this and Coffin Island are numerous small shoal patches, some of which have not more than 3 feet water. This is a dangerous part, and should not be approached at night, or during fogs.

At the S.W. end of Coffin Island is the entrance of *Grand Entry Harbour*, which is extremely narrow, and ought not to be attempted without a pilot. The depth in this entrance is not more than 10 feet least water, and the harbour itself is extensive and well sheltered.

Bryon or Cross Island.—The north side has steep cliffs of red sand-stone, from which reefs extend two or three miles. Approach no nearer than in 8 fathoms. On the south side there is good shelter, with north and west winds, in 6 fathoms, sandy bottom, the east end of the island bearing E. by S., and the reef to the westward bearing west. In this road is a strong underset, which makes a ship at her anchors roll heavily.

The BIRD ISLETS are small, and not far asunder: in the passage between them is a rocky ledge. They are of moderate height, flat and white at top. One appears like a high lump, and abounds with gannets. The southernmost is the largest; from the east end extends a small ledge of rocks. Between these islands and Bryon Isle is a rocky ledge, with a depth of from 4 to 7 fathoms. It is generally recommended to pass to the eastward of the Bird Islets, unless a special advantage may be gained by passing between them and Bryon. In sailing from these islands, toward Cape Rosier, you will have a depth of from 30 to 60 fathoms, to the distance of 18 leagues from the islands, and then lose soundings until you approach the cape.



The Bird Islets, S.S.W. $\frac{1}{2}$ W. 4 miles.

The ISLAND of ANTICOSTI.—This island is 41 leagues in length, between the meridians of $61^{\circ} 40'$ and $64^{\circ} 32'$; and, with one exception, has no bay nor harbour capable of affording shelter to shipping. It is, generally, very high, and may be seen, in clear weather, at 8 or 9 leagues; but the haze is so great, in the summer season, that it can seldom be distinguished at more than 5 leagues. The island is uncultivated, and covered with immense forests, to which Indians repair, from the neighbouring continent, for the purpose of shooting bears, which are numerous.

The powerful stream setting constantly from the River of St. Lawrence, and the heavy snow-storms in the fall of the year, have unquestionably been the cause of many shipwrecks on Anticosti. But, in order to relieve such as may be cast ashore here, government agents have been appointed to reside at two different stations, all the year, who are furnished with provisions for the use of those who have the misfortune to need them. Boards are placed in different parts, describing the distance and direction to these friendly spots. These establishments were made in the year 1809; the humane intention of which will be honoured wherever it is made known, because the crews of vessels driven on shore here have, sometimes, at the utmost peril of their lives, forsaken them to make their escape to Gaspé.—*Bouchett's Canada*, 1815.

“One of these provision-posts is at two leagues to the S.E. from the west end of the island, in *Ellis Cove*, or *Grand Bay*: the other is in *Shallop Creek*, three leagues to the W.N.W. from the south point of the island, and at the two light-houses.”

The government agent lives on shore at the houses, and has, or should have, possession of a sufficient quantity of provisions for the supply of shipwrecked persons, which are to be issued, when required, in regular quantities to each man: the captain, &c. giving receipts for the expenditure.

Early in 1829, a shipwreck was discovered to have taken place on the south shore of the island; and it was then found that the establishment for saving lives, &c. had been abandoned, in consequence of which, it appeared that 16 or 18 persons had perished from hunger on the island, and no one was left to tell the melancholy tale. Circumstances, however, afforded sufficient evidence to prove that the sufferers were the crew and passen-

gers of the ship *Granicus*, which sailed from Quebec on the 29th of October, 1828. The lives of these unfortunate persons would, in all probability, have been preserved, had not the house which they succeeded in reaching been abandoned and destitute of provisions.

Several other vessels, which sailed from Quebec nearly at the same time as the *Granicus*, have not since been heard of.*

We give these particulars as a caution. The light-house on the S.W. point has since been established, and there can be no doubt that it will be eminently useful. From the light-house, Ellis Cove bears N.W. by N. (*magnetic*) eleven leagues.

On *Heath Point*, the S.E. extremity of Anticosti, is a new light-tower, but which has not yet been illuminated.

EAST CAPE is in lat. $49^{\circ} 8' 25''$, long. $61^{\circ} 39' 59''$. It is a perpendicular cliff, 100 feet high, and at the extremity of the low land to the southward is *Heath Point*, on which stands the above mentioned tower; at a little distance it appears like a sail, and is useful in marking the extent of the low land to vessels either to the E. or W. of N.

Between *Fox Bay* to the north and East Cape the coast is bold and clear; there is anchorage in westerly winds between *Cape Sand Top* and East Cape, at the distance of a mile from the shore. *Reef Point* is the south point of Fox Bay, and from it runs a dangerous reef for $1\frac{1}{2}$ mile, with only a few feet water, and 10 fathoms close to the end of it. A house and store are at the N.W. side of the head of the bay, and are the scenes of the sufferings of the crew of the *Granicus*, mentioned above.

Table Head is remarkable by the hill, from which it derives its name; and from hence to *Cape Robert*, 19 miles north-westward, the coast is broken into small bays, which afford no anchorage.

From Cape Robert to *Bear Head* the bearing and distance are N.N.W. $\frac{1}{2}$ W. 6 miles. Between them is *Bear Bay*, which is the best anchorage no the north of Anticosti, and this is in 13 fathoms water; Cape Robert bearing S.E. $\frac{1}{2}$ S. and Bear Head N. by W. $\frac{1}{2}$ W.

From Bear Head to *Cape Observation*, a bold, high, and remarkable headland, is $12\frac{1}{2}$ miles north-westward; the coast between them is bold, with high, greyish white cliffs, and small bays between.

Eleven miles north-westward from Cape Observation is *Carleton Point*, under which vessels may anchor in fine weather, and can procure wood and water. Farther on is *White North Cliff*, which appears like a white patch on the land, and can be seen at a distance of 6 or 7 leagues. From Carleton Point to within four miles of White North Cliff there are low cliffs. From White North Cliff to *High Cliff* is 26 miles; between them the coast is low in front, with high ridges a short distance in the country. This part of the coast is very dangerous, as the reefs extend for two miles outward, commencing at White North Cliff, where they are half a mile broad, widening to about 12 miles from High Cliff, and terminating about 7 miles E. of it. *High Cliff Cape* is easily recognized, as it is the only cliff on the north coast to which the sea does not come quite up to the base.

From High Cliff to *North Cape* is 13 miles; it is wooded, and of very moderate height. The coast here trends round to **WEST POINT**, between which are flat reefs, extending a mile off shore. It is in lat. $49^{\circ} 52' 20''$, and long. $64^{\circ} 32' 8''$.

Between West Point and *Cape Henry* the reefs extend a mile and a quarter off shore, and ought to be approached with caution.

ELLIS BAY is the only good anchorage in the island of Anticosti. It runs inland between Cape Henry and Cape Eagle. Off these two capes run flat limestone reefs; that from Cape Henry is nearly a mile out to the south, and the other extends three-quarters of a mile west of Cape Eagle. The entrance between them is 600 fathoms wide, between the depths of three fathoms.

In approaching the bay with westerly winds, run down the reefs off Cape Henry in ten fathoms, until the west side of the *White Cliff*, on the E. side of the bay, is on with

* A complete list of the wrecks which have occurred on Anticosti would be a melancholy document: but the instances already given are sufficient to show with how much caution the island should be approached. In thick and foggy weather, the barque *Flora* was stranded here and lost on the 22nd of August, 1832, at about 15 miles from the light-house, when the latter could not be seen.—See *Nautical Magazine*, Feb. 1833, p. 87.

the E. side of the westernmost of two hills at a distance, which lie near the north coast between the north and west points; then haul up with these marks on, which will lead into smooth water, close under Cape Henry Reef, in 3½ fathoms, until Gamache House bears N. by E., and then bear up for it, and anchor in 3 fathoms, muddy bottom, about half a mile from the flats at the head of the bay, and 300 fathoms from those on either side.

Becsis River is a very small stream at the head of a small cove, affording shelter for boats, and is 12 miles S.E. from Ellis Cove; and seven miles further, in the same direction, are *St. Mary Cliffs*, which are 21 miles from South-West Point. *Observation River* is 5½ miles northward of this point, and is the largest stream on the island; on the north of this river are some conspicuous sandy cliffs. Between South-West Point and Ellis Cove there is no anchorage, and off the shore there are reefs of flat limestone, extending fully a mile, and often 10 or 12 fathoms water close to them.

South-West Point is a low projecting mound of limestone, having a small cove on its north side, which forms it into a peninsula; on the western extremity of the point stands the light-house, a conical tower, 75 feet high, and the lantern elevated 100 feet above the sea. It shows a brilliant light, which *revolves* once in a minute, and is lighted every year from the 25th of March to the last day in December. To the light-house is attached a provision-post, which forms a very conspicuous land-mark.

Salt Lake Bay has fine sandy beaches, enclosing lagoons, into which the tide flows. It is 11 miles south-eastward of the S.W. point, and off it, in the centre of the bay, with its N.W. point bearing N.E. ¼ E. 1½ mile distant, there is very indifferent anchorage in seven fathoms. Thirty-two miles from South-West Point is *Pavilion River*; in this distance the coast is the boldest on the south of the island, and should be approached with caution.

Shallop Creek lies 13 miles N.W. of the South Point, and the houses of the provision-post are here: between this and the south point the coast is very low, and may be approached safely by using the lead.

South Point is a cliff of sandy clay, about 60 feet high; a reef extends south of it for nearly 1½ mile. The tower on Heath Point and Cormorant Point bearing E. by S. in one clears this. *Cormorant Point* bears E.N.E. 16½ miles from South Point, and W. by N. 6 miles from Heath Point. Off Heath Point there is one of the best open anchorages on the island. The best berth is in 10 fathoms, sand and mud, with the tower bearing E. by N. and Cormorant Point nothing to the west of W.N.W. The vessel will then be two miles off shore, and sheltered from all winds between W.N.W. to E. by N. round by north.

At Anticosti the tide flows, on the full and change, at 1 h. 43 m.; it runs tide and quarter. Springs rise 10, and neaps 4 feet.

III.—THE NORTHERN SHORE OF THE GULF, FROM FORTEAU POINT TO CAPE WHITTLE.

The Coast of Labrador, which is described in this section, is exceedingly dangerous, and, till the recent surveys, was very imperfectly known; there are, however, several good harbours which can be entered by large vessels, and which are used by the fishers that frequent this coast.

The whole of the land consists of granitic rocks, without trees, except in the heads of the bays, where small spruce and birch trees are sometimes found. It is broken into numberless islets and bays, and fringed with islands and rocks, forming in some parts so intricate a labyrinth, that no ships of any size can find their way. The dangers of the coast are much increased by the fogs which accompany the prevalent southerly winds.

There are very few permanent inhabitants, but the coast is much frequented during the season by cod, seal, and salmon fishers. Cod is abundant, especially to the east of Mistanoque, and several vessels also visit the coast to procure the eggs of the sea-fowl, which are taken principally to Halifax. The permanent fur-trading and seal and salmon fishing establishments are at Bradore, Esquimaux Bay, St. Augustine Harbour, Little Fish Harbour, and Etamamu; there are but few other inhabitants than at these places.

The coasts of the Strait of Belle Isle, &c., to Forteau Point, at its western entrance, were described on page 78; we here resume the description, proceeding westward.

Four miles W.N.W. from Forteau Point is *St. Clair Bay*. There are a reef and a low islet off its eastern point, to the S.W.; this bay affords no shelter.

BLANC SABLON BAY.—Three miles west from *St. Clair Bay* is *Blanc Sablon Bay*; it is exposed to westerly winds, but is sheltered by *Wood Island* and *Greenly Island* to the S.W. It is an unsafe anchorage, particularly in the fall of the year, and during winds from the west, which send into it a very heavy sea. It is a mile deep, and $1\frac{1}{2}$ mile wide; and on a projecting point at the head of the bay, are the buildings of the fishing establishment of the bay.

Wood Island lies off *Blanc Sablon Bay*; it is low and barren, and about $1\frac{1}{2}$ mile long, and has some fishing establishments on its east side.

GREENLY ISLAND lies $1\frac{1}{2}$ mile west of *Wood Island*, and between them is a clear channel; and off the south point of *Greenly Island*, at the distance of about 200 fathoms, is a rocky shoal. On its east side is a cove sometimes used by the fishers, but this anchorage, as well as that under *Wood Island*, is not good.

One mile and a half westward of *Blanc Sablon Bay* is *Gulch Cove*, a small inlet of the main; there are some rocks off its mouth which shelter it; it is so narrow, that there is not room for the smallest schooner to turn about in it; hence the vessels which frequent it are warped out stern foremost. From *Blanc Sablon Bay* to *Grand Point* is $2\frac{1}{2}$ miles. Off it is a dangerous reef of rocks, 350 fathoms to the south and west; and eastward of it, for $1\frac{1}{2}$ mile, there are rocks above and under water, extending off the shore for a quarter of a mile in some places.

From *Greenly Island* to *Southmakers Ledge* the course is W. $\frac{1}{2}$ S. [*S.W. by W.*] and the distance 128 miles; but the course between them on this bearing is not safe, as it will take a vessel too near the *Murr Rocks*, and would pass just within the *St. Mary Rocks*. The best course would be W. by S. 128 miles, until past the *Southmakers Ledge*.

Perroquet Island lies N. by W. $\frac{1}{2}$ W. $1\frac{1}{2}$ mile from *Grand Point*. It is high, and is frequented by vast flocks of puffins. It is nearly half a mile from the land, but there is no channel between.

One mile and a half in the same direction from *Grand Point*, is the edge of the shoals on the south of *Ledges Island*. Opposite to the centre of this island, on the main, to the east, is an establishment which is about $1\frac{1}{2}$ mile N.N.E. from the west side of *Perroquet Island*.

BRADORE HARBOUR is on the north-east side of *Ledges Island*: the passage to it is from the south, between a chain of islands off the island, which are quite bold-to, forming the western side of the channel, and the coast of the main, on which is the before-mentioned establishment, the eastern side. There is no passage to this harbour to the north or west of *Ledges Island*, as the space is crowded with rocks and dangers, although there is a narrow and very deep channel for small vessels close on the island. To enter *Bradore Harbour*, coming from the east, give *Grand Point* a berth of half a mile, to avoid the reefs lying off it, or taking care that the west extreme of *Perroquet Island* does not bear to the west of north; *Perroquet Island* may be passed as near as a quarter of a mile; having passed this, haul towards the entrance till the west extreme of *Greenly Island* is half a point open of the west extreme of *Perroquet Island*, or bearing S. $\frac{1}{2}$ W., which will clear the *Gull Rock* and *Ledge*, which bear S.W. by W., and are distant 280 and 490 fathoms respectively from *Point Jones*, on which the houses stand. The rock just covers at high water, and therefore can always be seen; and the ledge has 2 fathoms least water, and therefore is extremely dangerous. On the west side of this ledge, the west ends of *Perroquet* and *Greenly Island* are in one, and they may therefore be avoided by the course above mentioned. Proceed on this course N. $\frac{1}{2}$ E., till *Jones's house* bears E.N.E. and the northern islet on the east appears like the north extreme of *Ledges Island*, N.E. by N.; then steer for the latter, leaving the *Gull Rock* to the east, and looking out for a small rock lying off an island on the opposite side, after passing which, the channel is clear, keeping nearer the islets than the main. A run of about 700 fathoms from the houses, will bring you opposite the entrance of the harbour, when you must haul sharp round to the westward, between the islets into the harbour; this entrance is 80 fathoms wide and 8 fathoms deep. The harbour is perfectly landlocked, but will accommodate but a small number of vessels; the depth being from 4 to 17 fathoms, muddy bottom.

In approaching *Bradore Harbour* from the west, beware of the reefs, which extend three-quarters of a mile to the south-west of *Ledges Island*.

At the back of Bradore Bay, 4 or 5 miles from the north-east end of it, are the *Bradore Hills*, the highest land on this coast, that to the north-west being 1264 feet above the sea.

BRADORE BAY is 5½ miles wide from the south of Ledges Island to Point Belles Amours, bearing N.W. by W. [West] from it. This bay is very dangerous, from the heavy sea sent into it by southerly winds, but on its western side is a beautiful little harbour, *Belles Amours Harbour*, in which a great number of vessels can lie perfectly landlocked. Water can be procured here, but firewood is very scarce on this coast.

The channels to this harbour are formed by *Point Belles Amours* on the south-west; it is a mound of bare granite, 60 or 70 feet high; *Stony Point*, low and green, bearing E.N.E. ½ E., 1½ mile distant from it; and the *Flat Rocks*, lying 1¼ mile S. by E. from *Stony Point*, and 1½ mile E.S.E. ½ E. from *Point Belles Amours*: these form the east and west passages to the harbour.

To enter it from the east, steer N. by W. ½ W., leaving the *Flat Rocks* a quarter of a mile to the west, until you approach the east side of *Harbour Point*, a bare granite hill, 150 feet high, with several beacons of stones on it, within 100 fathoms, taking care not to approach *Stony Point* within a cable's length; then steer north till you are abreast of the rock above water off the sandy part of the point; then bear a little to the westward, so as to bring the east side of *Harbour Point* and *Pond Point* in one; *Pond Point* is nearly opposite *Stony Point*. Keep them in one to clear the north extreme of the *Flat*, until *Mark Point*, the extreme on the north side of the harbour, comes on with *Peak Point*, a remarkable rocky point in *Middle Bay*, bearing W. ½ S. When this mark comes on, haul sharp round to the westward, keeping at less than a cable's length from the high north shore, until you are well within the sandy spit, when you may anchor any where to the southward, in from 5 to 7 fathoms, muddy bottom.

Between *Point Belles Amours* and the *Flat Rocks*, there is a rocky patch of 13 feet water; there are other patches of 3½ fathoms between this and the point. To enter the harbour by this western passage, which is preferable in westerly winds, take care not to shut in *Stony Point* behind *Point Belles Amours*, for fear of the *Middle Ledges*, which lie off *Middle Point*, the outermost 600 fathoms off shore. Pass *Point Belles Amours* at the distance of 200 fathoms, and keep at that distance from the shore till past *Pond Point*; then bear away to *Harbour Point*, and proceed as before directed.

Middle Point lies 1½ mile W. ½ N. from *Point Belles Amours*, and 1½ mile E.S.E. from *Five Leagues Point*; between which and *Middle Point* is *Middle Bay*, a fine open roadstead, free from all danger. It runs N.N.E. for 2 miles, and is above a mile wide; the depth is between 4 and 13 fathoms, sandy bottom.

Five Leagues Point is the south-west extremity of a peninsula, which is remarkable from an isolated and precipitous hill, 200 feet high, three-quarters of a mile north-east from its extremity; and from the point the two *Barrier Reefs* extend for 1½ mile to the westward, but are not joined to it; there is also a reef, partly uncovered, running for a quarter of a mile to the south-west of the point. These are cleared by keeping the south extremes of *Ledge* and *Belles Amours Points* in one, bearing E. ½ S.

Five Leagues Harbour is to the west of the point of the same name, but is quite unfit for any vessel of moderate size. *Salmon Islet* lies W. by N. 3¼ miles from *Five Leagues Point*; it is nearly joined by a spit of sand to *Caribou Island*, off which the shoals extend nearly 400 fathoms to the S.E. Between this island and the main, to the east of it, is the eastern entrance to *Salmon Bay*, which has but 6 feet depth at low water; the other entrance to the bay is from *Bonne Esperance* round to the north of *Caribou Island*, in which is plenty of water, and is well sheltered.

BONNE ESPERANCE HARBOUR is the best harbour on the coast, and lies on the west of *Caribou Island*. *Whale Island* lies N.W. by W. ½ W. [W. ½ S.] 18½ miles from *Greenly Island*, at the entrance of the *Strait of Belle Isle*, and all vessels bound to *Bonne Esperance* endeavour to make this island, which is the south-easternmost of the *Esquimaux Islands*. It has a roundish hill near its centre, on which is a pile of stones, as there is also on almost every summit of these islands. *Whale Island* bears W.S.W. ½ W. [S.W. ½ S.] 4½ miles from *Salmon Islet* before mentioned. Between them lie the islands which form the harbour. They are very steep, and of bare granite. *Goddard Island* lies to the south-west of *Caribou Island*, and joined to it and another islet by shoal water; it has a small rock off it, 130 fathoms to the south-west, and 350 fathoms to the south of it is *Goddard Rock*, which dries at low water. On the other side of this channel, opposite to these rocks,

are the *Watch*, a small uncovered rock, and *Breaking Ledge*, which just covers at high water. The entrance to the harbour between these, is 460 fathoms wide, and 17 fathoms deep. *Beacon Islet* lies W.S.W. $\frac{1}{2}$ W. one mile from Goddard Islet; it is rather low, and a pile of stones on it. Three-quarters of a mile west of it is *Red Head*, an island bearing E.N.E. [E. by S.] 900 fathoms from Whale Island. *Fish Islet* lies between them. To the north-east of Red Head Island is *Chain Island*, formed of two peninsulas, and beyond it *Bonne Esperance Island*, three-quarters of a mile long. *Lion Island* lies a quarter of a mile east of Bonne Esperance Island, and between them is a low islet, leaving a narrow and difficult channel between it and Bonne Esperance Island. Off the east side of Lion Island is the *Whelp Rock*, which is always uncovered, and 50 fathoms from the island. Between this rock on the west, and Goddard and Caribou Islands on the east, may be termed the inner entrance from the main channel.

To enter the Bonne Esperance Harbour, being to the eastward, and the wind from the east, stand toward Caribou Island, and when off the south side, and half a mile from it, the south sides of Beacon and Red Head Isles, and the north side of Fish Islet, will be in one, bearing W. $\frac{1}{2}$ N. Bear up on this mark, or else steer west, keeping the lead going, and a sharp look-out for Goddard Rock. You will have about 9 fathoms at low water, until past this, when it will deepen suddenly to 15 or 19 fathoms, and then you will be in the channel. Bear immediately N. by E., and Whelp Rock will be right ahead in one with the west side of *House Island*, lying close under the main land, about a mile from Lion Island; it has a house on it. Keep on this bearing till past the Bold Rock, off the south-west point of Goddard Island, bearing a little eastward to clear Lion Bank and Whelp at a cable's length, and then run up W.N.W. close along the inner sides of Lion and Bonne Esperance Islands into the harbour, anchoring where you please, in 12 to 16 fathoms, over a muddy bottom. The whole bay may be considered as a harbour; wood and water may be had in abundance from the main land.

In coming from the west with a leading wind, keep half a mile from the south point of Whale Island, and steer E. by N., to avoid two 4-fathom dangers; one the *Whale Patch*, lying half a mile E. by S. from the centre of Whale Island, the other two-thirds of a mile south of Beacon Island, called the *Middle Patch*. These may be avoided by not coming within a less depth than 10 fathoms, or by keeping southward of the track above mentioned. Keep on this bearing till Whelp Rock and House Island are in one, bearing N. by E.; then haul in upon that bearing, and proceed as before. There are several other entrances into Bonne Esperance Harbour, between the surrounding islands.

ESQUIMAUX BAY and RIVER lie to the north of Bonne Esperance Harbour. *Esquimaux Island* lies in the middle of the bay, and forms, with the main to the east, a very narrow channel, which runs $\frac{1}{4}$ mile E.N.E., and then opens into a wide space with two islets in it. The mouth of the River and the trading post may be reached by keeping along the east coast. The trading post is on a sandy point, backed by spruce trees, 2 miles above Esquimaux Island. The river abounds with salmon. The approach to this river from the westward is so intricate, from the number of islands, that no directions can be given.

ESQUIMAUX ISLANDS.—These islands commence at Caribou Island, and extend for 14 miles to the westward. They are generally bare of trees, and are of all sizes and heights under 200 feet. They form an endless number of channels, which it would be impossible to describe; and off them are several small rocks and shoals, some of which are fully 4 miles from the main land.

Proceeding westward from Whale Island, $4\frac{1}{2}$ miles W. by N. [W.S.W.] we come to the *Fort Rocks*, which are low, and extend 650 fathoms to the south-west of *Old Fort Island*, which is of moderate height, and $\frac{1}{4}$ mile in diameter. The only channel through the islands, between Whale and Old Fort Island, is the *Whale Channel*, between Whale and *Tent Islands*.

Mermot Islet is $\frac{1}{4}$ mile W.N.W. of the outer Fort Rock; it is low, and has a ledge off it a quarter of a mile to the south-west. Midway between Fort Rocks and Mermot Islet, the course in through *Old Fort Channel* will be N.E. $\frac{1}{4}$ N., with very deep water the whole way to *Old Fort Bay*, which runs toward the north-east for 4 miles, with deep water to its head.

The *Dog Islands* lie to the west of the Fort Rocks; they are very numerous, and are surrounded with innumerable rocks and shoals, although there is anchorage between the northern of them and the main, which can be got at easily with a westerly wind from

Shecatica, by running under the main land, in the channel between it and the ledges lying off it.

The *Eider Islands* lie to the north of the Mermot Islands, and east of the Dog Islands.

From the Outer Dog Rocks the *Porpoise Rocks* lie W.N.W. $\frac{1}{2}$ W. $3\frac{1}{2}$ miles, and are three-quarters of a mile off shore; the *Boulet Islet* lies $3\frac{1}{2}$ miles further on in the same direction. It is a small round-backed islet, green at the top, and about 70 feet high. Together with the opening to Lobster Bay, $1\frac{1}{2}$ mile E.N.E. from it, it serves to point out to a vessel its position off the coast. *Lobster Bay* is a narrow inlet running 4 miles to the north-east, and towards its upper end there is anchorage.

The *Peril Rock* is the outermost danger on this part of the coast. It lies $1\frac{1}{2}$ mile from S.S.W. from the Boulet, and dries at half tide.

Rocky Bay runs $1\frac{1}{2}$ mile inland to the N.E. by E., and is one mile east of Lobster Bay. There is a small cove and fish stage, which is well sheltered, one mile up it, on the S.E. side. To the west of Lobster Bay is *Napetepee Bay*, which is very similar to it, and runs N.E. for $4\frac{1}{2}$ miles. Being open to the sea, there is no shelter with a southerly wind; and is, as well as those to the east of it, too narrow to beat out of, with a contrary wind.

Shecatica Island lies W.N.W. $3\frac{1}{2}$ miles from Boulet Island, and contiguous to it on the west is *Mistanoque Island*, and lying close to the main. *Mistanoque Bay* lies directly behind the island of the same name, and runs inland 2 miles to the N.E.; towards the head the depth decreases, so as to be convenient for anchoring.

Opposite the mouth of the bay, on the north side of the island, is *Mistanoque Harbour*, with a depth of 15 to 20 fathoms. Vessels may anchor in less water a little to the east, between the east point of the bay and the island. *Enter Islet* lies nearly half a mile to the west of Mistanoque, and *Diver Islet* lies off its western side; and to the south of which, a reef of rocks runs out 130 fathoms. These islets are low, and 400 fathoms to the N.W. of them is a group of small islands, forming with the others, the western channel to the harbour, which is quite clear. There is nothing immediately outside Shecatica, Mistanoque, Enter, or Diver Islands; so that no other directions seem necessary, than to run through the centre of either channel which may be preferred.

Shag Islet bears W. $\frac{1}{4}$ S. $7\frac{1}{2}$ miles from Mistanoque. It is the best guide for making the latter from the west, as the Boulet, &c., is from the east. It is small and high, with a round peaked hill, looking green in the middle, and is very remarkable. To the S.E. by E. from it there are many rocks; *Shag Rock*, the outermost, is 2 miles from it. When three-quarters of a mile south of the Shag Rock, the south point of Shecatica will bear E.N.E. 8 miles off, and this course will take a mile to the south of the *Three Rocks* lying midway between them.

CUMBERLAND HARBOUR bears N. by E. $\frac{1}{4}$ E. 3 miles from the outer Shag Rock. It is an excellent harbour, the best and easiest of access on this coast. It may be known by a remarkable high hill on the main land, $3\frac{1}{2}$ leagues north from the entrance of the harbour; it is the highest in the neighbourhood, and resembles a castle at the top. The harbour should be approached between the Shag Rock and the *Three Rocks*, which bear E.N.E. $2\frac{1}{2}$ miles from the other. The islands forming the harbour are of moderate height, the easternmost making in two round hills. In sailing in there is no danger but what shows, except a small rock, which lies S. by W. rather more than half a mile from the west point of the entrance. As soon as you arrive within its outer points, haul over to the west side, bear N. by W. $\frac{1}{4}$ W. three-quarters of a mile to the inner point on the west, and then haul to the eastward and anchor where you please. Water can be procured here.

The coast at this part, lying between Mistanoque and Cape Mecattina, is broken into immense bays and inlets, the islands being very large, of moderate height, and partially covered with moss. The outer coast is lined with small islets and rocks, which are very difficult to pass through, while within them, there is a great depth of water in the intricate channels and bays between the islands and the main.

SANDY HARBOUR lies N.N.W. $\frac{1}{4}$ W. $2\frac{1}{2}$ miles from Shag Island, in the large island of the same name. To sail into it, pass to the east of the *Egg Rocks*, lying $1\frac{1}{2}$ mile N.W. by W. from Shag Island, and keep the starboard point of the bay, bearing N.E. more than half a mile from Egg Island, on board in going in. You will then see a small uncovered rock to the north, lying toward the east side off the entrance to the harbour, and which may be passed on either side, and then steer N.N.E. $\frac{1}{4}$ E. for the harbour; and when within the entrance, haul to the N.W. and anchor in 5 or 6 fathoms.

Port Augustine is very small, with a narrow and intricate entrance. There is a seal-fishing and trading post here. The entrance to it is to the west of *Augustine Chain*, a chain of small islets, the outer one a smooth round rock; the south extremity of the chain bearing W. $\frac{1}{2}$ S. 7 miles from Shag Island.

Eagle Harbour, on Long Island, is not fit for anything but small vessels, the entrances being narrow and intricate; and this part of the coast is very dangerous, on account of the numerous islets and rocks off it.

Wood Island, so called from its being covered with wood, lies off the entrance of *Fish Harbour*, N. $\frac{1}{2}$ W. $4\frac{1}{2}$ miles from the *Bottle*, on the north of Great Mecattina Island. The entrance to Fish Harbour is on either side of Wood Island, the northern being the best, there being a ledge to the south of the island which always shows; and a rock of 2 feet one-third of a mile S.S.E. $\frac{1}{2}$ E. from the east point of the island. Wood and water may be obtained, and there is a trading establishment here.

HA-HA BAY is at the western end of the islands which hide the mainland from between it and Mistanoque. It runs N.E. by N. for eight miles, and has several good anchorages, but is out of the way of vessels. *Seal Point*, the western side of the entrance, is a mile N.E. of Wood Island.

GREAT MECATTINA ISLAND is to the South of Ha-Ha Bay, and is 2 miles S. E. from *Red Point*, the nearest part of the main. It is $3\frac{1}{2}$ miles long, north and south, 3 miles wide, and about 500 feet high in the centre; it is granitic, and the position of the island, with relation to the high land inside of Cape Mecattina, 4 or 5 miles W.N.W., distinguishes it from any other island in the Gulf.

Nearly joined to its north point, is the *Bottle*, a high round islet, with a small rock close off it; to the N.W. by N., and half a mile in the same direction, is a rocky shoal of 4 fathoms. *Bluff Head* is the high N.E. point of the island; and between it and the *Bottle* is a cove, one mile deep, called *Island Harbour*, sheltered from the east by a cluster of small islets and rocks, leaving a passage on either side of them. The anchorage is near the head of the cove, in from 14 to 20 fathoms.

Treble Hill Island lies E. by S. about 3 miles from the centre of the island. *Flat Island* lies S.S.E. $\frac{1}{2}$ E. 3 miles from the south point, and the *Murr Islets* lie S.W. about 4 miles from the same point, and a quarter of a mile N.E. by E. from the easternmost of them, is a ledge on which the sea generally breaks. These islands are quite bold-to, and swarm with sea-fowl.

MECATTINA HARBOUR is small and safe, lying between Mecattina Island and the mainland, $3\frac{1}{2}$ miles N.W. by W. $\frac{1}{2}$ W. from *Round Head*, a high peninsula on the west side of Great Mecattina Island, and $2\frac{1}{2}$ miles N.E. from Cape Mecattina. The eastern entrance is rendered difficult, from a reef of rocks running across it to the northward, and should not be attempted but in fine weather, as the slightest mistake would place the vessel on shore. The western entrance is in the small bay between Mutton and Mecattina Islands, but there is no anchorage in it; and to enter the harbour it is only necessary to keep in the middle, there being no danger, to pass safely through the narrow western entrance. The depth within is 6 or 7 fathoms, but 3 fathoms can only be carried through the entrance. Wood and water can be procured, and it is much frequented by whale fishers.

To the west of Mecattina Harbour is *Portage Bay*, lying 2 miles N. by E. from the south point of Cape Mecattina. It runs in about $1\frac{1}{2}$ mile to the northward, and affords some shelter. In the mouth of the bay is a small islet, towards the east side, which forms a small harbour, the western entrance to which is the best. In the approach to this harbour there are two 15-foot ledges to be avoided, one 400 fathoms S. $\frac{1}{2}$ W. from the west end of Mutton Island, and the other half a mile N.E. by E. from the Southern Seal Rock, which is three-quarters of a mile N. E. by N. from the south point of Cape Mecattina. Inside the bay, just within the entrance, there is also a snug cove on the east side for small vessels.

GREAT MECATTINA POINT.—The S.E. extremity is in lat. $50^{\circ} 44' 10''$ north, and long. $58^{\circ} 59' 55''$ west. It is a long and very remarkable promontory of the mainland, and of moderate height for some distance to the northward of its extremity; but about 3 miles to the north, it rises to the height of 685 feet above the sea, and the *high land of Mecattina*, at the back of the Mecattina harbour, is the highest land upon this coast.

From the point there are some islands and rocks, extending for $2\frac{1}{2}$ miles nearly in a line S.S.E. $\frac{1}{2}$ E. from the southern extreme of the promontory.

LITTLE MECATTINA ISLAND.—The eastern point of this island lies W.S.W. $\frac{3}{4}$ W. [*S.W.*]

15 miles from Great Mecattina Point, and between them is an extensive bay, filled with innumerable islands and rocks, among which no vessel could find her way, and all description is therefore useless.

Little Mecattina Island is nearly divided into two parts by the *Bay de Salaberry*, on its western side; the northern portion is very low, composed of sand, covered with moss, and connected to the southern part by a very narrow isthmus. The south part is remarkable land, the highest part of which is 800 feet above the sea, and is visible from a great distance, while the islands and coast around it, being lower, cannot be discerned so far.

To the N.N.W. of the island is the *Little Mecattina River*, which is large, and falls 30 feet over granite, $2\frac{1}{2}$ miles above the island. There is no channel for vessels between the island and the main.

HARE HARBOUR is on the east of the island, and has several rocks and ledges in it; it is open to the south, but the swell there is not large enough to affect a vessel.

In coming from the east to this harbour, the outermost danger in the space between it and Cape Mecattina is the *Fin Rocks*, lying W.S.W. $\frac{1}{4}$ W. 10 miles from Cape Mecattina, and E. $\frac{1}{4}$ N. $5\frac{1}{2}$ miles from Point Antrobus, the S.E. extreme of Little Mecattina Island, and between which is a large open bay, called the *Bay of Rocks*. With an easterly wind, these *Fin Rocks* ought to be passed at the distance of half a mile. After passing them, $2\frac{1}{4}$ miles westward, the *Scale Rock* will be 400 fathoms to the right, and the *Tail Rocks* three-quarters of a mile distant; and one mile further on the same course, the *Single Rock*, just above water, will be three-quarters of a mile to the right, and which should not be approached nearer than a quarter of a mile, on account of three sunken rocks around it, 150 fathoms distant. When abreast of this, bear north-westward by degrees, till half a mile west of it, when the entrance to the harbour will be quite clear, and to the W.N.W. It lies between *Daly* and *Price Islands*; and within the entrance, about 170 fathoms, on the east side, is the *Watch Rock*, above water, and *Bold Islet*, one-third of a mile from the entrance. On the west side, bearing N. $\frac{1}{4}$ W. 200 fathoms from the east extreme of Daly Island, which is the west side of the entrance, lies *Safe Rock*, above water; and nearly midway between it and Bold Islet, is *Rag Ledge*, which just dries at low water. These are the principal dangers near the entrance, and when within them you can choose the anchorage, by the lead, avoiding some 4 to 6-fathom rocky patches. In coming here from the west, after passing one-quarter of a mile off *Staff Islet*, lying off the east side of Little Mecattina Island, the entrance will bear N. $\frac{1}{4}$ W. one mile distant; and it cannot be mistaken, as it is the only channel through which you can see clear into the harbour, the other channel between Daly and Price Islands, to the east of the proper channel, being intricate and unsafe, and therefore must be avoided.

Little Mecattina Cove is on the east side of the island, to the N.N.E. of Point Antrobus, but it is small and deep. Water can be procured at its head.

The South shore of Little Mecattina Island, to *Cape Mackinnon*, is high and bold, with remarkable beaches of white boulder stones occasionally; and to the west of the island is *Aylmer Sound*, in which there is no danger that cannot be seen.

The *Spray Reef*, awash at low water, lies W.N.W. $\frac{3}{4}$ W. $1\frac{1}{2}$ mile from Cape Mackinnon. There is no good anchorage in Aylmer Sound, until beyond the *Doyle Islands*, behind which is *Lou Road*, and *Louisa Harbour*, which is about 200 fathoms wide at the entrance, and vessels can ride within, in from 3 to 5 fathoms, over a muddy bottom. It is sheltered from the W.S.W. by the *Doyle Islands*, and the approach to it is to the east of them, keeping them aboard, to clear some ledges lying in the entrance of *Salaberry Bay* to the N.E.

Cape Airey is the south point of the *Harrington Islands*, and bears W. $\frac{1}{2}$ S. [*S.W. $\frac{1}{4}$ W.*] 5 miles from the south point of Little Mecattina Island; and 2 miles S. by W. $\frac{1}{4}$ W. from it is *Black Reef*, of low black rocks above water; and W. by N. $1\frac{1}{2}$ mile from Cape Airey, is *Major Reef*, awash, which is $4\frac{1}{2}$ miles from the *Netaganu Islands*, on the same line of bearing. These islands are small, with a remarkable mound on the largest of them. *Netaganu River* bears N. by W. $1\frac{1}{2}$ mile from the islands, and may be known by the sandy beach, backed with a thick growth of spruce trees on either side the entrance, which is narrow and deep, and $1\frac{1}{2}$ mile from which are the falls, 50 feet high. A bar of sand extends a mile from the entrance, and is extremely dangerous to boats; it has 3 feet water over it.

The *St. Mark Islands* lie W.S.W. from Cape Airey, 10 miles distant; they are of bare steep granite, and bold all round. The *Cliff Island* and *Boat Islands* lie to the west of them.

WATAGHEISTIC ISLAND lies to the north of these; it is 3 miles long, and above $1\frac{1}{2}$ mile broad, and lies in the mouth of a large bay, forming a large sound within it, in which there

are several good anchoring places. These cannot be approached without seven miles of dangerous navigation, and therefore should not be attempted but under absolute necessity. To the north of the St. Mary Islands are several islets, rocks, and reefs; *Cove Island* is the largest, bearing 4 miles N.N.W. from the north point, and there are thickly scattered rocks both above and below water, between it and the Netagamu Islands. The eastern entrance between Watagheistic Island and the main, is narrow and intricate, but the western entrance is half a mile wide; and though there are several rocks and ledges in it, yet it can be safely sailed through with proper care; but there is no good anchorage on the route to, or outside either entrance to Watagheistic.

St. Mary Reefs are four very dangerous ledges, just under water, extending a mile, N. and S.; the southernmost bearing S.W. $\frac{1}{4}$ S. $3\frac{1}{2}$ miles from the S.W. extreme of the Boat Islands, W.S.W. $\frac{1}{4}$ W., and 6 miles from the S.W. extreme of the St. Mary Islands. The *Tender Rock* is small and awash; it lies N. by W. $\frac{1}{4}$ W. a mile from the northernmost St. Mary Reef, and 2 miles S. $\frac{1}{4}$ W. from the westernmost of the *Middle Islands*, which lie within the Boat Islands, between them and Watagheistic.

Between the Middle Islands and Wapitagun, the coast is broken into coves, and lined with islets and rocks innumerable, among which nothing but a very small vessel, perfectly acquainted with the coast, could find her way.

The *Etamamu River* enters the sea at 4 miles N.E. from Wapitagun. It is rapid, and there is a trading and salmon-fishing post at its mouth.

Mistassini Rock is a remarkable block of granite, resembling a mortar, and sometimes called the Gun by the fishers. It is an excellent guide to the eastern entrance to Wapitagun, from which it is distant three-quarters of a mile to the westward.

Southmakers Ledge lies S. by W. $3\frac{1}{2}$ miles from the Mistassini Rock, West [S.W. by W. $\frac{1}{4}$ W.] 9 miles from St. Mary Rocks, and $6\frac{1}{2}$ miles S.E. $\frac{1}{4}$ E. from Cape Whittle. The course from this dangerous reef to Greenly Island, near the entrance of the Strait of Belle Isle, is E. $\frac{1}{4}$ N. [N.E. by E.] distance 128 miles. It is a small rock, which is never entirely covered in moderate weather; the extent of the reef around it is 130 fathoms E. and W. and 50 fathoms N. and S., and there is no danger near it. The soundings are very irregular round it.

WAPITAGUN HARBOUR is a long narrow channel between the outer islands of Wapitagun, which are of bare granite, and appear as but one island, and Wapitagun Island to the northward of them, and is completely sheltered; the western entrance to the harbour is sharp round the western extremity of the outer Wapitagun Islands, which lies E. $\frac{1}{4}$ S. from Cormorant Point, 600 fathoms off. This entrance is about 30 fathoms wide, and the harbour itself is narrow and unsuitable for vessels above 150 or 200 tons.

To enter in from the southward with an easterly wind, bear for the eastern entrance, which has been pointed out; there is nothing in the way. On the west side of the entrance there is a rock and ledge which shows, and therefore you must keep on the east side, steering N.W. by N. one-third of a mile; within the entrance there are three small islets, and to the northward a cove running in to the westward, round a steep rocky point, which has a sunken rock close off it to the S.E. Leave all three islets to the left, passing close to them, and bear up to the westward between them and the steep rocky point; this is the safest passage, but a good look-out ought to be kept.

To enter the harbour by the western entrance with a westerly wind, run down between the Southmakers Ledge and the *Cormorant Rocks*, which lie to the south of Lake Island, bearing to the north to pass the S.E. *Cormorant Rock*, at the distance of half a mile. This rock will be readily known from the *Nest Rock*, covered with birds and whitened by them; and 120 fathoms to the west of it, four hundred fathoms to the N.E. of the S.E. Cormorant, is a 2-fathom ledge, which must be left on the left. Then haul to westward a little, so as to leave the *Slime Rock* or N.E. Cormorant, not less than 300 fathoms on your left, to avoid another 2-fathom ledge, bearing N.E. $\frac{1}{4}$ N. one-quarter of a mile from that rock. Passing close to the east of this, steer for the islet in the channel, which you will see between the west extreme of the outer Wapitagun Islands and Cormorant Point; but to pass to the eastward of *Long Ledge*, lying midway between Slime Rock and Cormorant Point, the course must not be above N.N.W. $\frac{1}{4}$ W., or the west end of the before-mentioned islet, on with the high point, which is the east end of Lake Island, lying northward of the islet. When within 2 cables' length of the islet, the harbour will begin to open to the eastward, when you must bear up quickly for it, leaving the islet to the northward, keeping 200 fathoms off the west point of the outer Wapitaguns, to clear a ledge lying off

it, and when it bears to the west of north, proceed into the harbour and anchor where you please.

CAPE WHITTLE, the S.W. point of *Lake Island*, is in lat. $54^{\circ} 10' 44''$ N. and long. $60^{\circ} 6' 46''$ W., and from this point the coast of Labrador trends to the west. There is water to be had on *Lake Island*, but wood is procured from the main-land.

The flood from the east and the ebb from the west usually run past here at a rate varying between half a mile and one mile, but are much influenced by the winds.

IV.—THE NORTHERN SHORE OF THE GULF BETWEEN CAPE WHITTLE AND CAPE DE MONTS, INCLUDING THE MINGAN ISLANDS.

GENERAL REMARKS.—From Cape Whittle to Kegashka, the coast, like that to the eastward of it, is of granite, and the islets and rocks literally not to be counted. The islets are bare of wood, and covered with peat, full of stagnant ponds of black water, where ducks and other water-fowl breed, and frequented by numerous flocks of the Labrador curlew in August and September. There are plenty of berries, but they do not always ripen. Altogether, it is a wild, dreary, and desolate region; and, in a gale of wind on shore, the appearance is terrific; it is one line of foaming breakers.

To the westward of Kegashka, fine sandy beaches, in front of sandy cliffs, 70 or 80 feet high, and a country thickly wooded with spruce trees, commence and continue to Natashquan Point, a distance of $13\frac{1}{2}$ miles.

Parallel with this coast, and at distances varying from 6 to 11 miles, there are banks of sand, gravel, and broken shells, on which the depth of water is various, between 24 and 40 fathoms. There is more than 50 fathoms of water in some parts, between these banks and the shore. Cod-fish are often caught in abundance on these banks, principally by American schooners.

Seen from the distance of 4 or 5 leagues, the coast presents an outline so little diversified, that it is nearly impossible to distinguish one part from another; and it is only when a vessel approaches within 4 or 5 miles from the outer rocks, that its broken and dangerous nature becomes apparent; and although there are few coasts more dangerous, either to a vessel unacquainted with its nature, or unaware of its proximity on a dark night, or thick fog, yet with the assistance of the chart, due caution, and a constant use of the deep-sea lead, it may be approached with safety; and a vessel may even stand close in to the outer rocks and breakers on a clear sunny day, provided there be a trusty person aloft to look out for shallow water, for the bottom can be seen in 4 or 5 fathoms of water.

The coast between Natashquan and the Mingan Islands is low near the sea, rising a short distance back into mounds and ridges, but nowhere exceeding 400 feet in height. It is composed of primary rocks, with the exception of a sandy track, 10 or 12 miles west of Natashquan. The sandy tracks are always thickly wooded with spruce trees, and the country generally is here less bare than it is further to the eastward.

CAPE WHITTLE.—From Cape Whittle to Natashquan Point, the bearing and distance are N.W. by W. $\frac{1}{2}$ W. [$W. \frac{1}{2}$ S.] 63 miles. Off the Cape to the S. and W. are several small rocks, above and under water, the outermost of which, the *Whittle Rocks*, covered at half-tide, are $2\frac{1}{2}$ miles distant from it.

Wolf Island is larger and higher than the outer islands usually are, and is $6\frac{1}{2}$ miles N.W. by W. of Cape Whittle, and between them is *Wolf Bay*, which is 6 or 7 miles deep. Between *Wolf Island* and the Cape, there are numerous rocks and ledges, with intricate and deep channels, rendering the approach to the bay very dangerous; but there are no dangers that do not show.

COACOCHO BAY, the next to the westward, is the only place affording anchorage to large vessels upon this part of the coast. It is not at all difficult of entrance, although the number of islets and rocks in every direction make it appear so. There is an excellent harbour called the *Basin*, in the head of the bay, and another formed by an arm running in to the E. by N. named *Tertiary Shell Bay*, which is equally safe. Further out than these harbours, the bay is more than half a mile wide, and quite sufficiently sheltered from the sea, for the safety of any vessel with good anchors and cables.

The entrance to the bay is formed on the east by *Wolf Island*, and *Outer Islet*, lying one mile S.W. of *Wolf Island*, and on the west by *Audubon Islets*.

Off the entrance, lying 2 miles W.N.W. $\frac{1}{2}$ W. from *Outer Islet*, is the *South Breaker*, with 12 feet water; and $2\frac{1}{2}$ miles N.W. by N. from this, and $2\frac{1}{2}$ miles west of Point

Audubon, is the *S.W. Breaker*, with only 3 feet water; the channel between them is clear and deep. To enter the bay, leave Outer Islet and the rocks to the north of it, 300 fathoms to the eastward, and when abreast of these rocks, a chain of low rocks, which project to the S.W. of *Emery Island*, will be seen right ahead. Bring the point of this chain to bear N.E. $\frac{1}{2}$ N., when it will appear on with the extreme point of the mainland, on the N.W. side, near the head of the bay, and run in on this mark, leaving some rocks, which lie 600 fathoms off the east side of Audubon Islets, to the larboard, and then haul to the northward a little, so as to leave the *Emery Rocks* on the starboard. Their outer point bears N.N.E. $\frac{1}{2}$ E. 3 miles from Outer Islet, and when up to them, the bay is open before you, and clear of danger. The further in, the better the ground, and the less the swell with S.W. winds, which are the only winds that send any swell into the bay. Tertiary Shell Bay is quite clear, excepting a small rock, one quarter of a mile within the entrance, which you must leave on the starboard hand; within it is perfectly land-locked, with from 5 to 11 fathoms, muddy bottom.

The *Basin*, lying to the north of Tertiary Shell Bay, is entered by leaving the latter to the east, and continuing the course till within half a mile of the island, at the head of the bay. Then steer over to the eastward, towards that island, to avoid a shoal of boulder stones, extending 200 fathoms off the west side of the bay, leaving a deep channel between it and the island, 100 fathoms wide. Leave the island 50 fathoms to the eastward, and as you pass through, the water will deepen from 9 to 19 fathoms, as soon as you are past the inner end of the island, when you must haul to the N.W., into the mouth of a small bay, anchoring in 8 fathoms, over mud, and perfectly sheltered. On the east side of the entrance of the river, is a house occupied for fur-trading and salmon-fishing.

OLOMANOSHEEBO RIVER, called also by the Canadians, *La Romaine*, is a considerable river, but very shoal, and there is a trading-post on the east side, but which cannot be seen from the sea. It lies 4 leagues westward of Coacocho, and the coast between is formed of innumerable islets and rocks.

Treble Islet and the *Loon Rocks* lie to the westward, the latter always visible, and 3 miles from the main-land, and are the outermost danger on this part of the coast.

Wash-shecootai Bay is 10 miles west of Olomanosheebo; off its entrance are several small rocky ledges, that make it very difficult of entrance. Three miles from *Cloudberry Point*, the western point of the bay, the bay contracts to a very narrow inlet, with several rocks and islets in it; 8 miles above this is a trading-post of the Hudson's Bay Company.

MUSQUARRO RIVER, another post of the Hudson's Bay Company, is $4\frac{1}{2}$ miles westward of Cloudberry Point, and is situated 3 miles within the west point of a bay full of small islets and rocks, becoming narrow and rapid just within the entrance. It will be known by the houses which are on the east side of the entrance, and also by a remarkable red and precipitous ridge of granite, about 200 feet high, about 2 miles to the west of the river.

KEGASHKA BAY is a wild place, safe in fine weather only; the bottom is sandy, bad holding-ground. It lies $5\frac{1}{2}$ miles westward of Musquarro Point, between *Curlew Point*, which must not be approached within half a mile, and *Kegashka Point*, on the west, 3 miles from Curlew Point. Kegashka Point is an island nearly joined to a rocky peninsula, which is distinguished from all other islands on this coast, by being partly covered with spruce trees. A chain of small islets, wide apart from each other, afford very indifferent shelter from the prevailing southerly winds, and the heavy sea which they roll in upon the coast. The best berth is in the S.W. corner of the bay; the vessel must be moored with an open hawse to the eastward, and have a third anchor on shore to the S.W. so as to be able to haul close in under the point, in the S.W. and southerly gales; her bows will then be within 15 or 20 fathoms of the rocks, and the spray of the sea, breaking on the Point, will reach her bows.

To enter the bay, the best channel is between a small and low black islet, lying between *Green Island* (which is covered with grass, three-quarters of a mile eastward of Kegashka Point,) and Kegashka Point. This channel is 170 fathoms wide, and 8 deep, and is quite clear; the only direction necessary when coming from the westward, is to give the south extremity of Kegashka Point a berth of a quarter of a mile, or to go no nearer than 8 fathoms; then run along the east side of the point, which is quite bold, leaving all the islets on the starboard hand. Three-quarters of a mile on the N.E. $\frac{1}{2}$ N. course, will bring you to the narrow channel before mentioned; haul round the Point to the north-westward, at the distance of half a cable, and when within it, anchor as before stated. In coming from the east, give Curlew Point a berth of half a mile, and run N.W. $\frac{1}{2}$ N. $3\frac{1}{2}$ miles, till Kegashka point bears north, and then proceed as before directed. The roar of the surf

upon the rocks and reefs in every direction, after a heavy southerly gale, and on a still night, is deafening. The white spray, glancing in the light of the moon, or of the Aurora Borealis, which is very brilliant upon this coast, is beautiful and grand. These sounds and sights, together with the rolling of the vessel, from the side-swells round the point, which take her on her beam, are quite sufficient to keep every one on the alert in such a place. Only one vessel can be secured in this harbour as above,—there is not room for more.

Kegashka River, another fishing station of the Hudson's Bay Company, is 3 miles west of the bay, and only affords shelter for boats.

NATASHQUAN POINT lies 16 miles westward from Kegashka River, the coast between being a line of sandy beaches in front of sandy cliffs covered with spruce trees.

Two miles east of the point is *Mont Joli*,* which is merely a slight elevation of the ridge, rising to about 100 feet high.

From Natashquan Point, the east point of Anticosti bears S.S.W. [$S. \frac{1}{2} W.$] 57 miles, and $1\frac{1}{2}$ mile S.W. from Natashquan Point there is a small $4\frac{1}{2}$ -fathoms cod-bank, upon which, as upon other banks to the eastward of the point, which lie from 6 to 11 miles off shore, there are sometimes large quantities of cod taken.

NATASHQUAN RIVER is on the west side of the point, and enters the sea at 3 miles north-westward from its south extremity. The mouth of the river, between low, sandy points, is fully a mile wide, but is filled by a low, sandy island, having narrow channels on each side; the southern of which has a depth of from 6 feet to 9 or 11 feet, according to the tide, and there is the same depth within, where there is a Hudson's Bay Company's Post.

Little Natashquan Harbour lies $3\frac{1}{2}$ miles N.N.E. of the river, and is only fit for small vessels; and from its convenience and proximity to the excellent fishing grounds, it is of great service to the fishing vessels.

The entrance to it is between some islets on the east, which lie near the mouth of the Little Natashquan stream, the westernmost of which is much the largest, and on the western side is a rather high and round-backed islet of grey granite, with a wooden cross on it. Off this islet a reef extends S.W. by S. rather more than half a mile. Between the two sides of the entrance, is a central reef, part of which always shows, and which is bold-to, on its east and south sides; the other sides must have a berth in passing them. To enter the harbour, having arrived in 12 fathoms at half a mile distant from the harbour, and made out the islets at the entrance, bring the west point of the longer island on the east side, to bear N.E. by N., and the islet with the cross on it will bear N. by E. $\frac{1}{2}$ E.; and then steer for the latter, till abreast of the outer part of the reef to the westward, and then bear sufficiently to the eastward to pass on either side of the central reef, keeping clear of the shoal water on its north and north-east ends, and anchor in the centre of the harbour in 4 fathoms, with the rock of the central reef bearing S.S.W. $\frac{1}{2}$ W. 180 fathoms off, and the cross N.W. by W. $\frac{1}{2}$ W.

Washtawooka Bay is an intricate and dangerous place, with shelter for shallops and boats. It is 5 miles N.W. of Little Natashquan and $3\frac{1}{2}$ miles eastward of *Agwanus River*, a large stream, the approach to which is very dangerous. Five miles north-westward from this is *Nabesippi River*, which is much smaller, and will only admit boats in fine weather. On the west bank, a short distance within the entrance, stands a house and store, a trading post of the Hudson's Bay Company.

To the west of this, between it and the Mingan Islands, there are several rivers and small bays, which are so full of rocks and small islets, that no written directions for them would be of any avail.

Wacheeshoo Hill is of granite and 127 feet high, bare of trees, 18 miles N.W. by W. of Nabesippi, and 14 miles E.S.E. of St. Genevieve Island; and 6 miles inland, north

* It is only remarkable as being the western limit of the American fishery; for by convention with the United States, of 20th Oct. 1818, the inhabitants of the said States, renouncing previous claims, have, for ever, in common with British subjects, the liberty of taking fish on the southern coast of Newfoundland, between Cape Ray and the Ramea Isles, and on the western and northern coasts, from Cape Ray to the Quirpon Isles; also on the shores of the Magdalen Islands, and on the coasts, bays, harbours, and creeks, of Labrador, from Mont Joli through the Strait of Belle-Isle, and thence northward, indefinitely, along the coast, but without prejudice to the exclusive rights of the Hudson's Bay Company; and, the fishermen of the United States have liberty, for ever, to dry and cure fish in any of the unsettled bays, harbours, and creeks, of the southern parts of Newfoundland, above described, and of the Coast of Labrador, but so long as unsettled only, without previous agreement with the inhabitants, &c.

from it, is *Saddle Hill*, 374 feet high; these are remarkable, and serve to point out the situation of a vessel at sea. There is a fishing post of the Hudson's Bay Company here in a cove to the westward of the rocks.

Appeeletat Bay is 3 miles from the S.E. point of St. Genevieve Island, the easternmost of the Mingaus. It is of no use to vessels, as it is crowded with ledges and shoals.

MINGAN ISLANDS.—These are a chain of limestone islands, of moderate height, perhaps nowhere exceeding 300 feet above the sea. They are separated into two divisions by Clearwater Point, the easternmost of which has been called the Esquimaux Islands; but besides that the island, properly so called, belongs to the other or western division, there is another group bearing the same name on the coast to the eastward. They will therefore be considered as all comprised within the title of the Mingan Islands.

Their general character, in nautical language, is low. They are bold and frequently cliffy on their north, east, and west sides, low and shelving toward the south, in which direction the reefs and dangers exist. They possess very little soil, but nevertheless are thickly wooded with spruce, birch, and poplar, on the side toward the main-land; though towards the sea barren tracts often occur.

Supplies of wood and water can readily be obtained from the principal islands; wild berries are abundant in their season, and so are different kinds of wild fowl. Quadrupeds are scarce, but there are plenty of seals on the limestone reefs, and a few cod-fish off the coast.

There are 29 islands in all, extending about 43 miles from St. Genevieve on the east, to the Perroquets on the west end of the chain. Of these, Large Island is the largest, as its name implies. It is about 10 miles in circumference; Hunting Island is nearly as large, and Esquimaux Island not much smaller. The northern points of these islands are nowhere more than $3\frac{1}{2}$ miles from the main-land; the southern points never more than $6\frac{1}{2}$ miles.

The main-land is of low granite hills; St. John's Mountain is the highest part of the chain in the neighbourhood, 1416 feet above the sea. Toward the eastern end of the islands, the main becomes very low, the coast of sand and clay, and thickly wooded, the hills being very far back in the country.

The tides are not strong among the islands, perhaps never exceeding a koot, excepting in the very narrow channels; it rises about 6 feet in spring tides.

ST. GENEVIEVE ISLAND is the easternmost of the group, and is about 5 miles in circumference. On the main-land, 2 miles N. $\frac{1}{2}$ E. from the bluff N.E. point of the island, is *Mount St. Genevieve*, an isolated table hill, 332 feet high, marking, with the N.E. point of the island, the position of the *East Channel*, between the island and the main.

In approaching this island, there are two dangers to be avoided, *the Saints*, two low bare rocks, half a mile to the south of the island, leaving a foul channel of 5 fathoms between them and the island, and the *Bowen Rocks*, which lie two-thirds of a mile asunder; the *North-western Rock* of 3 feet, $\frac{1}{4}$ mile E.S.E. $\frac{1}{2}$ E. from the Eastern Saint; the *South-east Bowen Rock*, with 6 feet least water, two-thirds of a mile S.E. $\frac{1}{2}$ S. from the N.W. rock, and S.E. by E. $\frac{1}{2}$ E. $\frac{1}{2}$ mile from the East Saint, which will be just open to the northward of the Western Saint; the whole of this dangerous part should be avoided by vessels.

ST. GENEVIEVE HARBOUR is on the N.W. side of the island, between it and the main, and it may be entered either by the *East Channel* or by the *Saints Channel*, between St. Genevieve Island and Hunting Island, to the west.

To enter by the East Channel, when at least 3 miles off the island, in order to clear the Bowen Rocks, bring the N.E. point of St. Genevieve in one with *Indian Point*, which is a low wooded point of the main, forming the east point of *Pillage Bay*, bearing N.W. by N., and standing in on this course will leave the Bowen Rocks half a mile to westward, and when the S.E. point of St. Genevieve and the *West Saint* come in one, change your course a little to the northward, to clear a flat shoal extending 300 fathoms from the east side of the island. Give the *N.E. Point* a berth of a cable's length, and passing close to the shingly north point of the island, bring up in 10 fathoms, half-way between that point and Anchor Island, on the N.W. side of St. Genevieve.

To enter by the *Saints Channel*.—Keep at least 5 miles off the coast of St. Genevieve, so as to be outside of the *Collins Shoal* of 15 feet; it is a small patch of rocks, lying $2\frac{1}{2}$ miles south from the S.E. point of Hunting Island. The marks on this dangerous shoal are the east point of St. Genevieve, just open to the eastward of the Western Saint, bearing N.W. $\frac{1}{2}$ N., and the north point of Wood Island on with the south side of the Garde Rock.

Being outside this shoal, bring the west points of St. Genevieve Island and Anchor Island in one, bearing north, and run in on this leading mark, until the north sides of the two Saints come in one, bearing E.S.E. $\frac{1}{2}$ E.; then steer upon this leading mark, to clear the reef extending 280 fathoms off the S.W. point of St. Genevieve, until the east side of Mount Genevieve, seen over the sandy S.E. point of Anchor Island, comes in one with the N.W. point of St. Genevieve Island, bearing N.N.E. $\frac{1}{2}$ E. Then bear to the north, which will take through the centre of the channel between St. Genevieve Island and Hunting Island; and then proceed to the harbour round Anchor Island.

Wood and water may be obtained, and the whole space between the islands and the main is well sheltered, and will accommodate a great number of vessels of the largest class.

BETCHEWUN HARBOUR lies to the west of that of St. Genevieve, and between Hunting Island and *Partridge Point*, the western point of Pillage Bay. One entrance to this harbour is through the East Channel, before described; but if, instead of proceeding to St. Genevieve, this is made for, you must pass to the northward of Anchor Island, which is quite bold on that side, when the entrance will bear W. by N., between the north point of Hunting Island, a cliffy mound, and *Partridge Point*, on the N.E. side of which is *Mount Partridge*, a wooded, steep-sided hill, which is easily recognised. You must pass close to the north point of Hunting Island, to avoid a shoal, extending one-fourth of a mile off *Partridge Point*; and when within the entrance, steer for a low islet in the centre of the harbour, bearing W. by N., and anchor one-third of a mile from it.

The Saints Channel, before described, is another entrance; and when at its northern part, bear along the N.E. side of Hunting Island, which is quite bold, instead of proceeding east to St. Genevieve.

On the west of Hunting Island is *Puffin Bay*; and *Charles Island*, forming its western side, is $3\frac{1}{2}$ miles from Hunting Island. It is 3 miles long and $1\frac{1}{2}$ wide, and about 200 feet high. On its north side is **CHARLES HARBOUR**, which is narrow, but perfectly secure, with a depth of from 4 to 6 $\frac{1}{2}$ fathoms, with mud bottom.

To enter Charles Harbour from *Puffin Bay*, bring the N.E. point of Charles Island, which is high and cliffy, to bear N.W., then steer for it, rounding it at a distance of 100 or 180 fathoms, bearing to westward into the harbour. To enter from *Trilobite Bay*, to the N.W. of the island, and which affords excellent anchorage, sheltered from all but the south, give the N.W. point of the island a berth of from 60 to 140 fathoms, and bear round S.E. by E. into the harbour.

CLEARWATER POINT is low, but the shoal water does not extend above one-quarter of a mile south of it. Its S.W. extreme is in lat. $50^{\circ} 12' 35''$, and long. $63^{\circ} 27' 4''$; and with *Ammonite Point*, 2 miles to the east, it forms a promontory, dividing the Mingan range.

One mile and a half due west from Clearwater Point is a rocky 3-fathom shoal; and there are three others with 2 fathoms, lying to the northward of the first, and in a line from the point towards Walrus Island: the outer and westernmost being rather more than 2 miles from the point. The leading mark for passing outside these shoals is, the south points of Gull and Fright Islands in one, bearing N.W. by W.

Westward of this point are *Walrus Island* and *Sea Cow Island*, lying close together in a N.E. direction; off the S.E. point of Sea Cow Island the reef extends three-quarters of a mile to the southward, and off Walrus Island for 200 fathoms.

ESQUIMAUX ISLAND lies to the west of these, and is about $2\frac{1}{2}$ miles long, and $1\frac{1}{2}$ wide: off its S.E. point is *Gull Island*, half a mile distant, but no passage between; it is bold-to. On the S.W. side of Esquimaux Island there is a shoal extending towards *Fright Island*.

ESQUIMAUX HARBOUR is on the north side of the island, between it and the main; the depth is from 5 to 15 fathoms, sandy bottom, and it is nearly $1\frac{1}{2}$ mile long, in a N.W. $\frac{1}{2}$ W. direction, between the N.E. and N.W. points of the island, which shelter it well, if vessels anchor well over toward the island. The best channels to it are between Walrus Island and *Green Island*, which lies one-third of a mile E.S.E. from Esquimaux Island, on the east, and between *Fright* and *Quin Islands* and *Niapisca Island*, on the west.

The east passage, the best with easterly winds, is three-quarters of a mile wide, and is clear and deep; and it is only necessary to keep the middle of it, bearing north towards the N.E. point of Esquimaux Island, which will bear in the centre of the channel, and haul round it, at a cable's length off, to the N.W., into the harbour.

The west channel, between Niapisca Island and Fright Island, is preferable to that between the latter and Esquimaux Island, leading north-eastward; having no leading marks, and reefs extending on either side, it is extremely dangerous, and should therefore not be attempted.

In coming here with a westerly wind, the reefs off the south and east of Niapisca Island must be avoided; to do this, do not open the N.W. point of Fright Island, clear of the south end of Quin Island, until *Moniac Island*, which is $2\frac{1}{2}$ miles N. $\frac{1}{2}$ E. of Niapisca Island, is in sight to the east of Niapisca, when you may bear round into the channel; bearing N.N.E. $\frac{1}{2}$ E. until *Moutange Island*, lying next west of Moniac Island, is open of the north point of Niapisca, when you will be clear of the reef on the east of that island; then haul up, to clear the reef which projects half a mile W.N.W. from the north point of Quin Island, until you open the N.E. point of Esquimaux, or the north point of Sea Cow Island, to the northward of Quin Island; and then run in between Quin Island and *Point aux Morts*, towards the north point of Esquimaux Island, and haul round it south-eastward into the harbour. Between Point aux Morts and Esquimaux Point there is shoal water, and to the west of the former there are some small islets, which will be cleared by keeping the N. and N.E. points of Esquimaux Island in one, bearing S.E. $\frac{1}{2}$ E.; if these are opened, before passing as far eastward as Quin Island, the vessel will be ashore.

QUARRY ISLAND is the next westward from Niapisca, and is about the same height; it is divided from the latter by a channel with a small islet in it, but no safe passage for shipping. Off its south side there are some reefs extending one-third of a mile.

On its north side is *Quarry Cove*, which is a small land-locked harbour, and easy of entrance; the west side may be kept close in entering, and anchor in the centre in 9 or 10 fathoms.

LARGE ISLAND is divided from Quarry Island by a clear channel 400 fathoms wide, the water being shoal towards Large Island, and therefore in passing through it, Quarry Island, which is bold-to in its northern part, must be kept on board. The island is 4 miles long, and its highest part 200 feet above the sea: it is thickly wooded.

The BIRCH ISLANDS lie 2 miles to the west of Large Island. In a line with these two islands, and Harbour Island to the northward, is the *Middle Reef*, about a mile south of the Outer Birch Island, and within a line joining the south points of Large and Mingan Islands. A part of it always shows. To clear the eastern side of the shoal water around it, bring the eastern sides of the two Birch Islands in one.

Between this reef and Large Island is LARGE CHANNEL, which is the best channel to Mingan Harbour with an easterly wind; and in passing through it, the only thing to be observed is, that the reefs extend to the westward, off the shore of Large Island, from 2 to 3 cables' length, as far in as the *Flower Pot Columns*, a mile to the northward of its S.W. point, after which the island becomes bold. Further in, the Birch Islands form the western side of the channel, at the distance of nearly 2 miles from Large Island. The eastern side of the Outer Birch Island is quite bold, and the shoal water extends only 150 fathoms off the east end of the Inner Birch Island.

MINGAN ISLAND is $3\frac{1}{2}$ miles westward of the Inner Birch Island; the channel between, called *Birch Channel*, is all deep water, and is the best by which to proceed to Mingan Harbour with westerly winds.

The island is nearly 2 miles long, and nearly 1 mile broad. It is about 100 feet high, and bare of trees. The shoal water does not extend above 300 fathoms off its south point, but to the S.W. and West, the reefs, including the islets, run out nearly 600 fathoms. The island is bold on its north and east sides.

Mingan Patch lies S.W. $\frac{1}{2}$ S., $3\frac{1}{4}$ miles, from the south point of Mingan Island, and with the south point of the Outer Birch Island on with the north point of Large Island; it is a patch of rocky ground, with 9 fathoms least water, yet there is a very heavy swell on it at times.

PERROQUET ISLANDS are four small islets, and are the westernmost of the Mingans. The easternmost of them are 2 miles distant N. by W. from the centre of Mingan Island, and have a reef of flat limestone extending off them three-quarters of a mile to the S.S.W. The *North-western* islet has shoal water off it one-quarter of a mile, both to the east and west, but is clear at the distance of 200 fathoms to the northward.

These islets are low and bare of trees, and are frequented by great numbers of puffins.

MINGAN HARBOUR is between Harbour Island, to the north of the Birch Islands, and the main, which is low, and has a fine sandy beach. The harbour is about a mile long and 270 fathoms wide, with plenty of water for the largest ships.

HARBOUR ISLAND is two miles long, and its greatest breadth is not half a mile; its shore is precipitous toward the harbour, about 100 feet high, and thickly wooded. Off the east and west ends of the island there are reefs extending 240 fathoms from high-water mark.

Northward of the east end of the island is the mouth of the *Mingan River*, off which there is a shoal, dry at low water, extending 700 fathoms from the entrance of the river, which protects the harbour from the effects of easterly winds. The river, turning towards the west, forms a peninsula, on the isthmus of which stand the houses of the Hudson's Bay Company's post, which is in charge of a "grand bourgeois," or chief factor, who preserves a strict monopoly of trade with the Indians. At the salmon fisheries here the fish are very fine, and in abundance.

To enter this harbour from the eastward, bring the N. or inner side of Harbour Island to bear N.W., and the houses ought then to appear fully open their own breadth to the northward of the island. Steer for the houses, thus open, leaving the east end of the island 150 fathoms on your left, and taking care to keep the south side of the sandy point of the main, which forms the western entrance of the harbour, shut in behind the north side of the island; for when they are in one, you will be on shore on the sandy shoal of *Mingan River*. Proceed till you have arrived at the centre of the harbour, keeping a cable's length off the north side of the island, and anchor any where in from 9 to 13 fathoms.

In coming from the westward, run in towards the sandy beach of the main-land, at the distance of three-quarters of a mile to the W. of the island, until the sandy point, which forms the west end of the harbour, comes in one with the face of the clay cliffs to the E. of the Company's houses, bearing E. by S., or in 11 fathoms water. Run in upon this bearing along the beach, and give the above sandy point a berth of half a cable, and anchor as before directed.

The northern sides of all the islands westward from Niapisca Island are bold-to, so that the *Mingan Channel*, between them and the main, is clear and safe throughout; on its north side is *Mountange Island*, to the north of Quarry Island; the shoals which extend between it and Montiac Island to the E., and which are nearly dry at low water, form the northern side of the channel, which it would be better not to approach nearer than at a distance of $1\frac{1}{2}$ mile from the opposite shore, or within 10 fathoms water.

Mingan, as well as Esquimaux Harbour, has this great advantage, that vessels can enter or leave them with easterly or westerly winds.

The following observations on this harbour are by Mr. Jeffery, M.R.N. :—

"The coast of Labrador, about Mingan, and eastward to the point called Mount Joli, is low, and nothing remarkable appears to point out, to any one unacquainted, the position of a ship. The small harbour of Mingan is well sheltered, with sufficient water for any vessel. Harbour Island, which forms the anchorage, is rather difficult to make out, being low, covered with trees, and very much resembling the coast of the main.

"To a vessel bound for Mingan and coming round the west end of Anticosti, I should recommend steering for Mount St. John, which is the highest land on that part, and makes like a saddle. This will lead you about 12 miles to the westward of the harbour, and well clear of the Perroquets, or westernmost of the Mingan Islands. When within a mile and a half of the coast, run along shore, by the lead, until you make out the harbour.

"On coming from the eastward, it may be advisable to run inside the islands, into the *Mingan Channel*, as soon as possible after making the land; any of the channels may be taken, with a little caution, and the lead kept going. When you are through, you will see the houses of the Hudson Bay settlement: by keeping them their own length open, you will go in clear of the reef off the east end of Harbour Island. It is necessary to be very cautious in approaching the banks on the north side. The island is bold, and may be approached within 40 or 50 fathoms; but you must open the west point on the north shore with the north point of the island, until you are well into the harbour. The anchorage is any where off the houses. No supplies of any kind can be obtained, except wood and bad water.

"The flood tide sets strongly through, between the islands and along the coast to the

westward; the ebb in the contrary direction. Lat. of Harbour Island $50^{\circ} 17' 30''$, long. $64^{\circ} 2'$."

From *Long Point*, north of Mingan Island, a broad beach of fine sand reaches to the *River St. John*, the entrance to which lies nearly $6\frac{1}{2}$ miles N.N.W. $\frac{1}{4}$ W. from the *Perroquet Islands*; and *Mount St. John*, an isolated saddle-backed hill, 1416 feet high, is 11 miles N.E. $\frac{1}{4}$ N. from the entrance. It is frequented occasionally by fishing schooners, early in the season. At the entrance, between the clay cliffs on the west and a sandy point on the east side, the river is 130 fathoms wide; it increases in breadth to nearly half a mile immediately within the entrance, and then gradually contracts. The tide ascends it about six miles, and the river then becomes too rapid to be navigated.

There is good anchorage outside the bar, there being three fathoms at three-quarters of a mile from the mouth.

It divides the governments of Labrador and Canada. The E. point of the entrance is in lat. $50^{\circ} 17' 11''$, and long. $64^{\circ} 23' 13''$.*

From the *River St. John* to *Maggie Point* is W.N.W. 8 miles, and between them is *Maggie Bay*, in which there is good anchorage, in winds off the land. Three quarters of a mile west of the *Maggie River*, which is large and rapid, but of no use to boats, is a rocky shoal, a quarter of a mile off shore.

Ridge Point is $3\frac{1}{2}$ miles W.N.W. $\frac{1}{4}$ W. from *Maggie Point*, and from it there extends a long narrow ridge of rocky ground, with from 4 to 6 fathoms water, for $4\frac{1}{2}$ miles to the westward, across a bay, and at times there is a very heavy sea upon it.

Sawbill River is 23 miles westward of the *River St. John*; it may be distinguished by the clay cliffs immediately within the entrance, and by the peculiar hills on either side of it. It will afford shelter to boats and very small craft, but it can only be entered in very fine weather.

Shallop River is $7\frac{1}{2}$ miles N.W. by W. from *Sawbill River*, and affords shelter only to boats. Off this and *Sandy River*, $2\frac{1}{2}$ miles to the westward of it, there are some rocks, the outermost of which are half a mile off shore.

The coast of this part is impregnated with iron, the black oxide of which is here found abundantly. It has a strong magnetic action on the compass on shore, causing it to vary from 14 to 29 degrees west; but at the distance of two or three miles, this error does not exceed half a point, and at the distance of five or six miles it is insensible.

MANITOU RIVER is the next to the westward, $4\frac{1}{2}$ miles N.W. by W. from *Shallop River*. It is the largest on the coast, excepting the rivers *St. John* and *Moisic*. It may be readily distinguished from a vessel several leagues off the coast, by two remarkable patches of clay cliff, one of which is close to the eastward, the other about one mile to the north-westward from it. The falls on this river, half a mile from the entrance, are of the most magnificent description. An immense sheet of water rushes over a precipice of porphyry, the height of which is 113 feet.

There is good anchorage off this river, the entrance bearing N.E. $\frac{1}{4}$ E. $1\frac{1}{2}$ mile distant, in 15 fathoms, over mud, and one mile from *Manitou Point*, the nearest point of the shore. Smaller vessels may anchor further in-shore, to the westward of the bar. The only danger is a small rocky shoal, bearing W. by N. $2\frac{1}{2}$ miles from the entrance of the river, about three-quarters of a mile off shore.

Bason River is $10\frac{1}{2}$ miles W.N.W. $\frac{1}{4}$ W. from *Manitou River*, but is only fit for boats or very small craft. *Cape Cormorant* lies $1\frac{1}{2}$ mile west of it, and *Blaskowitz Point* is $5\frac{1}{2}$ miles W.N.W. $\frac{1}{4}$ W. from the latter, and between them are the *Cormorant Islets*, off which is *Cormorant Reef*, small and dangerous, lying $2\frac{1}{2}$ miles W. $\frac{1}{4}$ N. from the *Cormorant Cape*. To avoid this, vessels should keep *Points Blaskowitz* and *St. Charles* open of each other, as when in one, bearing W.N.W., the mark is on the reef.

POINT ST. CHARLES is in lat. $50^{\circ} 15' 25''$, and long. $65^{\circ} 48' 50''$. It is the eastern point of *Moisic Bay*, *Point Moisic* at the entrance of the *Moisic River* being the western, and 11 miles apart.

* The coasts and islands of Labrador, from *St. John's River* to *Hudson's Strait*, with the island of *Anticosti*, were re-annexed to the government of *Newfoundland*, in 1809, by Act of Parliament, 49 Geo. III. c. 27.

Off the point is a dangerous reef, being so bold that there is no warning by the lead: some of the rocks always show, but the outermost patches are always covered; these last lie three-quarters of a mile off, to the S.S.W. from the south extreme of the point, and vessels should take care not to be becalmed to the westward of this reef, lest the heavy swell from the S.W., so frequent on this coast, should heave them toward the reef.

Trout River is on the head of the bay, and is the termination of the rocky shores from the E. and the commencement of the bold sandy beach, which extends 6½ miles S.W. by W. to the River Moistic.

The RIVER MOISIC is a larger river than the St. John, but is much obstructed by the sand-bars, which are formed by the great force with which the river descends; there is usually not less than 9 feet least water on the bar. It is very bold to off its mouth; but from Point Moistic, the south point of the river, there is a shoal extends 2½ miles W.S.W. ¼ W. from the Point, to the *Moistic Rock*, which is exceedingly dangerous. It is as bold as a wall to the S. and S.W., and can generally be seen in fine weather, from the change in the colour of the water, and from heavy breakers, when there is much sea running.

There is no close leading mark for clearing this rock, but a vessel will be 1½ mile from the edge of the shoal, when the N. side of the Manowin Island is on with the S. point of Great Boule Island.

SEVEN ISLANDS BAY.—The sandy point, which is the eastern point of the entrance of this magnificent bay, is 11 miles westward of Point Moistic. The Bay is completely sheltered by the SEVEN ISLANDS lying off its entrance, which is 2½ miles wide. A fine broad, bold, sandy beach extends for three miles northward from the east point of the Bay, to the entrance of the principal river, near which stands the Hudson's Bay Company's trading post. The houses at this post cannot be seen from the outer parts of the Bay, but there is a wooden store on the beach, off which vessels usually anchor. Water can be obtained from this river at high tide.

The SEVEN ISLANDS are high and steep, of primary rocks, very thinly wooded, and can be made out from a distance of 7 or 8 leagues, being unlike any thing else in the Gulf. The easternmost of these islands are the *Great and Little Boule*, the former of which is the highest of them all, its summit being 695 feet above the sea at high water; its south point bears west 9¼ miles from Point Moistic. The channel between these two islands is subject to baffling winds, and the flood tide sets strongly to the west, and the ebb to the east, through it; a circumstance that must be attended to in all the channels between the islands.

The *East Rocks*, which are low and bare of trees, lie between Little Boule and the shoal to the N.E.; they are out of the way of vessels, which ought not to go into this embayed place.

The *Little and Great Basque Islands* lie next to the Boules; Great Basque, the inner island, is 500 feet high.

MANOWIN and CAROUSEL lie to the S.W. of the Basques: the former is 457 feet high; the latter much lower, and the southernmost of the islands; its south extreme is in lat. 50° 5' 29", long. 66° 23' 35".

The *West Rocks* lie between Manowin and the peninsula, which forms the west point of the Bay of the Seven Islands. They are too small and low to appear as the seventh island, but the peninsula has that appearance when seen at a distance from sea, being higher than any of the islands, and 737 feet above the sea at high water.

There are three obvious channels into the bay, viz. the eastern, middle, and western channels: the eastern, between Great Basque and Sandy Point, is seldom used, having a rock in its centre, which is covered only in high tides. The principal and best is the middle channel, between the Basque Islands on the E. and Carousel, Manowin, and *Point Chassé*, the eastern point of the peninsula, and off which a reef runs out 120 fathoms from the shore. The course through it is due north, its breadth is 1½ mile, and it is quite free from danger.

The west channel is also quite free from danger, and perhaps, in N. or N.W. winds, is preferable, to save beating; it is between the West Rocks and Point Croix, the south point of the peninsula. This point deflects the ebb tide towards the West Rocks, and this ought to be attended to. The peninsula is quite bold-to, and the mid-channel is nearer to it than the West Rocks: it is quite clear, and there are no leading marks, nor are there any

required for any of the channels. The ground is not fit for anchoring until well within the bay. Outside the islands the water is extremely deep, and their shores are quite bold-to.

The stream of tides in the bay and in the principal channels seldom amounts to a knot; but in the narrow channels it may amount to two knots in spring tides, when accelerated by strong winds.

It is high water on the full and change days at 10 minutes past one; spring tides rise 9 feet, neaps 8 feet.

From the S.E. point of Carousel to Cape de Monts the bearing and distance are S.W. by W. $\frac{1}{2}$ W. [*S.W. $\frac{1}{2}$ S.*] 60 miles. The coast between is less bold in appearance than that to the eastward, and there are no detached rivers off it.

St. Margaret River is 6 miles N.W. by W. from Point Croix, nearly at the head of *St. Margaret Bay*; it affords shelter to boats only.

The *Cawee Islands* lie S.W. by W. $\frac{1}{2}$ W. 16 miles from *St. Margaret Point*; they are two small hilly islands, nearly bare of trees. Great *Cawee Island* is the largest and easternmost, and about 250 feet high. Little *Cawee Island* is a mile to the S.W. of it, and is composed of two islets.

There is a bay on the inner or N.W. side of Great *Cawee*, in the mouth of which there is anchorage at a cable's length from the island. It is an intricate and dangerous place, but may be of great use as a place of refuge in case of distress. In making for it from the eastward, steer N.W. past the N.E. side of Great *Cawee Island*, keeping half a mile off, to avoid the shoal off the mouth of the cove, until the point of the main land to the westward opens clear of the north side of the island. When you arrive between the rocks and the island, which you will come to by steering for the point of the main land, keeping it midway between the north side of the island and these rocks, which lie to the northward of it, haul into the mouth of the small bay, which is on the N.W. side of the latter, and anchor in 7 fathoms at low water. This anchorage may be come at from the westward, by keeping in mid-channel between Little *Cawee* and the main; but it would be better to pass between Great and Little *Cawee Islands*, hauling close round the west point of the latter into the anchorage.

The tides run through between the island and the main at a rate seldom exceeding $1\frac{1}{2}$ knot, and generally much less.

LOBSTER BAY is an excellent open roadstead, between *Point Sproule*, three-quarters of a mile north-westward of Little *Cawee Island*, and the *Crooked Islands*, three miles to the westward of the point; the head of the bay is occupied by an extensive flat, but there is plenty of room for the largest ships.

Pentecost River is $1\frac{1}{2}$ mile to the westward of *Crooked Island*; it would afford shelter to small vessels, but is difficult of entrance.

English Point is 7 miles S.W. of *Pentecost River*, and has a shoal extending off it to the distance of one-third of a mile. It is bold-to on the S.E. and east.

ECC ISLAND is 14 miles S.W. $\frac{1}{2}$ W. from Great *Cawee Island*. It is low and narrow, without trees, and three-quarters of a mile long in a N.N.E. $\frac{1}{2}$ E. direction; off each end of the island a reef of rocks extends, forming a natural breakwater, $1\frac{1}{2}$ mile long, the northern end of which is three-quarters of a mile off shore, and the southern end nearly a mile. Opposite the N. end of the island, the breadth of the channel is contracted by a shoal extending from the main; on the S.W. part of this narrow part is the best anchorage.

The passage to this from the S. and W. is quite bold, and no directions are necessary; but if it be intended to run through between the island and the main, stand in to the northward, to 8 or 9 fathoms, or until *English Point* is open half a point to the northward of the North Rocks; then steer for *English Point*, giving the inner side of the North Rocks a berth of a cable's length, until you have passed them a full quarter of a mile; you may then haul out to sea, going nothing to the southward of S.E. by E. to avoid the N.E. reef.

The tides running between the island and the main are generally from half to one knot, and part of both the stream of ebb and flood passes through the narrow and dangerous three-fathom channel between the island and the North Rocks.

Catumet River is $2\frac{1}{2}$ miles W. by S. from the S.W. end of *Egg Island*. There are reefs to the S.W. of the entrance for a mile, and extending 600 fathoms from the shore. *Caribou*

Point is $8\frac{1}{2}$ miles S.W. by S. from Egg Island, and affords shelter for the pilot-boats, which often look out for vessels here.

TRINITY BAY is five miles further south-westward, and affords excellent anchorage: it is a very valuable stopping-place, in westerly winds, for vessels bound up the St. Lawrence, and at these times pilots are generally found waiting to take vessels upward; but in easterly winds they take shelter in St. Augustin Cove, $1\frac{1}{4}$ mile westward of the Cape.

On the N.E. point of the bay are two large rocks; there is no passage between them, and the northern one dries to the main in spring ebbs. The southern rock lies nearly a quarter of a mile to the southward of the point. The bay is $3\frac{1}{2}$ miles round, from point to point. A river, which falls into it, will supply fresh water; and there is another stream at half a mile to the westward of the western point. Wood is abundant.

To anchor, come-to at half a mile to the eastward of the west point, on which stands a cross, in from 9 to 5 fathoms, and with the point bearing W.S.W. or S.W. by W. Small vessels may anchor in 3 fathoms, at low water, just within the reef, the western point of the bay bearing S.W. At three-quarters of a mile S.W. from the point on which the cross is placed, is a ledge of rocks, dry at low water, and which should not be approached nearer than to the depth of 4 fathoms.

The coast between Cape de Monts and this bay is indented with small sandy coves, and in the interval are three large rocks, always above water, which will be avoided by not approaching nearer than in 8 fathoms.

The light-house on POINT DE MONTS is 5 miles to the south-westward of Trinity Bay. It is a mile and a quarter N.E. by E. $\frac{1}{4}$ E. from the extremity of the cape, and bears S. 52° W. from the outer part of Caribou Point, over which, and eastward of it, the light may be seen.

The *light tower* is of the usual form, nearly white, and the lantern is elevated at about 100 feet above the level of the sea, and exhibits a bright fixed light.

Ships from the eastward, approaching the light-house, on drawing towards Caribou Point, may bring it to bear W. by S., when they will be in a good fair-way, and may, if requisite, advance toward the land, by the lead. But after passing Caribou Point, on drawing toward the light-house, they should come no nearer than in 12 fathoms; for thus they will avoid two ledges of rocks, one of which lies E.S.E. from the light-house, with only 12 feet over it; the other lies S.W. from the light-house, and E.S.E. from the extremity of Cape de Monts, with 16 feet over it. These rocks are not more than half a mile from shore at low water.

When a ship is to the westward of the Cape de Monts, the light-house will appear in one with the outermost rocks of the same, and the cape will be in one, bearing N.E. by E. $\frac{1}{4}$ E., and from this line of bearing vessels are in the best fair-way for proceeding up or down the river. You may, if it be required, safely approach the north shore, until the light-house bears E. by N.; but when it bears E. $\frac{1}{4}$ N. it will be time to tack. When bearing east, it will be shut in with the high land, and cannot be seen to the southward of east, at only a mile from the land.

V.—THE SOUTH SHORE OF THE ENTRANCE TO THE RIVER, FROM CAPE ROSIER TO CAPE CHATTE.

This coast is bold and high, quite clear from dangers, and affords no harbour, or scarcely any shelter for vessels. The water is deep all along, and will not give any warning in approaching the coast, by the lead; it must therefore be guarded against during fogs, or in the night, more especially as the downward current of the river sets over to the south side from Cape de Monts.

The land generally rises from the water's edge into round high hills at the back, and the whole is covered with trees.

CAPE ROSIER is about two leagues to the northward of Cape Gaspé. It is a rugged, rocky point, and the shore to Cape Gaspé is very steep, with high perpendicular cliffs. To the S.W. of Cape Rosier, about a quarter of a mile, is a fine sandy bay, with good anchoring ground, decreasing in depth from 14 to 7 fathoms toward the beach, and sheltered from S.W. to N.W. winds. There are several fishing establishments on it, and in the vicinity.

Griffin's Cove is 6½ miles W.N.W. from Cape Rosier. The north point of its entrance is bluff, and it has several houses within it. It will afford shelter to small vessels with a west wind, but it is open to the north. Five miles further is *Great Fox River*, off which a vessel might anchor in fine weather: it may be known by the extent of the settlement on its banks, particularly on the southern side.

Great Pond River, or *Anse de l'Etang*, 16 miles N.W. ¼ N. from Great Fox River, will afford shelter to shallows; it may be known by a remarkable high, wooded, conical hill on the east side, and by a beach with a few huts and stages on the west. Some of the people of the parish of St. Thomas, on the Rivière du Sud, 33 miles below Quebec, frequent this place during the cod-fishing season. The river issues from several lakes, one of which is only half a mile through the woods from the fish stages. Fishermen also frequent the *Grande Vallée*, or *Great Valley River*, the *Magdalen River*, *Mont Louis River*, *St. Anne's* and *Cape Chatte*, during summer; but there appears to be no permanent settlers, those of St. Anne excepted, until we reach Matane.

Magdalen River is a considerable stream, and in the bay, at the mouth of it, a vessel can anchor in fine weather, and sometimes schooners warp into the river itself. It is 24 miles from *Great Pond* and 16 miles from *Mont Louis River*, which is a much smaller stream; the small bay, into which it falls, affords anchorage to vessels nearer the east than the west side.

Cape St. Anne is 26 miles further westward, in the rear of which are the *St. Anne Mountains*, the highest of which is 14 miles behind Cape Chatte, and is 3970 feet above the sea; it is the highest land in British North America.

St. Ann River is 6 miles west of the cape, and can be entered by small schooners at high water. A few families are settled here, and also at *Cape Chatte River*, who willingly render assistance to such as require it.

CAPE CHATTE is a remarkable hummock, like a short sugar loaf, on a point which is lower than the land about it. Its extremity is in lat. 49° 6', and long. 66° 45' 19". At about three miles to the S.E. of it is a small river of the same name.

The land over Cape Chatte is very mountainous, and is much broken at the top; hence it may be readily known, as there is no land presenting similar features in any other part of the river.

VI.—GENERAL DESCRIPTION OF THE RIVER.

"The River of St. Lawrence, and the whole country from the lowest parishes to Quebec, unfold scenery, the magnificence of which is considered to be unequalled in America, and probably in the world.

"It is impossible to travel along the road, near the river, without observing most evident traces of higher levels of the river than the present one; the rocks are actually worn as evidently as at the present high water mark; and many of the sharp points of the lower ones show, to conviction, that they were once small rocks in the St. Lawrence or the ocean; and that the now cultivated flat between the first ridge, being the river boundary, and the second ridge, formed, at no very remote period, a part of the St. Lawrence, or of the ocean.

"The southern shores are thickly settled by the descendants of the French, who, at different times, emigrated to Canada; and the manners and customs of their ancestors are tenaciously preserved. The villages and parishes have a general similarity of appearance; and although some of them are more extensive and much more populous than others, yet one description is sufficient for all. They assuredly seem to be the very abodes of simplicity, virtue, and happiness. In travelling, we pass along delighted through a beautiful rural country with clumps of wood interspersed, amidst cultivated farms, pastures, and herds; decent parish churches, and neat white houses or cottages. The inhabitants are not only civil, but always polite and hospitable. Beggary and the squalid beings of other parts of the United Kingdom are here unknown."

The first arrival at Quebec, in the season of 1833, was on the 9th of May; but it was not till the end of the month that the harbour exhibited its spring appearance of a forest of masts, or that the wharfs and streets of the lower town displayed that scene of activity which characterises it as a great commercial port.

In the vicinity of Gaspé the spring is commonly from a fortnight to three weeks later

than at Quebec: and this is attributed, not so much to the increase of latitude, as to the proximity of the sea, with its ices. Here, on the 9th of June, 1833, the thermometer fell to the freezing point, with showers of snow and sleet, and a heavy gale from the north.

Some remarkable instances have been given of ignorant commanders venturing up the river, in thick weather, without sufficient precaution or taking soundings; and one was discovered who, by his reckoning, supposed himself by Cape Chatte, when he was actually 130 miles out of his reckoning, westward, in a space of 360, after having, four days before, seen the west end of Anticosti.*

THE NORTH SHORE FROM CAPE DE MONTS TO THE SAGUENAY RIVER.

The next projecting point, westward of Cape de Monts, is *Point St. Nicolas*, bearing W. by N. 17½ miles. Three miles N.E. by E. from this headland is *Havre St. Nicolas*, or *St. Nicolas' Harbour*: between these places, and 6½ miles eastward of *St. Nicolas*, is a little river, called *Godbret* or *Goodbout River*, where the Hudson's Bay Company have a trading post, and where, therefore, provisions may occasionally be obtained, but it affords no shelter. This place may be known by the fall of the land on the east, and clay cliffs on the west.

ST. NICOLAS' HARBOUR.—At the entrance of this harbour vessels may occasionally find shelter from westerly winds. The land about it is mountainous; and, if a ship be to the westward of the harbour, and bearing up for it, the entrance may be distinguished from the circumstance of its having all the land on the west dry and barren, the wood being burnt from the mountains; but, on the east side, the mountains are green and covered with trees. To enter, run boldly in, between the burnt cape and the green one, steering North, and the low point, which forms the west side of the entrance, will appear like an island: this point has a wooden cross on it, which will be seen on steering toward it. The eastern side of the entrance is limited by a reef, one-quarter of a mile long, which stretches S.W. from the green cape; opposite to this reef, on the western side, is another; both dry at low water, but the largest is always to be seen. The anchorage is a little to the northward of the stream of the easternmost reef, in from 12 to 6 fathoms.

The distance between the points of the two reefs is about 1 mile; both are bold; 10 fathoms being close to the eastern, and 4 to the western, reef. Small vessels may haul alongside the rock, just within the entrance on the west side, in 10 feet at low water.

At about 100 yards within the cross above mentioned, a bar commences, which extends thence across the entrance, and has only 10 feet over it at low ebbs. This part is only two ships' length in breadth at low water, but the harbour widens inward to a large basin, where vessels can lie perfectly land-locked in from 10 to 12 fathoms of water, good ground, and on the S.W. side the water is deep close up to the rocks: this place is, however, a bad outlet for ships bound to the westward, as an easterly wind blows directly in, and the land around being mountainous, there is no getting in or out, in a square-rigged vessel, with canvas set.

Those who proceed to the basin, must keep their canvas set, and borrow close round the point on which the cross is erected; then shoot in as far as they can, and down with the anchor. To warp in, keep the western side on board.

The bank to the southward of the eastern reef, and all along the shore, is very steep; there is a depth of 50 fathoms at about 500 yards from it. Near the reef, in 20 fathoms, cod-fish are generally abundant.

At *St. Nicolas' Harbour* the tide flows, on the full and change days, at 1 h. 55 m. Spring-tides rise 12 feet; neaps 7 feet. The flood, of spring-tides, runs to the westward about two miles an hour, and thus along-shore up to the Saguenay River.

English Bay is 11½ miles W.N.W. from Cape *St. Nicolas*. It affords no anchorage. On its western side is *St. Giles' Point*, opposite the north-eastern point of the Peninsula of *Manicougan*, and which is the termination of the bold and rocky coast to the eastward of it, while that to the west of it is low and wooded; and this circumstance

* In the description of the lower part of the river, with *Gaspé Bay*, &c., we have been considerably assisted by the instructions published by *Nath. Gould, Esq.*, chairman of the North American Colonial Association: to the same gentleman we are indebted for these remarks on the river in general.

will enable a vessel to ascertain her position on the coast, whether to the east or west of this part, and of her approach to the dangerous Manicougan shoals.

MANICOUGAN BAY and **SHOALS**.—This dangerous bay is 11 miles W. by N. from Point St. Nicolas. The shore between is bold and rocky; the land high, and the water deep. The flood-tide sets strongly into the bay, and the ebb strongly out. The land forming the western point of the bay is much lower than any other near it, and may be readily known by its yellowish sand and clay cliffs, with a fine beach, and very flat for more than two miles off.

The east end of the great shoal of Manicougan lies $11\frac{1}{2}$ miles West from Point St. Nicolas. This end is of rocks, terminating in a spit, and dries at low water. The S.W. point of the Bay, called Manicougan Point, is $17\frac{1}{2}$ miles W. by S. from Point St. Nicolas. From Manicougan Point the land thence westward trends in a curve, 12 miles, to *Outarde* or *Bustard Point*, at the mouth of the Outarde River, and the great shoal borders the whole, to the distance of $2\frac{1}{2}$ miles from shore. The tide of ebb and flood sets along its edges, but is not perceptible at more than 5 or 6 miles off shore; and on that part, off Manicougan Point, is a great ripple. On the shore, within the shoal, the tides ebb one mile from high-water mark, and heavy breakers are seen on its edges, with high reefs of rocks.

To the westward of the Land of Manicougan are the River and Bay of **OUTARDE**. The latter is terminated by *Point Bersiamites* or *Bersimis*, which is sandy and covered with trees, and the whole is lined with extensive and dangerous shoals. Ships, in rounding Bersimis Point, should advance no nearer to it than two miles, as the shoal surrounding it is steep-to.

Ships being up to Bersimis Point with the wind at west, and flood-tide, may cross over thence to Father Point, and engage a pilot for the river. Should the wind be at S.W. by W., keep the north land on board until sure of fetching the point.

In Outarde Bay the ebb-tide is slack, and the flood strong. Ships may always get ground in the bay, but should stand in no nearer than two miles from shore.

The *Manicougan*, and *Outarde* or *Bustard*, are very large rivers, but unfortunately their navigation is much interrupted by falls at a short distance from the St. Lawrence. The water of the Outarde is entirely white, occasioned by large quantities of impalpable sand and clay being held in suspension; and the vessel, in sailing through it, by displacing the superficial stratum of lighter and fresh water, full of these earthy particles, leaves in her wake a dark blue streak, which may be traced as far as the eye can reach. This sand and clay are the deposit of the rivers, which, in the course of ages, have formed the alluvial peninsula of Manicougan, and also the dangerous and extensive shoals of the same name. The *River Bersimis* is navigable for small vessels as far as ten miles from the entrance, and it can be ascended to the falls, nearly 40 miles, but it would be difficult for a sailing vessel to reach as far.

Jeremie Island is 6 miles westward of Point Bersimis, the sandy coast extending between them. On the main, opposite the island, is a post of the Hudson's Bay Company, the houses of which may be seen very plainly from within the distance of 6 miles.

Cape Colombier is 5 miles westward of Jeremie, and off it is the *Gulnare Shoal*, discovered by Captain Bayfield in 1830. It is a narrow ridge of granite rock, nearly 2 miles long, parallel to the shore, and having from 2 to 3 fathoms over it at low water.

Baie de Laval is 8 miles westward of Cape Colombier. *Laval Island* is in the mouth of the bay, and all within it is dry at low water. Vessels may approach this bay to within 6 fathoms depth, but to the eastward, between *Wild Fowl Reef* and the *Gulnare Shoal*, the coast ought not to be kept closer than in 30 fathoms.

Port Neuf is another settlement of the Hudson's Bay Company, the buildings of which are readily seen. It may be known by a range of remarkable clay cliffs, like chalk cliffs, between it and the *Baie de Laval*, the only land of this appearance in the river, and which, therefore, is a sure mark.

Point Mille Vaches is 4 miles S.W. from Port Neuf; it is low and sandy, and the shoals off it contract the navigable breadth of the river, between it and *Bioquette*, to $11\frac{1}{2}$ miles. The N.W. reef of *Bioquette* bears from the point S.S.E. $\frac{1}{2}$ E. 12 $\frac{1}{2}$ miles.

To the west of it is the *Baie de Mille Vaches*, which is filled with shoals of sand and rock, the western parts of which are deep and dangerous. The bay extends to the *Esquemini Isles*, 12 miles S.W. $\frac{3}{4}$ W. from the point.

The coast west of this is bold and free from danger, but has no shelter.

THE SAGUENAY RIVER enters the St. Lawrence between Lark Point on the west, and Point Vaches on the east, opposite Red Island, 23 miles westward of the Esquemin Isles.

This extraordinary river which was imperfectly known till the late surveys, is as remarkable for the great volume of water which it brings down to the St. Lawrence, as for the enormous depth of its bed, which is fully 100 fathoms lower than that of the St. Lawrence. It comes from the Lake St. John, and at *Chicoutimi*, a trading post of the Hudson's Bay Company, which is 65 miles above its mouth, it becomes navigable, and 6 miles above which, to the rapids, the tide ascends. To *Point Roches*, 57 miles from the St. Lawrence, and 8 miles below *Chicoutimi*, it is navigable for the largest ships; and up to this part there is no danger in the river, the shores consisting of steep precipices, some of the headlands rising more than 1000 feet in height.

The current runs down with great force, the ebb-tide varying from 3 to 5 knots, according to the breadth of the river, which is from two-thirds of a mile to 2 miles. At the mouth of the river, this ebb-tide runs at the rate of 7 knots over Lark Islet Spit, and the S.W. extreme of Point Vaches.

TADOUSAC, which is in the entrance of the river, was formerly the principal post of the French, for trading with the Indians. It has declined, and now belongs to the Hudson's Bay Company.

The *harbour* is off the settlement, a mile within Point Vaches, and is well sheltered; but a heavy anchor should be cast close in-shore, on account of the eddies which sometimes set into it from the river.

Across the mouth of the river there is 18 to 20 fathoms, but immediately within, the depth increases to above 100. The current setting strongly over this bar, meeting with the spring ebbs of the St. Lawrence, cause breaking and whirling eddies and rippings; and these streams opposed to a heavy easterly gale, cause an exceedingly high, cross, and breaking sea, in which no boat could live. On the flood at such times, there is no more sea than in other parts of the river.

To enter the Saguenay, have the beginning of the flood, and sufficient daylight to reach Tadousac. Winds from the S.W. southward to N.E., will take vessels into the river with the flood, but the N.E. is most to be depended on; but whether you approach from the S.W. or N.E., bring the western points of the Brandy Pots and White Island in one, and open to the southward of Hare Island, bearing S.S.W. $\frac{1}{2}$ W. Run upon this mark (and it will lead you well clear of the *Vaches Patch* and Lark Reefs, off the mouth of the river,) until *La Boule Point* comes in one with *Point Ilot*, bearing N.W. by W. $\frac{1}{2}$ W., which will clear the S.W. side of Point Vaches Reef; Point Ilot being the rather low N.W. point of the Harbour of Tadousac, and La Boule, a high and round-backed hill, forming a steep headland, 4 miles above Tadousac, and the extreme point seen on the same side of the river.

Haul in for the last-named leading mark, keeping the S.W. extreme of La Boule just open, which will clear all dangers; and when as far in as *Point Rouge*, bear towards the trading post, into the harbour, dropping your outer anchor in 16 fathoms, and the inner one close to, or within, low water mark.

THE SOUTH SHORE BETWEEN CAPE CHATTE AND GREEN ISLAND.

Between Cape Chatte and Matane, in a distance of 11 leagues, the shore is all bold and bound with rocks.

In proceeding up the river, after passing Cape Chatte, the first place of remark is *Matane River*, distinguished by a large square white house, and a long barn level on the top. This place may be known from within the distance of 3 miles, by its houses and a bluff cliff, close to the entrance on the western side. Many pilots live here. The River of Matane admits small craft only. The chief settlements occupy both banks, and extend about one mile from its mouth. The two remarkable mountains, called the **PAPS of MATANE**, stand inland to the westward of Matane River, and form the grand mark for this part of the coast. At $7\frac{1}{2}$ leagues to the westward of Matane River, is the western point of **LITTLE METIS BAY**, a spot surrounded by rocks, excepting the entrance, and in which small vessels may find shelter from westerly winds, in 3 fathoms at low water. The coast from Matane to Little Metis is entirely barren. *Little Metis* is situate on a long, low, flat, and rocky point,

with several white houses, extending about a cable's length to the N.E. This is noticed as a guide to the anchorage at *Grand Metis*, which is 5 miles farther westward. On opening the bay, (say close in-shore,) a square house will be first observed, near the water side; a mile farther, in the S.W. corner, up the bay, in the same view, will be seen the upper part only of a house, which is the establishment of *Grand Metis*.

A vessel may close in with Little Metis Point into 6 or 7 fathoms of water, and run for Grand Metis, by the lead, in from 5 to 8 fathoms. Should the vessel be turning up, on the north shore, or in mid-channel, *Mount Camille*, which will be seen, should be brought to bear S.W. by S., which will lead from sea to the bay.*

The cove of Grand or Great Metis is nearly dry at low water. A small vessel may bring up here in 3 fathoms, with the wind from S.W., but with a west wind it affords no shelter. The points that form these coves are very low, and cannot be distinguished beyond the distance of 2 leagues. Great Metis has a large rock in the middle of the cove, Little Metis has none; and the latter may be known from the former, by observing that a round bluff rock lies at its entrance, on the eastern side; not far from which, on the east, is a small hill on the mountain, in the form of a sugar-loaf.

Grand Metis has risen into notice from the erection of saw mills. The mills are on a fall of the river, about three miles up. The river is a small stream, greatly impeded by rapids when not swelled by freshes; and it has been found necessary to dam it with wicker-work and mud for a considerable distance, to keep back water enough to float the logs down to the mill. From the mill the deals are floated down a *dall* or *trough* to the basin, for shipment; part of the distance being cut through soil and rocks 14 feet deep. The deals produced are spruce, and a very superior yellow pine.

At about half a mile from the *debouche* of the river is a rocky islet, forming a secure and picturesque basin. Over the sand bar, at the entrance of this basin, is a depth of 14 or 15 feet at low water, and ample room for two vessels to lie stem and stern of each other. The passage in is buoyed.

The tide here, on the full and change, flows at ten minutes past two o'clock, and rises from 12 to 14 feet.

With a ship of great draught it is advisable to lie in 6 fathoms at low water, with the house at the east side of the River Metis open to the eastward of the islet in the bay, so that the river may be seen between them. *The high land of Bic will then be just clear of Cape Orignal*; some of the houses of Little Metis will be seen, and Mount Camille will bear S.S.W.; in such a mooring the swell is broken before it comes in by the shore. The ground, being clay, is excellent for anchorage; and, with one anchor to the eastward, and another to the westward, the vessel will ride in perfect security.

From hence, along the shore, will be observed, at great distances, the small white houses of the inhabitants, which are mostly occupied by pilots or fishermen, who have cultivated small patches of land around them. Occasionally, when, from a wet summer, the harvest of the westward has failed, these small farmers reap a benefit by the greater backwardness of their seasons.

Between Great Metis and the next inlet, named *Cock Cove*, will be seen the high land of MOUNT CAMILLE. The bearing and distance between the Coves are W. by S. $3\frac{1}{2}$ leagues; and, from Cock Cove to the projecting land of *Father Point*, W. $\frac{1}{2}$ S., $4\frac{1}{2}$ miles. Here will be seen a number of houses; this place being the regular rendezvous for the pilots.

BARNABY ISLAND presents nothing remarkable. A reef extends from each end of it, under which small vessels may find shelter. Between the island and the main the bank is dry at low water, but there is a depth of 14 feet over it at high water of spring-tides. With neap-tides only 9 feet. At the little *River Otley*, 5 miles S.W. from Barnaby Island, fresh water may be obtained.

At a distance of 3 miles to the westward of the Otley, the coast forms the *Harbour of Bic*, which affords shelter to small vessels from westerly winds. Two round islets mark the eastern side of it, and it is one mile from them to the western side of the harbour. The anchorage is midway between these and the west side, in 3 fathoms, the western point bearing west.

* *Mount Camille* is $6\frac{1}{2}$ miles inland from the nearest shore. Its summit is 200 feet above the level of the sea.

Nearly 3 miles west from Bic Harbour, and at the same distance south from Bic Island, is *Cape Original*, or *Arignole*. From this cape a reef extends one mile E. by N.

The *high land of Bic* lies S.W. by S., 2½ miles from the N.W. extremity of the cape; it is very remarkable when seen up or down the river, as it consists of high and narrow ridges, parallel with the coast, the summit being 1234 feet above the sea.

The ISLE BIC is of moderate height, and covered with trees. This island is 3 miles in length, from east to west, and reefs extend from it to the east, west, and north. At three-quarters of a mile from the north side, is the islet called *Bicquette*, which is also woody. *Bicquette* is quite bold on the north side, and there are 30 fathoms at a musket-shot from it; but within the extent of a mile and a quarter to the west of it is a chain of reefs, which are dangerous. Between Bic and *Bicquette* there is a passage, but it is intricate; there are no marks for it, and it will be best understood from the chart.

A lighthouse has been erected on the west end of the island of *Bicquette*, in the River St. Lawrence, and a *revolving light* of the first class was shown thereon for the first time, on the 9th August, 1844; and the light will continue to be shown every night from sunset to sunrise, from the 15th April to the 15th December, in each year. The tower is 70 feet high, and the light stands 130 feet above the level of the sea, the north-west reef bearing from it due West, 1½ mile. This light will revolve at regulated intervals of two minutes.

A nine-pounder gun is placed near the lighthouse, and will be fired every hour during foggy weather and snow storms.

The *S.E. Reef* extends 1½ mile E. by S. from the S.E. point of Bic Island, and the channels between the rocks and the island should not be attempted.

The *N.E. Reef*, a small patch of black rocks, lies N. W. ¼ W. above a mile from the former, and 400 fathoms N.E. by E. from the N.E. point of the island.

The *West Grounds of Bic* are an extensive flat of slate, which partly dries at low water, the outer point of which is three-quarters of a mile W. ¼ S. from the west point of the island.

The *ALCIDES Rock*, on which the ship of that name struck in the year 1760, has only 4 feet over it, and bold-to. This rock lies at a mile and three-quarters from the shore, with the west end of the Isle Bic bearing N.E. 3¾ miles, and Cape Original E. ¼ N. 4¾ miles. Ten fathoms of water lead to the northward of it.

At a mile and a half from shore, and 14½ miles S.W. by W. ¼ W. from the west end of Bic, lies the N.E. of two islets called the *RAZADES*; these are two large rocks always above water. They bear from each other nearly S.W. and N.E., one mile and a half distant. Ten fathoms of water lead to the northward of them.

BASQUE ISLAND, a small narrow isle, extending one mile and a quarter E.N.E. and W.S.W., bears W.S.W. 5 miles from the N.E. Razade, and S.W. by W. ¼ W. 20 miles from the west end of Bic: it appears round; is bluff, and covered with trees. There are no houses on it; extending to the N.W. from its west end, is a ledge of rocks, dry at low water, and steep-to.

APPLE ISLE, a narrow barren islet, with rocks, lies at 3 miles W.S.W. ¼ W. from the west end of Basque, and 2½ miles from shore. Between it and the land there is no passage.

GREEN ISLAND.—This island, with the reefs that project from each end of it, is 2½ leagues in extent from N.E. by E. to S.W. by W. Two families reside upon it. The most remarkable object on it, is a lighthouse which stands on its northern side, at about 1½ mile from the N.E. end, and which shows a fixed light at 60 feet above the level of low water mark.* The bearing and distance of Basque Island from the lighthouse, are E.N.E. ¼ E. 8½ miles: and from the lighthouse to the extremity of the S.W. reef of Green Island, S.W. by W. 5½ miles. There is no other danger on the north side of the island than a dangerous reef, which extends from the lighthouse 1½ mile N.N.E. ¼ E. This ledge is a

* This lighthouse, according to an official notice, dated 21st Sept., 1809, will exhibit a light, nightly, from sunset to sunrise, from the 15th day of April to the 10th day of December, inclusive. From the lighthouse the extremity of Green Island Reef bears N.E. by N. one mile and a quarter; and the extremity of the shoal at the west end of the island, S.W. by W. 6¼ miles; Apple Isle, E.N.E. 5 miles; the islet called Red Isle, in the middle of the river, N.W. by W. ¼ W. 5½ miles; and the Brandy Pots, near Hare Isle, S.W. by W. ¼ W. 15 miles.

reef of rocks which are steep-to, and covered at high water of spring-tides. The other part is steep-to and rocky.*

The ledge of Green Island, Basque Island, and the high land to the southward of Cape Orignal, in a line bear E.N.E. $\frac{1}{2}$ E.

To ships, on coming up and going down the river, the lighthouse appears like a ship, and very conspicuous. In the night the light may be distinctly seen at the distance of five leagues.

The reef from the west end of Green Island dries to the distance of a mile from the island. The westernmost part is detached from the body of it, and the tide sets through the interval toward Cacona. This part is covered at a quarter flood.

THE DESCRIPTION OF THE RIVER CONTINUED.

RED ISLAND lies in the middle of the estuary, off the mouth of the Saguenay River, and bears N.W. by W. $\frac{1}{2}$ W. nearly $5\frac{1}{2}$ miles from the lighthouse on Green Island. It has a low, flat islet, of a reddish colour, without trees, and partially covered with grass. The reef, which extends $2\frac{1}{2}$ miles to the N.E. and is $1\frac{1}{2}$ mile wide, is nearly dry in some parts at low water; the eastern extremity of this reef bears nearly N.W. by N. from the lighthouse. The depth decreases gradually on its eastern end, but the islet is bold-to on the S.W. The eastern end of the reef is quite cleared by keeping the lighthouse and beacon on Green Island in one, bearing S.S.E. $\frac{1}{2}$ E.†

LARK REEF, on the north side of the River, lies opposite to the western point of Green Island, bearing N.W. 8 miles from it, contracting the navigation of the river to this breadth. It is at the S.E. extremity of a shoal, extending from *Lark Point*, the western point of the entrance of the Saguenay River, as before described, and which bears N. by W. 3 miles from it. The space between it and the shore dries at low water, nearly out to the point; this can be avoided, as well as those to the N.E. of it, lying off the mouth of the river, by keeping the western sides of the Brandy Pots and White Island in one, and open to the southward of Hare Island, bearing S.S.W. $\frac{1}{2}$ W.; but this mark is distant, and cannot always be seen.

The **NORTHERN SHORE** of the River, from the Saguenay to Coucres Island, is bold and mountainous. The granitic hills in most parts rise immediately from the river, forming steep precipitous headlands. Near the entrance of the Saguenay these hills are not above 1000 feet high, but those of the Eboulemens attain an elevation of 2547 feet above the tide-waters of the river.

CAPE BASQUE is the first mountainous headland S.W. of the Saguenay, bearing S.W. $\frac{1}{2}$ S. $6\frac{1}{2}$ miles from Lark Point; and about $1\frac{1}{2}$ mile northward of it is the *Echafaud du Basque*, a small rocky islet in the mouth of a cove, and bearing $4\frac{1}{2}$ miles W. by S. from the S.E. extreme of Lark Reef, the shoal of which extends as far as this place.

BASQUE ROAD is a well-sheltered anchorage lying off this, the best position being with the *Echafaud* bearing W.N.W. rather less than a mile distant, in 10 or 11 fathoms over clay bottom.

Bay of Rocks is about $2\frac{1}{2}$ miles south-westward from Cape Basque, and affords shelter only to boats. *Cape Dogs*, $5\frac{1}{2}$ miles S.W. $\frac{1}{2}$ S. of Cape Basque, is quite bold and high; and similar to it is *Cape Salmon*, which is S.W. $\frac{1}{2}$ S. $9\frac{1}{2}$ miles distant from it. Further to the westward, about $1\frac{1}{2}$ mile, is *Port Salmon*, which, like *Port Parsley* and *Kettle Port*, to the eastward, are only boat harbours. The settlements are nearly continuous on the banks from hence to Quebec.

Cape Eagle is $5\frac{1}{2}$ miles S.W. by W. $\frac{1}{2}$ W. from Cape Salmon, and is of the same character.

* The *Archduke Charles*, transport, from Quebec, having on board six companies of the Nova-Scotia militia, was wrecked on one of the reefs, and eight persons perished, May, 1816.

† The *Minstrel* brig, Capt. Outerbridge, which sailed from Limerick, 21st April, 1841, with 141 passengers, emigrants to Canada, struck on Red Island Reef, May 18th, at 4 a. m. A heavy sea was then running, and more than a hundred passengers embarked in the boats, when the vessel heeled into deep water, and instantly went down stern foremost. All in the boats perished, with the brave and worthy captain, except four of the crew and four passengers. The survivors reached White Island, whence they were taken off by Captain M'Intyre, of the *Wellington*, and conveyed to Grosse Island.

MURRAY BAY is $6\frac{1}{2}$ miles W. by S. from Cape Eagle; it is a beautiful place. The bay is $1\frac{1}{2}$ mile wide, and nearly as deep, and a rapid and unnavigable river falls into the head of it, on which are several grist and saw mills. The bay is nearly all dry at low water, except the shallow channels leading to the river. Vessels occasionally anchor off the bay, with *Point Gaze*, its east point, bearing W. by N. about 400 fathoms, *Point Pies*, its west point, S.W. $\frac{1}{4}$ W., and *Point Heu* E.N.E. $\frac{1}{4}$ E.

The River at this part, between the Saguenay and Cape Eagle, is divided into two channels, by the Red Island and bank above described, and the shoals and reefs extending in a line along the middle of the river, at each end of Hare Island, in a N.E. and S.W. direction.

The NORTH CHANNEL, though not that which is generally used, is clear, deep, and broad, and might be used advantageously under proper circumstances, as in the case of scant and strong N.W. winds; but with easterly winds and thick weather, or at night, it must not be attempted, as there would be no leading marks, and the depth is too great and irregular to afford any guidance, besides the want of shelter or anchorage on the north shore.

WHITE ISLAND, on Hare Island North Reef, is covered with trees, and bears from Red Island S.W. $\frac{1}{4}$ W. nearly 10 miles, and from the N.E. end of Hare Island N.E. $\frac{1}{4}$ N. $1\frac{1}{2}$ mile. A shoal of rocks extends from White Island N.E. $\frac{1}{4}$ E. 3 miles, and dries to the greatest part of that distance. Between the N.E. end of this shoal and Red Island, $6\frac{1}{2}$ miles distant, the channel is quite free from danger.

HARE ISLAND, &c.—The east end of this island lies S.W. $\frac{1}{4}$ S. a mile and a half from White Island; thence it extends $7\frac{1}{2}$ miles to the S.W., and is in no part one mile in breadth: in a great part not half a mile. It is 250 or 300 feet high, and thickly wooded.

At S. by W. one mile and a half from the N.E. end of Hare Island, lie the three islets called the BRANDY POTS and NOOGIN. The northern Brandy Pot, high and covered with trees, is close to the southern one, and the bottom between it is dry at low water. The southern is a whitish rock, almost barren, the wood being nearly burnt off. The *Noggin*, which lies to the N.E. of the northern Brandy Pot, is likewise covered with trees. At low water these islets are connected by a chain of rocks, leaving a passage for a boat only. Half-way between the Noggin and the N.E. extremity of Hare Island, at half a mile from shore, there is also a reef, dry at low water; but all these are out of the fair-way. The depth of 7 fathoms leads clear of them.

To the south-westward of the Brandy Pots the south side of Hare Island has a flat of hard ground extending from it, three miles in length, and about one-quarter of a mile in breadth. The whole of this side of the island is bound with rocks.

HARE ISLAND BANK.—This is an extensive shoal lying above, and nearly in the direction of Hare Island. It commences at about a mile S.E. from the S.W. end of the island, and extends thence S.W. by W. and S.W. nine miles. There is good anchorage on its south side, in 7 fathoms. On its northern side is HARE ISLAND SOUTH REEF, the greatest portion of which is uncovered at low water, to an extent of $2\frac{1}{2}$ miles; the part always uncovered is clothed with grass and spruce-bushes, lying $2\frac{1}{2}$ miles to the S.W. of Hare Island. The western extremity of this reef bears from that of Pilgrims N.W. by N. $3\frac{1}{2}$ miles; and the eastern end is nearly north $4\frac{1}{2}$ miles from the same. Off the east end of the bank, about a quarter of a mile distant, is a small rocky 2-fathom *Knoll*, on which White Island will be just shut in behind the south side of Hare Island; and at two-thirds of a mile from the east end of the bank is a 3-fathom *shoal*, on which White Island will be midway between the Brandy Pots and Hare Island.

The SOUTH CHANNEL, between these banks and the south shore of the river, is justly preferred for the common purposes of navigation. The tides are not so strong, nor the water so inconveniently deep, as in the channel on the north side of the river: it has good anchorage in every part, and a sufficient depth for any ships.

The breadth of the channel, in its most contracted part, between Hare Island Bank and the Pilgrims, is two miles, and its greatest depths 7, 8, 10, to 13, 15, and 16, fathoms, mud, sand, and gravel.

BARRETT LEDGE.—The reef thus called is composed principally of two detached rocks, on the south side of which is a black buoy. This buoy lies with the northern extremity of the main land within Green Island, in a line with the northernmost high land of Cape Orignal, bearing N.E. by E. $\frac{1}{4}$ E.; the summit of the southernmost mountain of the high land of Kamourasca in one with the south point of the Great Pilgrim Island,

S.S.W. $\frac{1}{2}$ W.; the eastern side of the trees on Hare Island in one with the west cape of the Bay of Rocks, (on the north shore,) N.W.; and two houses near the Rivière du Loup, S.S.E. $\frac{1}{2}$ E.; the latter are the only two houses between the church and Rivière du Loup.

The rocks of Barrett Ledge bear from each other N. 63° E. and S. 63° W. one-quarter of a mile. The N.E. rock has 10 feet over it; the S.W. has 12. Between them is a depth of 7 and 8 fathoms.

At a mile S.W. from the S.W. side of Barrett Ledge, lies a small bank of 10 feet, called the *Middle Shoal*, with the Brandy Pots bearing N.W. $\frac{1}{2}$ W. distant a mile and a half. Near it on the N.E. are from 6 to 8 fathoms of water. This shoal appears to be the extremity of the remains of a narrow *Middle Bank*, extending thence two leagues S.W. by W., and upon which there are still from 4 to 3 $\frac{1}{2}$ and 3 fathoms, on approaching to the Hare Island Bank. In the channel between the Middle Shoal and Brandy Pots are from 10 to 18 fathoms of water: but in that to the southward the general depths are 7 and 8 to 5 and 4 fathoms.

On the SOUTH SHORE of the River, the first point westward of Green Island, is the remarkable rocky peninsula of Cacona, lying S.S.W. from the S.W. end of Green Island. At a mile and a half south-westward of Cacona, and just to the northward of the stream of it, are the *Percée Rocks*, two clusters, occupying the extent of a mile and a half. They lie at about one mile from, and parallel with, the main, and are nearly covered at high water. On the south side of them there is a narrow 3 $\frac{1}{2}$ -fathom channel: the depth of 10 fathoms leads clear on the north; and Green Island and Cacona just touching, and bearing N.E. $\frac{1}{2}$ E., will keep 3 fathoms depth on their north side.*

The PILGRIMS.—Five islets, called the PILGRIMS, lie at the distance of 14 miles above the peninsula of Cacona, at a mile and a half from the shore. They occupy an extent of 4 $\frac{1}{2}$ miles N.E. by E. and S.W. by W., and are based upon the *Banc du Loup* (or Wolf Bank), extending from shore above the river of the same name, and on the exterior part of which the depths are 2 $\frac{1}{2}$ and 3 fathoms. They are connected by reefs that dry at low water. The easternmost is the highest, and is covered with trees; the others are barren, and of a whitish colour. They are bold-to on the north side, but there is no passage for shipping between them and the shore.

From the N.E. or Great Pilgrim the Brandy Pots bear N.N.E. 7 $\frac{1}{2}$ miles, and the S.W. end of Hare Island N.W. by N. 4 $\frac{1}{2}$ miles. Hereabout the ebb runs downward at about 2 $\frac{1}{2}$ miles an hour.

Without the edge of the *Banc du Loup* is a sand-bank, called the *Pilgrim Shoal*. It is narrow, but 4 miles in length, and its general depths 13 and 14 feet at low water. A depth of 7 and 8 fathoms clears it on the north side.

KAMOURASCA ISLES.—This is a group of narrow islets, lying at the distance of two leagues above the Pilgrims, on the same side of the river. The N.E. or *Grand Isle* bears from the Pilgrims S.W. by W. The bank between is steep-to. The island next to the Great Island is *Burnt Island*, and the third of the larger isles is *Crow Island*. These isles are about three miles in extent, and one or two from the shore; the bank within is dry at low water. Great Island and Burnt Island are very steep on the north side, but Crow Island is surrounded with shoal water.

The settlement of KAMOURASCA is within the islands above described. Its church bears S.E. nearly a mile from Crow Island. From the latter, *Cape Diable* bears S.W. $\frac{1}{2}$ W. about three miles, but a long reef extends from the cape toward the island, the easternmost part of which is covered at a quarter flood, and is little more than a mile from Crow Island. Two miles above Cape Diable is *Point St. Denis*; and a small cove on the south of this point. From Point St. Denis to Point Oval (*Ouelle*), the land trends irregularly six miles to the S.W.†

* On the main land, within Basque Island, is the settlement of *Trois Pistoles*; on the same side, within *Green Island*, are the church and village of that name: and at five miles from the latter are the promontory and parish of *Cacona*: next above which, opposite to Hare Island, is the *Rivière du Loup*. "These settlements do not extend far beyond the river or front range, which exhibits neat farm-houses, large barns, and extensive enclosures, bearing evidence of a good soil and industrious cultivation."

† The Parish of *St. André*, or *St. Andrew*, with its church, are on the main-land above the Pilgrims. Hereabout the land rises very near the river, in a steep ascent, to an elevation of from 150 to 200 feet.

On the extremity of a shallow bay, at six miles westward from St. Anne's, stand the village and church of St. Roque. The country between is occupied with settlements, and an extensive mud-bank, with large scattered stones, uncovered at low water, extends in front of it. This mud-bank is included within the greater bank of sand called the *Shoals of St. Anne* and of *St. Roque*, extending more than a third over the river, from the southern shore, and limiting the channel on the south side.

Opposite to Point Ouelle, on the north side of the river, is *Cape aux Oies*, or *Goose Cape*, which is bold and rocky, forming the western extremity of MAL BAY; *Point au Pies*, on the west of Murray Bay, $9\frac{1}{2}$ miles N.E. $\frac{1}{2}$ N. from Goose Cape, being the eastern extremity. Mal Bay is formed by a slight incurving of the coast; shoals extend a quarter of a mile off shore, and there is no good anchorage in it.

Cape Martin is three miles W. by S. from Cape aux Oies; between them is good anchorage, and about midway is a large stone called the *Grosse Rock*.

Vessels anchor in 7 fathoms, the *Grosse Rock*; bearing N.W., being here sheltered from the tides, which run past Goose Cape with great rapidity, and occasion at times a strong rippling.

ISLE AUX COUDRES is opposite to Point St. Roque on the south shore; and at this part the navigation of the river upward becomes intricate, from the numerous banks and islands which form the Traverses and numerous other channels.

The island is 6 miles long and $2\frac{1}{2}$ wide; its eastern end is $2\frac{1}{2}$ miles S.W. from Cape Martin. The island, being cultivated, has a pleasing aspect; it has as many inhabitants as it can support, having been settled at an early period. Its south shore is lined with rocks and shoals, extending a mile out from it. Its north side is bold, and *Prairie Bay* affords excellent anchorage. There is a reef of rocks running off the N.W. of the island, which are all covered at high water. The bearings from the end of the ledge are, St. Pierre Church in St. Paul's Bay just open, bearing N.W. $\frac{1}{2}$ N.; *Cape Corbeau*, the east bluff of St. Paul's Bay, N.N.W. $\frac{1}{2}$ W.; the waterfall on the north shore, N.N.E. $\frac{1}{2}$ E.; the bluff point of the island, S.S.E.; and the N.E. bluff point of the same, off which is a reef of rocks, E. $\frac{1}{2}$ N.

The NORTH CHANNEL to Quebec is to the north of Isle aux Coudres, and runs along the high northern shore of the river; and on the south side of it is the line of shoals, which extend from the west side of Isle aux Coudres to Burnt Cape Ledge and the Bayfield Isles.

The MIDDLE CHANNEL is to the south of the Isle aux Coudres, the entrance being between it and the Middle Ground, whence it runs westward along the shoals between it and the Seal Islands, and to the north of Goose and Canoe Islands, into the South Traverse.

The SOUTH TRAVERSE, that which is generally used by vessels at present, is along the south side of the river.

SOUTH TRAVERSE.—The entrance of the South Traverse lies between a buoy, chequered black and white, on the edge of St. Anne's Bank, on one side, and the bank called the Middle Ground on the other. The narrowest part of the channel is indicated by

Hence to Kamourasca, a distance of about nine miles, the country is diversified by abrupt and insulated hills, whose craggy and almost barren faces are generally contrasted with well-cultivated fields.

Kamourasca is a populous village, celebrated for the remarkable salubrity of its atmosphere, and is now the chief watering-place of Lower Canada; as such, it is the resort of numerous visitors, of the first rank and respectability, during the summer months. Here are a few shops, and several good taverns.

The next respectable village is a beautiful one on the *River Ouelle*, which likewise has its church and very neat dwelling-houses, &c.

The church of St. Anne stands at about a mile inland, $3\frac{1}{2}$ miles south from the mouth of the Ouelle.

Insulated cliffs characterise the scenery about Kamourasca. They are composed of granite, and generally rise in abrupt slopes, presenting rugged faces, thinly clad with dwarf trees. The highest of these hills is the *Montagne Ste. Anne*, which peers above a fine country at its base. To the west is the settlement of *St. Roque des Aunais*; and to the southward trends a bold but not very high ridge skirting the most luxuriant fields. At the eastern base of the mountain, very agreeably situated upon an eminence, are the small village of St. Anne, the parish church, the parsonage house, and a large stone college, three stories high, on an elevated and salubrious spot.

a light-vessel, stationed at nearly 5 miles W.S.W. from the chequered buoy of St. Anne's, and which is to be left, on sailing upward, on the larboard or south side.

At nearly a mile W. by S. above the light-vessel is a white buoy on the Middle Ground, to be left on the starboard side; and, at the same distance S.W. by S. is a black buoy on the larboard side. The passage between these buoys is only half a mile broad, and this is the most intricate part of the navigation in the river. The courses up, from these buoys, to abreast of a red buoy, on the edge of the southern bank, that of *St. Jean*, are S.W. $\frac{1}{2}$ S. 4 miles, and S.W. by S. 2 miles, whence you enter the South Traverse, distinguished on the north side by a rocky islet, named the *STONE PILLAR*, or *Pilier de Pierre*, which is always above water, and a quarter of a mile in length, at $2\frac{1}{2}$ miles from the south shore.*

A revolving light has been shown from the tower lately erected on South or Stone Pillar, since the 28th September, 1843, during the season of the navigation. This light will revolve at regulated intervals of $1\frac{1}{2}$ minute.

About $2\frac{1}{2}$ miles north-westward of the Stone Pillar is a 3-fathom shoal, called the *Channel Patch*, lying in the mid-channel, and below it are several other patches, with from $2\frac{1}{2}$ to 3 fathoms. The marks for the Channel Patch, which may be passed on either side, are the north sides of the Goose Island Reef and of the Stone Pillar in one, bearing S.W. $\frac{1}{2}$ W., the latter being distant $2\frac{1}{2}$ miles; the north side of Goose Island (including the islands close off it) and the south side of the Wood Pillar in one, bearing S.W. by W. $\frac{1}{2}$ W.; and lastly, St. Jean Church S.E. $\frac{1}{2}$ S. $2\frac{1}{2}$ miles.

The *Avignon*, a half-tide rock, round on the top, and dry at three-quarters ebb, lies at the distance of two cables' length S.E. from the body of the South Pillar, with a depth of 7 fathoms close to it.

The *PILIER BOISÉ*, or *Woody Pillar*, a high round rock, with trees on the western part of it, lies at a mile and a quarter to the west of the Stone Pillar. At half a mile to the east of it is a rock, called the *Middle Rock*, dry at half-ebb.

To the northward of the Piliers or Pillars are the *Seal Reefs*, composed of sand and shingle on slate, and having an extent of nearly four miles N.E. by E. and S.W. by W. To a considerable extent the rocks which form these reefs are dry at low water. The bank on which they lie is extensive on the N.E. toward Coudre Island.

At a mile and a quarter S.W. from the *Pilier Boisé* lies the extremity of a reef extending thence to *Goose Island*; and at a mile and a quarter S.W. $\frac{1}{2}$ W. from the Stone Pillar is the commencement of a ledge of high rocks, called the *Goose Island Reef*, extending thence $2\frac{1}{2}$ miles S.W. $\frac{1}{2}$ W., the western part of which is composed of rocks always above water, and steep-to on their south side.

GOOSE ISLAND.—We have now advanced to *Goose Island*, connected by low meadow land to *Crane Island*, the whole of which occupies an extent of ten miles in a direction N.E. $\frac{1}{2}$ E. and S.W. $\frac{1}{2}$ W. The South Traverse continues on the south side of this island; but is impeded by several shoals of 12 and 15 feet water, which require great precaution.

A farm-house may be seen on *Goose Island*, to the eastward of which, and close to low-water mark, is a large rock called the *Hospital Rock*. Two miles and a half to the westward of this rock is a long reef, dry at low water, but it is out of the fair-way, and close along the island.

The north side of *Crane Island* is in a good state of cultivation. On drawing toward it you will see a farm-house (Macpherson's) on the east end. To the S.E. at half a mile from this house, is the edge of the *Beaujeu Bank*, a narrow shoal which extends two miles thence to N.E. $\frac{1}{2}$ E., and having, on its shoalest part, only 12 feet at low water.

Two new buoys have been placed to mark the channel between *Beaujeu's Bank* and *Crane Island*, viz.—

A white buoy on the shoal off the south side of *Crane Island*, in $3\frac{1}{2}$ fathoms low water spring tides, Mr. Macpherson's house bearing North half East, distant one-third of a mile, and the south side of *Crane Island* bearing South-west by West; this buoy bears West half North from the black buoy on the south-west end of *Beaujeu's Bank*.

* Captain Bayfield says that the four buoys of the Traverse are laid down in every spring, and taken away in every autumn, at the close of the navigation. They are never laid down two years following in exactly the same place, from not being placed by angles, but they are always sufficiently near it to answer the purpose required.

Another *white buoy* on the south edge of Goose Island shoal, in 4 fathoms low water spring-tides, about 2 miles below Mr. Macpherson's house, Onion Island, bearing North-west, and the south side of Crane Island bearing South-west $\frac{1}{4}$ West.

Whereby a clear channel will be left of nearly $\frac{1}{4}$ mile, between the black buoy and the above white buoys, carrying 4½ fathoms, and which will allow ships, at dead low water spring-tides, to pass up or down without having occasion to anchor to wait for water over the flats to the southward of Beaujeu's Bank.—(May, 1844.)

On the south shore, opposite to the N.E. end of Goose Island, are the settlement and church of *L'Islet*, and at seven miles higher are the cape and village of *St. Ignace*: between are numerous settlements, and a shoal bank extends along shore, which is a mile and a half in breadth, thus narrowing the channel-way to the breadth of a mile.

BAYFIELD ISLES.—To the west of Crane Island is a group which may, with strict propriety, be called the *Bayfield Isles*, in compliment to the gentleman by whom they have been so excellently surveyed. Exclusive of a number of smaller islets and rocks, the principal isles are, *Canoe Isle*, on the north side of Crane Island, *Marguerite* or *Margaret* to the west, *Grosse Isle*, and *Isle aux Reaux*, otherwise Rat Island, and the *Isle Madame*. The whole, between Crane Island and the Island of Orleans, occupies an extent of 14 miles. There are several passages between the isles, but they are too intricate to be understood without reference to the chart.

From the west end of Crane Island a reef of rocks extends to the W.S.W. about half a mile, and a spit of sand, of 9 to 12 feet water, a mile and a quarter thence, in the same direction. From the S.W. side of Margaret Isle there is likewise a bank extending in a S.W. direction, the extremity of which is marked by a *red buoy*. On the north side of this island is a good roadstead, with 8 fathoms of water, lying about a mile to the east of Grosse Isle. You enter from the southward with the red buoy above mentioned on the starboard, and a white buoy, three-quarters of a mile farther north, on the larboard side; the course in being N. by E.

Grosse Isle, which has a farm near its N.E. end, is about 150 feet in height; and the next isle, *Reaux*, which is long, narrow, low, and covered with trees, has one near its west end. The *Isle Madame* is also low, covered with trees, and has only one habitation. The last two isles are wholly on a base of rock, and from the S.W. end of *Madame* the bank extends 2½ miles to the S.W., and thus forms the western entrance of the *Northern Traverse*, on the eastern side of the Island of Orleans. A ship should not approach it nearer than in 7 or 8 fathoms.

On the **Southern Land**, above the Beaujeu Bank, will be seen, in succession, the churches of *St. Ignace*, *St. Thomas*, *Berthier*, *St. Vallier*, *St. Michael*, and *Beaumont*. A large tract, in the vicinity of the *Rivière du Sud*, is in so high a state of improvement, as to be considered as the granary of the province. The western side of this river is distinguished by the respectable village of *St. Thomas*, and the country about it is very fine, exhibiting churches and villages; the houses, being generally whitened, are pleasingly contrasted by the dark thick woods on the rising grounds behind them; the boundary of view beyond which is a distant range of lofty mountains.

From the Land of *St. Thomas* a bank extends more than half-way over toward Crane Island. Its northern extremity is a mile and a half S.W. by W. from the south point of the island. The bank is partly dry at low water.

The **WYE ROCK** lies immediately above the Bank of *St. Thomas*. This reef is about one quarter of a mile in length, in the direction of S.W. by W. It has only 3 feet over its west end, and 6 feet over the east end. The west end lies with the *Seminaire* of *St. Joachim*, a large building, with a tinned cupola and cross, on a rising ground near the water; on the north side of the river, just shut in with the east end of *Reaux Island*, and bearing N. 50° W. Its distance from the nearest shore is rather more than half a mile.

On the **SOUTH SHORE**, at 6½ miles above the Wye Rock, and W.N.W. from *Berthier* church, lie the **BELLE CHASSE ISLETS**, two remarkable large rocks. They are situate three-quarters of a mile from the shore. The ground, all the way up from *St. Vallier Point* to *Quebec*, is foul and unfit for anchoring.

ST. VALLIER CHURCH bears from that of *St. Jean*, or *St. John*, on the Island of Orleans, S.E. distant about three miles.

• "Off this island, as the law now stands, ships are obliged to anchor; from whence, after examination, they are allowed to proceed to Quebec, if not detained at the quarantine anchorage."

The **BEAUMONT REEF**, opposite to the point of St. Laurent, or St. Lawrence, on the Island of Orleans, is a large rocky bank, extending more than half-way over from the south shore. It is dry at low water, uneven, and steep-to on the north side, having 14 fathoms close to it.

The **MIDDLE CHANNEL** lies between the shoals and islands which form the northern side of the South Channel, and the long line of shoals and reefs, which extend from Coudres Island to Reaux Island, at the east end of the Island of Orleans. The entrance of the **MIDDLE TRAVERSE**, to the north of the Seal Islands, has not more than three fathoms at low water; but having passed this shallow part, there is depth and room enough for the largest ships, until we arrive at the Bayfield Islands, where the Middle Traverse communicates with the South Traverse by various narrow passages between the islands. There is plenty of water at all times in most of these passages, which will be best understood by referring to the chart, but the tides set strongly through them; and though it would be possible to take even the largest ships up to Quebec by the Middle Channel, were it requisite from any cause to do so, yet they are too intricate and difficult for general navigation.

The **NORTH CHANNEL** is a fine channel, and although not so convenient for the purposes of navigation as the South Channel, which is the most generally used, still it may be of service at times, as it frequently remains open, or free from ice, some time after the South Channel becomes unnavigable in the fall of the year.

The western entrance to this channel is between the reefs, which extend a mile to the E.N.E. of the N.E. of Coudres Island and the coast at *Les Eboulemens* (land-slips), where there is a large settlement. The mark to clear the shoals, on each side this part of the channel, is Cape Goose and Cape Martin in one.

ST. PAUL'S BAY is opposite the west end of Coudres Island. It is shoal and rocky, with a great ripple at some distance off, around Cape Corbeau. Its western point is called *Cap de la Baie*, and shoals of mud and large stones extend off it for three-quarters of a mile, and which also extend for $1\frac{1}{2}$ miles to the south-westward at an equal distance.

After clearing the N.W. reef of Coudres Island by the before-mentioned marks, there is a fine straight channel from $1\frac{1}{2}$ to $2\frac{1}{2}$ miles broad, entirely free from danger, and extending 18 or 19 miles to the Burnt Cape Ledge. The depth does not exceed 17 fathoms, and there is good anchorage towards the sides, out of the strength of the tides, which run stronger and with more sea in this long and open reach than in the South Channel.

The southern side of this channel is a bank, extending, as before mentioned, from Coudres Island to Burnt Cape Ledge. Its edge is nearly straight, and is easily followed.

The *Neptune Rock* is nearly 15 miles S.W. from Coudres Island, within the edge of this southern shoal, and is easily recognised.

The *North Shore* is high, but the shoals extending three-quarters of a mile from *Cap de la Baie* and *Petite Rivière* will be cleared by keeping the extreme western capes, Rouge and Gribanne, open to the southward of Cape Maillard, which is 3 miles S.W. of the church of *Petite Rivière*. *Abattis* is a landing place, $1\frac{1}{2}$ mile S.W. of Cape Maillard; and at the *Sault au Cochon*, 2 miles farther S.W., the shoals, which line the shore, cease. There is only one landing place, *La Gribanne*, between Abattis and Cape Tourmente, a distance of 11 miles. To the westward of the *Sault au Cochon* the mountainous and uninhabited coast is quite bold, the high and precipitous capes, of various granitic rocks, being washed by the river as far as Cape Tourmente, where the *Seminaire Bank* commences, and the mountains trend to the N.W. away from the shore.

Burnt Cape Ledge is nearly opposite Cape Brulé on the north shore, from which it is distant $1\frac{1}{2}$ mile. The S.W. end is always above water, and is $4\frac{1}{2}$ miles S.W. from the *Neptune Rock*.

The *Brulé Banks* are to the westward of the former, and are joined to it by shoal water. Their northern edge is only 600 fathoms wide and from 7 to 10 deep. The banks form a bay on the south side, but which has no passage through to westward. This must be taken care of, and the north shore of Capes Brulé and Tourmente kept on board on nearing them. On the N.E. point of the *Brulé Banks*, in 3 fathoms, the west end of the *Burnt Cape Ledge* is in one, with the east side of *Heron Island* bearing S.E.

The *Traverse Spit* lies between the *Brulé Banks* and the eastern point of Orleans Island, its N.E. part forming, with the S.W. part of the *Brulé Banks*, the *Eastern*

Narrows of the North Traverse, which is only 250 fathoms wide, and 4 fathoms can be carried through within this breadth. The Traverse Spit, and the *Horse Shoe Bank* to the N.W. of it, as well as the *Brulé Banks*, dry, for the most part, soon after half-ebb, and thereby greatly lessen the difficulty of the passage.

The mark for leading into the Traverse through the Eastern Narrows is, the S.W. point of Reaux Island and Point St. Vallier in one, bearing S.S.W. $\frac{1}{2}$ W. From the Eastern Narrows the channel runs S.W. by W. close along the southern edge of the Traverse Spit, leaving all other shoals to the southward.

At the distance of 2 $\frac{1}{2}$ miles we come to the *Western Narrows*, which are also 250 fathoms wide and 4 $\frac{1}{2}$ fathoms deep. The *Western Narrows* are between the Traverse Spit and the *West Sand*, which is 1 $\frac{1}{2}$ mile long and has 7 feet least water.

The mark for leading through the Western Narrows, after having arrived as far as the east end of the West Sand (which will be when Berthier Church is just shut in behind the S.W. point of Reaux Island, bearing S. $\frac{1}{2}$ W.,) is *Point St. John* and *Point Dauphine*, on the south side of Orleans Island, in one, bearing S.W. $\frac{1}{2}$ W.

Having cleared the Western Narrows, there is a fine clear passage between Orleans Island and the banks of Madame Island, not less than two-thirds of a mile wide, and with good anchorage all the way to the South Channel at Point St. John, a distance of nearly 7 miles.

The channel to the northward of the Island of Orleans has water enough for the largest ships, but is too narrow and intricate for general use.

THE ISLAND OF ORLEANS is distinguished for its fertility. The shores, in general, slant gradually to the beach; in some places are a few rocky cliffs, but not of great extent or elevation: from the foot of the slopes are large spaces of low meadow-land, sometimes intersected by patches of excellent arable. Bordering the north channel the beach is flat and muddy, with reefs of rocks running along it; but, on the southern side, it is a fine sand, with only a few pointed rocks sticking up here and there. The highest part of the island is by the church of St. Pierre, about 3 $\frac{1}{2}$ miles from the western extremity, and almost fronting the magnificent Falls of Montmorenci; and also just above Patrick's Hole, on the south side, nearly abreast of St. Pierre, on which is placed the second telegraph of a chain between Quebec and the quarantine establishment at Grosse Island. The central part is thickly wooded. The churches of St. Lawrence and St. John are situated close down on the southern shore; the distance between them is nearly six miles, and this extent presents excellent cultivated lands, richly diversified with orchards and gardens, and houses at short intervals from each other. *St. Patrick's Hole*, a little to the westward of St. Lawrence, is a safe and well-sheltered cove, where vessels outward bound usually come to an anchor, to await their final instructions for sailing. On the west point of it is a group of very neat houses; at several of which the inhabitants furnish accommodations to the numerous persons who visit the island, from amusement, or from curiosity, both in summer and winter.

Large quantities of grain, and most sorts of provisions, are continually sent from this island for the consumption of Quebec: among the fruits, apples and plums attain a much greater degree of perfection here, than in any other place of the lower district of Canada.

Off **ST. PATRICK'S HOLE**, above mentioned, ships ride in 10, 12, or 14 fathoms, abreast of the inlet. The telegraph, No. 2, is just to the eastward of this cove, on the high part of the island. The ground is not good, but it is well sheltered from easterly winds. Here the river is about one mile and a quarter wide, and bold on both sides.

At about half-way between St. Patrick's Hole and the west end of Orleans, is a shelf called **MORANDAN'S ROCKS**. They extend a cable's length from the island, and have only 10 feet over them.

On the S.W. part of the west end of Orleans is another reef: this is dry at low water, lies close in, and should not be approached nearer than in 10 fathoms. On the opposite shore, a little to the eastward of Point Levy, is another reef, which should be passed at the same depth. Northward of Point Levy is a small reef, but close in, and out of the fair-way.

BASIN OF QUEBEC.—The appearance of the lands forming the Basin of Quebec is given hereafter, in the description of the river, from Montreal downward. We, therefore, only add here that it is one mile across between the high-water marks, with a great depth of water. The **HARBOUR OF QUEBEC**, properly so called, commences at St. Patrick's

Hole, and extends thence to Cape Rouge River, which is nearly three leagues above Quebec. The PORT of QUEBEC comprehends all the space between Barnaby Island and the first rapid above Montreal.

The situation of Quebec, the capital of Lower Canada, is unusually grand and majestic, in form of an amphitheatre. The city is seated on the N.W. side of the St. Lawrence, upon a promontory, formed by that river and the St. Charles. The extremity of this headland is called *Cape Diamond*, of which the highest point rises 345 feet above the level of the water. It is composed of a rock of grey granite, mixed with quartz crystals, (from which it obtains its name,) and a species of dark coloured slate. In many places it is quite perpendicular and bare; in others, where the acclivity is less abrupt, there are patches of brownish earth, or rather a decomposition of the softer parts of the stone, on which a few stunted pines and creeping shrubs are here and there seen; but the general aspect of it is rugged and barren.—(*Bouchette*, Vol. i., 241.)

Population in 1759, about 9000.—Now about 28,000.

The latitude of Quebec is $46^{\circ} 48' 9''$, and its longitude we assume as $71^{\circ} 13'$, from the reasons assigned in the 'Memoir on the Atlantic Ocean.'

MONTREAL.—The communication between Quebec and Montreal, when not impeded by the ices, is chiefly by means of steam-vessels, which are, in general, gracefully moulded and finely finished. The cabins are fitted up with much elegance and taste; the tables are liberally provided with excellent fare; and the dessert displays the most delicious fruits of the country. Steamers start almost every day from both cities, and perform the voyage up the river in from 36 to 40 hours, but they are several hours less in accomplishing the trip downward, from the advantage of having a current setting in this direction as far as the Richelieu, where they meet with the tide.—(*Bouchette*, Vol. i., 270.) For the improved navigation recently established, see hereafter.

Population of the city and suburbs, in 1825, 22,357; now not less than 25,000.

The rates of pilotage for the river, and the towing rates of steamers between Quebec and Montreal, succeed the sailing directions in the following pages.

The laws of the Trinity House are particularly strict, with respect to shipping in the Port and Harbour of Quebec; and every attention must be paid to them, as well as to those respecting Quarantine. Of the latter, the pilots are bound to inform all masters, as soon as they board them below. A copy of the Harbour Laws is delivered to each master, on his arrival, by the harbour-master; and those respecting shipping may always be seen at the harbour-master's office.

TIDES IN THE RIVER ST. LAWRENCE.

On the days of full and change, the tide flows in the river as follows:—Near Cape de Monts, on the north side, at 1 h. 55 m. In Manicougan Bay, at 2 h.; here spring-tides rise 12, and neaps 8, feet. At Bersimis Point, 2 h.

On the south coast, near Cape Chatte, the time is $1\frac{1}{2}$ h. Here spring-tides rise from 12 to 14, and neaps 8, feet. Off the River Matane the time is 2 h. 0 m.; springs rise 12, and neaps 6, feet. At Grand Metis Bay, the time is 2 h. 10 m.; springs rise 13, and neaps 8, feet. Off shore hereabout, the current on the surface always runs downward, from $1\frac{1}{4}$ to $2\frac{1}{4}$ knots.

The time of high water at Green Island, is 3 h.; spring-tides rise 16, and neaps 10, feet. In the middle of the river, off the eastern part of this island, the flood from the north shore turns to the southward and sets thence eastward off the south shore; and thus below the Isle Bic, the stream sets constantly downward, at the rate of $1\frac{1}{2}$ to $2\frac{1}{4}$ knots as above mentioned.

At Green Island, the time is 2 h. 45 m.; at Kamourasca, 4 h.; at the Brandy Pots, 3 h.; in the Traverse, 4 h. 30 m. Off Point St. Roch or Roque, 4 h. 50 m. Here it ebbs $6\frac{1}{2}$ hours, and flows $5\frac{1}{2}$.

At the ISLE BIC the stream never bends to the westward until an hour's flood by the shore. The neap-floods are here very weak; and, with westerly winds, none are perceptible. A spring-flood is, however, always found, within four miles of the shore, between Father Point and Bic.

The ebb-stream from the River Saguenay sets with great force south-eastward toward Red Island Bank. Off Green Island, on the opposite side, there is little or no flood, but a great ripple.

All the way hence to Quebec, the tide, when regular, flows tide and quarter-tide: but it is influenced greatly by the wind, and by no means to be depended on, as to its running, any where below Hare Island, where there is a regular stream of ebb and flood.

BETWEEN BARNABY and Bic the stream of flood sets in from the N.E. at the rate of about two knots; then fair through the channel until last quarter flood, when it sets to the N.W. by the west end of Bic, and then gradually to the N.E. as the flood slack. The whole of the ebb, both to the eastward and westward of the island, sets strongly to the N.E.

The current between Bicquette and the north coast is generally very strong to the N.E., without any regular change. In the summer and autumn, as well as in spring-tides, this current slack, and, near Bicquette, runs to the westward, during flood; but, until the upland waters have all run down, and the great rivers have discharged the freshets, caused by the thawing of the snows in the spring of the year, this current always runs downward.

From Bic to GREEN ISLAND, on the southern side, the stream of flood is no where perceptible at a mile and a half from the islands. The ebb, or rather current, comes strongly from the N.W., out of the River Saguenay, and through the channel to the northward of Red Island, and joining the eddy-flood, before explained, increases the constantly downward course of the stream. Here it always runs in a S.E. direction, two miles an hour, with a westerly wind; but only so to the southward and eastward of Red Island. Between Red Island and Green Island, the ebb runs from 4 to 6½ knots. In crossing over to the north shore, this easterly current will be found to diminish; for, on the north side, the flood is pretty regular, and the ebb much weaker.

Eastward of the Razade Rocks, and near Bic, the eddy-flood assumes a N.E. direction, and sets strongly between Bic and Bicquette. To the southward of Bic, spring-floods run at the rate of a knot and a half; neaps are not perceptible. Ships that come to the southward of Bic, with a scant wind from the northward, must steer W. by N., to check the S.E. current, until they come into 18 fathoms of water, or up to Basque, whence they proceed for Green Island.

The first of the flood, spring-tides, sets from the N.E. along the north side of GREEN ISLAND, and strongly toward the west end of it; then S.S.W. over the reef toward Cacona. In the middle of the channel no flood is perceptible. During spring-ebbs, the meeting of the N.E. and S.E. tides, near the middle of Green Island, causes very strong ripplings: and, to the eastward of Green Island, the S.E. ebb comes strongly about the east end of Red Island; here meeting, the N.E. tide causes a high rippling, much like broken water in strong easterly winds: but, in neap-tides, the floods are very weak, and in the spring of the year there are none. This renders the part of the river now under notice more tedious in its navigation than any other, unless with a free wind.

From the west end of Green Island a regular stream of flood and ebb commences, which runs five hours upward and seven downward. At the Brandy Pots it flows tide and quarter-tide: and, above the Percée Rocks, on the south shore, it sets regularly up and down, N.E. by E. and S.W. by W.

From the Brandy Pots, the stream of flood sets toward Hare Island; and, near the west and N.W. with great strength, through the passage between the island and bank.

Above Hare Island, the flood sets regularly up the river. The ebbs contrarywise.

From the PILGRIMS up to Cape Diable, the flood is very weak, but it thence increases up to the buoys of the Traverse, where it runs at the rate of 6 knots. The first of the ebb sets toward the English Bank and Hare Island Shoal, when abreast of the greater island of Kamourasca, and the ebb contrary.

In *La Prairie Bay*, on the north side of the *Isle aux Coudres*, the time of high water is 4 h. 25 m., and here it flows six hours: the ebb-stream continues an hour and a quarter after low water, and the flood three-quarters of an hour after high water.

The tides in the North Channel being half an hour earlier than in the Southern Channels, the first of the flood sets strongly on the St. Roque and St. Anne's Banks; and the first of the ebb sets strongly across the shoals in the middle of the river. In the Traverse, spring-tides rise 18, and neaps 11, feet.

In the SOUTH TRAVERSE, on the full and change, the tide on-shore flows at half-past

four, but it continues to run to the westward until six o'clock, when regular in the channel. With westerly winds there is a deviation, but it is certain that the tide on-shore rises three feet before the stream bends to the westward: and this allowance must always be made in every part of the river.

In the Traverse, the first of the flood sets from the N.N.E.; at the buoys, at a quarter flood, it takes a S.W. direction, and, when the shoals are covered at half-flood, at the Seal Reefs, it sets until high water S.W. by W. The ebbs, in a contrary direction, run with great strength; frequently, in the spring of the year, at the rate of 6 or 7 knots.

Between the Piliers or Pillars, it is high water at 5 h. 0 m. The ebb here runs 6 hours and 50 minutes; the flood, 5 hours and 25 minutes. Both streams continue to run an hour after high and low water by the shore.

From Crane Island the flood sets fair up the river, but the first of the ebb off L'Islet sets to the northward for half an hour, then fair down the river, and at the rate of not more than 3½ knots in spring-tide.

At the Isle aux Reaux, or Rat Isle, below Orleans Island, it is high water at 5 h. 32 m. It ebbs by the shore seven hours, and flows five and a half. The streams run an hour later. Off the S.W. end of Madame Island, it is high water at 5 h. 40 m.; springs rise 17, and neaps 13, feet.

At Quebec the time of high water is 6 h. 37 m. Here it ebbs by the shore seven hours and 40 minutes, and flows four hours and 45 minutes. Both streams run an hour after high and low water by the shore. Springs rise 18, and neaps 13, feet.

DIRECTIONS FOR SAILING UP THE RIVER, FROM ANTICOSTI TO QUEBEC.

"In working up the St. Lawrence, the south shore may be approached within a mile, if the land can be seen; but it must be remembered that the lead is of little use until you are past Matane River. On the north shore you have nothing to fear, while below Point de Monts, if the weather will allow you to see two or three miles off. After passing Point de Monts the intricate navigation of the river begins, and particular attention must be paid to the current, while making the board to the northward. In thick weather the lead will be the best guide between Matane and Barnaby on the south shore; but, on standing to the northward, we found the current setting strong to the north-westward, particularly in the vicinity of the Manicougan and Bersimis shoals; and in one instance, with an ebb tide, found a strong westerly set off Point de Monts." A similar instance occurred to H.M.S. Race-horse, in the night of the 6th of July, 1838. At 6 p. m. Rimouski Church bore S.W. 6 or 7 miles: at 10, while in the act of tacking, she struck on a mud bank off the entrance of Bersimis River, having made a true N. course by compass 24 miles, and ought to have been 10 miles E. by S. from the river and five miles from the nearest danger: the weather at the time very thick.

The fogs are generally low, and you may sometimes see the high land over them; at others they will clear off partially, for a few minutes, and come on again. In the latter case a bearing on Mount Camille and judging your distance off shore, will give you your position near enough to know how far you are up the river. When Mount Camille bears due south by compass, you are a little above Metis; and, if the weather is pretty clear, the high land about Cape Arignole, near Bic, will be seen. It makes like a bold headland, and can be seen at a considerable distance.

I make no doubt that the current down the St. Lawrence is much influenced by the heavy rains, from the number of rivers that empty themselves into it; and if the most particular attention be not given to the soundings, as well as the look-out that should be kept in thick weather, a ship will be set on the south coast before the land can possibly be seen. H.M.S. Race-horse, on the 7th of July, 1838, ascertained her position at 4 p. m. by bearing of the lighthouse on Point de Monts and chronometer sights, both agreeing, the weather clear and an E.S.E. wind blowing, which soon brought thick weather, and fell very light. At 11 h. 50 m. on the following morning the north shore was distinctly seen, and for 6 or 7 miles all round to the southward no land could be seen: it came on thick immediately, and a sight for latitude could not be obtained. The ship was on the larboard tack, lying S.E. and going at the rate of two knots; the water very smooth,

but the surface appeared much agitated by a current, the set of which could not be ascertained. At 12 h. 30 m. the rocks were seen within a cable's length of the bows, and had more the appearance of a field of ice than of land; the helm was put down, and the ship fortunately came round in 2½ fathoms of water. Had there been a moderate wind, and the least swell, the ship would, in all probability, have been a wreck; the high land could not be seen. We had 2½ fathoms under the stern, and in two casts of the hand lead, going at the rate of two knots, had 17 fathoms, and at a cable and a half off shore no bottom at 50 fathoms. The weather suddenly cleared off, and we saw the high land apparently over the mast-heads. Sent a boat on shore, to ascertain our position, and found we were off Cape Chatte. The bottom was black sand mixed with the rock.

On the weather clearing up, the barometer sunk a tenth; by 4 p. m. it had sunk three-tenths, the weather very clear and a light air from the eastward: at 7 it gathered up to the northward, and we had a very heavy squall, which reduced the ship to close-reefed topsail and reefed courses; it lasted only about half an hour; the barometer immediately rose a tenth; the wind then became moderate, and gradually hauled to the southward, with rain.

We were always unable to make any allowance for the current, excepting the outset of the river; but as to the setting on and off the shores, at any particular time, no allowance could possibly be made. The safety of a ship much depends on the lead and a good look-out.

The lowest range of the barometer on this occasion was 29.50.*

Between the S.W. Point of Anticosti and the coast of the district of Gaspé, the current from the river sets continually down to the south-eastward. In the spring of the year it is strongest; this is supposed to be owing to the vast quantity of snow which thaws at that time. In the summer, when the smaller rivers have lost their freshes, this current is estimated at the general rate of two miles an hour; but in the spring, its rate has amounted to three and a half; which, of course, varies according to the quantity of snow, &c. Mr. Lambly says that there is a difference of two and three feet in the level of the River St. Lawrence, between the months of May and August; which he imputes to the quantity of ice and snow melted in the spring.

Those advancing toward the river, in the fairway between the S.W. point of Anticosti and Cape Rosier, with the wind from the North or N. by E., if ignorant of the current, may think that they are making a reach up, when really approaching the south shore. This is to be guarded against; particularly during a long night, or in dark and thick weather. It is always best to tack in time, and get out of the strength of the current, which will be found to diminish toward the north coast.

In coming up, with **CONTRARY WINDS**, and being far enough to the westward to weather Anticosti, stand to the northward, and keep within three or four leagues of the land up to the extremity of the Cape de Monts. Here the lighthouse, described on page 90, will be found extremely useful. The land is all bold, and the tide along it favourable. After getting up to Trinity Cove, or the coast to the N.E. of the cape, the flood will be found setting along the north shore.

Should circumstances render it necessary, you may proceed to, and take shelter at, the entrance of the **HARBOUR** of St. Nicolas, already described, which lies W. by N. 5 leagues from Cape de Monts.

Ahead of **MANICOUGAN SHOALS**, at about two-thirds of the channel over from the southward, a strong rippling has frequently been found; at about two miles farther north, another; and at two miles more a similar one: these are visible only in fine weather, and are supposed to be caused by the slack of the eastern current, which runs down on the south shore, and the regular flood on the north. In this part no bottom is to be found. Toward the *Points of Bersimis* and *Mille Vaches*, the same appearances may occasionally be found, but there is no danger; it being merely the conflict of the two streams.

In proceeding upward, with *contrary winds*, a ship should continue to keep over toward the north shore, but taking especial care to avoid the Manicougan and Bersimis shoals. Thus she will avoid the current setting strongly down the middle of the river, and have the assistance of the flood-tide, which is not felt hereabout on the south shore.

The current is sometimes strong to the N.E. between Biquette and Mille Vaches.

* Communicated by Mr. Jeffery, M.R.N.

If a ship has advanced up, on the north side, to Bersimis Point, with the wind at west, and a flood-tide, she may cross over to Father Point, and obtain a pilot. Should the wind change to S.W. by W., keep the north land on board, until it is of fetching the point.

With a FAIR WIND, and under favourable circumstances, a ship proceeding upward, on the south side of the river, may find soundings, but very irregular, along the coast to Matane; the shore is, in general, steep. No anchoring in any part: the depth 20, 30, and 50, fathoms, at one mile from the rock, and all hard ground; in from 50 to 80 fathoms, the bottom is of clean sand.*

From CAPE CHATTE to Matane, the course and distance are W. $\frac{1}{2}$ S. 10 $\frac{1}{2}$ leagues. When at 4 miles to the north-eastward of Matane, you will see the Paps bearing S.W. $\frac{1}{2}$ W.: they stand inland to the westward of the river, as already noticed, and this is the best bearing on which they can be seen. Mount Camille will now come in sight to the W.S.W., and may be seen in this direction 13 leagues off. It hence appears to the northward of all the land on the south side, and in the form of a circular island.

Twenty-three miles W. $\frac{1}{2}$ S. of Matane River is LITTLE METIS COVE, described on page 113. If requisite to anchor here, give the east end of the reef a berth of 100 yards, or cross it in three fathoms: then haul up into the middle of the cove, and let go.

GRAND METIS, described on page 114, is 5 $\frac{1}{2}$ miles W. $\frac{1}{2}$ S. from Little Metis. The bank of soundings extends farther to the northward of these coves than off Matane, and 35 fathoms, with sand, may be found at four miles from shore; but, beyond this, the depths speedily increase to 60 and 70 fathoms. The edge of the bank continues steep as high up as Green Island. Along-shore, within 10 fathoms, the ground is hard, and it is difficult for a boat to

* In the year 1817, Mr. Wm. Bain, a master in the Royal Navy, published an interesting volume, entitled, "*An Essay on the Variation of the Compass; showing how far it is influenced by a change in the direction of the Ship's Head; with an exposition of the dangers arising to navigators from not allowing for this change of variation.*" In this work, Mr. Bain has noticed the frequent and remarkable aberration of the compass in ships, when approaching the vicinity of Cape Chatte. He says, "In the River St. Lawrence, the change in the variation should be most particularly attended to; as it leads a ship, both in going up and coming down, on the coast most to be avoided.

"On coming down that magnificent river, May, 1813, I found that it was necessary to steer a very different course from the opposite one made use of in going up, under very similar circumstances, a few days before. I noted the circumstance in my remark-book, sent to the Lords of the Admiralty, on returning to England; and, owing to that circumstance, and not having a copy nor log-book to refer to, I cannot state from memory the courses steered, though I remember the difference to have exceeded one point, and that we had an eight and nine knot breeze, both in going up and coming down, with the weather uncommonly fine, and every circumstance extremely favourable for making such remarks.

"Subsequent to the above period, one of our ships of war (the *Zealous*) had a very narrow escape in going up that river. The compasses in the binnacle were so much affected by local attractions, that, had the fog not cleared away at the moment it did, the ship must have run on shore, not far from Cape Chatte; she was in 19 fathoms.

"The gentleman from whom I had this information could assign no other cause why the compasses were so influenced, except from the muskets placed around the mizen-mast; but, on inquiry, I found that they had been there during the former part of the voyage; and, consequently, this could not have been the primary cause, as the deviation must have been sooner perceived. I am, therefore, inclined to attribute the near approximation of the land as being the primary, and the local attraction of the ship as the secondary, cause, acting on the magnetic needle with a compound force. All the compasses in the ship, when brought on deck, were alike affected.

"I have great reason to believe, that the non-attendance to the changes of variation in the River St. Lawrence, and perhaps in the vicinity, is one of the causes of the many losses that happen there.

"Before quitting this subject, I may, perhaps, be permitted to notice an effect produced by the change of variation, but hitherto ascribed to very different causes; and there is not an officer, I will venture to say, in the British navy, but will bear testimony to the truth of the following statement:—

"When beating to windward, and obliged to tack pretty often, say in chase of an enemy, or endeavouring to gain a port, all seamen have remarked that, every time the ship was put about, the wind came round some points with the ship; so that, for instance, if the wind was at South, and lying W.S.W. on one tack, the ship would lie only E. by S. or East on the other tack. At other times, we have been well pleased, under similar circumstances, to find the wind favour the ship a point or two in every tack; so that, if the wind was at North, and the ship lying V.N.W. before tacking, she would lie N.E. by E., and N.E. upon the other tack. It is not a change in the wind which produces these apparent differences, but it is wholly to be ascribed to the local attraction in the ship. When the head is westerly, the north end of the needle is drawn half this difference westward; when the head is easterly, it is drawn half the difference eastward."—(Page 89.)

Mr. W. Forbes, in H.M.S. *Vestal*, June, 1838, experienced the same phenomenon; the deviation of the compass being from 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$ points increase upon the amount of westerly variation allowed. —See *Nautical Magazine*, June, 1845, p. 428.

land, unless in fine weather. From Grand Metis to Cock Cove, as already shown, page 114, the land trends W. by S. 10 miles. In fine weather, ships may stop tide between, in 15 fathoms.

FATHER POINT, or POINT AUX PÈRES, has been already described, as well as Barnaby Island, which lies to the westward of it. (See page 114.) Small vessels, seeking shelter from westerly winds, may find a depth of 3 fathoms, under the reef extending from the east end of this island in *W. by Road*. Upon this reef is a large round stone, which serves as a mark. To enter, cross the tail of the reef in 4 fathoms, and then haul to the southward; and, when the island bears W. by N., with the large stone N.W. by W., anchor at a quarter of a mile from the island.

From *Barnaby Island*, the Isle Bic bears west, 10 miles; Bicquette W. by N. $11\frac{1}{2}$ miles; and Cape Original W.S.W. $\frac{1}{2}$ W. $3\frac{1}{2}$ leagues. Cape Original and the east end of Bic lie North and South from each other, distant $2\frac{1}{2}$ miles. The Cape bears from Bic Old Harbour nearly West, about $2\frac{1}{2}$ miles. From the cape a reef extends East one mile. The eastern part of this reef and the western point of the harbour, in a line, bear E.S.E. one mile.

SOUNDINGS, &c. between COCK COVE and BIC ISLAND.—From Father Point, the bank extends northward five miles. At that distance from land are 35 fathoms of water, with sand and mud. Hence, westward, all the way to within one mile of Bicquette, the soundings are very regular. Ships may therefore stand to the southward by the lead, and tack at pleasure. They may, also, stop tide any where in this extent, in 9 or 10 fathoms, good ground.

If a ship arrives off *Father Point*, during an easterly wind and clear weather, when no pilots are to be obtained, she may safely proceed along the land in 10 fathoms of water.* On approaching the Isle Bic, the reef extending from the S.E. of that island will be seen: give this a berth, and continue onward through the middle of the channel between the island and Cape Original. With the body of the island N.E. you may come to an anchor, in 8 or 9 fathoms, clean ground, and wait for a pilot. There is a spot on the island cleared from trees: when this spot bears N.E., from a depth of 11 or 12 fathoms, you will be in a good berth. The ground is hard toward the island.

A ship off *Father Point*, during THICK WEATHER, and an easterly wind, without a pilot, may stand to the southward by the lead, and tack by sounding. In this case observe that, when in 10 fathoms, Bic will bear due west.

To BEAT up from *Father Point* to Bic Island, you may make free with the south shore; as, by bearing it, the flood-tide will be most in your favour. The depth of 7 fathoms is a good fair-way, and you may anchor in that depth all the way up to the island. When beating in, to the southward of Bic, from the eastward, stand to the southward into 7 fathoms while to the eastward of the island, but approach no nearer to the S.E. reef than 9 fathoms. In the middle are 12 fathoms. In standing to the northward, toward Bic, tack in 10 fathoms all along the island, and when it bears N.E. anchor as above.†

THE GENERAL COURSES, ETC. BETWEEN CAPE CHATTE AND ISLE BIC, ARE AS FOLLOW:

A ship bound upward, and having arrived within three leagues to the N.E. of Cape Chatte, should steer W. by S. or according to the wind, allowing for current to S.E., as already shown. Running thus, for 24 leagues, will bring you to *Father Point*. Should the weather be thick, you may haul to the southward; and if, after gaining soundings in from 30 to 25 fathoms, the water should suddenly shoalen to 20 and 15, you will not be

* The pilots repair to their rendezvous in April. On their boats and sails are their respective numbers. The proper rendezvous is at *Father Point*; but they are often met with at *Matane* and *Cape Chatte*, and sometimes lower down.

† A family (that of *Madame Petit*) is settled at S.S.W. from Bic, in a small cove at the bottom of a hill 1236 feet in height. Here, and on Bic Island, water may be had. The next parish, westward, is *Trois Pistoles*, and at this place provisions may be obtained. Between these places are no houses or settlements, but from the latter to Quebec are regular stages. Passengers wishing to quit the ship at Bic; in order to proceed by land, by going to *Madame Petit's* house, may find a guide to take them through the wood to *Trois Pistoles*, or may take a boat up to the latter. (1818.)

up to the point, but may safely run four or five miles higher : with soundings, and the water gradually shoaling from 30 to 25, 18, &c. in three or four miles, you will be up with the point, and may make signal for a pilot, approaching no nearer than 12 fathoms. Here you will be about one mile and a half from shore ; and will, if the weather be clear, see the houses. The shore is bold-to, and may be approached with safety. From Father Point to the Isle Bic, the bearing and distance are W. $\frac{1}{2}$ S. 16 miles.

While advancing from the eastward toward Father Point, and being off Little Metis, the high land to the southward of Cape Arignole, or Orignal, may be seen before the cape itself or Isle Bic come in sight. From off Mount Camille, in clear weather, Bic may be clearly seen. To avoid mistaking Barnaby Isle for that of Bic, observe that, in thick weather, a ship cannot approach the land, near Father Point, without gradually shoaling the water ; consequently if, while keeping the lead going, you come into 9 fathoms, and make an island suddenly, it must be Barnaby ; or, if falling in with an island on any bearing to the westward of W.S.W., one east of the lead will be sufficient to ascertain which it is ; for, with Barnaby from W.S.W. to west, you will have from 7 to 5 fathoms only ; but with Bic on the same bearings are from 15 to 12 fathoms.

If, with the lead kept going, and no soundings be found, you suddenly fall in with an island to the southward, it must be Bicquette. With this island S.W. half a mile, there are 16 fathoms of water. At two miles east from it are 10 fathoms, and a ship advancing into this depth, from the deeper water, may either haul off to the northward, and wait for clear weather, or proceed, by sounding around the reef from the east end of Bic ; steer thence west two miles, and come to an anchor, within the island, in 12 or 11 fathoms. At 4 miles north of Bicquette are 50 fathoms of water.

With an **EASTERLY** wind, if requisite to anchor on the south side of Bic, to proceed from windward, run boldly to the southward, and look out for the reef extending from the east end of the island ; the latter may be seen, being always above water. Give the reef a berth of a quarter of a mile, and run along, in mid-channel, until Cape Orignal bears S.S.E., the body of the island then bearing N.N.W. In 10 or 11 fathoms is a large ship's berth, the ground clear and good. Small vessels may run up, until the island bears N.E. in 9 fathoms, at about a quarter of a mile from the island ; but here the ground is not so clear as in the deeper water. Fresh water is obtainable in the cove just to the westward of the east end of the island.

If, during a **WESTERLY** wind, a ship should be to the windward of the island, and it be required to bear up, in order to anchor, stand to the southward, into 11 fathoms ; then run down and anchor, as above directed ; but particularly noticing that, with little wind, 10 fathoms is the proper depth of the fair-way, and that the last quarter-flood, and all the ebb, sets strongly between Bicquette and Bic.

Should you, with the wind *easterly*, be too far to the westward to fetch round the east end of Bic, in order to gain the anchorage, give Bicquette a berth of half a mile, then run up until the west end of Bic bears S.E., when Cape Orignal will be open of it. The latter mark leads to the westward of a reef that covers at a quarter tide, and extends W.S.W. one mile from Bicquette. Another reef, always in sight, lies between the former and Bicquette. By hauling round to the southward, with Cape Orignal open, you will pass athwart the opening between Bic and Bicquette, in from 16 to 12, 10, and 9 fathoms ; the water thence shoals into 6 fathoms, on the spit of mud and sand lying S.W. by W. from Bic, one mile. After crossing this spit, you will deepen into 9 and 10 fathoms, when the passage will be open, and you may come to an anchor.

The N.W. ledge of Bic, the west end of that isle, and Cape Orignal, are nearly in a line when bearing S.E. When beating into Bic, from the westward, while standing to the southward, do not shut Mount Camille with Cape Orignal ; in standing to the northward, do not shut Mount Camille with the Isle Bic.

BANK OF SOUNDINGS.—In the offing, between Barnaby and Bic, are regular soundings, decreasing from 35 to 30 fathoms, generally of clean ground. Ships may, therefore, anchor in any depth, but no nearer than a mile and a half, with Bic bearing from W.S.W. to S.W., as otherwise, the channel on the south of that island will not be open ; and, with a sudden shift of wind, you may not be able to quit the island.

At N.W. from the eastern extremity of the S.E. reef of Bic, and just to the southward of the stream of Bicquette, is the *N.E. reef*, a dangerous ledge, seen at low-water, spring-tides only. To avoid it, give Bic the berth of a mile. Westward of Bic the edge of the

Bank of Soundings trends to the S.W.-ward up to Basque Isle, and ships may therefore stand safely to the southward by the lead, 12 fathoms being the fair-way.

ISLE BIC TO GREEN ISLAND.—From the Isle Bic, Green Island bears S.W. by W. $\frac{1}{2}$ W. $9\frac{1}{2}$ leagues; and the course will therefore be from W.S.W. to S.W. according to the distance northward from Bic, &c. In this course and distance, you pass the Alcides Rock, the Razades, Basque, and Apple Island, which have been described in page 115. From the rocks of Apple Island to the eastern reef of Green Island, the bearing and distance are W. by S. 2 miles. This reef extends nearly a mile from the trees on the east end of Green Island, and is always uncovered. The small channel on the south side of Green Island is nearly dry at low water.

The edge of the bank is steep to the northward of the Razades, &c.; but from 35 fathoms, inward, there are gradual soundings. Between Bic and Green Island there is anchorage all the way in 14 fathoms; and for small vessels, in fine weather, in 9 fathoms. If up to the east end of Green Island, and the tide be done, you may anchor in 10 fathoms, off the reef, and in the stream of the ledge extending N.E. by N. from the lighthouse point, at the distance of a mile from the extremity of that shoal.

Between Bic and Basque the ground is all clean; but thence to Green Island it is foul. A small vessel may find shelter under the east end of Basque, in $2\frac{1}{2}$ fathoms at low water, giving the east end of the reef extending from that island the berth of a quarter of a mile. The anchorage is with the island bearing W. by S.

The **Lighthouse** and reefs about Green Island have been already described in page 115. The lighthouse bearing S.W. by W. leads safely up to Green Island. The high land to the southward of Cape Orignal kept open to the northward of Basque Island, leads clear of the lighthouse ledge. With the lighthouse bearing S.W. by S., this ledge will be exactly between the ship and lighthouse.

Between the lighthouse and the west end of Green Island, in fine weather, you may stop tide in 20 or 25 fathoms, close to the north side of the island: but, if the wind be fresh, the ground will be found to be bad for holding, and too near the shore. During N.E. winds, small vessels may anchor between the S.W. reef and Cacona, in 4 fathoms; but it will be better to bear up for the Brandy Pots, lest they be caught by adverse weather, &c.

RED ISLAND bears from the lighthouse of Green Island N.W. by W. $\frac{1}{2}$ W. nearly $5\frac{1}{2}$ miles. The eastern extremity of its extensive reef bears from the lighthouse nearly N.W. by N., and is cleared by the lighthouse and beacon on Green Island in one, bearing S.S.E. $\frac{1}{2}$ E. When coming up in the night, the light should not, therefore, be brought to the eastward of S. by E., until you are certainly within five miles of it. If, with the light bearing S. by E. you cannot make free to enter the Narrows, wait for daylight; and, should the wind be scant from N.W., you may then borrow on the south side of Red Island, but so as to have White Island open twice its own breadth from the north side of Hare Island. On drawing to the westward, you may approach the shoal of White Island by the lead, remembering that the ebb-tide sets strongly down between White Island Shoal and Red Island, and the flood in the contrary direction. A vessel may anchor, in fine weather, on the south side of Red Island Reef, in 12 fathoms, at the distance of about three-quarters of a mile. The tide hereabout, as already shown, sets in all directions.

The **SOUNDINGS** between Green Island and Red Island are very irregular. At a mile from each are nearly 30 fathoms of water. The water of this channel, during ebb-tide, with an easterly wind, appears broken, but there is no danger.

The **NORTH COAST.**—The *Point de Mille Vaches* bears from Bicquette N. by W. $4\frac{1}{2}$ leagues. The extensive shoal, which surrounds this point, commences off the river of *Port Neuf*, on the east. The southern extremity of the shoal is a mile from shore, and is very steep-to. The greater part of the shoal is dry at low water. Above the point the land forms the *Bay of Mille Vaches*, which is shoal, and full of rocks. At 11 miles S.W. by W. from Point Mille Vaches, are two islets, called the *Esquemin Isles*. In the Bay, at 4 miles west from the point, is a small river, called *Sault au Mouton*, having a handsome fall of 80 feet, near the mouth of it, which may be always seen when passing. Between the *Esquemin Isles* and *Saguenay River*, a distance of $7\frac{1}{2}$ leagues, S.W. by W., are three small rocky islets, named *Bondesir* and *Les Bergeronnes*, which afford shelter to fishing-boats.

In proceeding for the *Saguenay River*, should the weather be thick, it would be advisable to drop anchor at the *Brandy Pots*, until the weather becomes favourable, when

the entrance can be easily effected with a leading wind. The leading marks are good, and the entrance a mile wide between the shoals. The Bull is a round mountain on the north side of the Saguenay, about 3 miles up, and by keeping the Bull open from the points, there is no danger in running in; and when abreast of the port or houses at Tadousac, they may run up on whatever side they think they have most advantage, but with ebb-tide there is less current on the north-east side of the river.

Other directions have been given in the description of the river on p. 113, and it may be added here that there are good anchorages at the Anse St. Etienne, 10 miles above Tadousac, at St. Louis Island, 15 miles from Tadousac, at the Anse St. Jean, 22 miles, and at the Baie de l'Eternité, 28 miles above Tadousac, at all of which vessels might lie well to load; in other parts of the river the depth is far too great to anchor.

Ships working up on the north side, between the Esquemín Isles and Red Island, should keep within two leagues of the north land: the shore is clear and bold, and the flood pretty regular.

Should a ship, to the northward of Red Island, be caught by a sudden shift of easterly wind, so that she cannot fetch round the east end of Red Island Reef, she may safely bear up and run to the westward, giving Red Island, White Island, and Hare Island, on the larboard side, a berth of two miles in passing. At three leagues above Hare Island, haul to the southward, and enter the South Channel toward Kamourasca; whence proceed as hereafter directed.

GREEN ISLAND TO THE BRANDY POTS.—The Percée Rocks, Barrett Ledge, White Island, and the Brandy Pots, have already been described. (See page 117.) From Green Island to the Brandy Pots, the course and distance are from S.W. $\frac{1}{4}$ W. to S.W. by W. 4 leagues. To sail to the northward of Barrett Ledge, bring the southernmost mountain of Kamourasca in a line with the saddle of the Great Pilgrim, or an islet lying off the N.E. side of Green Island, touching the high land of Cape Arignole. Either of these marks will clear the Ledge.

In advancing toward the White Island Reef, you may trust to the lead: seven fathoms is near enough to tack or anchor in, and this depth is in the fair-way to the Brandy Pots. The Brandy Pots are steep on the south side, 10 fathoms being near to them.

There is good anchorage to the eastward of the Brandy Pots, in from 9 to 7 fathoms, and good anchorage above them, in from 9 to 14 fathoms. This is the best roadstead of any part of the river, during easterly winds, excepting that of Crane Island, and is the usual rendezvous for vessels bound down the St. Lawrence, and waiting for a wind.

There is a good passage to the southward of Barrett Ledge up to the Pilgrims, leaving the *Middle Shoal*, which is above Barrett Ledge, on the starboard hand. The north passage is, however, the best, and most used.

BRANDY POTS TO THE SOUTH TRAVERSE AND GOOSE ISLAND.—For the flat on the south side of Hare Island, above the Brandy Pots, see page 117. This flat is bold-to, there being 7 fathoms close to it, nearly up to the west end; and the whole of this side of the island is bound by rocks.

The lower end of the Middle Bank, as already noticed, (page 118,) bears S.E. $\frac{1}{4}$ E. about a mile and a half from the Brandy Pots. Between the Middle Ground and Hare Island are 10 and 16 to 20 fathoms of water. On the south side of the Middle Ground, there are 8 and 9 fathoms; at half tide, in this part of the river, a large ship may safely beat up or down.

In proceeding to the westward from the Brandy Pots, there is a 3-fathom rocky patch, and the knoll, at the west end of Hare Island Bank, to be avoided, the rocky patch being two-thirds of a mile eastward of the knoll, which is to the S.E. of the western end of Hare Island; between them there are 3 $\frac{1}{2}$ and 4 fathoms. The marks and bearings of these have been described, (page 117.) The Middle Bank, which extends between the Middle Shoal and Hare Island Bank, has 3 $\frac{1}{2}$ and 4 fathoms on it, and consequently this draught may be carried over it, but if a greater depth than 3 or 3 $\frac{1}{2}$ fathoms is wanted, White Island must be brought open to the eastward of the Brandy Pots. When White Island is brought to the westward of the Brandy Pots, or midway between them and Hare Island, the mark is directly on the 3-fathom patch, before described.

In standing to the southward from Hare Island, above the Brandy Pots, you will find 18 and 20 fathoms of water. On the north side of the Middle Bank, 4 fathoms; but there are 8 and 9 fathoms on the south side of this bank, with gradual soundings to the

south shore. Five fathoms is a good depth to tack in. Abreast of the middle of Hare Island the depths are nearly the same.

The direct course from the Pilgrims to the Chequered Buoy on the south side of the Traverse is S.W. by W., the distance about $7\frac{1}{2}$ leagues. The South Traverse and coast between have been fully described. (See page 119.) The bank between the Pilgrims and Kamourasca Isles is steep-to. The mark for tacking here is not to shut the S.W. land with the great Island of Kamourasca—in standing to the northward, you will gain the depth of 20 fathoms.

KAMOURASCA.—From the west end of Crow Island, the third of the Kamourasca Isles, as described on page 118, the church bears S.E. nearly a mile. Between is a place on which ships may safely be run on shore. To get in, bring the church to bear E.S.E., or some distance to the westward of Crow Island, and run for it. In passing in, you will carry 14 feet in common spring-tides, and 10 feet with neaps. The bottom is of soft mud.

CAPE DIABLE bears from Crow Island S.W. $\frac{1}{2}$ W. about three miles, and a reef extends from the cape as already explained, the easternmost part of which is not more than a mile and a half from Crow Island. Ships from the westward, therefore, in order to get in, should run down along the reef in 6 fathoms, and haul in for the church, as above.

With easterly winds, the large cove on the S.E. of Cape Diable is a fine place for a vessel to run into, should she have lost her anchors. To enter, bring the church and Crow Island in the line of direction given above. Having arrived within the reefs, run up to the westward, leaving an islet that lies above the church on the left side; then put the ship on shore in the S.W. part of the cove, and she will be safe. Should the wind be westerly, put her on shore a little to the eastward of the church.

SOUTH TRAVERSE.—From Cape Diable to the SOUTH TRAVERSE, the course, if at three miles from the cape, will be S.W. by W. In proceeding, keep the northernmost part of the high land of Kamourasca in a line with the low point of St. Denis; this mark will lead to the Light-vessel and the black buoy off the point of St. Roque, and the white buoy upon the Middle Ground on the opposite side. When St. Roque church bears S.E. by S., the roadway beyond the church will be in a line with it, and you will be up to the buoys. From this spot run one half or quarter of a mile above the buoys on a S.W. course.

From the spot last mentioned, the direct course upward along the edge of St. Roque's Bank will be S.W. $\frac{1}{2}$ S. 4 miles, and S.W. by S. 2 miles; but considerable allowance must be made for tide, whether ebb or flood. These courses lead up to abreast of the red buoy, lying on the bank at $4\frac{1}{2}$ miles W.S.W. $\frac{1}{2}$ W. from the Point of St. Roque. The depths on the courses prescribed are 8, 7, and 6, fathoms, varying to 11, and again to 5, and 6 fathoms.

On proceeding hence upward, with the lighthouse on the Stone Pillar in sight, bearing S.W., you will keep in the best water, but south-westward of the red buoy are several detached $2\frac{1}{2}$ and 3-fathom shoals, one of which, the Channel Patch, is in the fair-way: the bearings and marks are described on page 120. It may be passed to the northward or southward, until you have the Stone Pillar at the distance of two miles, where the depths at low water are 5 and 6 fathoms: from this place you bear up, on a south course, into the southern part of the Traverse; and thence, not forgetting the *Avignon* or *South Rock*, the course will be S.W. $\frac{1}{2}$ W. until past the Stone Pillar and Goose Island Reef, which you keep on board upon the starboard side.

If running from off Cape Diable for the Traverse, during the night or in a fog, strike the bank off that cape in 7 or 8 fathoms, and steer about W.S.W. By keeping the water, it will lead to the light-vessel. On passing the point of St. Roque Sand, the water will suddenly be found to deepen, whence you must haul to the southward, keeping the south side on board, and proceeding as above.

If entering the Traverse with *little wind*, be careful to allow for the first of the flood, as it sets strongly toward the point of St. Roque Bank. On going through, if more than half-flood, allow for a set to S.W. by W., and be sure always to keep the south bank on board. Above the Pillars, or Pillars, the tide sets fair up the river.

In beating into and through this passage, be careful and tack from each side on the first shoal-cast of the lead: but most so to the northward, on the edge of the Middle Ground. Ten fathoms is near enough to the bank: and it is to be remembered, that the ship will always go farther over toward the Middle Bank than to the point of St. Roque Shoal.

ANCHORAGE.—Between the Brandy Pots and Traverse, there is anchorage all along

the English Bank, and upon the edge of the flat on the south side, between the Pilgrims and the greater Kamourasca Isle, in 9 fathoms: under the Pilgrims in 3 fathoms; off Cape Diabie, in 10 fathoms; and thence, along the flat, up to the buoys.

Should the flood be done, when a ship is in the Narrows, or between the buoys, or if any occurrence render it necessary to anchor thereabout, instead of coming to in the channel, run below either buoy, and come to there, in 7 fathoms, on either side. The tides will be found much easier after half-ebb below the buoys than between them. In the deep water the tides here run very strong. Should the wind be inclinable to the southward, anchor to the southward of the stream of the black buoy, in 7 fathoms. Should a ship be a mile above the buoys, under similar circumstances, she should anchor on the edge of the South Bank, in 7 fathoms, with a good scope of cable before the tide comes strong; for, if the anchor once starts, you may have to cut from it, as it seldom takes hold again, the grounds hereabout being foul and unfit for holding.

Near the Pillars the tides are much easier than below; at and above them, setting at the rate of not more than $3\frac{1}{2}$ miles an hour.

Ships bound down, with easterly winds, may anchor at two miles to the north-eastward of the South Pillar, in 7 fathoms; or, to the southward of it, in the same depth, with good ground.

STONE PILLAR, or PILIER DE PIERRE, to CRANE ISLAND.—From abreast of the Stone Pillar, or of the Avignon Rock, the direct course and distance to Crane Island, are S.W. $\frac{1}{2}$ W. 4 leagues. On this course you pass Goose Island, and arrive at the Beaujeu Bank, the channel to the south of which is that generally used; the depth in it is irregular, varying from 5 to 3 fathoms; and there are two rocky patches of $2\frac{1}{2}$ fathoms in the way, and difficult to avoid. The marks for passing the southern edge of the Beaujeu Bank, along the eastern half of its length, are, the Stone Pillar, its own breadth open to the southward of Goose Island Reef; and for the western part of the bank, which turns up slightly to the northward towards Crane Island, Point St. Vallier in one with the south side of Crane Island.

The south side of the channel is a muddy flat, of 3 and 2 fathoms, with regular soundings toward it. There is good anchorage all the way up to Crane Island. Stand no nearer toward Goose Island Reef than 10 fathoms; but above it you may stand toward the island to 7 fathoms. (See page 120.)

When up to the body of Crane Island, you may approach safely, as it is bold and clear, with 7 fathoms close to the rocks.

ANCHORAGE.—From off the Pillars to Crane Island, there is all the way good and clean ground. There is, also, a good road off the body of Crane Island, in 8 fathoms. The best road in the river, during easterly winds, is at a mile to the westward of Crane Island: and ships bound downward, if at the Pillars, and caught by strong easterly winds, had better run back to this place, than ride below, and risk the loss of anchors.

CRANE ISLAND to POINT ST. VALLIER.—The direct course and distance from Crane Island to Point St. Vallier, are from W. by S. to W.S.W. four leagues. Between are the mud bank of St. Thomas, the Wye Rocks, the Belle-Chasse Islets, and the bank of Grosse Island. *For description, see page 121.*

The Bank of St. Thomas is above two miles broad, and is dry at low water, nearly to its northern edge, which is very steep, and the marks for clearing it are Belle-Chasse Island and Point St. Vallier touching.

When St. Thomas's Church bears S.E. $\frac{1}{2}$ E. you will be abreast the point of the bank called Margaret's Tail, having a red buoy, and may thence steer directly up, W.S.W. The mark for the southern edge of Margaret's Tail Bank is, the S. side of Haystack Island and Crane Island Church in one, bearing E.N.E.

To avoid the Wye Rocks, never stand to the southward of six fathoms in the night: and by day, observe that the long mark is to keep Belle-Chasse Islets just open to the southward of Point St. Vallier. They are, out of the way of vessels, with a fair wind, and the cross mark for them is the Seminaire on the north shore in one with the E. point of Reaux Island, and Crow Island just open to the westward of Middle Island.

To the west of Margaret's Tail is a narrow rocky shoal called Grosse Patch, with 7 feet least water; between this shoal and Margaret's Tail is a channel 270 fathoms wide, and 5 fathoms deep, leading to the Quarantine Establishment on the southern side of Grosse Island. For the guidance of the numerous vessels which stop there, a red buoy has been placed on the S.W. end of Margaret's Tail, as before mentioned, and also a white buoy on

the N.E. of Grosse Patch; but in the absence of buoys, the east points of Grosse Island and the Brothers in one, bearing N. by E., will lead through. There is a passage to the west of Grosse Patch, between it and the island, but care must be taken to avoid a small rock, with 7 feet least water, lying 180 fathoms off Grosse Island, and on which a black buoy has been placed.

When above Margaret Island, stand no farther to the northward than into 6 fathoms. Reaux or Rat Island and Madame are flat to the southward; 7 fathoms will be near enough to both. The south side of the channel, up to Belle-Chasse, is all bold; 8 fathoms are close to it, with 7, 8, 9, and 5, fathoms, quite across. There is good clean anchoring-ground, and easy tides, all the way.

When up to Belle-Chasse, stand no nearer to these islets than 8 fathoms, and to Madame than 6 fathoms. The shoal extending from Madame has already been noticed, p. 121.

The mark for clearing the southern side of Madame Bank, as well as the Grosse Island Tail and Patch, is, Race Island kept just open to the southward of Margaret Island. The mark for the S.W. extreme, which is the point of the entrance of the North Traverse, is, the north side of Reaux Island just open to the northward of Madame Island, bearing N.E. $\frac{1}{2}$ E., and St. Vallier Church bearing S. $\frac{1}{2}$ E. The cross mark for clearing it to the S.W. is, Berthier Church and the west end of Belle-Chasse Island in one.

THE NORTH CHANNEL and TRAVERSE and the MIDDLE TRAVERSE are but seldom used, and the description of them will be found on p. 122.

ST. VALLIER to QUEBEC.—From the Point of St. Vallier to that of St. Laurent, or St. Lawrence, in Orleans, the course and distance are from W.S.W. to S.W. by W. 9½ miles. Both sides are bold; 10 fathoms in the fair-way from Orleans, and 8 fathoms from the south shore. Ships may anchor toward the island, in from 16 to 10 fathoms.

THE SHOAL of BEAUMONT, described in page 122, is steep-to. Make short boards until you are above Point St. Lawrence, when you will be above it, and may safely stand to the southward into 10 fathoms.

From POINT ST. LAWRENCE to POINT LEVY, the course and distance are W. by N. two leagues. At a mile and a half westward from St. Lawrence's church is St. Patrick's Hole. (See page 123.) Here in about 10 fathoms, is the fair-way to tack from. The depth in the middle is 10 fathoms.

From off POINT LEVY to QUEBEC, the course is W.S.W., and the distance about two miles. The shoals of Beauport, on the north side, may be easily avoided: in standing toward them, advance no nearer than in 10 fathoms, as they are steep-to, and are, in some parts, studded with rocks.

Ships arriving at Quebec, with flood-tide and an easterly wind, should take in their canvas in time, and have cable ready, as the ground in the basin is not very good for holding, the water being deep, and the tides strong, particularly spring-tides.

If obliged to come-to in the middle, there will be found from 16 to 20 fathoms abreast of the town; but near the wharfs, or at 2 cables' length from them, is a depth of 11 fathoms; and here vessels are easily brought up: but, in the offing, 16 fathoms of cable will be required. On the Point Levy side is a depth of nearly 30 fathoms, and the tides are stronger here than near the wharfs. With the wind heavy from the eastward, the best riding will be above the wharfs, off the cove called Diamond Harbour, in the depth of 10 fathoms.

THE BALLAST GROUND, or place appointed by law for heaving out the ballast in, is to the westward of two beacons fixed on the south shore, above Quebec. These beacons stand on the brow of a hill, above a cove called Charles Cove, and when in a line bear S.E.

GENERAL DESCRIPTION OF THE RIVER ST. LAWRENCE, DOWNWARD FROM MONTREAL TO QUEBEC, ETC.

CANADA extends in the same parallels of latitude as the kingdom of France; but, instead of exhaling the exquisite fragrance of flowers, and ripening delicate fruits into delicious excellence, as is the case in that country, its surface is covered with accumulated snow for nearly one-half of the year, and vegetation is suspended for the same period by continued frost. Notwithstanding this severity, the climate of Canada is congenial to health in an eminent degree, and highly conduces to fertilize its soil. Heat and cold are

certainly felt to extremes, and the latter, both in duration and intensity, is by far the most predominant.*

Mr. Grece, in his publication on Canada, where he has farmed extensively, says, "The spring and summer months being very warm, not unhealthfully sultry, the rapid advance of vegetation is almost incredible to those who have not actually visited it. Wheat has sometimes been sown as late as May 11, and harvested in the August following. Limestone is abundant, and various other manures easily to be obtained. Cherries, chestnuts, walnuts, hickory, hazel and filbert nuts, being natural to the soil, grow wild; as also grapes, gooseberries, strawberries, raspberries, blueberries, cranberries, and black currants. All the superior European fruits flourish, and orcharding is most successful. Game in immense quantity and variety."

From the beginning of December until the middle of April, the water communication of the River of St. Lawrence is totally suspended by the frost. During this period the river, upward, from Quebec to Kingston, (in Upper Canada,) and between the great lakes, excepting the Niagara and the rapids, is wholly frozen over; the lakes themselves are never entirely covered with ice, but it usually shuts up all the bays and inlets, and extends many miles toward their centres. Below Quebec the river is not frozen over, but the force of the tides incessantly detaches the ice from the shores, and such immense masses are kept in continual agitation by the flux and reflux, that navigation is totally impracticable in these months. By the beginning of May the ice is either dissolved or carried off by the current.

The ISLAND of MONTREAL is considered as the most beautiful part of Lower Canada. On the S.E. side of it is the City, with its convenient port, at 90 sea-leagues from the Isle Bic, and to this place ships of 600 tons may ascend, with very little difficulty. From Montreal, downward, the navigation assumes a character of more consequence than what it does above, being carried on in ships and decked vessels of all classes. In the distance hence to Quebec, 45 leagues or 135 miles, the impediments to the navigation of large vessels, up or down, are not many, and they may be readily overcome, if expedient for cargoes to be so conveyed, in preference to small craft. On either side of the river the prospects are admirable, the land being in the highest state of improvement that the agriculture of the country will admit of, although the component parts do not possess that degree of grandeur which is exhibited below Quebec. Numerous villages are seen, for the most part, built around a handsome stone church; while single houses and farms, at agreeable distances, appear to keep up a regular chain of communication. At about 39 miles below Montreal, on the south bank of the river, is the town of WILLIAM HENRY, formerly SOREL, which stands at the entrance of the River Richelieu, and above the lake of St. Pierre, or St. Peter. The latter is 22 miles long and 8 broad; but a portion of about 8 miles of the western part is filled with a group of islands, which, however, form two channels; and of these, the one on the south, being the deepest and clearest, is the best for ships; the entrance to it is indicated by a light-vessel and a buoy. Here the banks on each side are very low, with shoals stretching from them to a considerable distance, so that a narrow passage only, with 18 to 12 feet of water, is left clear.

On the north side of the river, at about 33 miles below William Henry, is the town of TROIS RIVIÈRES, or THREE RIVERS, the third in rank within the province of Lower Canada. It stands at the mouth of the River St. Maurice, and here the tide entirely ceases. Between Trois Rivières and Richelieu Rapid, about 33 miles, there is little variation in the general aspect of the country. At the Richelieu Rapid the bed of the river is so much contracted and obstructed, by huge masses of rock, as to leave but a very narrow channel; and in this, at ebb-tide, is so great a descent, that much caution and a proper time of tide are necessary for passing through: at the end of the rapid is good anchorage, where vessels can wait for a convenient opportunity.

From Montreal, thus far, the banks are of a very moderate elevation and uniformly level; but hereabout they are much higher, and gradually increase in their approach to QUEBEC, until they attain the height of Cape Diamond, upon which the city is built. This spot, and Point Levy, on the south shore, command the finest views that can be imagined; the assemblage of objects is so grand, and they are so beautifully contrasted, that the mind of the spectator is overcome with a sensation which cannot be expressed. The capital, upon the summit of the cape; the river of St. Charles, which flows to the northward of it, through a fine valley abounding with natural beauties; the Falls of Montmorenci, at two leagues to the eastward; the Island of Orleans, and the well-cultivated settlements on all sides, form altogether a most beautiful picture.

* Bouchette's Description of Canada, 1815.

RATES OF PILOTAGE FOR THE RIVER ST. LAWRENCE.

From Bic to QUEBEC. Per Foot.

	£. s. d.
From the 2d to the 30th of April, inclusive.....	1 0 6
1st of May to the 10th of November, inclusive	0 18 0
11th to the 19th of November, inclusive.....	1 3 0
20th November to the 1st of March, inclusive	1 8 0

From Quebec to Bic.

From the 2d to the 30th of April, inclusive	0 18 3
1st of May to the 10th of November, inclusive	0 15 9
11th to the 19th of November, inclusive.....	1 0 9
20th of November to the 1st of March, inclusive	1 5 9

Rates of pilot-water and poundage on pilot-money are payable at the Naval Office, by masters and commanders of vessels.

For every foot of water for which masters and commanders of vessels are bound to pay their pilots from Bic to Quebec, and from Quebec to Bic, 2s. 6d. currency, per foot.

For Vessels going to Three Rivers or Montreal,

Of 100 to 150 tons, inclusive, 2l. currency.
Of 151 to 200 tons, inclusive, 3l.
Of 201 to 250 tons, inclusive, 4l.
Of 250 tons, and upwards, 5l.

On settling with pilots, masters or commanders of vessels, or the consignees of such vessels, are to deduct 1s. in the pound for the amount of the sums to be paid for pilotage, which will be exacted by the Naval Officer at clearing out, the same being funded by law, under the direction of the Trinity House, for the relief of decayed pilots, their widows and children.

REGULATIONS for the pilotage above Bic to QUEBEC.

At or above the anchorage of the Brandy-Pots;—
two-thirds of the present rate for a full pilotage.

At or above the Point of St. Roque;—
one-third of ditto.

For above the Point au Pins, on the Isle aux Grues (Crane Island), and below Patrick's Hole;— one fourth of ditto.

And at and above Patrick's Hole, 1l. 3s. 4d.

For shifting a vessel from one wharf to another, between Bréhan's wharf and Point à Carcis, or to the stream from or to any of the above wharfs, 11s. 8d.

For shifting a vessel from the stream or from either of the above wharfs, to St. Patrick's Hole, or to the Basin of Montmorency, or to the Ballast Ground, the Basin of the Chaudière, the Wolfe's Cove, and as far as the River Cap Rouge, 1l. 3s. 4d.

RATES above the HARBOUR of QUEBEC:

<i>From Quebec to Port Neuf.</i>		<i>To Quebec from Port Neuf.</i>	
	For vessels of registered measurement, not ex-		
4l. currency.	ceeding 200 tons.....	2l. 10s. currency.	
5l. "	If above 200 and not exceeding 250 tons	3l. 10s.	
6l. "	If above 250 tons.....	4l.	

<i>To Three Rivers, or above Port Neuf.</i>		<i>From Three Rivers, and above Port Neuf.</i>	
6l. currency.	For vessels not exceeding 200 tons	4l. currency.	
7l. "	If above 200, and not exceeding 250 tons .. .	4l. 10s.	
8l. "	If above 250 tons	5l. 10s.	

<i>To Montreal and above Three Rivers.</i>		<i>From Montreal and above Three Rivers.</i>	
11l. currency.	For vessels not exceeding 200 tons.....	7l. 10s. currency.	
13l. "	If above 200, and not exceeding 250 tons....	8l. 15s.	
16l. "	If above 250 tons.....	10l. 15s.	

Pilots are at liberty to leave vessels forty-eight hours after they arrive at the place of their destination.

RATES CHARGED FOR TOWING VESSELS BY THE STEAMERS FROM QUEBEC TO MONTREAL.

Breadth of Beam.	9 ft draft pay each upwards.		For each ad- ditional foot over 9 feet.		DRAFT OF WATER ON EACH VESSEL.																			
					10 feet.		11 feet.		12 feet.		13 feet.		14 feet.		15 feet.									
Feet.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.						
20	33	6	8	3	6	8	36	13	4	40	0	0	43	6	8	46	13	4	50	0	0	53	6	8
21	35	0	0	3	15	0	38	15	0	42	10	0	46	5	0	50	0	0	53	15	0	57	10	0
22	36	13	4	4	3	4	40	16	8	45	0	0	49	3	4	53	6	8	57	10	0	61	13	4
23	38	6	8	4	11	8	42	18	4	47	10	0	52	1	8	56	13	4	61	5	0	65	16	8
24	38	8	0	4	4	6	43	4	0	48	0	0	52	16	0	57	12	0	62	8	0	67	4	0
25	40	0	0	5	4	0	45	4	0	50	8	0	55	12	0	60	16	0	66	0	0	71	4	0
26	41	12	0	5	12	0	47	4	0	52	16	0	58	8	0	64	0	0	69	12	0	75	4	0
27	43	4	0	6	0	0	49	4	0	55	4	0	61	4	0	67	4	0	73	4	0	79	4	0
28	44	16	0	3	8	0	51	4	0	57	12	0	64	0	0	70	8	0	76	16	0	83	4	0

Any vessel taking the boat at any intermediate distance between Quebec and the church at *Batiscan* pays the full towage, as if towed from Quebec. If taken in tow between *Batiscan* Church and the wharf at *Three Rivers*, pays three-fourths of the full towage. If taken in tow between the wharf at *Three Rivers* and *Sorel*, pays two-thirds of the full towage. If taken in tow between *Sorel* and the church of *Point aux Trembles*, pays one-half the full towage; and from the church at *Point aux Trembles*, or any intermediate place above the said point, to *Montreal*, pays one-third of the full towage.

It being understood that when towage is engaged for any vessels at Quebec, as they will have the preference over others, the full towage is to be paid for, whether the whole, or part, or none, of the towing be performed; the deduction made referring to any vessel, for which towage had not been previously engaged at Quebec.

Passengers on board vessels in tow to pay one-half the steam-boat atorage rates.

Masters of vessels to furnish tow-lines and hawsers.

Not less than 9 feet to be charged as draft-water.

The greatest draft of water to be taken as measurement.

Should the masters of boats, from any just reason, feel it necessary to cast off a vessel, no deduction to be made on the towage, provided they are re-taken by the first opportunity.

Vessels towed from *Montreal*, or any other place above *Sorel* to *Three Rivers*, to be charged three-fourths of the towage to Quebec; and from *Three Rivers* and above *Port Neuf*, to be charged one-half towage.

All pilotage to be paid by the masters or consignees.

In the event of the vessels grounding when in tow, in consequence of being too deeply laden, or from the fault of the ship's pilot, the detention to be paid for; also the tariff rate for freight taken out.

The Proprietors will not hold themselves liable for any damage that may be done to vessels or warps, either in taking on or casting them off.

Towage payable on demand.

The trip upward from Quebec to *Montreal* is now commonly performed in about 18 hours, and downward in 14; stoppages at *Three Rivers* and *William Henry*, of one hour each, included.

See, upon this subject, the communications to and from *Nath. Gould, Esq.*, '*Nautical Magazine*,' January, 1834.

LEAL.

				15 feet.	
d.	f.	s.	d.		
0	53	6	8		
0	57	10	0		
0	61	13	4		
0	65	16	8		
0	67	4	0		
0	71	4	0		
0	75	4	0		
0	79	4	0		
0	83	4	0		

PART III.

WESTERN COASTS OF THE GULF OF ST. LAWRENCE, BRETON ISLAND, ETC.

I. THE EASTERN COAST OF NEW BRUNSWICK, ETC.

THE coast to the westward of Cape Rosier is described on page 109. The coasts to the south and eastward of it, as far as the Gut of Canso, inclusive, will be comprised in the present section.

CAPE GASPE, 7 miles S. $\frac{1}{4}$ W. from Cape Rosier, in lat. $41^{\circ} 45' 10''$, and long. $64^{\circ} 9' 22''$, is a most remarkable cape, standing out bold like a step, and having on its N.E. side a magnificent range of cliffs, 692 feet in height. Close off the S.E. extremity of the cape there was, until recently, a white rock, which was a very remarkable object; it was called the *Flower Pot*, *Sail Rock*, or *Old Woman*. The action of the waves and the ice had so worn away its base, that it has fallen down.* The cliffs around are also so undermined, that in some parts they are overhanging, and the rocks fall down in large quantities.

GASPE BAY is the finest and best harbour in the Gulf of St. Lawrence; the only danger to be avoided being a spit of sand on the south shore, which forms a basin. The bay is steep-to on the east, and there can be no trusting to the lead. The entrance is formed by *Cape Gaspé* on the north, and *Point Peter*, or *Flat Point*, on the south. In the Bay, at the distance of 11 miles from the entrance, within a point on the southern side, near its head, is an excellent anchorage, in from 9 to 12 fathoms of water, sheltered from all winds. There is, also, good anchorage with westerly winds, off *Louisa Cove*, on the western side of the bay, at about 6 miles N.W. by W. from Cape Gaspé, in 9 or 10 fathoms. Throughout the bay there is deep water; nearly 50 to 40 fathoms in the middle, and 20 very near the shore on the eastern side: on the western side it shoals more gradually toward the coast. The tide flows until 2 h. 30 m. on the full and change.

The shores of Gaspé Bay are elevated, and the settlers upon them nearly all fishermen. *Douglas Town* is at the entrance of the River St. John, on the south side of the bay.

The entrance of the Basin of Gaspé, whether viewed from without or within, is most beautiful; wooded undulating hills rise to the height of 500 feet on either side. Their sides display the bright green fields of a humid climate, composing the farms of the principal families at Gaspé.

On proceeding to Gaspé to report or clear, it is not necessary to go farther up the Bay than the town of Douglas, which is about six miles below Gaspé, there to anchor in 8 or 9 fathoms, and thence go up in the boat.

Here, in the summer, are almost regular sea and land breezes. The sea-breeze sets in about ten o'clock in the morning, and continues till about sunset; it then falls, and the land-breeze springs up about ten at night.

At Grande Grève, $3\frac{1}{2}$ miles within Cape Gaspé, the ridge of land narrows and dips, so that there is a portage across it, leading to the settlements at Cape Rosier.

The *Seal Rocks*, with 4 feet least water, are $6\frac{1}{2}$ miles within Cape Gaspé, one mile S.E. by S. from Cape Brulé, and half a mile off shore. They are the only detached danger in the bay; and when on their outer edge, Cape Brulé is in one with the next cliffy point up the bay; and this only mark is sufficient for the safety of vessels beating, for the rocks are out of the way with fair winds.

* At the distance of about 5 miles S.S.E. from Cape Gaspé is a small fishing bank, with 15 fathoms over it, by some called the *Norwich Bank*, around which there is, at a short distance, a depth of 58 and 60 fathoms.

Further up the bay, on the north side, is the *Peninsula*, which is a low sand, covered with spruce-trees, and it has several whale-sheds near its west point. About a mile southward of it is *Sandy-beach Point*, a very low and narrow point of sand, extending from the N.E. side of Cape Haldimand on the south-west side of the bay, and which completely shelters the Harbour, which is within it. On the inner side of Sandy-beach Point, and near to its junction with the main land, stands a wooden windmill.

The Harbour is divided into the N.W. and S.W. arms. The deep-water entrance of the S.W. arm is called the *Basin of Gaspé*, and it will hold a large number of vessels in perfect security. The collector of customs, and the principal families, reside on the shores of the Basin, the inhabitants of which, generally, are farmers.

"Gaspé Bay" is deep, and open to the S.E., but, from the fishermen's account, it scarce blows home from that quarter. There is good anchorage off Douglas Town, with Cape Haldimand bearing N. by W., in 7 fathoms water, about a mile and a half from the town.

"The Basin of Gaspé is a most secure place, but the entrance is rather narrow and difficult. From Cape Haldimand a long sandy point stretches nearly across to the N.W. On the north shore, a little above Sandy-beach Point, is another sandy point, on which there are some wooden whale-sheds. By bringing the end of the trees over the Whale-shed Point on with the next point to the northward, which is covered with trees, it will lead you past Sandy-beach Point in 11 fathoms. This is a very good and plain mark; but, in coming into the harbour, it is requisite to run well to the northward to bring it on. When Douglas Town shuts in with Cape Haldimand, get the marks on as soon as possible, and you will be quite safe.

"In working, the leading marks should only be brought on when standing toward Sandy-beach. On standing to the northward you may go by the lead, but to the southward it is of little use.

"The Seal Rocks are about three miles from the Sandy Point, and about half a mile from the north shore. When you bring Douglas Town on with Cape Haldimand, you will be well to the westward of them, and may bring the leading mark on. On the southern extremity of the Sandy Beach stands a small wooden windmill; when you bring this on with the west side of the point, you may haul up from the Basin.

"DIRECTIONS FOR ENTERING THE BASIN.—From the fair-way between Whale Shed and Sandy-beach Point, a course W. $\frac{1}{2}$ S. will lead you to the entrance. Give a berth to the south shore till you get abreast the bluff on the north side, off which, at three-quarters of a cable, you will have 5 fathoms. The shoal water extends a cable and a half off shore, from abreast the first house on the north side, which is built of stone, and is the only stone house in the place. Run in a line up to the north point of the entrance, by keeping in 5 fathoms on the north shore, and giving a small berth to the north point. You may run in without any difficulty, but must always beware of the south point at the entrance, off which the shoal water extends to some distance.

"From abreast the bluff on the north side, you will have three fathoms on the south side at three-quarters of a cable from the beach, until you get about two cables' length from the small red house that stands on the south beach at the entrance, when it becomes necessary to haul right over for the north shore, in order to avoid the south point; but large vessels should always keep on the north side, and never shoalen their water under 5 fathoms.

"DIRECTIONS FOR LEAVING THE HARBOUR.—The high land at the back of the Basin forms a saddle, which is very distinct and easily seen. By bringing the houses on the south point at the entrance on with the saddle, bearing W. $\frac{1}{2}$ S., it will lead you between Sandy Beach and Whale-shed Point in 12 fathoms, until the end of the trees on Whale-shed Point comes on with the next point to the northward, which is the leading mark past the shoal. When these two marks are on, the windmill on Sandy Beach will be in one with the west point of the beach, which is the mark for hauling up for the Basin, when coming in, but is a bad mark on going out.

"WORKING INTO THE HARBOUR.—In standing to the northward you can go by the lead, as the water shoalens gradually; but in standing toward Sandy Beach, tack when the leading mark comes on; that is, tack when the end of the trees on Whale-shed Point comes

* The following observations and directions are communicated by Mr. Jeffery, M.R.N.

on with the next point northward of it, until the saddle comes on with the houses at the S. entrance of the Basin, and vice-versâ.

"The shoal water extends about 600 yards from Sandy Beach; and from the high-water mark on Sandy-beach Point to the entrance of the Basin is N. 78° W. 2½ miles. Whale-shed Point is quite bold; you may approach it to half a cable.

"You may anchor anywhere in the harbour in from 5 to 11 fathoms, muddy bottom: but remember, in running up for the Basin, approach no nearer the south shore than in 5 fathoms with a large ship, until you get abreast the bluff on the north side; then the south side is bold; when you are within half a mile within Sandy-beach Point the leading marks are of no use; then go by the lead."

DIRECTIONS for GASPÉ by Mr. DUNSTERVILLE.—In proceeding up to Gaspé Harbour, keep the starboard shore on board, and you will soon raise a long low tongue of shingly beach on the larboard bow, which is about a mile in extent from the western shore: this forms a most excellent and secure basin of several miles in extent. In rounding the point of beach, give it a berth of a quarter of a mile, in order to avoid a shallow spit which extends from it. On proceeding upward you will open the harbour. The entrance of this is very narrow, with depths of 7 to 5 fathoms; but unless you have a fair wind, you must anchor at the entrance and work in, when you will be sheltered from all winds. Off the south point stretches a long spit of gravel, with from 3 to 8 feet over it, extending nearly two-thirds of the channel across. In 1831 there was a beacon on its extremity. High water, on the full and change, at 3 h. Rise, 3 feet. The winds, in fine weather, land and sea breezes; but when heavy dew falls, with west or northerly winds, the pilots say 'we shall have a southerly wind in a few hours.' I have frequently noticed it.

MAL BAY.—From *Point Peter*, the south point of Gaspé Bay, off which there is a little islet, called *Flat Island*, the bearing and distance to *Bonaventure Island* are S. by W. ¼ W. six miles. Between, lies the bay called *Mal Bay* or *Cod Bay*, which is nearly five miles in width.

Mal Bay has a clean sandy bottom, and there is good riding in ten fathoms, with the wind off shore. Should a ship be caught here with wind from the eastward, she can either run up off Gaspé Bay, (if not able to clear the land,) or run to the southward between *Bonaventure* and *Percé* Islets, toward *Chaleur Bay*; only taking care to avoid the *Leander Rock*, which lies off *Cape Despair*.

From *Percé*, along *Mal Bay*, to *Point Peter*, there is an excellent beach for fishing, part of which is named *La Belle Anse*, otherwise *Lobster Beach*: close to this place is the house of the late governor *Coxe*.

The town of *Percé*, situate on the southern side of *Mal Bay*, between the *Percé Rock* and *White Head*, is inhabited principally by fishermen, and has a gaol and court-house. In front of it the beach is convenient for the curing of fish, and off it are some of the best banks for catching them.

At *Percé* the scenery is most beautiful. The *Percé Mountain* is 1235 feet in height above the sea, from which it rises abruptly on the north side, where the precipices of red sandstone and limestone, 670 feet high, are washed by the waves. The remarkable shapes of this mountain, the *Percé Rock*, and *Bonaventure Island*, with its red cliffs, the fields, houses, and fishing establishments, form altogether a beautiful picture.

There is much diversity and beauty in the features of the country about Gaspé and *Percé*. Mountains of the height of from 1000 to 2000 feet, with great variety of form, are seen in the head of Gaspé Bay, dividing it into arms, and forming fertile valleys, in which are farms requiring cultivation only, to amply repay the labour of the farmer. These mountains are of secondary rocks, sandstones, and shells, and are wooded to their summits.

Bonaventure Island, which lies at a mile and a quarter to the eastward of the point of *Percé*, is very high, particularly the eastern point, which is nearly perpendicular. This is little better than a barren rock, but yet a few persons are hardy enough to winter on it, for the sake of retaining possession of the fishing places they have occupied during the summer. Near the point stands the *Percé Islet* or *Rock*, a most remarkable barren white rock, which at a distance resembles a citadel. From the main to this rock extends a bank, which is nearly dry at low water; but between the rock and *Bonaventure Isle* is a good deep channel with anchorage.

The *Percé Rock* is precipitous, nearly inaccessible, 288 feet high, and about 1200 feet

in length. The sea has formed through it three natural arches; the central sufficiently large to admit a boat under sail to pass through it. In the spring the inhabitants ascend this rock for eggs, and in the autumn for the fine natural grass which grows on its summit; although the ascent, by means of ropes and poles, is both difficult and dangerous.

Nearly 2 miles S.S.E. from Cape Despair lies the sunken rock, called the *Leander Shoal*, over which there is a depth of 16 feet of water in one spot. As this rock lies in the fairway of ships coming from the northward, with northerly winds, for Chaleur Bay, it should be avoided by giving the cape a berth of 3 miles. The leading marks for it are as follow: the line of the White Head in one with the inner or N.W. end of Percé Rock, just passes outside of the shoal, in 7 fathoms; therefore the whole of Percé Rock well open to the eastward of the outside of White Head, will lead clear outside of all. From half to the whole of the Percé Rock shut in behind the White Head, will lead clear between it and Cape Despair.

The bearing and distance from Cape Despair to Point Maquereau are W.S.W. $\frac{1}{2}$ W. 19 miles. Between these points lie the two coves called *Pabos* and *Petite Pabos*, or Pabou and Little Pabou, as shown on the Chart.

On the western side of the entrance of PABOU HARBOUR is a small village; and, on the opposite side, on a projecting point, stand the summer habitations of the fishermen, as they are usually termed. Several streams descend into this harbour from a numerous chain of small lakes to the north-westward.

Next to the westward of Pabou is the township and inlet of PORT DANIEL, where vessels may find convenient shelter during westerly and N.W. winds.

Port Daniel is open to winds from East to S.S.W. H. M. sloop *Ranger*, in 1831, anchored in 7 fathoms, with the west point of the entrance (to which a berth must be given) S.W. $\frac{1}{2}$ W., about a mile and a half. The starboard shore is quite bold. A few descendants of French peasantry, who cannot speak English, reside here: they exist by cod-fishing, though a few salmon are occasionally caught. The fish, when cured, are disposed of at Paspebiac, or New Carlisle, to the S.W., where there is a store belonging to Guernsey merchants, who barter, at a great profit, with all the poor and industrious fishermen throughout Chaleur Bay, and round to Bonaventure Island. The time of high water here, on the full and change, is 2 h. 0 m. The tide rises 4 feet.

PASPEBIAC.—At Paspebiac above mentioned, six leagues to the south-westward of Port Daniel, is a good anchorage, sheltered from the N.W. round by the eastward to S.E. by the main land, and a long spit of beach, off which, to the westward, nearly a mile, extends a spit of hard ground, having from $1\frac{1}{2}$ to 2 fathoms over it. In order to avoid the latter, on coming from the eastward, do not haul in for the anchorage till the Protestant church, which is the westernmost, is brought to bear N.N.E. $\frac{1}{2}$ E.; then anchor, according to the draught of the vessel, in 6 to 4 fathoms, stiff clay, with the south point of the beach from E.S.E. to S.E.; the Protestant church N.E. $\frac{1}{2}$ N.; off shore a quarter of a mile or less. Watering is excellent, from half-tide, by filling in the boats by your own hoses. The water comes from a rock, is considered very good for keeping, and is gained without expense. It is situated nearly off the centre of the anchorage. The winds were light, from the southward and eastward, during the stay of the *Ranger*, in fine weather. The land on this side of Chaleur Bay is high; it is the same hence to Percé and Bonaventure Island. At the latter places, the winds, in the summer season, differ as much as eight points from those in Chaleur Bay.—(*Mr. Dunsterville.*)

CHALEUR BAY.—Point Maquereau and Miscou Island form the entrance of Chaleur Bay, and bear from each other S. $\frac{1}{2}$ E. and N. $\frac{1}{2}$ W. distant $4\frac{1}{2}$ leagues. From the entrance of Chaleur Bay to that of Ristigouche Harbour, which is at its head, the distance, on a West and N.W. by W. course, is 22 leagues. The bay is of moderate depth near the shore on both sides, and has, toward the middle, from 45 to 20 fathoms of water.

The town of NEW CARLISLE, on the harbour of Paspebiac, is the principal town of Chaleur Bay; it is situate in Coxe Township, on the north shore, as shown in the Chart; and is so laid out as to become hereafter a compact and regular little place. The number of houses is about fifty, all of wood: it has a court-house and gaol. The situation is very healthy, and the surrounding lands some of the most fertile in the district. In front is an excellent beach, as above described, where the fish is cured and dried.

In the adjoining township of *Hamilton*, on the west, is the village of *Bonaventure*, con-

taining about twenty-five houses and a church, on level ground. It is entirely dependent on the fishery.

From Bonaventure the land turns to N.W. by N. towards *Cascapedia Bay*, on the west side of which is *Mount Carleton*, 1830 feet high; the shore is iron-bound, and has several rivulets of fresh water. Within the bay is anchorage in 4, 5, and 6 fathoms water. The head of the bay is shoal, into which the *River Cascapedia* empties itself.

In RISTIGOUCHE HARBOUR, at the head of Chaleur Bay, there is good anchorage in from 8 to 12 fathoms, land-locked from all winds; but it is so difficult of access, that it should not be attempted without a pilot.* The tide flows here, on full and change, until 3 o'clock, and its vertical rise is $6\frac{1}{2}$ or 7 feet.

Vessels bound into Chaleur Bay should make for Miscou Island, which they can round by the lead, for it shoalens gradually from 20 to 3 fathoms, the latter depth being near Miscou Point; should it be foggy, which in summer time is frequently the case, it will be advisable to steer from thence toward the northern shore, bearing about W.N.W., when you most probably fall in with *Nouvelle Harbour*. Here stands a church, upon some rising ground to the northward of the town or village, which is built along the beach, and lies low. Proceeding westward up Chaleur Bay from hence, you will pass round the low point of Paspébiac, above mentioned, and reach New Carlisle. Having got abreast of this, if you are bound to Nipisighit Bay, or St. Peter's, then by keeping on the northern shore as thus directed, you will readily know how far you have proceeded up the bay, and may then haul across with greater certainty for the land, between Carquette Point and Cape Idas, which you may approach to, by the lead, without the least danger.

The land on the northern shores of Chaleur Bay is in a high state of cultivation, when compared with the southern shores; and this, perhaps, is the principal cause why the fogs that obscure it are less heavy on the former than on the latter.

The distance from the north point of Miscou Island to the south point of Shippigan is 19 miles: the course is nearly S.W. by S. From the south point of Shippigan to Tracadie, the course and distance are S.W. $\frac{1}{2}$ S. 4 leagues. From Tracadie to Point Escuminac, on the south side of the entrance of *Miramichi Bay*, the course is S. by W. $\frac{1}{2}$ W., distance 9 leagues.

The land from Miscou Island to the entrance of Miramichi Bay is low, as well as the southern side of Chaleur Bay. Point Escuminac, on the south side of Miramichi Bay, is likewise low, but a lighthouse is erected on it, by which it may be known; and pilot-boats invariably come off from this place. Miscou Island, on the north and east sides, should be approached with caution by the lead; say not nearer than in two miles and a half, and in 7 fathoms. The *Ranger* anchored in 10 fathoms, with the north point of Miscou E. $\frac{1}{4}$ N. about three miles. Here it is high water, on the full and change, at 2 h., and the flood sets in to the S.W., about one mile an hour.

MIRAMICHI is a large harbour and free-warehousing port, in the mouth of which there are several islands; between the northernmost of these islands, called Waltham or Portage Island, and the next to it, called Fox Island, is the passage into the bay, which is intricate and shallow at low water. Hence it is requisite to have a pilot. The pilots' houses stand within Escuminac Point, and sometimes pilots for this place may be found in the Gut of Canso.

Miramichi River is considered by Capt. Bayfield as second to the St. Lawrence. Nineteen feet can be carried into the river in ordinary spring-tides, and twenty or twenty-one feet by watching for opportunities.

Miramichi is a place of rising importance; the great fire of 1323 gave so severe a blow to its prosperity that it is still felt; but the place is recovering fast, and two or three hundred vessels load during the season with timber, at the several towns and settlements on its banks. The attention of the population is at present almost entirely turned to the timber trade, although the salmon and gaspereaux fisheries are carried on in their season. The improvement of the natural capabilities of the country is but little attended to.

Chatham, the port and principal town on the river, stands on the south bank, at 20

* We presume, however, that the particular Chart of Ristigouche Harbour, given on the large Chart of the Gulf of St. Lawrence, will obviate this difficulty.

miles from the entrance; and the town of *Newcastle* is about four miles higher up, on the opposite bank.

From the northern part of *Miscou Island* to *Escuminac Point*, the soundings are regular; and, in thick weather, the shore may be approached by the lead to the depth of 12 or 10 fathoms.

There is now a *fixed light* exhibited on *Escuminac Point*, at an elevation of 70 feet.

From *Escuminac Point* to the entrance of *Richibucto Harbour*, the course and distance are S. by W. $\frac{1}{2}$ W. 7 leagues; from *Richibucto Harbour* to the entrance of *Buchtuch*, S. $\frac{1}{2}$ W. 19 miles; from *Buchtuch* to *Cocagne Harbour*, S. $\frac{1}{2}$ E. 5 miles; from *Cocagne* to *Shediac Harbour*, the distance is $2\frac{1}{2}$ leagues. From *Shediac* to *Cape Tormentin*, the coast trends S.E. by E. $\frac{1}{2}$ E. 10 leagues. The harbours here mentioned are not of sufficient depth to admit large ships for a lading.

RICHIBUCTO.—The depth of water at the entrance of the harbour of *Richibucto*, in 1828, was, at the best tide, 18 feet, and at the common tide $16\frac{1}{2}$. When off the harbour, in 6 or 8 fathoms of water, vessels run in by keeping two large beacons in a line, until near the sand-hill, and then run N.W. along the shore, in $2\frac{1}{2}$ to 3 fathoms of water, until they are in safety. A large buoy is laid down in 5 fathoms, outside the bar, for a guide; which buoy, from seaward, can be seen at more than a league off. *Richibucto* has a very fine water-communication with the interior country. *Liverpool*, the port town of *Richibucto*, stands on the western side, at four miles from the bar.

Southward of *Richibucto* the coast is low, and 18 miles from it is the entrance of *Buchtuch Harbour*, and $5\frac{1}{2}$ miles farther is *Cocagne Harbour*. From *Shediac* the coast trends to the westward to *Cape Tormentin*.

SHEDIAC.—The port of *Shediac* possesses the most favourable advantages and facilities for establishing a *dépôt* and a communication thence to the Bay of Fundy, for sailing and steam vessels, not exceeding 16 feet water, as 18 is to be obtained across the Bar and up to the point of *Le Chêne*, at which place a wharf is to be built, the provincial government having already allotted money for that purpose.*

At the distance of two miles S.S.E. from *Cape Tormentin* there is a shoal, having over its shoalest part a depth of only 6 feet. Its shape resembles a fan. Small vessels pass within it. The outer part, on which there is a depth of 20 feet, lies at $3\frac{1}{2}$ miles from the point.

On the coast northward of *Cape Tormentin* is a bank of two fathoms, extending about two miles off; but the lead, in rounding it, will be a sufficient guide.

Within *Cape Tormentin* is the isthmus and boundary between *New Brunswick* and *Nova-Scotia*, the narrowest part of which, from the Bay Verte to *Cumberland Basin*, at the head of *Chignecto Bay*, is only 12 miles in breadth.

THE NORTHERN COASTS OF NOVA-SCOTIA, ETC.

The general features of the Northern Coast of *Nova-Scotia* are pleasing: the land low and even, or slightly broken by agreeable inequalities. In the Strait of *Northumberland*, to an extent, from end to end, of not less than 100 miles, the bottom, in many places nearly level, varies in depth from 20 to 10 fathoms. The bottom is, generally, a stiff red clay, and good holding ground.

Between *Cocagne* on the west, and the high rock called the *BARN*, on the east, the shore is, in general, bound with red cliffs and beaches under them. The inland country, between *Tatmagouche* and the basin of *Cobequid*, appears remarkably high to vessels in the offing.

* A canal is in contemplation to communicate with the Bay of Fundy, but its exact line is not yet determined on, but proposed by way of *Dorchester Isle*, a small isle at the entrance of the river *Memramcook*, as decidedly the most eligible: for we are assured that 12 feet may be found in the entrance of that river at low water; and there would be, consequently, little or no delay over land; and moreover, the river can be easily dammed up at a little way from its entrance, with a rise of 50 feet of water. Another point of great importance is, that the *Memramcook* is not backed by any heavy stream or rear-water; it is consequently slow in its rise and fall. All other approaches, by the *Petudiac River*, or *Cumberland Basin*, run at a furious rate, and would be attended with great risk and delay. When this canal is cut, a distance not exceeding 16 or 18 miles, steam-boats will be able to effect a passage from the wharfs in *St. John's* to *Quebec* in 56 or 60 hours, according to the state of the weather, &c.—*Capt. Chas. Hare*, 1839.

In **BAY VERTE**, within Cape Tormentin, the shores are lined with flats, formed by the decomposition of the coast; but the anchorage is good. Vessels of considerable burthen take in cargoes of timber here. The interior, from the Bay to Amherst, Cumberland, Tanjamarée, &c. is in a highly improved state.

RIVER PHILIP.—To the southward of Cape Tormentin, at the distance of $4\frac{1}{2}$ leagues, is the entrance of the *River Philip*, a bar-harbour, having only 10 feet at the entrance. In advancing toward this place, when in the depth of 5 fathoms, another harbour will be seen on the eastern or larboard side, which is called *Pogwash*. In the latter, ships drawing 17 feet load timber. This harbour is safe; but the entrance is so narrow as to require a pilot. Ships commonly anchor in 5 fathoms, at 3 miles from shore, with the entrance bearing to the S.E.

From *Cape Tormentin* to *Cliff Cape*, the bearing and distance are S. by E. $\frac{1}{2}$ E. 16 miles; from *Cliff Cape* to *Shoal Point* S.E. 3 miles; and from *Shoal Point* to *Cape John* S.E. by E. 11 miles. Between the latter lie the harbours of *Ramsheg* and *Tatmagouche*, which are good and well sheltered, but each requires a pilot.

RAMSHEG HARBOUR.—The flats extending from each shore, at the entrance of this harbour, leave but a narrow channel, through which, at all times, excepting at slack water, the tide runs with great velocity, and renders the navigation into it very unsafe, although the depth up to the anchorage is sufficient for a frigate; there being, in mid-channel, $3\frac{1}{2}$ fathoms at low water. In sailing in, steer south, westerly, toward *Gravois Cliff*, giving *Shoal Point* a berth of a mile, until the N.W. arm is well open; then steer for the latter, keeping your lead going, until the beach to the N.W. of *Gravois Cliff* bears S.W. by W.

TATMAGOUCHE.—On the western side of *Amet Isle*, the passage is quite clear; but, in sailing in from the eastward, between *Cape John* and the *Isle*, you should keep nearest to the cape, as a ledge extends from the isle to a considerable distance. *Amet* is a low island, without trees, and it will be most prudent to keep at least three-quarters of a mile from it. The best anchorage for ships is in *Harbour* or *River John*, on the east side, in 4 or 5 fathoms, muddy bottom. Small vessels may run up to *Tatmagouche*, and anchor off the town in 10 or 12 feet at low water. Here the tide rises 5 feet, on full and change, and flows till 7 o'clock.

In coming from the eastward, when between *Amet Island* and *Cape John*, your course toward *River John* will be W. by S. In passing between the island and cape, you will have 4 $\frac{1}{2}$ fathoms, until you open the *River John*, on the larboard side. You will then have 7, 8, and 9 fathoms; and, if bound for this river, or for *Tatmagouche*, may obtain a pilot, by making the usual signal. There is anchorage at 2 miles from shore.

In *Ramsheg*, *Tatmagouche*, and *John Harbours*, ships of 15 feet draught load timber.

The *Ranger*, in 1831, anchored off *Cape John* in 9 $\frac{1}{2}$ fathoms, with *Amet Island* W. by S. 3 to 4 miles. She passed over a ledge of rocky bottom, having over it 2 $\frac{1}{2}$ to 3 fathoms, at about two miles to the eastward of the island, and on which lobsters abounded.

On any part of this coast you may anchor in the summer season. It is high water in the offing at 10 o'clock, and the rise is from 6 to 7 feet. The stream of flood sets to the N.W. as far as *Cape Tormentin*, expending its strength in the *Bay Verte*; but from *Miramichi* and *Cape North*, (*Prince Edward Island*), the flood sets to the southward, about two knots an hour, (till 9 o'clock,) to *Cape Tormentin*, whence it appears to run toward *Hillsboro' Bay*. The time of high water off *Cape Egmont*, full and change, is 10 h. The stream runs two knots in the hour. Vertical rise, 4 feet: the flood sets to the southward. The tides meet at *Cape Tormentin*, off which the dangerous ledge above mentioned extends to the S.E., and over which the sea generally breaks.

CARIBOU HARBOUR.—From *Cape John* to *Caribou Point* the course and distance are E.S.E. 6 leagues. Here the water gradually shoalens to the shore, from the depth of 8 or 9 fathoms, at two miles off. To strangers it may be dangerous to approach *Caribou Harbour*, as it has frequently been mistaken for *Pictou*, which lies to the south-westward, and some have run on shore before the error has been discovered. For it is to be observed, that ships are seen riding, not in the entrance of the harbour, but within a sand-bank, stretching from side to side, with not more than 3 or 4 feet over it, and which appears like a good channel. Small vessels load with timber here.

Caribou may be known from *Pictou* by observing that the hollow land over it appears like a deep inlet; but the high lands of *Pictou* seem to fold over each other, and blind the

entrance. The ledges about Caribou extend more than a mile from shore, and some of them are dry at low water.

Nearly in mid-channel, to the northward of Caribou Point, is a rocky shoal of 10 feet, lying as shown on the Chart. It is a quarter of a mile in circumference, and around it the depths are 4, 5, and 6 fathoms. The tide, both ebb and flood, sets rapidly over it.

PICTOU.—Pictou Harbour is the principal port of the north coast of Nova Scotia. It has a bar at its mouth, of 15 feet, inside of which is a capacious and beautiful basin, with 5, 6, and 9 fathoms, muddy bottom. The town is situated at about three miles from the entrance, and many houses are built of stone. It contains an episcopal, a Roman catholic, and two presbyterian chapels. There are, also, the academy, grammar-school, court-house, and a public library.* The population in 1828 was nearly 1500 souls, and it has since very rapidly increased: it cannot now be less than between 2500 and 3000. Pictou has been declared a *free warehousing port*, and its trade is very considerable in lumber, coal, and the fishery. Coasters from all parts of the Gulf of St. Lawrence resort to Pictou, and its exports have amounted to 100,000*l.* in a single year. One hundred vessels have been loaded here with timber for Great Britain, and its exports to the West Indies were not less extensive and important.†—*Bouchette*, Vol. II. page 19.

Within the bar and the beach, the water deepens to 5, 6, and 7 fathoms, muddy bottom. This depth continues up to the town, opposite to which a mud flat extends outward so far as to leave the channel midway between the two shores. Above the town the river divides into three branches, as shown in the Chart: of these, the eastern one is winding, but navigable to vessels drawing 15 feet, about four miles upward, at which distance the river is impeded by a bar, although above it the water increases. At 9 miles above the town of Pictou are the well-known coal-pits, the produce of which is brought down to the bar in large flat boats. The Middle and West Rivers are navigable upward to a considerable distance.

The town of Walmaly, on the north side of this harbour, is the residence of the principal merchants who load timber in these parts.

The *lighthouse* of Pictou is an octagonal wooden structure, painted red and white in vertical stripes,‡ and exhibits a *brilliant fixed light* at 65 feet above the level of the sea.

PICTOU ISLAND, which lies off the entrances of Pictou and Merigomish, is cultivated, and contains about 3000 acres. Fine quarries of freestone have been opened here, and strong traces of coal are visible in several places about the cliffs. From the east end a spit of rocks extends about a mile; and, at the E.N.E. from it, one league and a half, is a shoal of 21 feet. Between the island and Merigomish the bottom is muddy, and the depth from 11 to 7 fathoms.

H.M. sloop *Ranger*, in passing between Pictou Island and Caribou Point, 18th of August, 1831, while in stays, struck on a sunken rock, the circumference of which, on examination, was found to be 400 yards, and the tide set over it at the rate of 2½ miles an hour, the flood setting to the N.N.W. making high water, on the full and change, at 9 h. 30 m. The position of the rock renders it extremely dangerous to ships leaving Pictou Harbour for the westward, as it lies immediately in the fairway. The channel to

* Coaches are now established for the communication between Pictou and Halifax, and a steamer between Pictou and Quebec.

† In the Nautical Magazine of June, 1839, are some very interesting "Notes on the St. Lawrence Fisheries," by Capt. R. Pat, R.N., and on Pictou are the following remarks:—

"The trade of this port is rapidly increasing, and the town of *New Glasgow*, in the neighbourhood of the coal-mines, (distant nearly 8 miles from Pictou,) promises to be of considerable importance. Upwards of 30,000 tons of coal were exported from these mines in the year preceding our visit, most of which was for the United States, and in American bottoms. There is no fishing carried on in Pictou. The country around, being agricultural, is rapidly improving; and the quick intercourse by steam with Prince Edward Island promises to be of great advantage."

‡ A circumstance, which has often caused serious loss and damage to vessels navigating the coasts of Nova Scotia and New Brunswick, in the spring months, should be attended to.

The farms fronting the sea-coast are separated by worm fences, which in most cases are at right angles to the coast line; and when their direction happens to be such that the prevalent snow-storms in winter cause a deposition, often several feet in height, to leeward of them, which continues some weeks after the disappearance of the snow from the fields themselves, they are exactly similar in appearance to the lighthouses on the coast, which latter are mostly built of wood, and were painted white; and so perfect is the resemblance, that the masters of coasters, and persons well acquainted with the coast, are themselves often misled.—*Lieut. Kendall*, R.N. 1838. The lighthouses are now distinguishable, from their being painted with black or red stripes, as described.

the westward of the shoal is generally adopted, in which there is from 3½ to 4 fathoms of water, with irregular soundings.

The channel between Pictou Island and Caribou was shortly after sounded by Mr. Dunsterville, the master of the *Ranger*, who found that the sunken rock, lying at about one-third of the channel across from the island, had about 12 feet over it, with the west end of Pictou Island bearing E. ½ S. At about two ships' length of it, eastward and westward, are from 4 to 5 fathoms, and between the rock and Pictou Island, in the centre, were 6½ fathoms at low water; but westward of the rock, from 3½ to 4½ fathoms, hard ground; and, from the irregularity of the soundings generally, it is recommended that no vessel of more than 16 feet should ever attempt this passage.

The long mark to clear the shoal to the westward is, a high hill inland, (the westernmost in sight,) on with the highest part of the land at the south side of the entrance of the harbour, bearing about S. by W. ¼ W.; and the mark to go over the rock is the top of the above-mentioned hill on with the rise of the northern point of the entrance to the harbour of Pictou, which has, or had, a clump of trees upon it.

The Harbour of Pictou is capable of containing ships of any burthen. The mark for running over the Bar, and clearing a spit of gravel, that extends from the northern point of the entrance of the bay that forms the harbour, is a stone on the south point of the town, just within the spit of low gravelly beach on the southern side of the entrance into the harbour. The *Ranger* turned in, with the stone from end to end of the beach, and had from 3 to 4½ fathoms. The beach to the northward of the narrows is very bold; and as you approach the town, in beating up, do not approach the southern shore into less than 4 fathoms in a large ship, as a shoal bank extends nearly one-third of the channel across.

With a fair wind you borrow on the north shore, where the water is the deepest, carrying from 6 to 8 fathoms, muddy bottom, and anchoring off a stake, near the south end of the town, in 7 fathoms.

"Pictou" is a place of rising importance; its timber trade has rather fallen off of late, but the coal-mines in the immediate neighbourhood have opened a very brisk trade in that article, which occupies some hundreds of vessels, of all dimensions, in the coasting and foreign trade, many of which carry from 500 to 700 tons, chiefly trading to the United States.

The best anchorage in Pictou Roads is in 7 fathoms, with the following bearings:—the lighthouse west; Point Caribou north; and the Roaring Bull Point S.E.; the latter is a high bluff, pointing to the southward, and has a small white house on the slope. From this bluff a reef extends north three cables' length, and from Point Caribou another, west, nearly half a mile. Here you are sheltered completely from the S.E. by the S., round to north, and, in a great measure, as far as N.E. by the island and reefs off it. In fact, the only winds that throw in any sea, are those from the S.E. by E. to N.E. by E. and they are fair for running into the harbour, which may be attempted, in almost any weather, by ships drawing from 18 to 20 feet.

"To run in, bring the small white house to the left of the lighthouse, and close to it, on with a long building appearing off the starboard point of the harbour, (it lies to the left of a small but remarkable gap in the N.W. land,) bearing W. ¼ N.; keep then on until Roaring Bull Point begins to be shut in with the east land, by which time you will be pretty close to the low sandy beach on which the lighthouse stands: then haul over to the northward, toward a bushy tree, standing by itself on the north shore, until you are in mid-channel between it and the lighthouse point. You may then proceed up the harbour, west, in mid-channel, toward the point with the building, above mentioned, and, rounding it at a convenient distance, anchor at pleasure, off the town, in 7 or 8 fathoms. Or, if only taking the harbour for shelter, you may anchor anywhere within the lighthouse, in mid-channel. The holding ground is excellent, and you are here secure from all winds.

"On the inner bar, at high water, spring tides are from 22 to 23 feet of water; on the outer bar, 5 fathoms; between the bars, 7 and 8 fathoms. The tide, on full and change, flows at 10 h. and rises from 6 to 8 feet, according to the wind: neaps rise from 3 to 5 feet. The lighthouse is painted red and white, in vertical stripes, and is very conspicuous for showing a fixed light.

"In order to proceed in the night, with a vessel of easy draught, bring the light to bear

* Pictou Roads and Harbour, as described by Mr. George Peacock, master of H. M. S. *Andronache*, 1839.

W. $\frac{1}{2}$ N. and steer for it until within about 50 fathoms off it, and then haul round it gradually, at about that distance, not going into less than 3 fathoms.

"Pictou appears to me to be a harbour very easy of access, and very capacious. The roadstead is certainly one of the best in the world, the bottom of clay and mud. There is anchorage under Pictou Island, but it is by no means to be recommended. This island may be seen from a ship's deck 4 or 5 leagues off; a reef extends from its east end about a mile, and from its west end more than half channel over. The three-fathom bank, marked in some charts, it is said does not exist."—*Nautical Magazine*, 1839, p. 146.

In fine settled weather here are land and sea breezes. The tide runs at the rate of two knots. Every article of provision was found very cheap: butter, 7d. to 8d. the lb.; sheep, 15s.; eggs, 5d. the dozen. Fish very scarce, but lobsters in abundance.

MERIGOMISH, which is an excellent bar-harbour, lies 7 miles to the E.S.E. of the entrance of Pictou; the merchants of which place have ponds here, for the reception of timber, with which a number of ships are annually laden.

To sail in for this place, bring the east end of Pictou Island nearly north, and keep it so until off the harbour's mouth, where you may either obtain a pilot, or anchor in 4 fathoms. A stranger should not venture to enter the harbour without a pilot, as a ledge stretches off from either side. There is a depth of 14 feet on the bar at low water, and the vertical rise of tide is about 8 feet. The depth within is from 4 to 7 fathoms, soft mud.

There is no harbour between Merigomish and Cape St. George; but the coast is clear, high, and bold, and vessels may sail along it in safety, at the distance of a mile. As a place of refuge for small vessels in distress, there is a new pier on the coast, at 7 leagues to the eastward of Pictou, and at the indent formed by the rock called the BARN. There is good anchorage under Cape St. George, in from 10 to 7 fathoms, sheltered from westerly winds.

ANTIGONISH.—The entrance of the Harbour of ANTIGONISH lies 10 miles to the S. by W. from Cape St. George. Here small vessels load timber and gypsum, or plaster, of which there is abundance in the neighbourhood; but the harbour is so shoal that even these complete their cargoes without the bay, although the anchorage is not safe. The rivers which fall into this harbour run through many miles of fine land, and the population is considerable.

At POMKET ISLAND, 6 miles eastward from Antigonish, ships of any size may load in safety. In sailing in, when from the northward, leave the island on the starboard side, keeping close to a rock, which appears 5 or 6 feet above water. This rock is steep-to, and lies off the east end of the island. Without it, at the distance of three-quarters of a mile, lie several sunken ledges, which are dangerous. After passing the rock, a bay will open on the starboard side, which you stand into, till you are shut in with the island, where there is anchorage in 3 $\frac{1}{2}$ fathoms of water, at about half a mile from the island.

AUBUSHEE, which lies between Cape Jack and the Gut of Canso, is a small harbour, occupied by an industrious and thriving people. Here a number of small vessels have been built, carrying from 15 to 50 tons. A rocky ledge extends without the harbour, in a north-westerly direction, as shown on the Chart.

Between Cape St. George and the Gut of Canso, in fine weather, the winds draw from the southward and south-eastward; and from the cape, which is high, to Pictou, from the S.W.; but, in general, near the cape, the winds are very variable. Off the cape, at about a quarter of a mile to the N.E. the pilots say that there is a ledge of sunken rocks, which extends to the northward.

Westward of Cape St. George, and hence to Pictou Island, sheep and other stock are the same as at Pictou. Water cannot always be procured, as the springs dry up occasionally.

THE GUT OF CANSO TO INHABITANT BAY.

The **GUT** of **CANSO** forms the best passage for ships bound to and from Prince Edward Island and other places in the Gulf of St. Lawrence. It is shorter, and has the advantage of anchorage in case of contrary winds or bad weather. Its length is about four leagues, and breadth more than three-quarters of a mile. The east side is low, with beaches, but the west shore is mostly high and rocky; and that part of it called *Cape Porcupine* is remarkably so. The deepest water is on the western shore; but both shores are bold-to, and sound, excepting a *sunken rock*, which lies near a cable's length from the eastern shore,

and about midway between the southern entrance of the Gut and Ship Harbour, and two other rocks under-mentioned.* *Mill Creek, Gypsum or Plaster Cove, Venus' Creek, Ship Harbour, Holland Cove, or Pilot Harbour, and Eddy Cove*, afford excellent anchorage, in a moderate depth, out of the stream of the tide, which generally sets in from the southward, but is very irregular, being influenced by the winds. After strong north-west winds, which happen daily during the fall of the year, the water in the Gulf of St. Lawrence is rendered low, which causes the current to run northward through the Gut, at the rate of 4 or 5 knots, and the contrary happens after southerly winds.

The time of high water in the Gut is 8 h. 30 m.; but the tide in the middle runs strongly up and down, at least an hour after high and low water: again, in or after strong winds the currents appear as if not influenced by the tide, but run sometimes at the rate of 3 to 4 knots.

CAPE ST. GEORGE, which is a remarkable promontory, lies at the distance of 10½ leagues to the eastward of Pictou Harbour; and a course of 6 leagues, thence to the south-eastward, will lead to the entrance of the Gut, whence you may run along the Breton shore. It is to be observed, that there is a ledge of rocks, in the offing, between Aushesee and the Gut, already noticed; some of these are nearly dry at low water, and nearly in the direct course for the Gut; they must, of course, be carefully avoided.

A *lighthouse*, on the western side of the northern end of the Gut, was established in 1842, in lat. 45° 42', and long. 61° 27'. The tower, painted white, stands at 120 yards from the shore, and exhibits a *fixed light*, at 115 feet above the level of the sea. It may be seen from the greater part of the Bay of St. George, and the shores of Breton Island, as far as Jestico or Port Hood.

There is good anchorage under the lighthouse, with the wind off the land.

Opposite Mill Creek, at the upper end of the Gut, on the Nova Scotia side, you may stop tide, or lie windbound, if it does not overblow. Keep the creek open, and come to anchor in 8 or 10 fathoms, within a cable's length of the steep rocks, on the south side of the creek. The best water is with the creek's mouth open. It will be necessary to carry a hawser on shore to the rocks, to steady the ship, as the tide here runs in eddies. You may obtain fresh water from the creek at low water.

Upon entering the Gut, there will be seen on the larboard hand, a red house, on a point called *Belle Ashe's Point*; off which, at nearly a cable's length from shore, there is a sunken rock, which may be readily distinguished by the eddy of the tide. Within this point, on the S.E., is *Gypsum or Plaster Cove*, where shipping frequently anchor.

When abreast of Gypsum or Plaster Cove, the remarkable headland on the western side, named *Cape Porcupine*, will bear nearly S.W. To sail into the cove, keep nearly in the middle; and, when in 10 fathoms, let go your anchor. You will find sufficient room for swinging round, in 7 fathoms.

SHIP HARBOUR, which lies half-way down the Gut, on the eastern side, is a good harbour for merchant-shipping. It is, however, more particularly useful to those sailing northward, being a good outlet. It is a very proper place for ships of 16 feet draught. If bound in, from the southward, give the starboard side a berth of a cable's length, (it being flat,) and run in until you shut the north entrance of the Gut, and come to anchor in 4 or 5 fathoms, soft bottom; where you may wood on the Breton side, and water on the opposite shore, at Venus' Creek; the larboard side of the harbour is bolder-to than the starboard side, and deepest water. Without the harbour, one-third from the Breton side, you may anchor in 8, 10, to 13 fathoms, loose ground, in the strength of the tide. The *Ranger* anchored in 10 fathoms, with the church on the hill bearing E. by S., and the south point of the harbour south, about one mile off shore.

SHIPS BOUND THROUGH THE GUT, from the northward, may proceed through it with safety, by keeping nearly in the mid-channel, there being no danger until they arrive off the south point called *Eddy Point*; but, from this point extends a long spit of sand,

* See the particular Chart of the Gut of Canso, on the large Chart of the Gulf of St. Lawrence.—In this Chart we have inserted two rocks in the Gut of Canso, which had not previously been laid down in any chart. They have been inserted on the authority of Captain George Dixon, of London. The first lies near the western side of Gypsum Cove, at the distance of about 60 fathoms from the shore; the other lies at about 100 fathoms without Bear Island, at the S.E. end of the Gut. On each rock the depth of water is from 6 to 8 feet only.

with large round stones, which must be left on the starboard side, at the distance of half a mile from what may be seen above water. The race of the tide will serve to guide you from it.

Having passed the spit of Eddy Point, you may steer to the S.S.E. until abreast of an island which appears covered with green spruce-trees having red bark. Hence you proceed to sea, according to the Charts.

Be cautious of running in the direction of a dangerous steep rock, called the *Cerberus Rock*, with only 10 feet of water over it, and on which the sea breaks with a wind. This rock lies with *Verte* or *Green Island* in a line with *Cape Hoagais*, or *Iron Cape*, on the *Isle of Madame*, at the distance of about $4\frac{1}{2}$ miles from that island.

At the entrance of the *Gut*, within a mile of Eddy Point, there is a middle ground of 7 to 12 fathoms, on which ships may stop a tide in moderate weather. To the westward of this ground there is a depth of 18 fathoms, and to the eastward of it 20 to 25 fathoms. With the wind inclining from the southward, steer in nearly west, and keep the lead going, until you shoalen to 11 fathoms, when you may let go your anchor.

Gypsum or Plaster Cove, is so called from its valuable quarry of gypsum, which appears to be exhaustless. The anchorage at the mouth of this cove has from 10 to 14 fathoms; bottom of soft mud. *Cape Porcupine*, opposite to this cove, is 562 feet in height, and this is the narrowest part of the strait. On the banks of the *Gut*, in general, the hills rise in easy acclivities, which present settlements, on the whole range of the shore.

INHABITANT BAY, &c.—Those who wish to anchor in *Inhabitant Bay* or *Harbour*, may bring the farm that is opposite to *Bear Head** open, *Bear Head* bearing W.S.W. This mark will lead you clear, and to the southward, of the *Long Ledge*,† and in the mid-channel between it and the steep rocks on the east or opposite shore: at the same time, take your soundings from the *Long Ledge*, or north shore, all the way till you arrive at *Flat Point*; then keep in mid-channel between *Flat Point* and the island opposite, from the N.E. side of which runs off a spit or ledge of rocks, at the distance of a cable and a half's length; then port your helm, and run under *Island Point*, and come to in 5 fathoms, muddy bottom. Up the river *Trent* are plenty of salmon, in the season, and there you may find wood and water.

N.B. The leading mark to clear the steep rocks of *Steep Point* is, to bring the peninsula in a line over the point of *Turbalton Head* bearing S. or S. $\frac{1}{4}$ E. until you open the island to the northward of *Island Point*; then haul up for the outer harbour, and come to in 10 or 12 fathoms, muddy bottom.

Those who are bound up the *Gut of Canso*, and taken short by a N. or N.W. wind, at the south end of the *Gut*, and who are desirous of good and safe anchorage in 10 to 12 fathoms of water, may come to on the north side of *Bear Island*; but should it blow hard, to a gale of wind, down the *Gut*, this anchorage is not altogether so secure as a careful master or pilot would wish. You must then leave the road of *Bear Island*, and sail round the south end of *Bear Point*, giving a berth to the spit that runs off it, of 3 cables' length, and haul round to the N.E. into *Sea-Coal Bay*, and come to anchor in 4, 5, or 6 fathoms, sandy and muddy bottom.

Marks for anchoring, viz. bring *Bear Head* in a line over *Flat Head*, bearing W.S.W., or W. by S., and *Carlton Cliffs* to bear N. by E. or N. in 5 or 6 fathoms, and you will have a good berth, sheltered from the W.N.W. and N. winds. Here is sufficient room to moor ten or twelve sail of any ships of war, of the sixth to the third rate.

Ships coming down the *Gut of Canso*, which may have reached past Eddy Point, or as far as *Cape Argos*, and caught with a S.E. to a S.S.W. wind, and cannot hold their own by beating to windward, may bear up and come to anchor in *Turbalton Bay*, under *Turbalton Head*, where you may ride safely in from 5, 6, or 7 fathoms of water, muddy bottom. The marks for anchoring in *Turbalton Bay* are, to bring the peninsula point in a line over *Turbalton Head*, bearing S. or S. $\frac{1}{4}$ W.; or a point of land inland, a little up in the country, from *Cape Argos* shore, with pine-trees on it, open to the eastward of the *Red Head*; or the said point of land with pine-trees on it, over the pitch or point of *Turbalton Head*; you are then sheltered by the rocks, or spit that runs from *Turbalton Head*, in 4 to

* *Bear Head* is the south-easternmost part of the *Gut*.

† See the Charts of *Inhabitant Bay* and *Harbour*, and of *Breton Island*, published by the Proprietor of the present work.

5 and 6 fathoms of water, and will ride very safely on good holding ground. But, should the wind shift to the S.W. or N.W., you must take up your anchor, and beat out of the bay into Chedabucto Bay, and proceed on your passage to the southward. Should the wind over-blow, at S.W., so as to prevent your beating to windward into Chedabucto Bay, you may come to an anchor in Eddy Cove, bringing the low part of Eddy Point to bear S.S.E. or S. by E., in 5, 6, or 7 fathoms of water, taking care to give the ship sufficient cable, lest you drive off the bank into deep water, from 15 to 20 fathoms.

TIDES ON THE SOUTH SIDE OF THE GULF OF ST. LAWRENCE.

The tide rushes with great rapidity through the Gut of Canso: and, in the narrowest part of the Gut, or at Cape Porcupine, it seldom runs at a slower rate than 4 or 5 miles in an hour. Here it flows, on the full and change, at 9½ h.

Along shore, past Anbushee and Antigonish, it sets toward Cape St. George; and, rounding that cape, proceeds thence in a north-westerly direction. On the south shore of Northumberland Strait, the time of flowing, on the full and change, is from 7 to 8 h. The perpendicular rise is from 3 to 7 or 8 feet.

The tides here are very materially varied by the winds; and it has been found that, at times, the stream of the Gut of Canso has continued to run one way for many successive days.

II.—PRINCE EDWARD ISLAND.

THIS island is a distinct government, though subordinate to the British commander-in-chief in North America. It is well settled, and possesses a good soil, fit for all general purposes. The island is exempted from fog, while the surrounding coasts of Nova Scotia, Breton Island, and New Brunswick, are frequently covered with it. Indeed it presents a striking contrast. The first appearance of the island is like that of a large forest rising from the sea, and its aspect on approaching nearer is beautiful. The red cliffs, which surround great part of the coast, then appear: these are not high. The lands, excepting the farms, which are cleared, are covered with lofty trees; and the sand-hills, which border a considerable part of the north side, are covered with a high strong grass, mixed with a kind of pea or vetch, which makes excellent hay. The climate is generally healthy and temperate, and not subject to the sudden changes of weather experienced in England. The winter here sets in about the middle of December, and continues until April; during which period it is colder than in England; generally a steady frost, with frequent snow-falls, but not so severe as to prevent the exertions of the inhabitants in their various employments. The weather is generally serene, and the sky clear. In April, the ice breaks up, the spring opens, the trees blossom, and vegetation is in great forwardness. In May, the face of the country presents a delightful aspect. Vegetation is so exuberantly quick, that, in July, peas, &c. are gathered which were sown in the preceding month. The country is generally level, or in rising slopes, and abounds with springs of fine water, and groves of trees, which produce great quantities of excellent timber, &c. The greater part of the inhabitants are employed in farming and fishing. Charlotte Town, situate between York and Hillsborough Rivers, on the southern side of the island, is the seat of government.

Although surrounded by Canada, Nova Scotia, Newfoundland, &c., the climate of this island is, by many degrees, more mild and favourable than that of either of those colonies. The winter is two months shorter in duration, and the frosts much less severe, with a considerably less fall of snow. Fevers and other diseases of the United States are unknown here. The population of the island, according to the census of 1827, was 30,000; in 1833, it was 32,349; and in 1841, 47,034.

The coast forms numerous harbours, many of which are, however, fit for small vessels only. The principal loading ports are, on the eastern side, *Cardigan Bay*, or the *Three Rivers*, and *Murray Harbour*; on the S.E., *Hillsborough Bay* and *River*; *Bedeque Bay* on the southern side; *Richmond Bay* and *Holland Harbour* on the north.

CARDIGAN BAY, or the Three Rivers, lies between Broughton Island and Panmure Island; it is the common entrance to three rivers; namely, Cardigan River, Brudenell River, and Montague River. In the former there are from 7 to 3 fathoms of water, and in the others from 4 to 2 fathoms. *George Town* stands on a peninsula between the rivers

Brudenell and Cardigan. In these places many large ships have loaded timber. There is anchorage without, in Cardigan Bay, in from 10 to 15 fathoms, where a pilot may be obtained.

MURRAY HARBOUR lies close to the north-westward of Bear Cape; and the entrance is narrow and shoal, difficult of access, and not having more than 12 feet of water. But small ships have frequently loaded here.

Vessels from the eastward, and bound to THREE RIVERS or MURRAY HARBOUR, must avoid coming too near the east point, from which a ridge of sunken rocks stretches off about a mile; the ground of the eastern coast is clear between the east point and the Wood Islands, and there is a depth of 3 fathoms of water all the way, near the shore, and good anchorage.

HILLSBOROUGH BAY is the finest bay in the island, and the River Hillsborough is a fine navigable river; but timber here is not plentiful. Before Charlotte Town, in this river, there is good anchorage in from 6 to 9 fathoms. Lobsters and oysters are found in abundance in the bay.

Vessels from the eastward, when bound to Hillsborough Bay, and passing Pictou Island, must cautiously avoid the rock of 10 feet, which lies to the northward of Caribou Point, (see page 146,) and 5 miles N.W. $\frac{3}{4}$ N. from the west end of the Island: at the same time, also, they must equally avoid the *Indian Rocks*, which lie off the shore of Prince Edward Island: the latter are covered at high water, and are very dangerous in the night.

At about three miles to the N.W. of the Indian Rocks is a shoal, on which H.M. sloop *Riflesman* grounded, 23rd of June, 1826. The bearings taken at anchor in 7 fathoms, at 2 $\frac{1}{2}$ or 3 cables' length S.S.W. from the spot on which the vessel grounded, were, Point Prim (on which is the lighthouse,) N.N.W. $\frac{1}{4}$ W.; South Woody Island E.S.E. $\frac{1}{4}$ R.; a point (supposed Point Jenyns,) N. $\frac{1}{4}$ W.; a merchant brig on shore on the Indian Rocks, S.E.

The least water found upon the shoal was 8 feet, at about half a cable's length to the northward or where the *Riflesman* grounded. It appears to be a rocky shoal, of considerable extent, two miles from the nearest shore, that of Belle Creek.

PICTOU to CHARLOTTE TOWN.—From the harbour of Pictou, when bound to Charlotte Town, H.M. sloop *Ranger* passed between Pictou Island and Caribou Point, and had from 3 $\frac{1}{2}$ to 4 fathoms, hard bottom, in approaching Point Prim: the point is low, and forms the eastern side of the entrance of Hillsborough Bay; a *fixed light* is exhibited on it. Give it a berth of nearly three miles before you haul to the northward for Charlotte Town, or for Governor's Island on the N.E. From the S.W. side of Governor's Island, a long spit of hard ground extends two miles. The long mark for hauling to the N.N.E. is a tower on the western part of Charlotte town, open to the westward of the blockhouse tower, on the larboard side of the entrance to the harbour, and on which signals are made to the town, signifying vessels in the offing.

In the channel up, the *Ranger* had from 5 to 7 fathoms; and on approaching the blockhouse, 10 to 12 fathoms, clay bottom.

From the starboard point of the entrance extends a sandy spit, the way to clear which is, to run to the northward till the signal-staff on the fort, (which is at the west end of the town,) is on: with the church-steeple; you will then have from 8 to 10 fathoms, to the anchorage. On steering for the town, keep rather near the larboard shore.

The *Ranger* anchored in 10 fathoms, at about 50 fathoms from the town, with the flag-staff at the fort N. by W. $\frac{1}{4}$ W., and the church-steeple N. $\frac{1}{4}$ E. Here it is high water, on the full and change, at 10 h. The rise is about 8 feet.

At Charlotte Town, on Saturdays, is an excellent market, where the necessaries of life are exceedingly cheap. Wheat is shipped at 5s. the bushel; neat from 3d. to 3 $\frac{1}{2}$ d. per lb.; butter 7d. to 8d. per lb.; sheep, 12s. to 15s. each; eggs, 15d. per dozen; all currency. Fish are very scarce, but oysters in abundance, and very good.

BEDEQUE BAY, which lies between Cape Egmont and Carleton Point, has good anchoring ground in from 6 to 8 fathoms. The harbour will admit ships of 400 tons, but the channel is narrow, crooked, and requires a pilot. It is the chief port for loading timber: but the water freezes much sooner than at Pictou; or the harbours on the Nova Scotian coast.

BETWEEN CAPE EGMONT and WEST CAPE, in Halifax or Egmont Bay, there is good anchorage with northerly and easterly winds, in 6 or 8 fathoms.

WEST CAPE.—About the West Cape of the Island a hard sand-bank, of 10 feet water, extends to the distance of three miles from the cape. If we take an extent of three miles with the compasses, and describe a circle from Cape West as a centre, this will give the shape and extent of the bank very nearly. There is a swash or channel within it for small vessels, close in shore.

NORTH SIDE of the ISLAND.—At the east point there is a reef extending two miles from the land, and which should not be approached in the night nearer than to the depth of 17 or 18 fathoms. At a league to the southward of it, and parallel with the shore, is a shoal of two fathoms, named *Wright's Bank*. In the passage between it and the land, which is half a league broad, are 6 and 8 fathoms.

All the Inlets on the north side of the island have bars at their entrance, with from 1½ to 3 fathoms over them, and are not to be attempted by strangers without a pilot.

Those going through the Strait of Northumberland, if bound to **HOLLAND HARBOUR**, or any port on the north side, must be careful to give the North Cape of the Island a good berth, as the sunken rocks stretch off full two miles. All the rest of the coast of the north side of the island is perfectly clear of foul ground, to within a quarter of a mile of the shore; and there is good anchorage as near the shore, in 3 fathoms of water.

The only harbours on the north side of the island, for ships of large burthen, are **HOLLAND HARBOUR** and **RICHMOND BAY**; and off these harbours the sand-banks, which form the bars, run off more than a mile from the shore.

SHIPS from the **EASTWARD**, bound to harbours on the **NORTH SIDE**, if the wind be favourable, should prefer sailing down by the north coast to going through the Strait of Northumberland; not only on account of sea-room, but because the most prevailing winds are from the S.W. They may run down the coast, till they approach Richmond Bay, to within a mile of the shore.

ST. PETER'S is the first harbour on the north side, when coming from the eastward; it is fit for small vessels only. The bar runs out about a quarter of a mile.

The next is **TRACADIE** or **BEDFORD BAY**; this has about 8 or 10 feet of water on the bar, which extends outward half a mile.

RASTICO or **HARRIS BAY** is very shallow on the bar, and calculated to admit fishery schooners only. The bar stretches off nearly half a mile.

NEW LONDON or Grenville Bay has about 8 or 10 feet of water, but the bar is very difficult. The latter extends off nearly half a mile.

RICHMOND BAY, or **MALPEC**, is a spacious harbour; has about 17 or 18 feet upon the bar. The sands which form the bar extend more than a mile off the harbour. The shoals on each side are generally discernible from the swell on them, and the course in and out is East and West. On a vessel's anchoring off the bar a pilot will come off.

There are two entrances into the bay; between them is Fishery Island. The eastern is the only channel by which a vessel of burthen can enter, the western channel being very shallow and intricate.

Vessels usually complete their lading at about a mile within Fishery Island, but a considerable current runs there; rafts of timber frequently break adrift in blowing weather; and, on the ebb-tide, are frequently carried to sea, when a great part is lost. The anchorage is good, and vessels lie in perfect safety.

HOLLAND HARBOUR, or **CASCUMPEC**, is the westernmost harbour on the north side. Here the sands form a bar as at Richmond Bay, and run off about a mile and a half. The harbour is easily known by the sand-hills which extend along the coast. At about half-way between the entrance of Richmond Bay and Holland Harbour, is one sand-hill, near Conway Inlet, much higher than the rest. Holland Bay may be known by its being at the west end of all the range of sand-hills. There is good anchorage close to the bar, in from 5 to 8 fathoms.

There is a depth of 18 feet of water on the Bar, and it is not difficult for a *stranger* to run in with a ship not drawing more than 12 feet of water. There being two leading marks, painted white, bearing W. by N. by compass, a vessel of this draft, by keeping the two marks in one, with a leading wind, may run in with perfect safety.

But, as these marks will carry a vessel over the south tail of the northern sand, vessels drawing more than 12 feet should not venture without a pilot. There is a buoy on the end

of the south sand; between that and the tail of the north shoal there is 18 feet of water. Vessels entering the port, if drawing more than 12 feet of water, should not bring the marks in one till they are within the bay. The soundings of the harbour are regular, and the ground clear. Ships, on coming to anchor off the bar, will immediately be attended by a pilot.

There is shoaler water between the outer and inner harbour, on which is about 14 feet of water in common tides. Vessels generally load to 13 feet in the inner harbour, and complete their cargoes in the outer one. In the former, they lie alongside a wharf at HILL'S TOWN, in 4 fathoms of water, where they lie without any current, as in a dock. In the outer harbour the spring-tide runs strongly, but the water is smooth, the sea being broken off by the bar.

HOLLAND HARBOUR is the most convenient port in the island for loading timber, at which there is a very large quantity; also a saw-mill, for cutting plank and board.

The CURRENTS around the island are very irregular, frequently running many days along the north coast, from east to west, and at other times from west to east.

The TIDES, also, in the north-side ports, are irregular, excepting spring-tides. These sometimes keep flowing for forty-eight hours, and at other times not more than three. In common tides, the water seldom rises more than two feet; in spring-tides, (except in strong winds from the northward and eastward,) not more than five feet.

III. BRETON ISLAND, WITH CHEDABUCTO BAY.

BRETON ISLAND, commonly called the ISLAND of CAPE BRETON, lies between the parallels of $45^{\circ} 34'$ and $47^{\circ} 3'$, and between the meridians of $59^{\circ} 40'$ and $61^{\circ} 35'$. Its shire town and capital is SYDNEY, a free port on the N.E., situate on a harbour of the same name. The courts of justice and public offices are kept here, and here, also, the principal officers of the island reside. It contains about sixty houses, besides a government house, stores, and barracks; likewise episcopal, Roman catholic, and dissenting churches. The streets are regularly laid out, the houses tolerably good, and the grounds in the vicinity cultivated with some taste; so that, on the whole, it presents a pleasing appearance. The population exceeds 500.

The harbour is one of the most capacious and secure in the provinces; it is two miles wide at its entrance, four miles above which it diverges into two extensive arms, upon one of which, about seven miles from the sea, the town is built on a peninsula, affording abundant suitable situations for wharfs, dock-yards, &c. The surrounding country is one of the finest agricultural tracts in the island: the advantages for carrying on the fishery are excellent. The principal coal-works are carried on in the neighbourhood, where useful timber abounds.

In the winter season, when the weather is mild, the S.E., N.E., and N.W. coasts of Breton Island abound with all sorts of fish.

The climate of Breton Island is very similar to that of Nova Scotia, and is considered by the inhabitants to be quite as conducive to health and favourable to agricultural pursuits as that of any of the British American provinces: but it is allowed that it is somewhat colder in winter and hotter in summer, more irregular, and therefore less pleasant than the neighbouring peninsula. The natural productions are, in all respects, similar to those of Nova Scotia. The amount of population is about 20,000.

Of the interior of the island, like Newfoundland, but little is known.

Too much caution cannot be exercised when approaching this island, from any direction. The currents set alternately about Cape North according to the winds at sea, both from the westward and eastward, and their effects about the Isle of St. Paul have already been noticed.

In the description of the GUT of CANSO, already given, (page 148,) we have noticed the general appearance of its coasts. On proceeding toward this strait, it should be remarked that the Isles of Canso, on the Nova Scotian side, are surrounded with many low white rocks and breakers. The south shore of Chedabucto Bay is iron-bound and steep-to; its north shore is of red cliffs and beaches.

Of the GUT of CANSO, from the southern entrance northward, the western shore, throughout, is high, rocky, and steep; the eastern shore low, with beaches. From the north end

of the Gut, the eastern shore to *Jestico*, or *Port Hood*, is distinguished by high, rocky, red cliffs. The opposite shore has several remarkable cliffs of gypsum, or plaster, which appear extremely white. CAPE ST. GEORGE, the western extremity of St. George's Bay, in Nova Scotia, is iron-bound and very high, its summit being 420 feet above the level of the sea.

JESTICO, or PORT HOOD, situate on the western side of Breton Island, is a safe harbour for frigates with any wind, but particularly from the S.W. to S.S.E. round by the northward; the anchorage is in from 4 to 5 fathoms, mud and sandy bottom: here you may wood and water. The leading mark going in is, Cape Linzee on with the highest sand-hills that are on the N.N.E. side of the beach, bearing N. by E. or N.N.E.: these kept in a line will lead you clear of Spithead, in 4 to 6 fathoms. On the opposite shore is a long and broad flat, stretching from the shore three-quarters of a mile, called the *Dean*, to which come no nearer than in 4 fathoms. Cod-fish is dried on this beach; and, in the season, June and July, is a good herring fishery. (See the Chart of the harbour, by Mr. Backhouse.)

On the 31st July, 1831, H.M. Ship *Ranger* anchored here; and Mr. Dunsterville describes the place as follows: "On the S.W. point of the entrance a bank of hard sand commences, and extends out to a spit off the first sandy cove from the outer point, nearly half a mile from the shore, and is very steep; 4 and 5 fathoms close-to. On the opposite shore, and half a mile within, a long tongue of sand stretches out, which is nearly dry. These spits completely shelter vessels from any winds from S.W. to S.S.E. The anchorage is in 5 fathoms, within the spits, muddy bottom.

"From the south point of *Just au Corp Island*, with a fair wind, steer east, passing about half a mile to the southward of the S.W. point of the harbour; and when it is perfectly open, steer about north, or N. by E. for a break in the land, which is a low gravelly beach; and as you approach the harbour the shoals are generally seen. In the fairway you will have from 7 to $7\frac{1}{2}$ fathoms; but, between the island and the main the soundings are uneven and unsafe to pass through, unless surveyed. A bank, the *Houdic*, with 10 feet thereon, extends about five miles from shore, at about two or three leagues to the southward of the harbour, and is in the fairway of ships bound for the Gut of Canso. H. W. full and change about ten o'clock. Tide not perceptible; rise 4 to 6 feet. The winds, when from the southward through the Gut of Canso to Cape St. George, generally are from S.S.W. or S.W.

In August, 1831, the *Ranger*, from hence, beat through the Gut of Canso; anchored at the northern entrance, on the starboard shore, in 12 fathoms, to the eastward of Cape Jack, about a mile and a half off shore. When it has not blown strong from any quarter, the tides here are regular, running nearly three knots an hour: flood setting to the northward. H. W. full and change, at about 8 h. 30 m., rise 6 feet.

From Jestico, the north-western coast of Breton Island bears nearly straight, in a N.E. by E. direction towards Cape North, in lat. $47^{\circ} 3'$, long. $60^{\circ} 20' 20''$, a distance of above 80 miles, off which cape is the island of St. Paul, with its two lighthouses, as described on page 86.

On the N.W. coast, all along from Cape North to Cape Linzee, the land of the country is very high, and in some places falls gradually to the shore. On this side of the island you may safely stand in to the distance of two leagues from shore, until you arrive off *Just au Corp* or *Henry Island*, when you may stand within one mile of the shore. On this side of Breton Island are several salmon rivers.

South-westward of Cape North is *Ashpé Harbour*, where vessels can find shelter; and the water is deeper along the coast, close in shore, as far as Cape Ensumé, than it is further to the south.

ST. ANNE'S HARBOUR, situate on the N.E. side of the island, was called by the French, when in their possession, *Port Dauphin*, in honour of the heir to the crown, and is a very safe and spacious harbour. It has but a narrow entrance, and carries $4\frac{1}{2}$ fathoms at low water, until you join the beach. When in mid-channel, you will have 9 to 10 fathoms, and in the harbour from 5 to 6 fathoms, muddy bottom. On the north side the land is very high, and ships of war may lie so near to the shore, that a water-hose may reach the fresh water, and a ship may be loaded in one day, from a cascade which runs from the top of the rock. The Guernsey and Jersey men dry their fish on this beach, and it is a safe retreat from the sea.*

* See the Survey of the Harbour, by Mr. Backhouse.

The more particular Directions for St. Anne's Harbour, as given by Mr. Backhouse, are as follow:—After you have passed the Sihoux or Hertford Isles, on the east side of the entrance, keep the south shore on board, if the wind be to the S.E.; and as you approach Passage Point, bring Cape Ensumé, or C. Smoke, which lies to the northward, nearly on with Black Point: steer with these marks in one, until you are nearly abreast of Passage Point, off which lies a sunken rock of 6 feet of water, and opposite to which begins the spit of St. Anne's Flat, and the narrowest part of the channel. Now keep a small hummock up in the country, nearest to the shelving high land to the westward of it; which hummock is on the middle land from the water side, in a line over the fishing-hut, or fishing-stage, erected on the beach: this will lead in the best water, until you enter the elbow part of the beach. When advanced thus far in, keep the opening open, about the size of two gunports, which makes its appearance up the S.W. arm. This opening looks like two steep cliffs, with the sky appearing between them, and will lead you between the beach and the south shore, in mid-channel, through 9 and 10 fathoms, and past the beach point, off which a spit stretches to the S.W. about two cables' length. Having passed this spit, come to anchor in either side of the harbour in from 5 to 10 fathoms, muddy bottom, and sheltered from all winds.

GRAND BRAS D'OR.—The following Directions for the Navigation of the Great Channel of the BRAS D'OR, between Sydney Harbour and Port St. Anne, have been written by Mr. Thomas Kelly, a pilot of that place. They were obligingly communicated by Lieut. James Moxon, R.N., 1823, and we have no doubt would be found very clear and useful, if accompanied by a chart of the river, containing the names mentioned in the directions. We believe that, at present, no such chart exists, and that, therefore, the names are altogether unknown to Hydrography; for not one of them is to be found in Des Barres' or others. This deficiency may probably be obviated at a future and no distant time.

Lieut. Moxon says, that the GRAND BRAS D'OR has been lately frequented by timber vessels, and is likely to be more so; and there being few, if any pilots, but the one mentioned in this paper, he submits this copy of his directions, and shall enjoy great satisfaction from finding that it proves useful. The directions are as follow:

SAILING DIRECTIONS for the GRAND BRAS D'OR ENTRANCE.—“Ships from the southward must give Point le Conie a berth of about two miles, and steer from thence for the eastern end of the inside of Bird Island, until you bring M'Kenzie Point and Carey's Beach in one. Steer for the Black Rock Point, until you have Messrs. Duffus's Store just open of Point Noir; then steer for Gooseberry Beach, until you bring a clearing on Duncan's Head over M'Kenzie's Point. It is to be observed, that ships coming in with the tide of flood must keep Point Noir well aboard, to avoid the eddy and whirlpools on the north side of the Gut, which has various settings. You must then steer for Point Jane, to keep the fair stream of tide as far as the Round Cove, where there is good anchorage in 7 or 8 fathoms, good holding ground. When abreast of the Round Cove, steer over for Duncan's Head; when abreast of this Head, steer for Long Beach, until you bring a tall pine tree on the Upper Seal Island in one with a notch or valley in the mountain. You will then steer for the point of the Upper Seal Island, which will carry you clear of the shoals on the islands, as also the South Shoal or Middle Ground. The marks for this shoal are a white rock in the bank for the eastern end, and a white birch-tree for the western end. When abreast of the western end of this shoal you may keep the middle, there being no difficulty until you come to Red-Head. If bound to Kent Harbour, after doubling the Red Head, steer for a remarkable red bank, covered with small bushes, until you bring Mr. Duffus's House entirely open of the beach which is on the island; there is a depth of from 4 to 5 fathoms in this harbour, and good holding ground.”

DIRECTIONS for that ARM of the LAKE called ST. PATRICK'S CHANNEL, and up to WHOOKAMAGH.—From Red-Head you will steer well over for the Duke of Kent Island, to avoid a mud shoal which runs off from M'Kay's Point. When abreast of the western end of the Duke of Kent Island, steer for Wassabeck Head until abreast of Stony Island. Then steer for Cranberry Head, so as to clear a shoal lying off from Wassabeck Head; when abreast of Cranberry Point, steer well for the Bell Rock, to avoid a shoal lying on the south side of the channel; when abreast of the Bell Rock, steer for Green Beach, observing to keep Baddock River shut in until you are well up with Green Beach. You will then steer for a beach on the south shore, until you cross the opening of the Narrows; you may then steer through the Narrows, keeping the middle until you come to the western end, when you must haul round the southern shore (beach), keeping the south shore until abreast of the Plaster Cliffs: you are then clear of all, and in the Whookamagh Lake.”

OF THE ANCHORAGE THROUGH THE BRAS D'OR.—“The first anchorage is the *Round Cove*, where you may anchor in 7 or 8 fathoms. You may anchor in 5 or 6 fathoms, in the middle of the harbour, on a middle ground: the marks of which are, to bring the *Table Island* a handspike's length open of *Black Rock Point*, and *Point Jane* bearing N.W. On the north side of the harbour there is good anchorage as far up as the *Lower Seal Islands*, and to the eastward of the *Upper Seal Islands* in 5 fathoms, and to the westward of the same islands in 7 fathoms. There is no other place of anchorage from this to the *Big Harbour*, where you may anchor in 7 or 8 fathoms; from thence you may anchor at any time.”

SETTING of the TIDE in GRAND BRAS D'OR.—“The first quarter flood sets from the northward, directly over the shoal; last quarter W.S.W., being directly through the channel, and meeting with the tide coming over the shoal, sets toward the *Black Point*, which occasions it to shoot across the *Gut*, making a number of whirlpools and strong eddies on each side of the channel, which slacks two or three times during the tide. The first quarter ebb sets over the shoal to the northward; last quarter directly through the channel.—N.B. The tide of ebb is the fairest setting tide. The tide runs in until half-ebb, and out until half-flood, in regular tides; but the winds make a great alteration; N.E. winds making high tides, and S.W. neaping them; also tides running out with S.W. winds until high water, and in until low water with N.E. winds. Tides rise four feet, unless affected by winds. High water ten minutes past eight o'clock, full and change. Bearings by compass.”

OBSERVATIONS.—“Messrs. *Duffus's Store* is a fishing establishment. Mr. *Duffus's House* is on *Kent Island*, formerly *Mutton Island*. The aforesaid *Thomas Kelly* piloted the ship *Pitt*, of *St. Kitt's*, burthen near 400 tons, laden with timber, and drawing about 18 feet of water, safely through the foregoing described channel from *Kent Harbour*.”

The N.E. COAST of BRETON ISLAND, between *Scatari Island* and *Cape Dauphin*, is low; but, from *Cape Dauphin* to *Cape Ensumé*, or *Cape Smoke*, it is high. Between *Scatari Island* and the entrance of *Port St. Anne*, a vessel may stand in-shore, to 15, 10, and 5, fathoms, (clear water,) gradual soundings.

SYDNEY HARBOUR, formerly called *Spanish River*, the entrance of which lies 4 leagues to the S.E. of that of *St. Anne*, is another excellent harbour, having a safe and secure entrance, with soundings regular from sea into 5 fathoms. This place abounds with excellent coal. In going in, give the two points of the entrance a berth of two or three cables' length, approaching no nearer than 6 or 5 fathoms. The soundings are regular to each shore to 5 and 4 fathoms.

In the inner part of the entrance, *Beach Point* and *Ledge*, on the south side, are steep-to; but *Sydney Flats*, on the opposite side, are regular to 4 fathoms. When past the *Beach Point*, you may run up the river *Dartmouth* to the S.W. and come to anchor in any depth you please, to 5 and 10 fathoms, a fine muddy bottom. Here you may wood and water, at the creek or spring, close to *Governor Mac Cormick's house*. The water is remarkably pure.

This harbour is capable of containing the whole navy of Great Britain. On *Flat Point*, without the east side of the entrance, is a lighthouse, in latitude $46^{\circ} 18' 15''$, longitude $60^{\circ} 8' 30''$. It is an octagonal tower of wood, 90 feet in height, and painted vertically red and white. It exhibits a brilliant fixed light, at 160 feet above the level of the sea, and may be seen in clear weather at 5 leagues' distance. Fish of various kinds, cod, haddock, &c., are caught on the coast in great abundance. The tide in the harbour flows at 9 h., and rises 6 feet. The lighthouse was first lighted on the 15th November, 1832.

There is anchorage all along the coast, from *Sydney* to *Canso*, with the wind off the land; and between *Sydney* and *Scatari* are some excellent bays, viz. *Indian Bay*, in which is the harbour of *Bridport*; *Hare Bay*, *Cow Bay*, and *Miray Bay*. *Cow Bay* appears to be the best, being well sheltered from all winds, excepting N.E., which is right in. Off *Cow Bay* are the *Flint Isles*, which are small, quite level at the top, and the sides perpendicular; when once seen, it would be difficult to mistake them: there is a good channel between them and the main, but they are very dangerous to seaward; a reef extends from them to the eastward a good mile, and the sea always breaks*. The coast generally is low, and nothing remarkable appears till you are close in. *Scatari Island* is dangerous; from the

* This reef is not marked in the Admiralty Charts.

eastward a reef extends a mile and a half, and the sea always breaks. It requires great attention, as many vessels have been lost, from its not being marked on the charts.

THE EASTERN EXTREMITY of the island, which is commonly made by navigators on proceeding from Europe to Nova Scotia, appears on the sea-shore, and to some distance up the country, barren and rocky; and the tops of the hills, being much alike, have nothing remarkable. The ruins of the town of Louisbourg distinguish, however, that part of the island on which they stand. The coast to the westward continues rocky on the shore, with a few banks of red earth, which appear less barren.

SCATARI ISLAND.—On the east point of this island, which is also the easternmost land of Breton Island, is a *lighthouse*, in lat. $46^{\circ} 1' 30''$, and long. $59^{\circ} 40'$. The tower is painted white, and exhibits a *revolving* light, at about 90 feet above the sea; visible one minute, and invisible half a minute, alternately. A boat, to render assistance to vessels in distress, and a gun to answer signals, when required.

LOUISBOURG HARBOUR, a fine harbour, never frozen up, situate on the S.E. side of Cape Breton, to the westward of Scatari Island, is easy of access; you may be soon in, and you may likewise be soon out, if you please. Be careful to avoid the Nag's Head, a sunken rock on the starboard hand going in. The east part of the harbour is the safest. The inhabitants now consist of a few fishermen only. Water is plentiful here, but wood is scarce.

The *Nag's Head Rock* lies nearly one-third from the lighthouse point, and has no more than 3 feet on it at low water. The larboard side going in is the boldest.

There is a lighthouse on the eastern side of the entrance to the harbour of Louisbourg, 60 fathoms in-shore, lat. $45^{\circ} 54' 30''$, long. $59^{\circ} 55' 30''$. It stands on the site of the old French lighthouse, (which was succeeded by a beacon,) and shows a fixed light, visible at sea, from off Cape Portland to the south-eastern extremity of Cape Breton. The lighthouse, (which is a square building,) is painted white, with vertical black stripes on either side, in order to distinguish it from other lighthouses, and to render it conspicuous when the back land is covered with snow.

The following remarks may be of service to vessels bound to Louisbourg:—When coming from the eastward, they should bring the light to bear W. by N., or more northerly, before they run for it; and from westward, N. by E. or more northerly, in order to clear Green Island and the Ledges, which lie three-quarters of a mile S. by W. $\frac{1}{4}$ W. from the light.

When in the entrance of the harbour, which is near half a mile wide, with the light bearing N.N.E. two or three cables' distance, steer W.N.W. for half a mile, to avoid the Nag's Head, a sunken rock on the starboard side, bearing W. by N. from the light. The N.E. arm of the harbour affords the safest anchorage. The light of Louisbourg bears about S.S.W. $\frac{1}{4}$ W. from the revolving light on Scatari Island.

From the entrance of Louisbourg to Guyon Isle, called also Portland Isle, the course is S.W. by W., and the distance more than 3 leagues. Between lies the bay called Gabarus Bay, which is spacious, and has a depth of from 20 to 7 fathoms. Off the south point of this bay, called Cape Portland, lie the *Cormorants*, a number of islets and rocks, which are dangerous.

BLANCHEROTTE CLIFF, on the south coast, is a remarkable cliff of whitish earth, in latitude $45^{\circ} 39\frac{1}{2}'$, and longitude $60^{\circ} 20'$. Four miles to the westward of it is a small woody island, lying at the distance of two miles from shore, and off the little harbour called St. Esprit. Without this island, at the distance of a mile and a half, on the S.E., is a breaker with rocks, on which the *Iona* was wrecked in 1836.

The land hence to the ISLE of MADAME is generally low; it presents several banks of bright red earth, with beaches between them. ALBION CLIFF, on the south side of Madame, is rocky, remarkably high, and precipitous. On the S.W. side of this island is the settlement called ARACHAT or AROCHETTE.

ARACHAT, or AROCHETTE.—Arachat, a beautiful harbour, has been, for many years past, the seat and centre of the fishing establishments of the Jersey merchants, who export their produce hence to the West Indies, the Mediterranean, and Brazil. It is accessible at all times. The town is situate on the harbour, and is fast increasing in size, appearance, and population.—*Bouchette*, Vol. ii. p. 79.

It has been but indifferently surveyed. Ships bound to the south from the Gut of Canso,

if caught by a S.E. wind, may, in this bay, find shelter by coming to anchor in the bay on the south side, in 6 or 7 fathoms; and, by sounding with your lead, you may find the passage over to the north shore, which is the safest anchorage. The harbour has two entrances. To sail into the easternmost, keep the starboard shore on board, in order to avoid Henley Ledge; and approach the Seymour Isles no nearer than the depth of 6 fathoms; as you will thus avoid the East-reef, and a small sunken rock, which lie about a cable's length N.E. by E. from it.

In 1831, H.M. sloop *Ranger* beat into the harbour of Arachat, by the eastern channel, borrowing close on the starboard shore. "In standing toward Seymour Island (larboard side) tack in 7 fathoms. The *Ranger* anchored in 7 fathoms, with the eastern church E.N.E., and Fiddle Head S.E. by E. No poultry nor stock of any kind could then be procured. The butter was exceedingly good. The water, abreast of the town, is deep close to the shore. The inhabitants are supported by the fisheries. If bound hence to the Gut of Canso, run out, if the wind permits, by the western channel, keeping very close to the beach on the larboard side. The channel is very narrow, but deep; 13 fathoms close to the beach, on which you may spring when passing it."

CHEDABUCTO BAY is wide and spacious; it is bold-to on both shores; on the north side you will see several red cliffs; this shore is sandy, with regular soundings in the middle of the bay: the water is deep, from 25 to 35, &c. to 50 fathoms.

Crow Harbour is situated on the south side of Chedabucto Bay, and is capable of containing ships of war of the 6th and 5th rates, merchant-ships, &c. Many schooners and sloops resort here in the months of July and August, to take mackarel and herrings. The passage in is to the S.W. of the island that lies in the entrance.

N.B. On the south side of the beach Mr. Backhouse erected a beacon to lead ships clear of the Corbyn Rocks, which are incorrectly represented in the old charts. Keep this beacon in a line with a remarkable tree upon the high land, and it will lead you also clear of the Rook Island Rock, that lies 25 fathoms from the N.W. point of Rook Island.

MILFORD HAVEN, or the **HARBOUR of GUYSBOROUGH**, at the head of the bay, is impeded by a bar, but a sloop of war may pass over it. Within the bar vessels lie in perfect security; the tide, however, sets in and out with great rapidity. The town is, at present, though beautifully situated, a place of little trade: it is protected by a battery.

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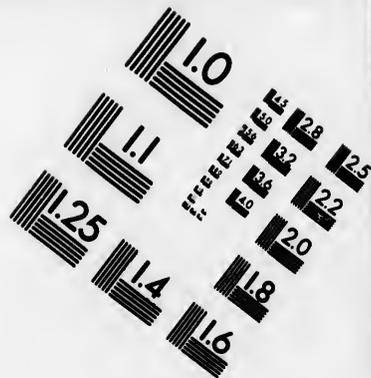
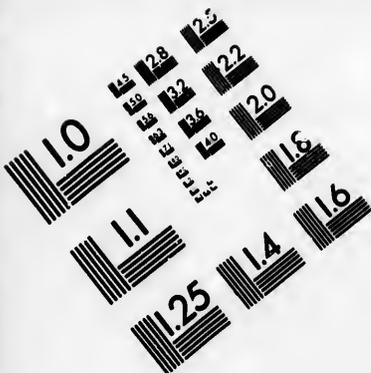
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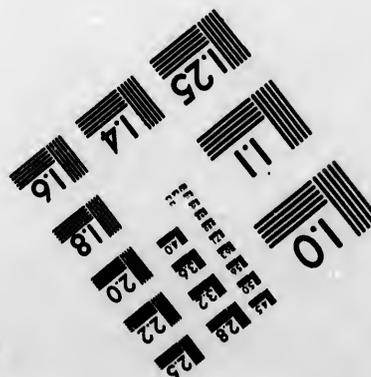
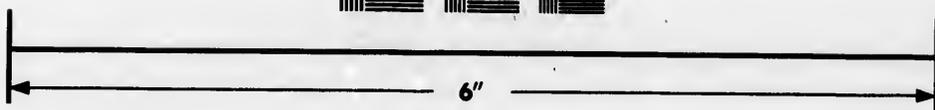
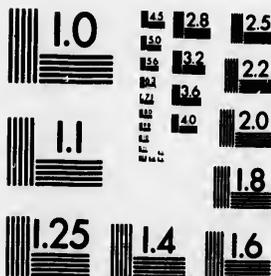
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PART IV.

THE SOUTHERN COAST OF NOVA SCOTIA, THE BAY OF FUNDY, ETC.

I. CHEDABUCTO BAY TO HALIFAX HARBOUR.

THE Eastern part of Nova Scotia is broken into the several islands and passages represented on the Charts. Of the isles which are low and covered with stunted fir-trees, the first, on the N.W., is now called *Durell's Island*; the second, *George's Island*; the third, *St. Andrew's Island*; without the latter is the smaller one, called *Cranberry Island*, which is now distinguished by a lighthouse, an octagonal tower, built of wood, 88 feet in height, painted red and white horizontally,* and showing two fixed lights, one above the other.

Cape Canso or *Cansoeu* is the outer, or easternmost, point of *St. Andrew's Island*. From this cape, westward, to *Torbay*, the coast makes in several white heads or points; here the country is much broken; and near the S.E. extremity many white stones appear from the offing like sheep in the woods. During a southerly gale the sea is dreadful here. From *Torbay* to *Liscombe Harbour* there are banks of red earth and beaches; and from *Liscombe Harbour* to the *Rugged Islands*, (excepting the *White Isles*, which are white rocks), the capes and outer islands are bound with black slaty rocks, generally stretching out in spits from east to west: and from the *Rugged Islands* to *Devil's Island*, at the entrance of the Harbour of *Halifax*, are several remarkably steep red cliffs, linked with beach.

THE LIGHTHOUSE ON CRANBERRY ISLAND is of great importance to the trade in this part; and it has been said, by Mr. Lockwood, a gentleman well acquainted with the subject, that "the Gut of Canso will, by its means, become the common gateway to the Gulf and River of *St. Lawrence*, and will tend to mitigate the rigours of a late or early passage to *Quebec*." †

The fishermen of *Arachat* are acquainted with the channels and indents on this coast, and frequent them, more particularly in the spring and fall, to catch mackarel and herrings, of which large shoals are common here: but the rocks are so numerous, and the passage so devious, that no stranger should attempt them.

Of the numerous rocks hereabout, the outer breaker, called the *Bass*, a rock of 3 feet water, lies more than two miles E. † S. [*E. 13° N.*] from the lighthouse on *Cranberry Island*. At seven-tenths of a mile S.E. from *Cape Canso* is a similar rock, called the *BULL*; and, at one mile to the E.S.E. of the latter, there is said to be another, discovered by a fisherman of *Canso*, in 1813; but its existence seems to be questionable.

THE HARBOUR OF CANSO, within *George's Island*, is well sheltered, with good ground, and sufficient depth for vessels of any burthen. In rough sea the dangers show themselves; but, with smooth water, it is hazardous to enter the passages without a pilot. Mr. Backhouse says, "Canso Harbour has a passage through from the bay to the south; but I would not recommend ships of war to attempt it, unless they answer their helms very quick, and even of those not such as draw more than 16 feet."

RASPBERRY HARBOUR, † on the south coast, at about three leagues westward from *Cape Canso*, is small, and the shores within quite bold. At the entrance, on the eastern side, is an island, having a ledge close to it on the S.E. By rounding this ledge, you may steer directly into the harbour, and come to an anchor under the island, which lies in the

* See note (‡) on page 146.

† To those who wish for an accurate knowledge of this country, we recommend Mr. Lockwood's "Brief Description of Nova Scotia, with Plates of the Principal Harbours; including a particular Account of the Island of *Grand Manan*." 4to. London, 1818.

‡ The *POPE HOWE* of M. Des Barres.

middle of it, in the depth of 7 fathoms, where you will lie safely. The country here is rocky and barren: a quarry of granite supplies millstones.

WHITE HAVEN, which is two leagues to the westward of Raspberry Harbour, is a place of hideous aspect. Of its rocky islets, the larger and outer one, called White Head, from the colour of its sides, is 70 feet above the level of the sea. This islet appears round and smooth, and is a useful mark, as the passage in, on either side, is in mid-channel. Off the Head are two breakers, one S.S.E. and the other E. by S., half a mile off. The most numerous visitors of this place are crows, eagles, &c., yet the neighbouring fishermen, during spring and summer, find in it large quantities of mackarel, herring, gaspereaux, &c.

TORBAY.—The entrance of this bay is formed on the west by a bold headland, called *Berry Head*. The channel in is between this head and the islets to the eastward. At E.S.E. from the head, and south of one of these islets, named *George's Island*, are three very dangerous rocks, which do not break when the sea is smooth. Within the bay, under the western peninsula, there is excellent anchorage in from 6 to 4 fathoms, muddy bottom, up to the eastern part of the bay. There is also anchorage on the western side of the bay, in from 7 to 3 fathoms, similar ground, where a vessel may lie in safety during any gale.

This bay is settled, and had twenty-one families in it, in 1818: the lands are rocky, but a few salt-marshes enable the inhabitants to maintain some cattle. Vessels are built here, of from 40 to 120 tons, which are employed in the fisheries.

Mr. Dunsterville says, on going into Torbay, give *Berry Head*, the S.W. point, which is very low, a small berth of half a mile, as a shoal bank extends off it. To the S.E. by E. of it, about two miles distant, are some rocky heads, near which we sounded in from 7 to 9 fathoms. The *Ranger* beat in and anchored in 7 fathoms, within a shoal of 2 fathoms, hard bottom. This bank lies directly in the fairway, in going toward the anchorage. It lies about half a mile from the south shore. A large white rock on the shore lies abreast of it. In the fairway you will have from 7 to 9 fathoms. Lobsters abound here, near a sandy bay on the south shore. In two hours I speared from 60 to 80. Fish is abundant, and salmon are occasionally caught on the south shore, and sold at half a dollar each.

From Torbay, westward, to Country Harbour, the country, in general, continues rocky and sterile, with deep water close in, but regular soundings without, and from 30 to 20 fathoms of water. **CODDLE'S HARBOUR**, which is 3½ leagues to the westward of *Berry Head*, affords shelter to small vessels only; and these enter on the eastern side, to clear the breakers.

The land about Country Harbour, and from that to Cape Canso, makes like a number of islands: it is not high, and nothing very conspicuous can be seen. On an islet off Country Harbour is a skeleton beacon, but you must be clear in before you can make it out.

"We found it impossible to approach the coast between Country Harbour and Louisbourg, within 15 or 20 miles, in the month of May, being impeded by the ice; and we observed several vessels blocked up, in thick weather. When approaching the coast of Nova Scotia, the lead is the only guide. When near the coast, and you have hard bottom, you are never more than nine or ten miles off, and on the bank; but soft blue mud will always insure safety.

"It appears that a current is always running, more or less, to the eastward from Cape Canso, along the south coast, toward the island of *St. Pierre*. We experienced it more than once; in July 1836; it set E. by N. 50 miles in 24 hours: and, in January 1838, in the same space was a similar set."—*Mr. Jeffery, M.R.N.*

COUNTRY HARBOUR.—This fine harbour is navigable, to the largest ships, twelve miles from the entrance. It is, at present, but thinly settled, yet there are reasons for believing that, as a consequence of local improvements in the neighbourhood, the population will increase. The shores are bold; the anchorage soft mud, with a depth of 13 to 5 fathoms. *Mr. Lockwood* has said that "no position in the province is more advantageous for settlers than this harbour: at its mouth the islands afford shelter to fishermen and small vessels, as well as the means of erecting their stages; and the fishing grounds, at a short distance in the offing, abound in halibut, haddock, and cod; and what they term the bait fishery, that is, mackarel, gaspereaux, smelt, &c. Salmon are plentiful in their season; and, but for the improvident use of this valuable addition to the means of subsistence, would continue for ages."

The ledges off the harbour generally break, and between them are deep passages. On

advancing from the eastward, there are two rocks to be avoided, which lie as shown on the Charts. On proceeding inward, give Green Island a small berth, and the dangers on that side will be avoided.

The rocks on the west of the entrance, named *Castor* and *Pollux*, are above water and bold-to. When above them, give Cape Mocodome a good berth, so as to avoid the *Bull*, a dangerous sunken rock, that breaks in rough weather, and lies about half a mile from the extremity of the Cape.

The islands on the east side of the entrance, *Green Island*, *Goose Island*, and *Harbour Island*, are low, and covered with scrubby trees.* Within Harbour Island is excellent anchorage.

FISHERMAN'S HARBOUR, on the west of Country Harbour, is a favourite resort of fishing vessels; it having a shingly beach, forming an elbow, and very convenient for drying fish.

BICKERTON HARBOUR, to the west of Fisherman's Harbour, is fit for small vessels only. At two miles to the west of it is **HOLLIN'S HARBOUR**, a place of shelter for coasters, and resorted to by the fishermen. **INDIAN HARBOUR** is a shallow and unsafe creek, but has good lands, well clothed with pine, maple, birch, and spruce. The next inlet, called **WINE HARBOUR**, has a bar of sand, which is nearly dry. There are a few, and but few, settlers on these harbours.

St. MARY'S RIVER.—The navigation of this river is impeded by a bar of 12 feet of water, which extends across, at the distance of a mile and three-quarters above Gunning Point, the west point of the entrance. Below the bar, toward the western side, is a middle ground, which appears uncovered with very low tides; and above the bar, nearly in mid-channel, is a small rocky islet. The passage over the bar is on the eastern side of this islet. The tide, which is very rapid, marks out the channel; the latter is devious, between mud-banks, extending from each shore, and dry at low water. The depths upward are from 24 to 18 feet. The town of **SHERBROOK** is at present a small village, at the head of the river, about three leagues from the sea.

The islet called **WEDGE ISLE**, which lies at the distance of half a league south from the S.W. point of St. Mary's River, is remarkable, and serves as an excellent guide to the harbours in the neighbourhood. A beacon, erected upon it, may be seen from 6 to 8 miles off. The side of this islet, toward the main land, is abrupt, and its summit 115 feet above the sea. From its S.W. end ledges extend outward to the distance of half a mile; and some sunken rocks, extending toward it from the main, obstruct the passage nearly half-way over. At $2\frac{1}{2}$ miles south from the Wedge, is a fishing-bank of 30 to 20 feet, the area of which is about 200 acres.

The harbour of **JEOGAN** may be readily found, on the eastward, by Wedge Isle, above described; and, on the westward, by the bold and high land called **Redman's Head**. The passage in is at the distance of a quarter of a mile from that head; because, at the distance of three-quarters, is a dry ledge, called the **SUAC**. Within the small island on the east side of the entrance, called **TOBACCO ISLE**, there is anchorage in 4 or 5 fathoms, muddy bottom.

LISCOMB HARBOUR.—The entrance into this harbour, which is one of the best on the coast, is between Liscomb Island and the headland on the west, called **Smith or White Point**. From the S.E. end of Liscomb Island, a ledge, with breakers, extends to the distance of three-quarters of a mile. Within and under the lee of the island is safe anchorage in from 13 to 8 fathoms. On the N.E. of the island, a vessel caught in a S.E. gale may be sheltered by **Redman's Head**, already described, with the Head S.S.E. in 6 and 7 fathoms, bottom of clay.

On the west side, the ground from Smith Point is shoal to the distance of nearly a mile S.S.E.; and at $2\frac{1}{2}$ miles south from the point, is a rock, on which the ship *Black Prince* was lost. It constantly breaks, and is partly uncovered. The island-side is bold.

The first direction of the harbour is nearly north, then W.N.W. Opposite to the first fish-stage, at half a mile from shore, is as good a berth as can be desired, in 7 fathoms.

* Goose and Harbour Island are the *William* and *Augustus* of M. des Barres, and are so called in several Charts.

From this place the harbour is navigable to the distance of four miles: it is, however, to be observed, that there are two sunken rocks on the north side.

BAY OF ISLANDS.—The coast between Liscomb and Beaver Harbours, an extent of six leagues, is denominated the BAY OF ISLANDS. Within this space the islets, rocks, and ledges are innumerable. They form passages in all directions, which have, in general, a good depth of water. At the eastern part of this labyrinth, near Liscomb, is **MARIE-JOSEPH**, an excellent harbour, the settlers on which keep large herds of cattle, &c.

The **WHITE ISLANDS**, nearly half-way between the harbours of Beaver and Liscomb, appear of a light stone colour, with green summits. The latter are above 60 feet above the level of the sea. The isles are bold on the south side; the passage between them safe; and there is good anchorage within them, in from 10 to 7 fathoms.

BEAVER HARBOUR is too intricate to be recommended to a stranger: the islands off the entrance, however, may occasionally afford shelter from a southerly gale. Five Dutch families are settled here, and appear to be doing well in farming, fishing, &c.

In June 1831, H. M. ship *Ranger* visited Beaver Harbour, and found it much exposed to S.S.E. winds; but it has a little cove, with 3½ fathoms therein, which affords shelter at all times to small craft. There are several sunken rocks in going in, which, in a high sea, show themselves. However, it is certainly not a place that can be recommended. Butter was, at this time, 9d. per lb. Fish and lobsters abundant.

SHEET HARBOUR.—This harbour is nearly in the half-way between Country Harbour and Halifax. It is very extensive, though but thinly settled, and the deep navigable water continues to the falls, which are about nine miles above the entrance of the harbour. The name is derived from a blank cliff, on a rocky isle at the entrance, which appears like a suspended sheet.

Without the harbour are the several ledges shown on the Charts. These ledges show themselves, excepting the outer one, called by the fishermen *Yankee Jack*, and which, when the sea is smooth, is very dangerous. It has been asserted, that a rocky shoal lies about half a mile to the south of the Yankee, but its position has not been ascertained.

Within the entrance is a rock, two feet under water, which will be avoided by keeping the Sheet open of the island next within it on the eastern side. In sailing or turning up the harbour, give the sides a very moderate berth, and you will have from 1½ to 5 fathoms, good holding ground.

The flood at the entrance of Sheet Harbour sets S.S.W. about one mile an hour. High water, full and change, at 8 h. 50 m. Tides rise 7 feet.

MUSHABOON, to the westward of Sheet Harbour, is a small bay, open to the S.E., which affords shelter at its head only, in from 7 to 5 fathoms, muddy bottom. It is connected to Sheet Harbour by a clear, deep, and bold passage, between an island and the main land. Here you may lash your vessel to the trees, and, lying in 5 fathoms, soft bottom, with the side touching the cliff, be perfectly sheltered from all winds. This place is uninhabited, the land being incapable of cultivation. In going through the passage to Sheet Harbour, you must guard against a sunken rock at its mouth, which, from the smoothness of the water, seldom shows its position: it lies 400 yards off Banbury Islands, and may be easily cleared, by keeping the Sheet Rock open of the island.

SPRY or TAYLOR'S HARBOUR.—Cape Spry, or Taylor's Head, divides Mushaboon from Spry or Taylor's Harbour. On the west side of the latter are two large islands, now called Gerard's Islands. Cape Spry is destitute of trees; and, being composed of large white rocks, is distinguishable afar off. From the point of the Cape, westward, is a low shingly beach, which is shoal to the distance outward of one-third of a mile.

On the opposite side of the harbour is a sunken ledge and a large dry rock: these may be passed on either side, whence you steer for the eastern point of Gerard's Island, and sail close along it, as a sunken rock lies off it at the distance of 300 yards. The rest of the way is clear, up to the anchorage. This harbour is open to the S.E. and E.S.E. winds.

At the distance of about three miles S.S.E. from Cape Spry is a dry rock, called by the fishermen *Taylor's Gooce*. At about midway between it and the Beaver Islands lie the *Shag Ledges*, (*Pegaus' Wing of Des Barres*), which are partly dry, and extend nearly a league east and west. Within and about them the depths are from 20 to 7 fathoms.

DEANE or POPE'S HARBOUR, on the western side of Gerard's Isles above mentioned, has a ledge at its entrance, forming an obtuse angle at the two points, at three-fourths of a mile from each, and from which a shoal tails to the southward half a mile. It may be passed on either side; but, on the west, care must be taken to avoid a shoal extending from the outer Tangier Island. The best shelter is under the smaller island on the eastern side, where there are from 8 to 6 fathoms, with good clay ground.

TANGIER HARBOUR, next to Deane or Pope's, is formed by craggy barren islands, which secure vessels from all winds. At about two miles from its mouth is a ledge that dries at low water. The anchorage is under the eastern shore, 5 to 4 fathoms, stiff mud. Here are some good tracts of pasture land, and the few inhabitants are occupied in the fishing and coasting trade.

SHOAL BAY.—(*Saunders Hr. of Des Barres*).—This bay has a good depth of water and excellent anchorage. The latter is to the northward of the island now called Charles Island, and vessels lie in it, land-locked, in 7 fathoms. Off the mouth of the harbour is a rock, that always breaks; but it is bold-to, and may be passed on either side. Some parts of the harbour will admit large ships to lie afloat, alongside the shore, over a bottom of black mud. Supplies of stock, &c. may be obtained from the inhabitants of this place.

SHIP HARBOUR.—In this harbour, and on the isles about it, are about twenty families, who keep small stocks of cattle, &c. The entrance, called by Des Barres *Knowles' Harbour*, is deep and bold; it lies between two islands, of which the eastern is *Brier's Island*. A white cliff, which may be seen from a considerable distance in the offing, is a good mark for the harbour: at first it resembles a ship under sail; but on approaching seems more like a schooner's topail. There is good anchorage in every part of the harbour, and, above the Narrows, a fleet of the largest ships may lie without the smallest motion. *Brier's Island*, above mentioned, is a low rugged island, and ledges, partly dry, extend from it three-fourths of a mile to the eastward: avoiding these, when entering this way, you may range along the western island and come to an anchor under its north point, in 6 or 7 fathoms, the bottom of mud.

OWL'S HEAD, or KEPPEL HARBOUR, which is next to the west of the harbour last described, although smaller than many other harbours on the coast, has sufficient space for a fleet. It may be known at a distance by Owl's Head, on the western side, which appears round, is abrupt, and very remarkable. The neighbouring coast and islets are rugged and barren, but the harbour has a few settlers.

The entrance is of sufficient breadth to allow a large ship to turn into it; and, within the harbour, shipping lie land-locked, when in 6 and 7 fathoms, bottom of mud. In taking a berth, you will be guided by the direction of the wind; as with a S.W. gale the western anchorage is to be preferred, and the eastern with a S.E.

It is high water here at 8 h. 30 m., and the tide rises from 5 to 7 feet.

JEDORE HARBOUR.—(*Port Egmont of Des Barres*).—From the appearance of this harbour on the Charts, it might be presumed that it is spacious and commodious; but, on examination, it will be found that it is really different. The entrance is blind and intricate; a shoal of only 11 feet lies at its mouth; the channel within narrow and winding; extensive mud-flats, covered at high water, and uncovered with the ebb: hence a stranger can enter with safety only at low water, the channel being then clearly in sight, and the water sufficient for large ships. The best anchorage is abreast of the sand-beach, two miles from the entrance, in from 9 to 6 fathoms, bottom of stiff mud.

The lands at the head of the harbour are stony, but tolerably good; the rest barren and deplorable. The inhabitants, an industrious people, consist of about twenty families; they subsist chiefly by coasting, and supply Halifax with wood, which they cut from the unoccupied lands around them.

Without the entrance, on the eastern side, are two isles, called *Roger and Barren Islands*, between and within which the passages are good, and afford shelter in case of necessity.

The *Bain Rock*, a very dangerous rock of 3 feet, about the size of a frigate's long-boat, lies S.E. $\frac{1}{2}$ E. from Jedore Head, and S.W. two miles from the isle called *Long Island*. The weed on the top of it may frequently be seen at the surface. The marks for this rock are, a house and barn in Clam Bay just open of the east end of Long Island, bearing N. 5° E., and the house on Jedore Head open to the N.E. of Jedore Rock.

At about nine miles south from Jedore Head is a reef, called the **POLLUCK SHOAL**; its area is about one acre, has a depth of 24 feet over it; and during a swell, the sea breaks on it with great violence.

Those advancing between the Brig Rock and Polluck Shoal, should be cautious of approaching any of the **JEDORE LEDGES**: they are laid down on the Charts, and said to extend from five to nine miles from the mouth of the harbour.

It is high water at Jedore Head at 8 h. 20 m.; the tide rises from 6 to 9 feet.

Between **JEDORE** and **HALIFAX**, there are no harbours of any consideration for shipping, but there are numerous settlements. The land in this extent is, in general, of moderate height, rising gradually from the shore. Red and precipitous cliffs, the characteristic of the eastern coast, may be seen from seven to nine miles off. The best harbour is that called **THREE-FATHOMS HARBOUR**, which has occasionally received large vessels in distress. This harbour lies immediately to the east of an islet called *Shut-in Island*; and, with the wind on shore, is difficult and dangerous; so that it is to be attempted only in cases of real distress. The channel lies two-thirds over to the northward from *Shut-in Island*; and turns short round the starboard point to the westward.

In beating to windward, ships may stand to within a mile and a half of the shore, the soundings being tolerably regular, from 20 to 12 and 8 fathoms.

II.—SABLE ISLAND AND BANKS OF NOVA SCOTIA.

SABLE ISLAND.—The southernmost part of Sable Island, which was laid down in the survey of M. Des Barres, in latitude $44^{\circ} 0'$, has latterly been represented in $43^{\circ} 55'$; and the west end, given on the same authority in longitude $60^{\circ} 32'$, has been recently given in $60^{\circ} 17'$. Mr. John Jones, master of H.M. ship *Husar*, who, in 1829, made and published numerous observations on this part of the world, gives the east end of the island in latitude $43^{\circ} 59' 16''$, longitude $59^{\circ} 48'$; and the west end in latitude $43^{\circ} 56' 42''$, long. $60^{\circ} 17' 15''$. To the error (or presumed error) in position many wrecks have been attributed. In approaching, therefore, all caution is required.

On the days of the new and full moon, it is high water along the south shore of the island at half an hour after 8 o'clock; and it flows till half an hour past 10 o'clock on the north side, and till near 11 o'clock in the pond. Common spring-tides rise seven feet perpendicular, and neap tides four. The flood sets in from the S.S.W. at the rate of half a mile an hour, but it alters its course, and increases its velocity, near the ends of the island. At half-flood it streams north, and south at half-ebb, with great swiftness, across the north-east and north-west bars; it is therefore dangerous to approach without a commanding breeze.

The north-east bar runs out E.N.E. about 4 leagues from the eastern extremity of the island, all which is very shoal, having in few places more than 2, 3, or 4 fathoms of water; whence it continues E. and E. by S., deepening gradually to 12, 15, and 11 fathoms, at the distance of eight or ten leagues, and shapes to the S. and S.E. sloping gently to 60 and 70 fathoms. To the northward and eastward it is very steep, and in a run of three miles the water will deepen to 130 fathoms. Abreast the body of the isle, the soundings are more gradual. The shoal ground of the north-west bar shapes to the westward, and deepens gradually to 70 fathoms of water, at the distance of 30 or 25 leagues from the isle; and winds easterly and southerly, until it meets the soundings of the north-east bar. The quality of the bottom, in general, is very fine sand, with a few small transparent stones; to the northward, and close to the north-east bar, the sand is mixed with many black specks; but, near the north-west bar, the sand has a greenish colour. The north-east bar breaks in bad weather, at the distance of 8 or 10 leagues from the island; but, in moderate weather, a ship may cross it, at 5 leagues distance, with great safety, in no less than 6 or 9 fathoms of water: and, if the weather be clear, the island may be seen thence very distinctly from a boat. The north-west bar breaks, in bad weather, at 7, and sometimes 8 miles from the island; but when the sea is smooth, ships may cross it within the distance of 4 miles, in 7 fathoms of water. [These bars are described as they were found by M. Des Barres.] But the changes in the form and extent of Sable Island, between 1811 and 1837, are thus described by the superintendent, Mr. Darby:—

“On the 30th of September, 1811; there was a severe gale of wind from the S.S.E. that washed away all the dry part of the N.W. bar, extending 4½ miles N.W. from the high

part of the island, and half a mile broad. The greater part of it was covered with grass; and on the outer part of it was a hill, elevated about twenty-five or thirty feet above the level of the sea, on which the rigging and sails of a brig, that was wrecked there that summer, were placed for safety; but these were all lost when it washed away. There is now, over the same extent of bar, four or five fathoms of water. The sea has been retreating the western end, both since and before that time, at the rate of nearly one-sixth of an inch annually.

"Easterly, southerly, and S.S.W. winds set a rapid current along-shore, in shal water, to the W.N.W. and N.W.; that is, along the shore of the western end of the island, but not the eastern or middle, as there the current, with southerly and S.W. winds, sets to the eastward. The natural tendency of the flood-tide is towards the coast. When it strikes the island, it flows to the eastward over the north-east bank, and to the westward over the north-west bank, and passes the west end, in a north-west direction, so rapidly that it carries the sand with it; and the hills of the west end being high and narrow, they are undermined at their base by it, and tumble down some thousands of tons of sand at a time: this the current beneath catches and sweeps away to the N.W. increasing the bank. As soon as this current passes the extreme point of the dry bar, it tends more across the bank to the N.E.; the motion of the sea contributing to keep the sand in motion, the current carries it to the N.E. and spreads to the N.W. Although, across the bank from the island, to the distance of fifteen or twenty miles to the N.W., there is a flood and ebb-tide, the flood setting to the N.N.E. the ebb to the S.S.W., the flood comes over a broad flat bottom, until it arrives at the highest ridge of the bar, bringing the sand with it so far. It then finds a deep water suddenly to the eastward of the bar, and its strength is, as suddenly lost; the waters pitching over this bank, settle gently in deep water, and the sand, going with the current does the same, and keeps the eastern edge of the bar and the bank very steep; but to the southward and westward it is flat and shallow.

"The ebb-tide, setting gently to the southward and westward, meets the steep side of the bank; and rising above it, passes over and increases in strength, merely levelling the sand that had been brought up by the last flood. It does not carry it back until the next flood comes, which brings up a fresh supply from the washing of this land; and so, alternately, the sand changes with every flood and ebb-tide. The consequence is, that although the west end is several miles to the eastward of where it was in 1811, yet the shoalest or eastern parts of the bar or bank have increased eastward, as fast as the island has decreased in the same direction. But the distance of the outer breakers has not increased more than about two miles; in 1829, their whole distance from the land being from ten to fourteen miles, in rough weather, bearing N.W. from the island. There is a passage across the bar inside, about four or five miles broad, with three or four fathoms of water.

"Since 1811, or about twenty-six years, an extent of four miles and a half of high land has been washed away, which averages rather better than one-sixth of a mile every year. In the last few years it is nearer to one-fourth of a mile every year, owing to the land being much narrower than it was the first fifteen years of the elapsed time. The whole of the island that does not wash away grows in height; the most windy seasons cause the greatest elevation of parts where loose sand can be blown on them; but the island in general grows narrower.

"The eastern end of the island has not wasted much in length since my knowledge of it—nearly thirty years. The high land, about a mile of it, has blown down with the wind, but not washed down with the sea, as at the west end; and now there is a low, bare, sandy beach, extending in a N.E. direction from the high land about three miles. I think about one mile of this was high land, or sand-hills, thirty years ago; the other two miles were formed by a low, sandy beach, as at present. The elevated portion of the one mile, of course, has been blown into the sea, and gone to increase the shoal water on the bar, being carried there by a strong flood-tide setting to the N.N.E. The bar itself extends from the dry part E.N.E., and at the distance of twelve or fourteen miles from the high land, a very shoal spot always breaks, except when dry, at which time seals may be observed lying on it. This bar and bank is also very steep on the north-western edge, and shallow and flat on the opposite directions. The bar travels to the northward slowly; the N.W. bar travels to the northward and eastward rapidly.

"The variation of the compass, by amplitudes, on the 9th of February, 1837, was 20° 22' west, and I think is increasing.

"The lake in the island fills up very fast, generally by sand blowing into it from all

directions, and partially by the sea flowing over the south coast in many places in heavy weather, and conveying the sand with it. The improvements on the island have very much increased within the last few years. When the French frigate was cast away, in 1822, the crew, all except the officers, had to cook and live in the little hollows and sheltered spots about the island, for the want of buildings to cover them; and yet they were grateful and uncomplaining. I have since seen Englishmen, with a comfortable house over their heads, good convenience for cooking, and plenty to eat, yet dissatisfied and grumbling. There are now seventeen considerable buildings on the island, besides some three or four small ones, that would, upon an occasion, afford shelter to four or five hundred persons."

Along the north and south sides of the island are many spits of sand, nearly parallel with, and within a mile from, the shore. Vessels may anchor on the north side of the island, between the spits, and not be liable to be driven off by southerly winds. On the south side, it is boldest off the body of the island, having 10' or 12 fathoms of water, within a mile of the shore; but toward the bar it is more shoal, and dangerous to approach; for the currents, which are uncertain, are, in a great degree, influenced by the winds which have preceded. The surf beats continually on the shore, and, in calm weather, is heard several leagues off. Landing on the island, with boats, is practicable on the north side, after a continuance of good weather only. The whole island is composed of white sand, much coarser than any of the soundings about it, and intermixed with small transparent stones. Its face is very broken, and hove up in little hills, knobs, and cliffs, wildly heaped together, within which are hollows, and ponds of fresh water, the skirts of which abound with cranberries the whole year, and with blueberries, juniper, &c., in their season; as also with ducks, snipes, and other birds. This sandy island affords great plenty of beach-grass, wild peas, and other herbage, for the support of the horses, cows, hogs, &c., which are running wild upon it. It produces no trees; but abundance of wreck and drift wood may be picked up along shore for fuel. Strong northerly winds shift the spits of sand, and often even choke up the entrance of the pond, which usually opens again by the next southern blast. In this pond were prodigious numbers of seals, and some flat fish, eels, &c.; and, on the south-west side, lies a bed of remarkably large mussels and clams. The south shore is, between the cliffs, so low, that the sea breaks quite over in many places, when the wind blows on the island. The *Ram's Head* is the highest hill on this island; it has a steep cliff on the north-west, and falls gently to the south-east. The *Naked Sand-hills* are 146 feet in perpendicular height above the level of high-water mark, and always appear very white. *Mount Knight* is in the shape of a pyramid, situate in a hollow, between two steep cliffs. *Mount Luttrell* is a remarkable hummock on the top of a large swelling in the land. *Gratia Hill* is a knob at the top of a cliff, the height of which is 126 feet perpendicular

Of the great changes which are here taking place, the following is an evidence:—
DISCOVERY ON SABLE ISLAND.—The Halifax papers of last week publish the following singular discovery:—"The following facts have been made known to us by a gentleman of this city, who has had his information from the best authority, viz. Captain Darby, sen., governor (as he is called) of Sable Island. For the last 25 or 30 years there has been a large mound or pyramid of sand, about 100 feet high, on the island, and not very far from the residence of Captain Darby. The winds for some years have been gradually diminishing its height, and after a severe blow some weeks since it was completely blown away, and, singular to say, a number of small houses, built of the timbers and planks of a vessel, were quite visible. On examination they were found to contain a number of articles of furniture and stores, put up in boxes, which were marked '43rd Regiment;' the boxes or cases were perfectly rotten, and would not admit of their being removed. A brass dog-collar was, however, discovered by Captain Darby, with the name of 'Major Elliot, 43rd Regiment,' on it, and which Captain Darby brought to the city, and presented to Major Tryon, who belongs to the 43rd regiment."—*Halifax Herald.* Captain Darby has endorsed this extraordinary announcement. Addressing the editor of the *Halifax Herald*, on Wednesday, he says, "The houses are appearing at the base of the hill, about two miles long, and 60 or 70 feet high, lying parallel with the south coast of the island, the eastern end of which hill is about 55 feet high, covered with grass and other vegetation, about 35 feet below the surface, and 23 above the level of the sea; these houses appear as the sands wear away with the action of the winds. There appeared at times numerous bullets of lead, a great number of military shoes, parts of bales of blankets and cloths, brass points of sword scabbards, bees-wax, a small glass convex on both sides, a copper half-penny of George II., dated 1749, some military brass buckles, a great number of brass paper-pins, a very small dog's brass collar, with 'Major Elliott, 43rd Regiment,' engraved on it, numerous bones, some whole and some broken, with the scalp of hair and head-dress of a young female, a piece of gold band. There are three buildings, which seem to have been constructed of the fragments of some ship; they are situate about 10 feet apart, in a triangular form, and are 10 to 12 feet square."
 —*Newsp. Sept. 1842.*

above high-water mark. The *Vale of Misery* is also remarkable, as is *Smith's Flag-Staff*, a large hill, with a regular ascent every way. From the offing, the south side of the island appears like a long ridge of sandy cliffs, lessening toward the west end, which is very low.

In the year 1803, the legislature of *Nova Scotia* passed a liberal vote of money for the purpose of commencing an establishment on Sable Island, in order to prevent shipwreck; and to protect all persons and property which might happen to be cast ashore. Commissioners were consequently appointed for executing this important trust; and a superintendent to reside on the island, empowered as a justice of peace, surveyor and searcher of impost and excise, and authorised by a warrant to take charge of the island, shores, and fisheries, and of all wrecks found there, in cases where persons are not saved competent to take the care of such property. Instructions were given to him, that persons saved with property are to have the full care, charge, and possession of it, and be allowed to export it in any manner they may think proper. Every aid and assistance to be afforded, and a receipt given, specifying the property saved, the aid received, and referring the salvage or reward to be ascertained by the commissioners at Halifax; but neither fee nor reward is to be taken, nor property disposed of, upon the island. There were also ordered, four able men and proper boats, with materials completely fitted to erect a house and good store; also cattle, sheep, goats, and poultry, with clothing, provisions, &c. A gun is placed on the island, to answer such as may be heard from vessels at sea. Signals were to be hoisted on the island, and buildings have been erected, particularly on the west side. The greatest care has been taken to extend aid as much as possible, to prevent misfortune, and to relieve it; to secure property from loss, and from extortion for saving it, by referring it, in all cases, to the commissioners in Halifax, from whose respectability we are assured that equity and charity will be united in directing and deciding. The superintendent and boatmen are paid and subsisted, and all necessaries furnished, by government, that no claims or demands may be made by them upon the unfortunate. But, as extraordinary risk, enterprise, and exertion, in so good a cause, deserve recompense, such cases are to be exactly stated to the commissioners, who are to adjust the measure and mode of extra reward to be allowed and paid.

The establishment, formed in 1804, consists of a superintendent and about ten assistants, who constantly reside on the island, and have in charge a competent supply of such articles as may be useful, with good boats, &c. They continually perambulate the island, and attend the several signal-posts and flag-staffs, intended to direct vessels, and the huts to shelter the sufferers. There never were any inhabitants on the island but those connected with the establishment.

The island is regularly visited by a vessel from Halifax, to convey supplies, and bring away those who may have been thrown upon its shores. The supply of stores and provisions is abundant, so that 300 persons, at once upon the island, have been liberally assisted and supplied with necessaries.

This establishment was founded by the Provincial Legislature, at the recommendation of the late Sir John Wentworth, then Lieut. Governor, and has since proved the means of saving many lives. In every year vessels have been lost. The years 1822 and 1823 were particularly marked; as, from *L'Africaine*, (French frigate,) the ships *Hope* and *Marshal Wellington*, 429 persons were saved, who, after escaping the dangers of the surf, would otherwise have perished with hunger.†

There are several houses on the island; of which one is occupied by the superintendent, and stands on the north side, at eight miles (nautic) from the west end; another is on

* Colonel Bouchette's *British Dominions in North America*, 1832, Vol. II. p. 72.

† The *Hope* and *Marshal Wellington*, above mentioned, were lost in June, 1823. Of these losses a rather indistinct account was given in the London newspapers of and about the 23rd of July. According to this account, the vessels were totally lost, and bedded in the sand, but the greater part of the people was saved. Previous to the catastrophe, southerly and scant winds only prevailed, and these were succeeded by a thick fog; so that the shore could not be seen at the distance of half a cable's length.

The *Hope* was lost on the 4th of June, at 5 a.m., on the eastern side of the island, and a strong current from S.E. during an interval of scant or calm, had carried her north-westward; for, by observation on the 3rd, she was in lat. 43° 30', 30 miles to the southward, and 90 to the eastward of the island. Two days after the *Marshal Wellington's* boats came in with the crew: she also got upon the N.E. bar, and filled.

the north side, at four miles from the western extremity, and $2\frac{1}{2}$ eastward from the west end of the lake, and $4\frac{1}{2}$ miles W.N.W. from the superintendent's: another house, uninhabited, is on the south side, at nine miles from the east end, close to the eastern extremity of the lake, and $7\frac{1}{2}$ miles E.S.E. from the superintendent's. These houses are not in sight from the beach, but at 300 to 400 yards from it, and at the same distance also from the margin of the lake. Those uninhabited contain provisions, tinder-box, matches, &c. There are several fresh-water ponds, as shown on the particular chart: but wherever the surface is moist, fresh water may be obtained by digging from one to three feet deep.

Mariners approaching the isle are warned to keep the lead going, and never to come toward the south side nearer than in 10 fathoms, nor the north side nearer than in 95 fathoms.

On the south side the CURRENT, in shoal water, with prevailing south and S.W. winds, sets rapidly eastward, until it reaches the end of the N.E. bar; it then unites and blends with the St. Lawrence Stream, which passes the bar in a S.S.W. direction, and runs strongest in April, May, and June. Mr. Darby says, I have sufficient reason for believing that the Gulf Stream on the parallel of $42^{\circ} 30'$, running E.N.E., occasions the St. Lawrence Stream, then running S.S.W., to glide to westward. The strength of this stream has never been noticed, and three-fourths of the vessels lost have imagined themselves to the eastward of the island, when, in fact; they were in the longitude of it. On the north side of the island, the currents are variable, but mostly eastward.

The SOUNDINGS decline regularly on the south side of the island only; on approaching it from any other bearing whatever, comparatively deep water will be found, as 10 fathoms or more, close to danger. In foggy weather, vessels should not approach the north side or point of either bar nearer than in 25 fathoms. Two belts encircle the isle; the outer, at a mile from shore, has 24 fathoms on it. These belts are increased by gales and high winds, which, raking the island, drift the sand from them to the bars. The island being composed of loose light sand, high gales frequently alter its outline and appearance.

Should a vessel happen to be ashore in a fog, situation unknown, lower a boat when prudent, and observe the following notice. If breakers extend N.W. and S.E., you are on the N.W. bar; if they extend W.S.W. and E.N.E., you are on the N.E. bar; if they extend ahead north, and then lie east and west, you are on the south side; if south, and then lie east and west, you are on the north side.

The prevailing winds about the island are from east to south, and from south to west. With these the north or leeward side is comparatively smooth, and, therefore, should be sought. There is a swashway on each bar, shown on the chart, and lives may be saved by passing through, and thus getting to leeward. There is no risk in moderate weather; but if the surf should appear too dangerous, land as you can, or try to weather the bar altogether. Having once got to the northward of the bar, haul up S.E. or W.S.W., as the case may be, for the land, and take the boat ashore as near the house as may be convenient. The semi-circular form of the north side is favourable for boats, as under the windward curve a lee is afforded from east and west winds; but, with a fresh north wind, this form is against a boat getting off the land; therefore, if ashore, on the north side, push the boat right before the sea for the land, rather than risk getting to leeward by crossing either bar.

If ashore on the south edge of either bar, with the wind north, land on the south side.

If ashore on the N.E. bar, in tolerable weather, with the wind about west, you may land at the east end, without crossing the bar; and, *vice versa*, if on the N.W. bar, and, owing to the inner belt, the time of high water is the best for landing.

After landing, if, owing to a fog, you cannot judge of your situation so as to shape your course to one of the houses, seek the lake, and then proceed.

The preceding description, excepting a little alteration, is from the observations of Mr. Joseph Darby, master of the schooner *Two Brothers*, and ten years in the service of the island. (Halifax, 8th April, 1824.) Mr. Darby has also given a list of ships and vessels, wrecks upon the coast and bars, thirty-four in number, between 1802 and 1824; the greater part upon the southern shores.*

* The importance of the establishment on Sable Island cannot be better illustrated than by an extract from the LOG of the superintendent, Mr. Darby, which concludes thus:—

"Thus ends the year 1835, and with us it has been a year of great labour and fatigue; our work has heaped upon us faster than we could clear it away. We have saved and shipped to Halifax

The NOVA SCOTIA BANKS.—The form and extent of the Nova Scotian Banks can be best understood by reference to the late charts. The banks are generally of hard ground, separated by intervals, the bottom of which is of mud. Between these banks and the shore are several small inner banks, with deep water and muddy bottom. The water deepens regularly from Sable Island to the distance of 22 leagues, in 50 fathoms, fine gravel; thence proceeding westward, the gravel becomes coarser: continuing westward to the western extremity of the banks, the soundings are rocky, and shoalen to 18 and 15 fathoms of water; Cape Sable bearing N. by W. distant 15 leagues.

It may be observed, generally, that the soundings all along the Nova Scotian coast, between Cape Canso to the E.N.E. and Cape Sable to the W.S.W., are very irregular, from 25 to 40 and 50 fathoms. In foggy weather, do not stand nearer in-shore than 35 fathoms, lest you fall upon some of the ledges. By no means make too bold with the shore in such weather, unless you are sure of the part of the coast you are on; for you may, otherwise, when bound for Halifax, fall unexpectedly into Margaret's or Mahone Bay, and thus be caught with a S.E. wind.

At the entrance of the harbours and rivers on the coast, salmon is taken from April until August; and, from one to two or three leagues out to sea, cod, halibut, polluck, haddock, rays, and mackerel. Herrings are taken in the bays and harbours, in the months of June and July, and tom-cod all the year round.

The weather on the coast is frequently foggy in the spring and some part of the summer; in particular at the distance of four or five leagues from the shore. On approaching nearer, the weather is found more clear; and, with the wind from the land, it is perfectly clear and pleasant.

III.—HALIFAX HARBOUR, AND THE COAST THENCE, WESTWARD, TO CAPE SABLE.

DESCRIPTION OF THE COAST, &c.—The land about the harbour of Halifax, and a little to the southward of it, is, in appearance, rugged and rocky, and has on it, in several places, scrubby withered wood. Although it seems bold, yet it is not high, being to be seen, from the quarter-deck of a 74-gun ship, at the distance of no more than 7 leagues; excepting, however, the high lands of *Le Have* and *Aspotogon*, westward of Halifax, which are to be seen 8 leagues off. The first, which is 12 leagues W.S.W. from Cape Sambro', appears over Cape Le Have, and like little round hills of unequal height. *Aspotogon*, when bearing N.W. by N. appears directly over Margaret's Bay, 5½ leagues westward from Cape Sambro': it is rather a long high land, nearly level at the top, and rising above the land near it. When bearing north, distant between 5 and 6 leagues, Sambro' lighthouse will bear E.N.E. distant 7 leagues.

The lighthouse on Sambro' Island is remarkable, it being a high tower on that island, which is small and rocky, lying 3½ miles to the S.W. from Chebucto Head, on the S.W. side of the entrance into Halifax harbour.* Chebucto Head has a remarkably rocky and barren appearance.

There are three other lighthouses on the coast, westward of that of Sambro': the first is on Cross Island, off Lunenburg Harbour, with two lights placed vertically, and 30 feet apart; the lower light fixed, and the upper showing a flash at intervals of a minute: the

property to an immense amount. The materials of five vessels, and the cargoes of two, have been mostly landed on the island by the establishment. Several tons of property have been carted over the island, some fourteen miles, and all re-shipped; and there is now on the island between two and three thousand pounds' worth of property ready for shipping, besides as much more that was saved on the island and taken to New York. One hundred and nine persons have been saved, and fed, some of them six weeks, and some of them three months and a half.—Some of us are sometimes sick; we generally work until ten o'clock at night; we are all desirous to make something extra; by shingle-making and boat-building, which if we can do, and not be thought unprofitable servants, I for one shall think myself fortunate."

Such is the statement of a benevolent and excellent individual; of a man whose meritorious conduct is honourable, not only to himself, but to the human race.

* The appearance of it is given on the Chart of Nova Scotia.

second on Coffin's Island, at the entrance of Liverpool Bay; the third is on Cape Roseway, at the entrance of Shelburne Harbour. The lantern of Sambro' lighthouse, exhibiting a fixed light, is elevated 132 feet above the level of the sea; while the light on Coffin's Island is only 90 feet; the latter is revolving, and appears full at intervals of two minutes; the lighthouse on Cape Roseway exhibits two lights, there being a small fixed light at about one-third from the top of the building, which distinguishes it from that on Cross Island. Cape Roseway is about 30 leagues to the W.S.W. from the lighthouse of Sambro'.

HALIFAX HARBOUR.—The harbour of Halifax is one of the finest in British America. A thousand vessels may ride in it in safety. It is easy of approach, and accessible at all seasons. Its direction is nearly north and south, and its length twelve miles. Its upper part, called BEDFORD BASIN, formed as shown in the chart, is a beautiful sheet of water, containing about eight square miles of good anchorage.

On the eastern side of the entrance is the cultivated island now called *Mac Nab's*, formerly *Cornwallis Island*, a name which, in propriety, it ought to have retained. Above this, and nearly in the centre of the harbour, is a conical islet, called *George Island*. The latter, which has a tower on it, is fortified, and protects the city of Halifax.

On a spit of gravel, called *Maugher's Beach*, extending toward Point Sandwich from Mac Nab's Island, there is now a lighthouse, called *Sherbrook Tower*, intended for the express purpose of leading vessels up the harbour, clear of the shoals hereafter described: This useful light appears of a red colour, and is 58 feet high above the level of the sea. Originally it was obscured on the eastern side, but lately has been made visible from every point of the compass.

Northward of Maugher's Beach, in the cove now called Mac Nab's Cove, is good anchorage in from 9 to 4 fathoms, mud. The best spot is in 7 fathoms, with the beach and Point Sandwich in a line, and the tower on George Island touching the N.W. part of Mac Nab's Island.

The promontory called CHEBUCTO HEAD, bounds the entrance of the harbour on the west. At 3½ miles above this head, on the western side, is a singular indent, called HEARING COVE, occupied by about forty Irish families, who subsist by fishing and piloting. Small vessels here lie perfectly sheltered in shoal water. The coast between this and Chebucto Head is wholly of rock.*

HALIFAX, the third town of British America, is situate at the distance of eight miles above Chebucto Head, on the western side of the harbour, and upon the declivity of a hill, (*Citadel Hill*), which rises 240 feet above the level of the sea, and has on its summit three flagstaffs, serving as an excellent mark for the harbour. In its recently improved state, Halifax has not less than 14,500 inhabitants. It is a free warehousing port, and contains two episcopal churches, two presbyterian, and two baptist meeting-houses, with three chapels, one Roman Catholic, one methodist, and one Sandemanian. Its other public structures are the government house and the provincial hall; the latter is a fine structure.

The naval yard is above the town: the commissioner's house and other buildings are its ornaments. As a government establishment, it is, of course, in excellent order. To the northward of it is a naval hospital, with its requisite appendages. On the hill above the hospital, is a square stone building, the residence of the naval commander-in-chief. The Citadel Hill, over the town, commands a prospect of the harbour and surrounding country.

The village of DARTMOUTH, opposite to Halifax, is thinly settled; but the lands behind it are in a very improving state, and there are some fine farms belonging to the descendants of the original German settlers.†

The LIGHTHOUSE of SAMBRO', already noticed, has seven lamps, and exhibits a fixed light. Its lantern is elevated 132 feet above the level of the sea. A small party of artil-

* "Sept. 7, 1831, arrived at Halifax. On this coast I have observed much dew fall. The wind generally hauls round to the southward about noon."—*Edw. Dunsterville*.

† It is stated by a writer in the Nautical Magazine, 1838, p. 531, that snakes are found in this harbour.—"It is known, from ocular proof, that in Halifax Harbour, in Nova Scotia, snakes are sometimes found, swimming, or rather gliding through the water, during the fervid heat of summer, which, while it lasts, is little inferior in intensity to that of the Gulf of Bengal. We have ourselves captured two snakes, in the act of creeping out of the water into the lower deck ports of a ship of the line, whilst lying in the port just named; and in no part of the world, whether inter or extra-tropical, have we seen so many of the Ophidian race, as on the Dartmouth side of that harbour."

lery are stationed here, to attend to signals, with two twenty-four pounders, as alarm-guns: by the attention of these men several shipwrecks, it is said, have already been prevented.*

Within and about two miles from the lighthouse there are several dangers, generally known under the name of the **EASTERN** and **WESTERN LEDGES**. Of these the westernmost is the **BULL**, a rock above water, which lies about three-quarters of a mile S.E. by E. from Pendant Point, with the lighthouse bearing E. 7° S., $2\frac{1}{2}$ miles.

To the south-eastward of the Bull, at the distance of a mile, lies the ledge called the **HORSES**, with the lighthouse bearing E. by N. one mile and three-quarters distant.

The S.W. rock or ledge lies with the lighthouse N.E. $1\frac{1}{2}$ mile.

The **HENEACY ROCK**, with 8 feet over it, lies with the lighthouse N.N.W. $\frac{1}{2}$ W. 2 miles. To the E.N.E., at a mile from this, is another, the **Lockwood**, of 12 feet. Both are, of course, exceedingly dangerous to those approaching within a short distance.

The **SISTERS**, or **Black Rocks**, commonly called the **Eastern Ledge**, lie to the E.S.E. three-quarters of a mile from the lighthouse. Chebucto Head N.N.E. will clear them to the eastward.

The **OWEN ROCK**, discovered 21st May, 1844, by Capt. Owen, R.N., in H.M.S.V. Columbia, has 12 feet least water on it; the Columbia touched on it, having 11 fathoms just before the vessel touched, 8 fathoms on the starboard and 18 fathoms on the port paddle-box. The bearings at the moment after were, Black Rock or Western Sisters, N. $\frac{1}{2}$ E. half a mile by calculation, and Sambro' lighthouse one mile six tenths, bearing S.W. by compass.

Besides the rocks above described, the **BELL**, a rock of 18 feet, lies at a quarter of a mile from shore, with the extremity of Chebucto Head N. by E. $\frac{1}{2}$ E. [*North*] three quarters of a mile.

WITHIN the line of **CHEBUCTO HEAD** on the S.W., and **DEVIL'S ISLAND** on the N.E., are several rocks and ledges, but the situation of each is marked by a buoy, as shown on the Charts. Of these the first is **Rock Head**, which lies with Chebucto Head S.W. $2\frac{1}{2}$ miles, and Devil's Island N.E. $\frac{1}{2}$ E. $2\frac{1}{2}$ miles.

The second is the **Thrum Cap**, a reef which extends from the south end of Mac Nab's Island, and which occasioned the melancholy loss of the Tribune frigate, with 250 brave men, on proceeding from the harbour to the eastward. The thwart-mark to clear it is, the easternmost land kept in sight from the deck, a ship's length clear to the southward of Devil's Island, and bearing about E.N.E. or E. by N., when steering west or W. by S., according to the distance of the ship from the island.

The **Lichfield Rock**, which lies toward the western side, has only 16 feet over it at low water. The marks for it are, George's Island just open to the eastward of Point Sandwich, and the passage between the Devil's Island and main open, bearing E. by N.

Above the Lichfield Rock, on the same side, at a mile above it, is the rock called **Mars' Rock**. It lies with Point Sandwich bearing north, half a mile, and nearly in a line with it and the west side of George Island.

A reef, called the **Horse-Shoe**, extends from Maugher's Beach, on the west side of Mac Nab's Island. It is dangerous, and must be carefully avoided.

Half-way between Maugher's Beach and George Island, on the opposite side, is a shoal, extending to the S.E. from Point Pleasant, nearly one-third of the channel over, but having a buoy on its extremity. The thwart-mark for the buoy is a little islet, (on the west shore, at the entrance of the N.W. arm,) with a remarkable stone upon the hill, appearing like a coach-box, and bearing W.S.W.

Between Maugher's Beach and Point Pleasant shoal, is a middle ground of $4\frac{1}{2}$ and 5 fathoms, distinguished by a buoy. This middle ground extends north and south a cable's length, and is about 30 fathoms broad: as you fall off to the eastward of it, there may be found from 7 to 13 fathoms, muddy bottom. On the west side are from 10 to 14 fathoms, coarse and rocky bottom.

Reid's Rock, having 12 feet over it, lies in-shore, about half-way between Point Pleasant and the south part of Halifax. The thwart-mark for it is, a farm-house in the wood over a black rock on the shore, bearing W. by S. Opposite to Reid's Rock is a buoy on the spit, extending from the N.W. end of Mac Nab's Island.

* See the particular Chart of the Harbour and Environs of Halifax.

DIRECTIONS FOR THE HARBOUR.—On approaching the Harbour of Halifax from the westward, advance to the eastward, so as to pass the lighthouse at the distance of a league; taking care not to approach too near to the *Henry or Lockwood Rocks*, already described. When the lighthouse bears N.N.W. $\frac{3}{4}$ W. you will be in a line with the Henry Rock, and with it N.W. $\frac{3}{4}$ W. in a line with the Lockwood. With the lighthouse W.N.W. you will be clear to the northward of both, and may proceed N. by E. 4 miles; which brings you off Chebucto Head. Here you will bring the leading mark on, which is the flag-staffs on Citadel Hill open of Point Sandwich, and bearing N. by W.; and, by keeping them thus open, you will pass clear of the Lichfield and Mars Rocks on the west, as well as of the Rock Head and Thrum Cap on the east. When nearly up to Sandwich Point, which is bold-to, keep Chebucto Head well in sight, without that point; and this direction, kept on, will lead in the fairway up to George Island, leaving Point Pleasant Shoals on the left, and the Horse-Shoe, or Shoal of Mac Nab's Island, on the right.

Or, when abreast of Chebucto Head, or when Sambro Light bears W.S.W., the Light on Maugher's Beach should never be brought to the westward of north. Keeping the light from north to N. by E. will lead clear of the Thrum Cap Shoal, from the buoy on which the lighthouse bears N. $\frac{3}{4}$ W.

Those advancing from the westward will see the light on Maugher's Beach, when they are as far to the eastward as Chebucto Head, by keeping it open well on the starboard bow; it will then lead them up to the beach.

George Island may be passed on either side, and you may choose your anchorage at pleasure, in from 13 to 6 fathoms, muddy bottom. From George Island to the head of Bedford Basin there is no obstruction to shipping.

Ships of war usually anchor off the Naval Yard, which may be distinguished at a distance by the masting sheers. Merchant-vessels discharge and take in their cargoes at the town wharfs.

Small vessels, from the eastward, occasionally proceed to Halifax by the S.E. passage, within Mac Nab's Island: On the shoalest part of the bar of sand, which obstructs this passage, there is, however, but 8 feet at low water. Above the bar the depth increases to 5 and 10 fathoms, bottom of mud.

On ENTERING THE HARBOUR from the EASTWARD, especially with an easterly wind, particular caution must be taken to avoid the Thrum Cap and Rock Head. In proceeding this way, steer west, W.N.W., or N.W., according to the wind and your distance from the shoals, until George Island, up the Harbour, is open a sail's breadth to the westward of Mac Nab's Island; then haul up for Sandwich Point and York Redoubt, until you see the steeple of St. Paul's Church, in Halifax, a ship's length open to the eastward of Judge Brenton's house, a remarkable one, fronting the south. This mark, kept on, will lead clear of Point Pleasant Shoal, and in a fairway between Maugher's Beach and Sandy Point; whence you may steer directly for George Island, and pass in on the east side, if the wind will permit.

In turning to windward, give the upper or inner part of Maugher's Beach a berth of one cable's length, in order to avoid the Horse-Shoe Spit, that runs from the north part of the beach to the distance of one cable and a half's length. You may stand to the Sandwich Point side to within two ships' length, that being bold-to; but stand no farther over to the westward, to avoid Point Pleasant Shoals, than keeping St. Paul's Church open to the eastward of Judge Brenton's house, on the south shore, as above mentioned.

When arrived thus far, put in stays; and, standing to the eastward, keep Little Thrum Cap Island, (*now Carrol's*), a red bluff, open of Mac Nab's Island: having this mark on, put in stays again, and you will thus go clear of the N.W. spit of Mac Nab's Island.*

* It has been formerly noticed, that the great difficulty of making Halifax from the eastward, particularly in the winter season, is in consequence of the winds being too frequently from the W.S.W. to N.W., and blowing so hard as to reduce a ship to very low canvas, if not to bare poles; and should the wind come to the eastward, it is invariably attended with such thick weather as to prevent an observation, or seeing to any great distance; hence, under such circumstances, it would be imprudent to run for the shore, more particularly in winter, when the easterly winds are attended with sleet and snow, which lodge about the masts, sails, rigging, and every part of the ship, becoming a solid body of ice so soon as the wind shifts round to the N.W., which it does suddenly from the eastward. These are circumstances of real difficulty; and it has been recommended, in such a case, to run far to the south-westward, (avoiding the Gulf Stream,) and thence from the S.W. coast, to keep the shore on board, all the way to Halifax.

Mr. Jeffery says—"In making Halifax Harbour, the land to the westward appears white, and to the eastward red. If from the westward, give Sambre' light a berth of a league, until it bears N.W. by W.; then steer northerly, until the flagstaff on Citadel Hill comes just open of Sandwich Point, bearing about N. $\frac{1}{2}$ W. After passing Sandwich Point, keep Chebucto Head N. $\frac{1}{2}$ E.

"If from the eastward, keep Sambre' light in sight, in order to avoid the Rock Head, until the leading marks come on.

"From George Island to Maugher's Beach Light is S. $\frac{1}{2}$ W. $2\frac{1}{2}$ miles: from Maugher's Beach to Chebucto Head, S. by W. 5 miles.

"Buoys.—Rock Head, white and black; Lichfield, white; Mars, white; Thrum Cap, red; Point Pleasant, white; Reid's Rock, red.

"In working here, shut in the Citadel flagstaff with Sandwich Point, in order to clear the Mars and Lichfield; and to clear Rock Head and Thrum Cap, keep George's Island open of Mac Nab's Island. When Sambre' lighthouse is a ship's length open of Chebucto Head, you are clear of Rock Head: the lighthouse just appearing is the mark for the rock."

The little harbour, or cove, called CATCH HARBOUR, which lies to the westward of Chebucto Head, has a bar across the entrance, having 9 feet over it at low water, with breakers when the wind blows on the shore. Within it are 3 and $3\frac{1}{2}$ fathoms. In 1817, twenty families were settled here, and supported, principally, by supplying the market of Halifax with fish.

ON PROCEEDING TOWARD HALIFAX, in H.M. sloop *Ranger*, in the month of May, 1831, Mr. Dunsterville writes thus:—"In latitude 43° , long. 64° , sounded in from 45 to 60 fathoms, coarse sand, pebble stones, and broken shells. In 45 fathoms [on Le Have Bank,] it was rocky bottom. In running to the northward, deepened the water to 120 fathoms, muddy bottom. Weather thick and foggy, with light winds from the southward.

"In approaching the land of Nova Scotia, do not come into less than 50 fathoms, for though there may be a dense fog in the offing, yet near and over the land it is frequently clear; therefore, by sounding frequently, you may, even in a fog, approach the coast; and if you suppose yourself near Sambre' lighthouse, by firing a gun it will be answered, and a pilot will very soon offer. The lighthouse is remarkable, and may be seen, from seaward, at 3 to 4 leagues off. The land about Halifax is of moderate height, and may be seen at about 6 leagues. Citadel Hill, over the town, may probably be seen much farther: this is where the signal is made for all vessels in the offing. The light on Maugher's Beach kept between N. by E. and north, will lead you clear to the westward of Thrum Cap, which is a most dangerous shoal. Chebucto Head, which is barren and bold, bearing N.W., clears all the dangers lying to the S.W.

"It is worthy of observation, that, in approaching the land near Halifax, in thick weather, when it is just perceptible, the colour of the cliffs eastward of the harbour is red, and to the westward white."

The following remarks, on proceeding eastward to the Gut of Canso, are by Mr. H. Davy:—

"H.M.S. *Cornwallis*, June 4, 1838.—Wind north, with fine weather; sailed for the Gut of Canso. Passed out between the Thrum Cap and Rock Head shoals, to within a cable's length of the Thrum Cap buoy, having 10 fathoms of water. This channel is quite safe. Being thus clear, E.S.E. 27 miles led us to the southward of the Jedore shoals; then east for White Head, wind and weather looking favourable.

"Just to the eastward of Cold Harbour is a remarkably red cliff, making in a well-formed saddle; the red is bright, and the eastern coast is easily recognised thereby; while the coast to the westward of Halifax is known by its white cliffs. Strangers running from Jedore to Canso, should not approach the coast nearer than 10 miles, until abreast of Torbay. This is a spacious bay, having Berry Head at its western point, and Cape Martingo its eastern, five miles apart. White Head Island, immediately to the eastward of Torbay, is the most remarkable land on the coast, and is as a beacon to the pilot; it stands well out, and from the westward terminates the eastern view. Being ten miles south of it, steer N.E. by E. for Canso lighthouse, a tall white building, which makes well out to seaward on a small, low isle, called *Cranberry Island*, and exhibits a good fixed light. The lighthouse must be brought to bear west, before keeping away; then steer N.N.W. until George Island bears west; then N.W. and N.N.W. for *Cape Argos*, avoiding the *Cerberus Shoal*, which is very dangerous, and directly in the track. Leave it on the larboard hand.

Cape Argos is the outermost S.E. point of the Gut of Canso; it is bold to approach, and makes like a round island."—*Naut. Mag. May, 1839.*

Mr. Jeffery says, "We left Halifax on the 15th July, 1836, with a S.W. wind, moderate and clear weather over the land. At about 5 miles off, we ran into a thick fog, which continued all night, and till near noon of the next day, when it was found that we had been set thirty miles to the eastward in 24 hours. We had no sight of the land, as it was obscured by the haze, but sounding agreed with the chronometer. In thick weather a ship should never go into less than 60 fathoms, between Halifax and Canso; for, while in that depth, she will be always eight miles from any danger."

GENERAL REMARKS ON THE COAST WESTWARD.

From Halifax, westward, to Margaret's Bay, the country appears, from the offing, very rocky and broken; the shore is steep-to, and bounded with white rocky cliffs. The high lands of Aspotogon, on the eastern side of Mahone Bay, are most remarkable; the summit is very conspicuous; it is 438 feet high, and may be seen at the distance of 7 or 8 leagues. Proceeding westward from Mahone Bay, the rocks which surrounded the shore are black, with some banks of red earth. *Cape le Have* is an abrupt cliff, 107 feet high above the sea: it is bald on the top, with a red bank under it, facing the south-westward. Between this Cape and Port Medway, there are some hummocks within land, about which the country appears low and level from the sea; and on the shore, white rocks and stony beaches, with several low bald points: hence to Shelburne Harbour the land is woody. About the entrance of Port Latour, and within land, are several barren spots, which, from the offing, are easily discerned; thence, to Cape Sable, the land appears level and low, and on the shore are some cliffs of exceedingly white sand, particularly in the entrance of Port Latour, and on Cape Sable, where they are very conspicuous from sea.

BEARINGS AND DISTANCES OF PLACES BETWEEN HALIFAX AND CAPE SABLE, ETC.

	Magnetic.	Miles.	True.
From Sambro' Lighthouse to			
Chebucto Head	N.E.	— 3½ ..	N.N.E. ¼ E.
Three Fathoms Harbour	E.N.E.	— 15 ..	N.E. ¼ E.
Jedore Head	E.N.E. ¼ E.	— 23 ..	N.E. by E.
Jedore Outer Ledge	East.	— 25½ ..	E.N.E. ¼ E.
Cape Le Have	W. ¾ S.	— 36 ..	S.W. by W. ¾ W.
Liverpool Lighthouse	W. by S.	— 52 ..	S.W. by W. ¼ W.
Liverpool Lighthouse to			
Cape Le Have	E.N.E. ¼ E.	— 16 ..	N.E. ¼ E.
Pudding-pan Island	E.N.E. ¼ E.	— 3½ ..	N. 60° E.
Liverpool Western Head	S.W.	— 3 ..	S.S.W. ¼ W.
Liverpool Fort Point	N.W. by W. ¼ W.	— 3½ ..	W. by N.
Isle Hope	S.W. ¼ S.	— 14 ..	S.S.W. ¼ W.
Shelburne Lighthouse to			
Berry Point	N.E. ¼ N.	— 2½ ..	N.N.E.
the South end of the Westernmost			
Rugged Island	E.N.E. ¼ E.	— 7½ ..	N.E. by E.
Thomas' or Eastern Rugged Island	E. ¼ N.	— 10½ ..	E.N.E.
Shelburne Lighthouse to			
the S.W. Breaker of Rugged Island	E.S.E. ¼ E.	— 7½ ..	E. ¼ S.
the Jig Rock (6 feet)	S. by E. ¼ E.	— 1 ..	S.S.E. ¼ E.
Cape Negro	S.W. ¼ S.	— 8 ..	S.S.W.
Cape Sable to			
Baccaro Point	E.N.E. ¼ E.	— 7½ ..	N.E. by E. ¼ E.
the Bantam Rock	East.	— 7 ..	E.N.E. ¼ E.
the Brasil Rock	S.E. by E.	— 8½ ..	E.S.E. ¼ E.
the Blonde Rock	W. ¼ N.	— 16½ ..	W. by S.
the South Reef of Seal Island	W. by N.	— 16½ ..	W. ¼ S.
the North end of Seal Island	W.N.W.	— 17 ..	W. ¼ N.

DESCRIPTION AND DIRECTIONS.

SAMBRO HARBOUR.—The Harbour of Sambro', which has thirty families on its borders, lies at one mile and three-quarters to the N.N.W. of the Lighthouse Island. Off its entrance is the Bull Rock, already noticed, and there are two other rocks between the latter and Sambro' Island. The best channel into it is, therefore, between Pendant Point and the Bull Rock; but vessels from the eastward may run up between Sambro' Island and the Inner Rock. Within the entrance is an islet, called the Isle of Man, which is to the left, when sailing inward, on the left, or larboard hand. The anchorage is above this islet, in 3 fathoms, muddy bottom. This is a place of safety for, and much resorted to by, coasters, in bad weather.

PENDANT HARBOUR, (*Port Affleck of Des Barres*), the next to the westward of Sambro', has good anchoring ground. The islands on the west side of it are bold to, and the ground is likewise good. The depths are from 10 to 6 fathoms.

TENANT BAY, (or *Bristol Bay*), between Pendant Harbour and Tenant Basin, presents to the eye of the stranger the rudest features of nature. It is obstructed by several rocks and islets, but, once gained, it is extensive and safe; and in bad weather, (the only time vessels of consequence should enter it,) the dangers show themselves. The tide flows here, on the full and change days, at 7½ h., and rises about 8 feet.

PROSPECT HARBOUR.—This Harbour is about three miles westward of Tenant Bay, and is separated therefrom by a large cluster of islets and broken land, the outer extremity of which is named *Cape Prospect*, or *Mars' Head*. On advancing, the appearance is rugged; but the harbour is extensive and safe; and, in rough weather, the dangers in the vicinity show themselves. The inhabitants, about twelve families, are settled on the left or western side, and subsist by the fishery. Two small islands on that side form a little cove, and on these are the stages.

The eastern channel is between Prospect and Betsey's Islands; and, to avoid all danger, you ought to keep more than half a mile from the land, and in 20 and 21 fathoms water, off Cape Prospect, as there is a 17-foot rock about one-third of a mile south of the Cape, and within which there is no good channel.

The western entrance is between an islet, called *Hobson's Nose*, on the S.E., and a rock, named *Dorman Rock*, on the N.W. There is a breaker, with 3 fathoms over it, at the distance of two cables' length to the east of the latter. Within the harbour there is a good anchorage for the largest ships; and, for smaller vessels, in 4 fathoms, where the bottom is of stiff blue clay.

SHAG HARBOUR, (*Leith Harbour of Des Barres*), is the next westward of Prospect Harbour; it is the N.E. arm of an inlet, of which the N.W. arm is *Blind Bay*, in both of which excellent anchorage may be found. In the common entrance without, lies, without the *Hog*, a sunken rock, having only 6 feet of water over it. This rock bears S.E. ¼ E. nearly a mile and a half from Taylor's Island, (*Inchkeith*). In rough weather, with the wind on-shore, the sea breaks over it; and, in fair weather, it may be perceived by the rippling of the tide. There is a good channel on either side. That on the west side is most difficult, there being a ledge extending half a mile toward it, from the eastern extremity of Taylor's Island.

DOVER PORT lies on the western side of the entrance to Blind Bay. It is formed by Taylor's Island, and several other islands. The best passage in is to the eastward of these, giving them a moderate berth. The anchorage is within the body of Taylor's Island; in 10, 9, or 7 fathoms; bottom of mud. In sailing in, give a berth to the reef, which extends S.E. half a mile from Taylor's Island.

Between the Harbour of Halifax and this place, the coasts are craggy, broken, and barren; the shore iron-bound and steep, and a tree is scarcely to be seen. Fish, however, are abundant, and the harbours are most conveniently situated for the fishery.

MARGARET'S BAY.—This bay is a beautiful sheet of water, about 25 miles in circumference, in length nine, and two miles wide at the entrance. On every side are harbours capable of receiving ships of the line, even against the sides of the shores. To the west of the entrance stands the High Land of Aspotogon, already noticed, the summit of which, bearing N.W., leads directly to the mouth of the Bay. The shores

• Shuldham Harbour of Des Barres.

at the entrance are high white rocks, and steep-to. On the western side is a narrow islet, called *Southwest* or *Holderness Isle*, the south point of which, according to M. des Barres, lies in latitude $44^{\circ} 34' 25''$, and longitude $63^{\circ} 57'$. This islet is a body of rock, about 50 feet in height, and bold-to on all sides.*

On the Eastern side of the Entrance, at 300 yards from *East Point*, is a rock uncovered at low water; and there is, at a mile and a half south from *Southwest Island*, a ledge called the *Horse-shoe*, almost covered and surrounded with breakers, and which bears from the south point of *Taylor's Island*, W. by N., $4\frac{1}{2}$ miles: the depths around it are 6 and 8 fathoms.

On the Eastern side of the Bay, at $2\frac{1}{2}$ miles to the northward of *East* or *May Point*, is an irregular projection called *Peggy's Point*. At a mile beyond this is an isle named *Shut-in Island*, which is 208 feet high, covered with wood, and bold-to; but there are two ledges between it and the inner part of *Peggy's Point*, over which the depths are 8 and 9 feet. In a southerly gale the water is smooth on the lee side of the island, and the bottom good. At a mile and a half N.E. $\frac{1}{4}$ N. from *Shut-in Island* is a smaller isle, named *Luke's*, forming a complete break to the sea, and used as a sheepfold. There is good anchorage on the N.E. side of it, smooth in all seasons; and this is, therefore, a useful place of shelter.

Within two miles northward of *Luke's Isle* is a cluster of islets, the *Strelitz Isles* of *Des Barres*,† but the principal of which are now called *Jollimore's Isles*. A reef extends north-eastward from the latter, and the land within forms the harbour called *Hertford Basin*, wherein the depths are from 7 to 10 fathoms, and the anchorage is safe under the lee of *Jollimore's Isles*.

HEAD HARBOUR, (or *Delaware River*), in the N.E. corner of the Bay, is an anchorage of the first class, and so perfect a place of safety that a fleet may be moored in it, side by side, and be unaffected even by a hurricane. The lands are high and broken. Ten families were settled in the neighbourhood in 1817. The islands, at the entrance, are used as sheepfolds.

HUBBERT'S COVE, (*Fitzroy River*), in the N.W. corner of the bay, may be entered by a stranger, by keeping the western shore on board; and a ship dismasted or in distress may here find perfect shelter. If without anchors, she may safely run aground, and will be assisted by the settlers.

At the entrance of the cove, toward the eastern side, is a ridge of rocks called *Hubbert's Ledge* (*Black Ledge*); this is about 100 fathoms in extent, and covered at high water. It may be passed on either side, keeping the land on board, the shores being bold.

Between *Hubbert's Cove* and *Head Harbour* are several indents, with projecting rugged points. From these places small vessels take building-sand and limestone, the latter being of a superior quality. Salmon abound here; and, in the lakes above, are vast quantities of fine trout.

LONG COVE, (*Egremont Cove*), 2 miles to the southward of *Hubbert's Cove*, on the western side of the bay, is a good anchorage with a westerly wind. An excellent stream, on which is a sawmill, falls into this place. Hence, southward, the coast is bold and rugged; but there is no danger, excepting one small rock of six feet of water, close in-shore.

At a mile to the northward of *Southwest Isle*, in the entrance of the Bay, is the little harbour called *N.W. Harbour*, sheltered by an islet, (*Horse Isle*), and within which is tolerable anchorage for small craft: both the channels into it are good. Several families are settled here. Above this harbour the west shore is rugged and bold.

At 5 miles S. $\frac{1}{4}$ W. from the point of land which separates *Margaret's* and *Mahone Bays*,† lies *GREEN ISLAND*. It is small, and lies 7 leagues W.N.W. $\frac{1}{4}$ W. from abreast of *Sambro's lighthouse*, in latitude $44^{\circ} 27' 35''$, and longitude $63^{\circ} 58' 30''$.

MAHONE BAY is divided from *Margaret's Bay* by the peninsula, on which stand the high lands of *Aspotogon*, whose appearance in three regular swellings, is very re-

* At nearly half a mile E. by N. from the body of the isle, there is, however, a single rock having 4 fathoms over it, on which the sea breaks in rough weather; but it can hardly be deemed a danger.

† It has often been lamented that the bulk and price of the showy work of M. des Barres never suffered it to come into general use; and, consequently, the names which he assigned to different points and places have remained generally unknown.

‡ *Charlotte* and *King's Bays*, in M. des Barres' Charts.

markable at a great distance in the offing, being visible at more than twenty miles off. This bay is nearly 4 leagues in extent, from N.E. to S.W., and contains numerous islands and rocks, the largest of which, *Great and Little Tancook*, are on the eastern side.

Without the entrance, is *Green Island*, above mentioned; another small isle, called *Duck Isle*, on the opposite side; and a larger, more to the west, named *Cross Island*. Between the two latter is a channel, one mile in breadth.

The *Outer Ledge*, which always breaks, lies at one mile and two-thirds N.E. $\frac{1}{2}$ N. from the east end of *Duck Island*, and W. $\frac{1}{2}$ N. 3 miles from the west point of *Green Island*. Another danger, the *Bull Rock*, lies at a mile to the southward of *Great Tancook*, and bears from *Green Island* N.W. $\frac{1}{2}$ W. $4\frac{1}{2}$ miles; from the east end of *Duck Island* N. $\frac{1}{2}$ E. 4 miles: this rock is visible at one-third ebb, and from it the S.W. end of *Flat Island* bears E. by N. 1200 fathoms distant, and the west point of *Tancook Island* N. by W. a mile and three-quarters distant.

Farther up, N.W. by W., 400 fathoms distant, from the west point of *Tancook Island*, lies *Rocky Shoal*; within which and *Tancook Island* is deep water. The *Coachman* is a blind ledge, a mile and a quarter north of *Great Tancook*, and visible at low water only.

At the head of *Mahone Bay* is the town of *CHESTER*, which was settled in 1760, and is surrounded by a country of fine appearance, and abounding in wood. The inhabitants are industrious, and the adjacent islands covered with sheep. On approaching the bay from the eastward, the first land seen will be *Green Island*, which is round, bold, and moderately high. Hence, to *Iron-bound* and *Flat Islands*, the distance is about 3 miles; passing these, which are bold-to, you proceed to and between the *Tancook Islands*, which are inhabited: the passage is good, and there is anchorage, under the isles, in from 12 to 7 fathoms.

On proceeding toward *Chester*, the only danger is the ledge called the *Coachman*, above mentioned. You will just clear the eastern side of this ledge, by keeping the east ends of *Great Tancook* and *Flat Island* in one; and the western side by keeping the west end of *Iron-bound Island* open with the west point of *Little Tancook*. The islands off the town render the harbour smooth and secure, the depth in which is from 5 to 2 fathoms.

Chester church open, on the west of *Great Tancook*, leads clear to the westward of the *Bull Rock*, and down to *Duck Island*.

In *Margaret's* and *Mahone Bays* it is high water on the full and change at 8 h., and the vertical rise is from 7 to 8 feet.

MALAGUASH, or LUNENBURG HARBOUR.—This is a place of considerable trade, and its population, in 1817, amounted to 4,200 persons. Vessels are constantly plying between *Lunenburg* and *Halifax*, carrying to the latter cord-wood, lumber, hay, cattle, stock, and all kinds of vegetables. The harbour is easy of access, with anchorage to its head.

To sail in, you may pass on either side of *Cross Island*,* on which stands the light-house, showing two lights placed vertically, the lower light fixed, and the upper showing a flash at intervals of a minute; the channel on the west side of the island is the best. In sailing through the northern channel, be careful to avoid the shoals which extend from the north side of the island, and from *Colesworth Point* on the opposite side. In sailing in, through the channel to the westward of the island, steer midway between it and *Point Rose*; and, before you approach the next point, which is *Ovens' Point*, give it a berth of two or three cables' length; for, around *Ovens' Point* is a shoal, to which you must not approach nearer than in 7 fathoms. From *Ovens' Point* N.E. three-quarters of a mile distant, lies the *Sculpin* or *Cat Rock*, dry at low water. Your leading-mark, between *Ovens' Point* and the *Cat Rock* is, a waggon-roadway, (above the town of *Lunenburg*) open to the westward of *Battery Point*, which mark will keep you clear of a rock of 4 fathoms at low water. The best anchoring ground is on the west shore, opposite the middle farm-house, in 7 fathoms, muddy bottom. Your course in, is from N.N.W. to

* *Cross Island* is the *Prince of Wales's Island* in *M. des Barres' Charts*. On the eastern point of this isle, an octagonal light-tower was building in 1834, and it having been, more than once, mistaken for that of *Sambro*, a *St. Andrew's cross* was painted on it, as its distinguishing characteristic; but as this did not sufficiently answer the purpose, the tower and keeper's house have since been painted red; the lantern black. The delay and want of decision in some such cases as this, do no honour to those immediately connected with them. The light was first exhibited on December 1st, 1839.

N.W. by N. In this bay, with good ground-tackling, you may ride out a S.E. gale very safely. The harbour, which is to the northward of the Long Rock and Battery Point, is fit only for small ships of war and merchant-vessels. Along the wharfs are 12 and 13 feet of water, and, at a short distance, from 20 to 24 feet, soft mud.

The latitude of Cross Island, according to some recent observations, is $44^{\circ} 19'$. M. des Barres gives it as $44^{\circ} 23' 25''$, in longitude $64^{\circ} 5' 10''$. This island is in a state of cultivation, and on the N.E. is a small nook, in which coasters may lie securely. The west and south sides of the island are bold; and, at two miles from the south side, is an excellent fishing-bank, having over it from 14 to 17 fathoms.

From Green Island the east end of Cross Island bears W.S.W. distant 6 miles. From the east end of Cross Island that of Iron-bound Island lies S.W. by W. $\frac{1}{2}$ W., $6\frac{1}{2}$ miles: and from the latter Cape le Have bears S.W. by W. $\frac{1}{2}$ W., $4\frac{1}{2}$ miles.

CAPE LE HAVE, described on page 175, stands at the distance of 12 $\frac{1}{2}$ leagues* W. $\frac{1}{2}$ S. from Sambro' Lighthouse. At one mile S.E. $\frac{3}{4}$ S. from this Cape lies the *Black or Le Have Rock*, 10 feet high, and 100 long, with deep water around it, 10 to 14 fathoms: and, at 2 $\frac{1}{2}$ miles W.S.W. $\frac{1}{2}$ W. from the Cape, is an elevated rocky islet, called *Indian Isle*, which lies at a mile from shore, off the S.E. point of *Palmerston Bay*, or Broad Cove: this point is 2 $\frac{1}{2}$ miles westward of Cape le Have.

Palmerston Bay† is two miles in breadth. At the head of it, to the N.W., is *Petit River*, a settlement formed by the French, and the farms of which are in fine condition. From Cape le Have, westward, to *Medway Head*, an extent of 11 miles, nearly W.S.W. the land is, altogether, broken and craggy.

PORT MEDWAY, or **METWAY**.—*Medway Head*, (*Admiralty Head* of Des Barres,) at the entrance of this port, is laid down in latitude $44^{\circ} 10'$, and longitude $64^{\circ} 29'$. The entrance may be known by a hill on the head, and a long range of low rugged islands extending true south, forming its eastern side: it is seven-eighths of a mile broad, and has a depth of 10 to 4 fathoms. This port is now considerable, both in its navigable capacity and its consequence as a fishery: in 1817 it contained fifty families, or 276 persons. Five sawmills, on the river above, are constantly employed.

The land to the eastward of the harbour is remarkably broken and hilly. The *Southwest Ledge*, or outer breaker, on the starboard side, without the entrance, lies S.E. $\frac{1}{2}$ S. about a mile and a half from *Medway Head*. The *Stons Horse*, a rock dry at low water, lies E. by S. one-third of a mile from the S.W. breaker.

When approaching from the eastward, you will avoid the S.W. Ledge, on which the sea breaks in rough weather, by keeping the lighthouse on *Coffin Island* open of the land to the eastward of it. The course up the harbour is N. $\frac{1}{2}$ E. and W.N.W.

LIVERPOOL BAY.—*Western Head*‡ on the S.W. of the entrance of **LIVERPOOL BAY**, is represented in latitude $43^{\circ} 59'$, and longitude $64^{\circ} 38'$.

This bay has room sufficient for turning to windward, and affords good anchorage for large ships with an off-shore wind. The deepest water is on the western shore. *Western Head*, or *Bald Point*, at the entrance, is bold-to, and is remarkable, having no trees on it. *Herring Cove*, on the north side of the bay, affords good shelter from sea winds, in 3 fathoms, muddy bottom, but it is much exposed to a heavy swell, and has not room for more than two sloops of war. At high water, vessels of two and three hundred tons may run up over the bar into the harbour: but at low water there are only 10 feet over it. The channel, within, winds with the southern shore, and the settlements of Liverpool upward.

The entrance bears W. by S. eighteen leagues from Sambro' Lighthouse,§ and W.S.W. $\frac{1}{2}$ W. 16 $\frac{1}{2}$ miles from Cape le Have. *Coffin's Island*, which lies within it, is distinguished by the lighthouse already noticed, and which exhibits a light revolving once in every two minutes. The land in the vicinity of the harbour is generally rocky and barren, yet the

* Not eighteen leagues, as stated by Mr. Lockwood.

† Mr. Lockwood says, "What Des Barres calls *Palmerston Bay*." In all instances of places not previously named, we see no good reason why a name, once imparted, and not an improper one, should not be established. We have, therefore, retained several names imparted by M. des Barres, which do not appear in some late charts.

‡ *Western Head* is the *Bald Point* of M. des Barres.

§ Mr. Lockwood says 25 leagues from Cape Sambro', but this is clearly a mistake.

commercial spirit of the people has raised the town to respectability and opulence, and they trade to every part of the West Indies. The lumber trade and fishery are flourishing, and the population exceeds 4500 persons.

In Port Medway, and Liverpool Bay, it is high water, on the full and change, at fifty minutes past seven, and the vertical rise is from 5 to 8 feet.

PORT MOUTON, or MATOON, (Gambier Harbour of Des Barres.) is formed by an island of the same name, which lies at the entrance, and therefore forms two channels. Of the latter, that on the western side of the island is so impeded by islets and shoals, as to leave a small passage only for small vessels, and that close to the main. At a mile from the island, on the east, is a ridge called the *Brazil Rocks*; and, from the N.W. end of the island, a shoal extends to the distance of more than a mile. Within Matoon Island, on the W.N.W., are two islands called the Spectacles, or Saddle. M. des Barres says, "On both sides of the Portsmouth [*Brazil*] Rocks, which are always above water, you have deep channels, and of a sufficient width for ships to turn into the harbour." With a leading wind you may steer up W.N.W. $\frac{1}{2}$ W., until you bring the Saddle to bear S.W. $\frac{1}{2}$ W. and haul up S.W. by W. to the anchoring ground, where there will be found from 20 to 12 fathoms, muddy bottom, in security from all winds.

At five miles S.S.W. $\frac{1}{2}$ W. from the south end of Mouton Island lies an islet, surrounded by a shoal, and named **LITTLE HOPE ISLAND**. It is only 21 feet high, and 200 fathoms in length, at $2\frac{1}{2}$ miles from the shore. A valuable ship was lost here, in 1815; and Mr. Lockwood has recommended the erection of an obelisk, or beacon, upon the isle, which would be of great advantage to the coasters, and to all who approach the coast.

PORT JOLIE.—The next harbour, west of Little Hope Isle, is **PORT JOLIE**, (*Sprong River of Des Barres, and Little Port Jolly of others*), which extends five miles inland, but is altogether very shoal, and has scarcely sufficient water for large boats. The lands here are stony and barren, but eleven families are maintained by fishing. Between this harbour and Hope Isle are several ledges, which show themselves, and there is a shoal spot nearly midway between the isle and the main.

PORT HEBERT, or GREAT PORT JOLIE, (Port Mansfield of Des Barres) may be distinguished by the steep head on the west. Its eastern point, *Point Hebert*, lies in latitude $43^{\circ} 51'$, and longitude $64^{\circ} 51' 20''$. At half a league to the S.W., without the entrance, is an islet, called Green Island, which is remarkable, and destitute of wood. The only anchorage here, for large vessels, is in the mouth of the harbour. Above are flats, with narrow winding channels through the mud. Fifteen families are settled in the port.

SABLE RIVER (Penton River of Des Barres) is impeded by a bar which admits no vessels larger than small fishers. The country is sterile, but eleven families are settled here. A reef lies opposite to the middle of the entrance.

RUGGED ISLAND HARBOUR (Port Mills of Des Barres) takes its name from its rugged appearance, and the numerous sunken rocks and ledges about it. This place is seldom resorted to, unless by the fishermen, although, within, the anchorage is good, in 4 and 4 fathoms. In a gale of wind, the uneven rocky ground at the entrance causes the sea to break from side to side. At a mile from the western head is a bed of rocks, named the *Gull*, over which the sea always breaks. *Thomas*, or *Rugged Island*, to the east of the harbour, affords a good mark for it; this island having high rocky cliffs on its eastern side. From its southern point sunken rocks extend to the S.W. nearly a mile, and within these is the *Tiger*, a rock of only 4 feet, lying south, half a mile from Rug Point, the eastern point of the harbour. Having cleared these on the outside, haul up N.N.W. for the islands on the left or western side, and so as to avoid a shoal which stretches half-way over from the opposite side. Pursuing this direction you may proceed to the anchorage in the north arm of the harbour.

SHELburne HARBOUR, or PORT ROSEWAY.—Cape Roseway, the S.E. point of Roseneath or Macnut's Island, is a high cliff of white rocks, the top of which is partly without wood. The west side of the island is low. On the Cape stands the noble lighthouse of Shelburne, which has a remarkable appearance in the day; being painted black and white in vertical stripes, and at night exhibits a small light below the upper one, by which it is distinguished, at night, from the light of Sambre, or Halifax. The upper light is about 150 feet above the level of the sea, and the smaller light is 86 feet below the lantern.

The latitude of this lighthouse is $43^{\circ} 40' 30''$; longitude, $65^{\circ} 12' 35''$.

This harbour is, altogether, the best in Nova Scotia, but its town has long been in a state of decline, and some of its streets are overgrown with grass and weeds. In 1784 its population exceeded 12,000; in 1816, it had diminished to 374 persons; but, in 1828, it had 2697.

The directions for this harbour, as given by Mr. Backhouse, are as follows. (*See his Chart.*)

When coming in from the ocean, after you have made the lighthouse, bring it to bear N.W., or N.W. by N., and steer directly for it. The dangers that lie on the east side, going in, are the Rugged Island Rocks, a long ledge that stretches out from the shore 6 or 7 miles, the Bell Rock, and the Straptub Rock. On the west side is the Jig Rock. The Bell Rock is always visible and bold-to.

When you have gotten abreast of the lighthouse, steer up in mid-channel. Roseaneah Island is pretty hold-to, all the way from the lighthouse to the N.W. end of the island. When you come up half-way between George's Point and Sandy Point, be careful of a sunken rock that runs off from that light, on which are only 3 fathoms at low water; keep the west shore on board to avoid it: your depth of water will be from 4, 5, to 6, fathoms.

SANDY POINT is pretty steep-to: run above this point about half a mile, and come to anchor in 6 fathoms, muddy bottom; if you choose, you may sail up to the upper part of the harbour, and come to anchor in 5 fathoms, muddy bottom, about one mile and a half from the town, below the harbour flat. This harbour would contain all her Majesty's ships of the third-rate.

In sailing in from the eastward, be careful to avoid the Rugged Island Rocks, which are under water; do not haul up for the harbour till the lighthouse bears from you W. by N. $\frac{1}{2}$ N.: by that means you will avoid every danger, and may proceed as taught above.

In sailing into Shelburne from the westward, do not haul up for the lighthouse till it bears from you N.W. by W. $\frac{1}{2}$ W.: you will thus avoid the *Jig Rock*, on the west, which lies within one mile and a quarter S. $\frac{1}{2}$ W. from the lighthouse, and is pretty steep-to.

Should the wind take you a-head, and constrain you to ply to the windward up the harbour, do not make too bold with the eastern shore; for half-way between George's Point and Sandy Point, is a reef of sunken rocks. When you come abreast of them, you need not stand above half-channel over to avoid them: the *Hussar* frigate, in plying to windward down the harbour, had nearly touched on them. On the west shore, abreast of Sandy Point, it is flat; therefore do not make too bold in standing over.

The ledge of rocks that his Majesty's ship *Adamant* struck upon, which lies abreast of Durfey's House, is to be carefully avoided: do not stand any farther over to the westward than 4 $\frac{1}{2}$ fathoms, lest you come bounce upon the rock, as the *Adamant* did, and lay a whole tide before she floated, and that not without lightening the ship. The east shore has regular soundings, from Sandy Point upward, from 3 to 4, and 5 to 6, fathoms, to the upper part of the harbour, where you may ride safely in five fathoms, good holding ground. Your course up from the lighthouse in a fairway, is from N.W. to N.W. by N.; and when you round Sandy Point, the course is thence N. by W. and North, as you have the wind. The entrance of Shelburne Harbour affords a refuge to ships with the wind off-shore, (which the entrance of Halifax does not,) and there is anchoring ground at the mouth of the harbour, when it blows too strong to ply to windward.

In sailing from the westward for Shelburne, at night, you must not haul up for the harbour until the light bears N. by E. $\frac{1}{2}$ E., in order to avoid the *Jig Rock*; and, when sailing in, from the eastward, you must not haul up for the harbour till the light bears W. by N. $\frac{1}{2}$ N., in order to avoid the ledges that lie off the Rugged Islands, and bear from the lighthouse E. $\frac{1}{2}$ S. eight miles distant. You may stop a tide in the entrance of the harbour, in from 16 to 10 fathoms, sand, and some parts clay; bottom *VAUGHN*.

Shelburne is a safe harbour against any wind, except a violent storm from the S.S.W. At the town, the wind from S. by E. does no harm; although, from S. by W. to S.W. by S., if blowing hard for any considerable time, it is apt to set the small vessels adrift at the wharfs; but, in the stream, with good cables and anchors, no wind can injure.

It has been observed, in *The American Coast Pilot*, that Shelburne affords an excellent shelter to vessels in distress, of any kind, as a small supply of cordage and duck can, at almost any time, be had. Carpenters can be procured for repairing; pump, block,

and sail makers, also. It affords plenty of spars, and, generally, of provisions. Water is easily obtained, and of excellent quality. The port-charges for a vessel which puts in for supplies only, is fourpence per ton, light money, on foreign bottoms. If a vessel enters at the custom-house, the charges are high: but that is seldom requisite."

NEGRO HARBOUR (*Port Amherst* of Des Barres) takes its name from Cape Negro, on the island which lies before it, in latitude $45^{\circ} 32'$, and longitude $65^{\circ} 17'$. The island is very low about the middle, and appears like two islands. The Cape itself is remarkably high, dark, rocky, and barren, and bears S.W. $\frac{1}{2}$ S. $7\frac{1}{2}$ miles* from Cape Roseway, or Shelburne lighthouse. The best channel is in on the eastern side of the island: but even this is impeded by two ledges, called the *Gray Rocks* and *Budget*; the latter a blind rock, of only six feet, at a quarter of a mile from the island, on both sides of which there is deep water. The *Gray Rocks* lie at a quarter of a mile to the northeastward of the *Budget*, and serve as a mark for the harbour.

In the passage on the eastern side of the *Budget*, the depths are from 14 to 10 fathoms. With Shelburne light shut in, you will be within the rocks. There is excellent anchorage on the N.E. of Negro Island, in from 6 to 4 fathoms, bottom of stiff mud. The northern part of the island presents a low shingly beach, and from this a bar extends over to the eastern side of the harbour, on a part of which are only 15 feet of water. The river above is navigable to the distance of six miles, having from 5 to 3 fathoms, bottom of clay.

The inhabitants of the harbour, in 1817, amounted to 463 persons, who subsist by farming and fishing. They now exceed 500.

The passage on the western side of Negro Island is very intricate, having numerous rocks, &c.; yet, as these may be seen, it may be attempted, under cautious decision, by a stranger, in case of distress.†

PORT LATOUR (*Port Haldimand* of Des Barres) is separated from Negro Harbour by a narrow peninsula. The extreme points of the entrance are Jeffery Point on the east, and Baccaro Point on the west. Between, and within these, are several clusters of rock, which render the harbour fit for small craft only.

BACCARO POINT is at the entrance of this port on the west side; the *Vulture*, a dangerous breaker, lies S.W. by W. half a league from the point. The *Bantam Rock*, also half a league S. by W. $\frac{1}{2}$ W. from the point, has only 4 feet over it at low water.

BARRINGTON BAY.—With the exception of the rocks off Point Baccaro, the Bay of Barrington is clear; but there are extensive flats toward the head of it, and the channel upward narrows so much, that it requires a leading wind to wind through it to the anchoring-ground, where the depths are from 26 to 18 feet. The town of BARRINGTON, seated at the head of the harbour, with its environs, contained, in 1817, a population of 987 persons, happily situated. The lands are stony, but afford excellent pasturage, and cattle are, consequently, abundant here. During a S.W. gale, there is good shelter on the N.E. side of Sable Island, in 3 and 4 fathoms, sandy bottom.

The **WESTERN PASSAGE**, or that on the N.W. side of Sable Island, is intricate, and therefore used by small vessels only; it is not safe without a commanding breeze, as the tide sets immediately upon the rocks, which lie scattered within it, and the ebb is forced through to the eastward, by the bay-tide on the west, at the rate of from 3 to 5 knots. This passage is, however, much used by the coasters.

* Not fifteen miles, as stated by Mr. Lockwood.

† The rocks in the vicinity of Cape Negro are not the only evils to be dreaded here. In the month of December, 1818, the *Mary*, brig, of Cumberland, New Brunswick, on her way to Passamaquoddy, struck on the Half Moon Rocks, near Cape Negro. The vessel filled with water, and ten of the passengers perished in less than ten minutes. Seventeen got into the boat; but, it being dark, and the sea running high, the boat was not manageable, and struck on a rock, near the larger one, called *Blanche Islet*, which was covered with snow. Here, a lady, Mrs. Soden, and her seven children, with other persons, were drowned. During this time the inhabitants of Port Latour were plundering the wreck of such clothes and baggage, belonging to the sufferers, as had escaped the sea. The vessel was sold by public auction, and bought by some inhabitants, on condition that the properties of the passengers should be given up to them, including what had been stolen from the vessel; an agreement which was evaded. Search-warrants were granted, but ineffectually, as the accused were apprised of the intended visit, by some officers of justice, who were sharers in the spoil.

After some weeks spent in this way, the surviving passengers were obliged to leave all with the robbers, some of whom were of high standing in Port Latour and Barrington. (*Observer*, Nov. 7, 1819.)

CAPE SABLE.—SABLE ISLAND is under tillage, and had forty-seven families on it, comfortably situated, in 1817. **CAPE SABLE** is the cliff of a sandy islet, distinct from the former; it is white, broken, evidently diminishing, and may be seen at the distance of 5 leagues. From this islet ledges extend outward, both to the east and west; the eastern ledge, called the *Horse-shoe*, extends 2½ miles S.E. by S.; the western, or *Cape Ledge*, extends three miles to the S.W. The tide, both ebb and flood, sets directly across these ledges, the flood westward. The ebb, setting with rapidity to the N.E., causes a strong break to a considerable distance from shore. The position of the southern point of Cape Sable has been given in latitude $43^{\circ} 24'$, and longitude $65^{\circ} 35' 30''$; but in the note on the Table of Positions, it has been shown that the position of Seal Island has probably been given too far to the northward, and this, consequently, has been the cause of the loss of so many ships in coming out of the Bay of Fundy.* Therefore this coast should not be approached without a commanding breeze and clear weather. Of the stream, &c., M. des Barres says, "Here the tide runs at the rate of three, and sometimes four, knots; and, when the wind blows fresh, a rippling extends from the breakers southerly to the distance of nearly three leagues, and shifts its direction with the tide; with the flood it is more westerly, and inclines to the eastward with the ebb. This ripple may be dangerous to pass through in a gale, as it has all the appearance of high breakers, although there is no less than 8, 10, 12, and 20 fathoms of water, rocky ground. At the Cape, the tide, on full and change, flows at 8 h., and rises 9 feet."

BRASIL ROCK.—This rock has been variously described, but we have no doubt that the following is correct. It is a flat rock, covering an area of about ten yards, and having 8 feet over it, at low water, in calm weather; within a hundred yards from its base, are from 6 to 8 fathoms of water: to the southward, at about a mile from the rock, the depths are from 30 to 35 fathoms: but, toward the shore, the soundings are regular, 15 and 19 to 20 and 24 fathoms, sandy bottom. The tide, by running strongly over the shoal ground, causes a great ripple, and makes the rock appear larger than it really is. From Cape Negro the bearing and distance to the rock are S.S.W., true, or S.W. ½ S: by compass, 10 miles; and, from the rock, Cape Sable bears W. by N. ½ N. true, or N.W. by W. ½ W. by compass, 8½ miles. Its given position is, latitude $43^{\circ} 21' 30''$, or according to M. des Barres, $43^{\circ} 24' 15''$; longitude $65^{\circ} 22'$.

IV.—THE BAY OF FUNDY, AND THE COASTS BETWEEN CAPE SABLE AND PASSAMAQUODDY BAY.

GENERAL CAUTIONS.—An inspection of the Chart of the S.W. coast of Nova Scotia, and a consideration of the relative situation of that coast, as exposed to the ocean, with the consequent and variable set of the tides about it, as well as about the Island Manan, &c., will naturally lead the mariner to consider that its navigation, involving extraordinary difficulties, requires extraordinary attention. Previous events, the great number of ships lost heresabout, even *within a few years*, will justify the supposition. It is, indeed, a coast beset with peril; but the peril may be avoided, in a great degree, by the exercise of skill and prudence. To the want of both are to be attributed many of the losses which have occurred here.†

In touching on this subject, Mr. Lockwood says that, the necessity of frequently sounding with the deep-sea lead, and the expediency of having anchors and cables ready for immediate use, cannot be too often urged, nor too often repeated. Vessels well equipped and perfect in gear, with anchors stowed, as in the middle of the Atlantic Ocean,

* The recent loss of the *Columbia* steam-vessel is an example of the dangerous nature of this coast. She was proceeding from Boston towards Halifax, and on the 2nd of July, 1843, at 1 p.m., ran ashore on the Devil's Limb, a rock a mile and a quarter from the land, and one and a half northward from the lighthouse on Seal Island. This disaster caused the total destruction of the vessel, but the crew and passengers were fortunately saved. A brig went ashore on the following day near the same spot. It was caused by an unusually strong inset into the Bay of Fundy, and by the dense fog which prevailed at the time; but this, and the uncertainty of the position of the Cape, ought to have occasioned greater precaution in sounding and looking out. This, we hope, will be a warning to all vessels to keep well to the southward of Cape Sable.

† See preceding note.

have been wrecked in moderate weather, and so frequently, that such gross idleness cannot be too much reprobad; and, we may add, too *fully exposed*.*

TIDES.—As the tides are most particularly to be attended to, we shall attempt a description of them in the first instance, before we proceed to that of the coast and the consequent sailing directions.

The TIDE about CAPE SABLE has been explained in the preceding section. From Cape Sable toward the Seal, Mud, and Tusket Isles, the flood sets to the northwestward, at the rate of from two to three miles in an hour; in the channels of these islets its rate increases to four or five miles. At the Seal and Mud Islands the ebb runs E. by S., S. E., and South; varying, however, with the figure of the lands and the direction of the wind.

From the Tusket Isles the tide flows to the northward, taking the direction of the shore, past Cape St. Mary; thence N. N. W. toward Brier's Island. The flood, therefore, sets but slowly up St. Mary's Bay, yet with increasing strength up the Bay of Fundy; still greater, as the bay narrows upward; so that the Basin of Mines and Chignecto Bay are filled with vast rapidity, and here the water sometimes rises to the extraordinary height of 75 feet. These tides are, however, regular; and, although the wind, in an opposite direction, changes the direction of the rippling, and sometimes makes it dangerous, it has little or no effect on their general courses.

The DANGERS about GRAND MANAN have been distinguished by wrecks as much as the S. W. coast of Nova Scotia; and the best passage is, therefore, on the west of that island. Here the tides course regularly and strongly; but among the rocks and ledges on the S. E. they are devious, embarrassing, and run with great rapidity. At the Bay of Passamaquoddy, from the S. E. land to the White Islands, the flood strikes across with great strength, and in light winds must be particularly guarded against.

The TIDE of St. JOHN'S HARBOUR, New Brunswick, will be noticed hereafter, as will that of Annapolis. Through the Gut of the latter it rushes with great force and rapidity.

Strangers bound up the Bay of Fundy, to St. John's or Annapolis, should have a pilot; as the tides in this Bay are very rapid, and there is no anchoring ground until you reach the Bay of Passamaquoddy, or Meogenes Bay. In the Bay the weather is frequently very foggy, and the S. E. gales blow with great violence for twelve or fourteen hours; then shift to the N. W., and as suddenly blow as violently from the opposite quarter. †

"The spring tides in the Bay of Fundy rise to 30 feet perpendicular, and neap tides rise from 20 to 22 feet; they flow on full and change, at St. John's, Meogenes Bay, Annapolis, Harbour Delute, L'Etang, and Grand Manan Island, at 12 o'clock. The tide sets nearly along shore."

"In Chignecto Bay the tide flows with great rapidity, as before mentioned, and at the equinoxes rises from 60 to 70 feet perpendicular. By means of these high tides, the Basin of Mines, and several fine rivers, which discharge themselves about the head of the Bay of Fundy, are rendered navigable. It is worthy of remark, that, at the same time, the Gulf of St. Lawrence tide, in Bay Verte, on the N. E. side of the isthmus, rises only 8 feet."

THE COASTS, ISLANDS, &c.—The southernmost point of SEAL ISLAND, which bears from that of the ledge of Cape Sable nearly W. N. W. $\frac{1}{4}$ W. $5\frac{1}{2}$ leagues, lies in or about latitude $43^{\circ} 22\frac{1}{2}'$, and longitude $65^{\circ} 59'$. This island is more than two miles in length, north and south. The southern part, covered with scrubby trees, is elevated 30 feet above the sea. A dangerous reef extends to one mile south, from the south end of the island.

SEAL ISLAND LIGHT.—Since the 1st of November, 1831, a lighthouse on the S. W. part of the island has exhibited a conspicuous *fixed light*, now 170 feet above high water mark, which may be seen, on approaching, from every point of the compass.

At about two miles S. S. W. from the lighthouse on Seal Island lies the *Blonde*, a rock

* *Instances.*—A valuable coppered ship, with light airs of wind, drifted on the rocks, although the fishing lines were in use at the time, the breakers heard and the depth known. In the last extremity, a kedge-anchor was let go. The ship bilged, and the passengers were landed.

On a point, from which soundings gradually deepen to nearly 40 miles, a large coppered ship ran; and, having landed her passengers, was sold, as usual, for the benefit of the underwriters.

These are but two out of many. Some appear almost incredible; but the authority places the facts beyond doubt.

† This was said by M. Des Barres; but see, farther, the *General Directions*, &c., hereafter.

uncovered at low water, on which the frigate of that name was lost in 1717. Close around it are from 7 to 10 fathoms. Within a mile westward from the Blonde, are heavy and dangerous overfalls, which present an alarming aspect. At $\frac{1}{2}$ miles north from these is a bed of shoal ground, of 16 feet, causing a violent ripple.

Off the west side of Seal Island is the rocky islet called the *Devil's Limb*, which may at all times be seen.

MUD ISLES, sometimes called the **NOATH SEALS**, consist of five low rugged islands. The southernmost is situate at 2 $\frac{1}{2}$ miles from the N.E. part of Seal Island. Between is a passage fit for any ship, but there are overfalls of 18 feet at the distance of a short mile from the southern Mud Island. In the channel are from 10 to 15 fathoms. This channel lies with Cape Sable, bearing S.E. by E. $\frac{1}{2}$ E. [E. $\frac{1}{2}$ S.] distant 5 leagues.

Wild fowl, as well as fish, abound here; and, on one of the isles, vast quantities of petrels, or Mother Carey's chickens, annually breed. They burrow under ground, diagonally, 3 or 4 feet deep, where they sit on one egg, and may be seen flitting about the ground in astonishing numbers, searching for food.

The course and distance to pass from Cape Sable to between the Seal and Mud Islands are N.W. by W. $\frac{1}{2}$ W. six leagues. In this track may be found several overfalls, of from 16 to 7 fathoms, bottom of gravel, which break violently in spring tides. The north end of Seal Island is bold to one cable's length, 10 to 7 fathoms. The opposite side has a shoal bank, on which a ship of war struck in 1796.

The **TUSKET ISLES**, or **TUSKETS**, is the group or cluster lying to the northward of the Mud Isles, and to the S.W. of the entrance of Tusket River. Some of them are of considerable size, and there are many shoals and ledges among them. On the west of these isles are **GREEN ISLAND** and the **GANNET ROCK**; the latter, whitened with birds' dung, is 36 feet above the sea at high water. At about half a league from it, on the S.W., is a ledge that appears at half ebb, and on which the *Opossum*, brig, struck in 1816. Other vessels have been injured by this danger, which has been heretofore represented to lie at four miles W. by N. from the Gannet.

At half a mile to the N.W. of the north-western Mud Isle is a dangerous ledge, bare at half-ebb, called the *Soldiers*, which is more than half a mile in length from N.N.E. to S.S.W. At a mile and a quarter N. $\frac{1}{2}$ W. from this is another, the *Actæon*, which thence extends N. by W. two-thirds of a mile. Half a mile farther, in the same direction, is a shoal of similar size, having over its centre a depth of only 2 fathoms. The navigation hereabout is, therefore, to be avoided by strangers.

PUBNICO.—This harbour, little known, is a very good one; it is easy of access, and conveniently situated for vessels bound to the Bay of Fundy, which, in distress, may here find supplies as well as shelter. From the south end of Seal Island Reef, already described, to the entrance of Pubnico, the bearing and distance are N.E. $\frac{1}{2}$ E. 15 miles. The depths between vary from 20 to 16 fathoms, and thence to 12 and 6 fathoms, up to the beach, the proper anchorage for a stranger. On the western side, above the beach, is a ledge, partly dry at low water. The total population of Pubnico, in 1817, was 285 persons, children included.

On sailing toward Pubnico, you pass on the west of *John's Island*, which lies $\frac{1}{2}$ miles to the southward of the harbour, and the north side of which affords good shelter during a S.E. gale. Small vessels lie along the beach forming the eastern part of this island.

From the entrance of Pubnico, a course W. by N., 4 leagues, leads clear to the southward of the Tusket Isles. On this course you will pass at a mile to the southward of the southernmost Tusket, or Bald Isle. A course W. $\frac{1}{2}$ S., 12 miles, will lead between and clear of the *Actæon* and *Soldiers* ledges, whence you may proceed either to the N.W. or S.W. according to your destination.

CAPE FOURCHU, or the **FORKED CAPE**, which lies in about latitude $48^{\circ} 47' 30''$, longitude $66^{\circ} 10'$, is very remarkable, being rocky, barren, and high. The **LIGHTHOUSE** on the island of Cape Fourchu exhibits a brilliant revolving light, at 145 feet above the level of the sea; it is visible for one minute and a quarter, and invisible half a minute. The building is painted red and white, in vertical stripes. The island itself has two narrow promontories running out to the southward, from which it derives its name: the inlet formed by them must not be mistaken for the entrance to Yarmouth, which, of course, lies to the westward of both of them.

See the note on page 183.

Within this Cape is the harbour of YARMOUTH, which is small, but safe. Off the entrance, at 2½ miles S.S.W. ¼ W., lies the *Bagshot*, a blind rock, which is dry at low water, and runs shoal one quarter of a mile to the southward. In sailing into the harbour, you may pass on either side of it. There are other rocks in the entrance, and the fairway in is on the eastern shore, till opposite the point or isthmus on that side. At the top of the latter stands the battery; and under its lee, or to the northward, is the anchorage, with good ground, in 6 or 5 fathoms.

Above the anchorage is the town of YARMOUTH, a respectable one, which contained, with its environs, 4345 persons in 1828. It has been recently a place of increasing consequence, and appears like a rising village of New England. "The little red-coloured Acadian cottages are succeeded by large frame houses, neatly coloured white; and the occasional appearance of square-rigged vessels and smaller craft in the harbour, indicates the rising efforts of a spirit of enterprise."

At a league and a half S. by E. from Cape Fourchu is Point Jegogan (*Cape Jegogue* of Des Barres); the land between is low. Within the point is the little harbour of JEGOGUE, which is shoal, and frequented only by the coasters. There are several shoals in the vicinity. The lands hereabout are good, of moderate height, and well settled.

From Cape Fourchu to CAPE ST. MARY, the bearing and distance are N. ½ E. 6 leagues; and from Cape St. Mary to the S.W. end of Bryer's Island, N.N.W. ¼ W. 12½ miles.

With Cape Fourchu bearing S.E. by E. ½ E. 14 miles distant, lies the LUACHER, a sunken ledge of 12 feet at low water, covering an area of about three acres. From the Gannet Rock to this ledge, the bearing and distance are N.N.W. ¼ W. 19½ miles; and, from the Lurcher to Cape St. Mary, N.E. ½ E. 18 miles.

The TRINITY LEDGE, another reef, lies S.W. ¼ W. 6 miles from Cape St. Mary, and N. by W. 14 miles from Cape Fourchu. This danger covers a space of more than half an acre, and three small rocks upon it are seen at low tides. The stream sets rapidly over it. The depth, to a mile around, is from 12 to 15 fathoms.

BRYER'S ISLAND, above mentioned, is an island only 3½ miles in extent from N.E. to S.W., on the western side of the entrance of St. Mary's Bay. It contained, in 1816, 147 persons. On its S.W. side is a lighthouse, the light of which is about 92 feet above the level of the sea. A rocky spit extends two miles S.W. from the S.E. point of the island, and has a rock near its extremity, called the *Black Rock*. At a mile farther, in the same direction, is a small shoal of 3 fathoms.*

A NEW LIGHTHOUSE, lantern, and lamps, have been completed on the site of the old lighthouse on Bryer's Island. "The complaints against the bad keeping of the old light were universal, and when the old lighthouse came to be taken down, it was then discovered that eight large posts, which supported the roof, passing up by the lantern, had intercepted the light about 25 per cent.; and, by acting as so many screens, made the light appear, as a vessel altered her position, like a bad or blinking light."† The lighthouse stands about half a mile N.E. from the N.W. point of the island, is painted white, and shows a brilliant fixed light at 90 feet elevation.

LONG ISLAND.—The next island to Bryer's, forming the west side of St. Mary's Bay, is LONG ISLAND; it is 10 miles long from N.E. to S.W., and half a league in breadth. It is inhabited, and its inhabitants, in 1816, amounted to 135 persons. Long Island is divided from Bryer's Island, on the S.W., by a strait, called *Grand Passage*,

* On Bryer's Island the ship *Trafalgar*, of Hull, was lost, 25th July, 1817, at about half-past eight in the evening. The ship, bound for St. John's, had been running up all the day; the weather being thick, could not see any thing; "At seven p.m. hove the ship to, with her head to the westward, thinking we were well over to the westward, sounding in 40 fathoms; the tide ran with great strength; and, before we could see the land, we heard the surf against the rocks; got sail upon the ship; but, being so close, the strong tide set us upon the rocks. It being high water when we got on, ran out a kedge to heave her off, but all to no purpose. At low water the ship was dry all round, amongst the rugged rocks, which went through her in different parts; the ship having as much water within as there was on the outside at high water." The passengers were safely landed, and a part of the stores saved, which were taken to St. John's to be sold, there being no purchasers on the island.

† We are indebted for this and much other valuable information to *Mr. Wm. Reynolds*, Chart and Bookseller, of St. John's, New Brunswick, whose laudable zeal for the diffusion of such knowledge is entitled to the most respectful acknowledgment. By this gentleman we have been informed that "All the lighthouses in the Bay of Fundy have the best constructed iron lanterns, with copper lamps, and the improved reflectors: consequently are fully to be depended on."

and on the N.E. from the Peninsula of St. Mary, by another, called *Petit Passage*. In the Grand Passage the water is deep, but the channel crooked; and it should not be attempted by a stranger, unless under very favourable circumstances. The *Petit Passage* is about 280 fathoms wide in its narrowest part, and has from 20 to 30 fathoms of water; its shores are bold-to. On its western side, near the northern entrance, lies *Eddy Cove*, a convenient place for vessels to anchor in, out of the stream of the tide, which runs so rapidly, that without a fresh leading wind, no ship can stem it. The south end of Grand Passage is $11\frac{1}{2}$ miles N. by W. from Cape St. Mary. That of the *Petit Passage* is three leagues to the north-east from Grand Passage.

BAY of Sr. MARY.—From Cape St. Mary, upward, into this bay, the south shore is low, and runs out in sandy flats. The north shore presents high steep cliffs, with deep water close under them. Mid-channel, and above two-thirds up the bay, lies a rocky bank, with 4 and $4\frac{1}{2}$ fathoms of water, and on each side of which are channels of 12 and 15 fathoms, muddy bottom. The entrance of the River *Sissibou*, on the south side of the bay, is shoal, and within has a narrow channel of 2 fathoms of water. Opposite to *Sissibou* lies the *Sandy Cove*, where small vessels, when it blows hard, may ground safely on mud, and be sheltered from all winds.

BAY of FUNDY CONTINUED.—We now proceed with the particular description of the Coasts of the Bay of Fundy, commencing with *Bryer's Island*, the lighthouse on which has been described.

Off the N.W. side of *Bryer's Island* are several dangers, which must be cautiously avoided. Of these, the outer are called the *Northwest Ledge*, and *Betson's Ledge*: they lie at the distance of $2\frac{1}{2}$ to 4 miles northwestward of the island, and between them and the shore are two other ledges, with deep channels between them; but the situations of the latter are not exactly known. The N.W. Ledge is 4 miles N. $\frac{1}{4}$ E. from the lighthouse. Its shoal part is of the extent of an acre of ground, and the whole extent of the shoal about three-quarters of a mile.

In the parallel of $44^{\circ} 15'$, at 8 miles westward of *Bryer's Island*, strong ripples of tide may be found, which may easily be mistaken for shoals and breakers; though the soundings here vary from 45 to 33, and again to 45 fathoms. At $2\frac{1}{2}$ miles more to the south are 56 fathoms; and at 2 miles from *Bryer's Island* are 40 fathoms. At 5 miles to the northwestward of this Island no bottom is to be found with a line of 90 fathoms.

The coast from the south part of *Long Island* to the Gut of *Annapolis*, is nearly straight, and trends N.E. by E. 11 leagues. The shore is bound with high rocky cliffs, above which is a range of hills, that rise to a considerable height; their tops appear smooth and unbroken, except near the Grand Passage, *Petit Passage*, *Sandy Cove*, and *Gulliver's Hole*, where those hills sink in valleys.

ANNAPOLIS.—The entrance of the GUT of ANNAPOLIS, or *Digby Gut*, lies in latitude $44^{\circ} 42'$, and longitude $65^{\circ} 46\frac{1}{2}'$. The shore, on both sides, without the Gut, is iron-bound for several leagues. From *Petit Passage*, there is a range of hills rising gradually to a considerable height, to the entrance of the Gut, where it terminates by a steep fall. Here you have from 25 to 30 and 40 fathoms of water, which, as you draw into the basin, shoalens quickly to 10, 8, and 6 fathoms, muddy bottom. The stream of ebb and flood sets through the Gut at the rate of five knots, and causes several whirlpools and eddies. The truest tide is on the eastern shore, which is so bold-to, that a ship might rub her bowsprit against the cliffs, and be in 10 fathoms of water. *Point Prim*, on the western side of the entrance, runs off shoal about 30 fathoms. Ships may anchor on the eastern side of the basin, or run up eastward, 4 miles, toward *Goat Island*; observing, when within the distance of a mile and a half from it, to stretch two-thirds of the way over to the north shore, until past the island, which is shoal all round; and thence to keep mid-channel up to the town: the depths, 4 and 5 fathoms.

There is a lighthouse on *Point Prim*, the light of which, exhibited as improved in 1835, is fixed, and 76 feet above the sea. Caution is requisite on approaching the Gut, as *Gulliver's Hole*, $2\frac{1}{2}$ leagues to the westward, presents nearly similar features, and a mistake might be dangerous. The light-tower is, however, a sufficient distinction, if attended to.

There is no difficulty in going through *Annapolis Gut*, if you have a commanding breeze, although the tide is very rapid, and the eddies strong. At about one-third through lies *Man of War Rock*, about a cable's length from the south shore; by keeping in mid-channel you will clear it.

Of Annapolis, Mr. Lockwood says, "The abrupt precipices of the high lands form the gut, and cause flurries of wind that course in all directions, and rush violently from the summits of the hills. The tide hurries through the gut with great force. There is no anchorage, except very close in-shore, near the outer western point. In some places the depth is 40 to 80 fathoms. In entering Annapolis Basin, the scenery is inexpressibly beautiful. The farms are becoming valuable and extensive. The herring fishery is a source of great profit; the fish are so well cured, that the merchants of Halifax and St. John's give them a decided preference for foreign markets." Between this and St. John's a weekly packet is established, as noticed hereafter.

ANNAPOLIS to the BASIN of MINES.—From the Gut of Annapolis up the bay to Cape Split, the coast continues straight, and nearly in the same direction, with a few rocky cliffs near the gut, and many banks of red earth under high lands, which appear very even. In the gut, leading into the Basin of Mines, from Cape Split to Cape Blowmedown, and from Cape D'Or, on the north side, to Partridge Island, the land rises almost perpendicular from the shore, to a very great height. Between Cape Blowmedown and Partridge Island, there is a great depth of water; and the stream of the current, even at the time of neap-tides, does not run less than at the rate of 5 or 6 fathoms.

Cape D'Or and Cape Chignecto are high lands, with very steep cliffs of rocks and red earth, and deep water close under them. You have nearly the same kind of shore to the head of Chignecto Bay, where very extensive flats of mud and quicksand are left dry at low water. The tides come in a bore, and rush in with great rapidity; they are known to flow, at the equinoxes, from 60 to 75 feet perpendicular.

The *Isle Haute* is remarkable for the great height and steepness of the rocky cliffs, which seem to overhang on the west side. There is a good landing-place at its eastern end, and anchorage at half a mile off, in 18 fathoms, with the low point about N.E. by N., where, also, is a stream of water running into the sea. The east end of this isle bears from Cape Chignecto S.W. $\frac{1}{2}$ S., 4 miles, and from Cape D'Or W. $\frac{1}{2}$ N. 9 miles.

BASIN of MINES.—There are whirlpools off Cape Split, which are dangerous with spring-tides, and run at about 9 knots. Having passed this place, you may come to an anchor in a bay of the north shore, between Partridge Isle, to the east, and Cape Sharp, on the west. From this spot, if bound to WINDSOR RIVER, it will be necessary to get under way two hours before low water, in order to get into the stream of the Windsor tide on the southern shore; otherwise, unless with a commanding breeze, a vessel is likely to be carried up with the Cobequid or Eastern tide, which is the main stream, and runs very strongly, both ebb and flood. The Windsor tide turns off round Cape Blowmedown, down to the southward, and then again is divided; one part continuing its course up to Windsor, and the other forms the Cornwallis tide, running up the river of that name.

In running into Windsor River, a house on *Hornton Bluff* (within the river on the west) should be kept in a south bearing, and the gap in the land formed by *Parborough River*, North; this will take you through the channel between the Flats, which cannot be passed at low water, by a vessel drawing 15 feet, much before half-tide. Off Hornton Bluff the ground is loose and slaty, and a ship will be likely to drag her anchors with a strong breeze, particularly at full and change: perhaps it may be best for men-of-war to moor across the stream, and full one-third from the bluff.

The Banks and Flats appear to be composed of soft crumbling sandstone, which is washed down from the surrounding country in great quantities during the spring; and, by accumulating on them, are constantly increasing their height.

It is *High Water*, on the full and change, at Cape Chignecto and Cape D'Or at 11 h., and spring-tides, in general, rise from 30 to 40 feet. Off Cape Split, at 10 $\frac{1}{2}$ h., rise 40 feet: South side of the Basin of Mines, 11 $\frac{1}{2}$ h., rise 38 feet.

The Basin of Mines and Chignecto Bay are now surrounded with flourishing settlements, and abound in coal, plaster, limestone, and other minerals.

CHIGNECTO BAY runs up E.N.E., and may be considered as the north-eastern branch of the Bay of Fundy. It is divided from the Mines Channel by the peninsula of which Cape Chignecto is the western extremity: *Cape Enragée* lies about 12 or 13 miles within it, on the north side. The *lighthouse* on this cape is a square building painted white, and showing a brilliant fixed light at 120 feet above the water.

Eleven miles above this, the bay divides into two branches, the one leading to *Cumber-*

land Basin and the River Missiquash, which runs across the isthmus, and is the boundary between Nova Scotia and New Brunswick: the other branch runs northerly to the *Petevudiac River*. These parts, like the Basin of Mines, ure fast rising into consequence, and becoming the seat of numerous settlements. The Cumberland branch is navigable to within 13 miles of Verte Bay, in the Gulf of St. Lawrence;* and it is remarkable that, when the rise of tide in the latter is only eight feet, it rises to above 60 feet in Cumberland Basin.

NORTH COAST OF THE BAY OF FUNDY, commencing eastward.—The township of St. Martin's, on the north shore, to the N.W. by N. of Cape Chignecto, is thinly inhabited; the land in the neighbourhood is moderately good, but is much broken, with steep declivities, &c. The weather here is commonly humid, the wind changeable and blustering, with limited and short intervals of sunshine.

From Quako, at about 19 miles westward of St. Martin's, to the harbour of St. John's, the land, as already described, is high: the interior hills rise in easy inequalities; but the ravines of the cliffs appear deep and gloomy. The indenta have beaches; and Black River, at 5 leagues west of Quako, although dry from half-tide, is a safe inlet for a small vessel.

A LIGHTHOUSE has been erected on a small rock, lying off Quako Head, which was first lighted on the 10th of September, 1835. It is painted white and red, in horizontal stripes: the light is *brilliant and revolving*; twice completely full and dark in every minute.

QUAKO LEDGE is a dangerous shoal, lying in the middle of the Bay of Fundy, and off Cape Chignecto. It consists of gravel, and many ships have grounded on it; and is about half a mile broad by $3\frac{1}{2}$ miles in length from N.W. by N. to S.E. by S. It lies about 12 miles S.E. $\frac{1}{2}$ E. from Quako, and 11 miles W. by N. from Isle Haute. There are several irregular patches of rocks lying off its N.E. side. It shows at half-tide, and dries for about 100 yards, having but 12 feet of water over it with common tides: half a mile to the N.E., the eddies with the flood-tides are strong and numerous, the ship's head going nearly round the compass in the space of half an hour; the ebb is a true tide, and sets in a W.S.W. direction towards the ledge. The soundings are from 7 to 14 fathoms, at about two cables' lengths all the way round; but they shoal more gradually from the N.E. The mark to go clear to the southward of the Quako Ledge, is Cape d'Or, at the entrance of the Mines Channel, on with the south side of the Isle Haute.

The HARBOUR of St. JOHN.—The entrance of this harbour lies N. $\frac{1}{2}$ W., 1½ leagues from the entrance of Annapolis, and may be distinguished by a lighthouse on *Partridge Island*, at a mile within the exterior points, *Cape Maspeck* on the east, and *Meogenes Isle* on the west. Partridge Island is about two miles southward from the city. It equally protects the harbour, and guides the mariner to his destination.

The lighthouse on Partridge Island has been rebuilt, and is painted red and white in vertical stripes: it exhibits a *fixed light*, at 120 feet above the level of the sea, and is furnished with a bell, to be invariably tolled in thick or foggy weather.†

Southward of Partridge Island, the bottom for several miles is muddy, and the depth gradual, from 7 to 20 fathoms, excellent for anchoring. On the bar, west of the island, the least depth is 10 feet; but, eastward of it, 16 feet. The anchoring depth, opposite to the city, is from 22 to 7 fathoms.

The city of St. John stands on an irregular descent, with a southern aspect; and, on entering the river, presents a picturesque appearance. The river's mouth is narrow and intricate: many accidents have happened to those who have attempted the navigation without a pilot.

A breakwater has been erected at the eastern side of the entrance, below the town, for the purpose of reducing the inset of the sea into the harbour, especially during a southerly

* See note on page 144.

† M. Des Barres gives the Cape or Point Maspeck in lat. $45^{\circ} 18' 27''$, long. $65^{\circ} 57' 35''$: but the late chart, edited at the Admiralty, gives the latitude as only $45^{\circ} 13'$, longitude $65^{\circ} 59'$.

‡ Besides the lighthouse on Partridge Island, there is now a beacon-tower light erected on the Spit, within the harbour. This light is very beneficial to the port, as ships may now enter it at all hours of the night. Its situation is on the extremity of a spit or bar on the western or left side of the entrance to the harbour, which uncovers at two-thirds ebb.

gale. Within the port, every possible facility and convenience is given to ships requiring repair: they lie upon blocks, and undergo a thorough examination, without incurring the expense, injury, and loss of time occasioned by heaving down, so strangely persisted in at Halifax.

St. John's contains about 900 houses and 6000 inhabitants. Within the harbour is a valuable fishery, in which are annually taken from 10 to 15,000 barrels of herrings, from 2000 to 3000 barrels of salmon, and from 1000 to 2000 barrels of shad. In the most severe winter it is free from the incumbrance of ice. The country on the banks of the river abounds in excellent timber, coal, limestone, and other minerals.*

The entrance into the river, two miles above the city, is over the FALLS, a narrow channel of 80 yards in breadth, and about 400 long. This passage is straight, and a ridge of rocks so extends across it as to retain the fresh water of the river. The common tides flowing here about 20 feet, at low water the waters of the river are about 12 feet higher than the water of the sea; and, at high water, the water of the sea is from 5 to 8 feet higher than the water of the river; so that, in every tide, there are two falls; one outward and one inward. The only time of passing this place is when the water of the river is level with the water of the sea, which is twice in a tide; and this opportunity of passing continues not above ten minutes: at all other times it is impassable, or extremely dangerous.

After you have entered through this place, called the *Falls*, you enter into a gullet, which is about a quarter of a mile wide, and a mile long, winding in several courses, and having about 16 fathoms in the channel. Having passed this gullet, you enter a fine large basin, about one mile and a half wide, and seven miles in length, entering into the main river of St. John. †

The River of St. John has sufficient depth of water for large ships to the Falls, whence it continues navigable 60 miles up, to Fredericton, the seat of government, for vessels of 50 tons. At times of great freshes, which generally happen between the beginning of April and the middle of May, from the melting of the snow, the Falls are absolutely impassable to vessels bound up the river, as the tide does not rise to their level.

DIRECTIONS FOR ST. JOHN'S HARBOUR AND MEOGENES BAY, BY MR. BACKHOUSE.

"WHEN you have made Meogenes Island, or Partridge Isle, † so as to be distinguished from the lighthouse on the latter, then make a signal for a pilot, and the intelligence from Partridge Island will be immediately communicated to the city of St. John, whence a pilot will join you. Should the wind be contrary, or any other obstruction meet you, to prevent your obtaining the harbour that tide, you may sail in between the S.W. end of Meogenes Island and the main, or between the N.E. end and the main, and come to anchor in 4 or 5 fathoms at low water, mud and sandy bottom. The mark for the best anchoring ground here, is, to bring the three hills in the country to the N.E. in a line within Rocky Point Island, ‡ and the house on Meogenes Island to bear S.E. by S.

"Should the tide of ebb have taken place at the beacon, you must not, by any means, attempt to gain the harbour that tide, but wait the next half-flood, to go over the bar, as both sides of the entrance of this harbour are nothing but sharp rocks, dry at low water; and the tide of ebb is so rapid in the spring, when the ice and snow are dissolved, that all the anchors on board will not hold the ship from driving.

"On the *Nova Scotian side of the Bay of Fundy*, your soundings will be from 50 to 60, 70, 80, to 95 fathoms; stones like beans, and coarse sand; and as you draw to the northward, the quality of the ground will alter to a fine sand, and some small shells with black

* The coasting trade of the port of St. John has, for some time past, been greatly increasing with all the northern ports of the American Union, particularly from the Chesapeake to Eastport; and a steam-boat runs once a week to Boston. (1841.)

† On Sunday, Aug. 31, 1832, the brig *Caroline*, Capt. Henry, of 155 tons, passed over the Falls to Indian Town, with a cargo of coals for the steam-vessels which ply from that place to Fredericton. This, we have been informed, is the first instance of a loaded vessel going through; the attempt having previously been considered as a matter of fearful enterprise.

‡ These directions should be compared with the Chart of the Harbour.

§ This is an islet, lying at a cable's length from the point, and more properly called the *Swag Rock*. It is surrounded by sunken rocks.

specks. Approach no nearer to the south shore than in 50 fathoms; and, as you edge off to the N.W. and W.N.W., you will fall off the bank, and have no soundings."

FARTHER DIRECTIONS FOR SAILING INTO THE HARBOUR,
BY THE SAME.

"When you have passed Meogenes Island, edge in-shore toward Rocky Point, [or the Shag Rock,] until Meogenes Point [*Negro Head*] is in a line over the N.W. corner of Meogenes Island; sailing in between Rocky Point and Partridge Island, with these marks in one, will lead you in the best water over the bar, (15 feet,) until you open Point Maspeck to the northward of the low point on Partridge Island; then starboard your helm, and edge toward Thompson's Point, until the red store, at the south end of St. John's, is in a line over the beacon; keep them in one until you pass the beacon at a distance of a ship's breadth; then haul up N.N.W. up the harbour, keeping the blockhouse, at the upper part of the harbour, open to the westward of the king's store, situate close to the water side, which will lead you, in mid-channel, up to the wharfs, where you may lie aground dry, at half-tide, and clean your ship's bottom, or lie afloat in the stream at single anchor, with a hawser fast to the posts of the wharfs on shore.—N. B. The tide of flood here is weak, but the ebb runs very rapidly all the way down past Meogenes Island."

REMARKS ON ST. JOHN'S, ETC., BY MR. LOCKWOOD AND
CAPT. NAPIER.

The tides of the river, at full and change, flow till half-past eleven. The vertical rise is 18 feet. Equinoctial spring-tides rise 24 to 28 feet.

After the first quarter flood, the tide below the surface runs into the harbour.

During summer, and the depth of winter, the tide generally flows in at half-flood.

In autumn the river is swollen by rains, and between the beginning of April and the middle of May, by the melting of the ice, and the great quantity of snow that accumulates on the lands of this vast navigable river.

From these causes, the water streams out to seaward continually, therefore vessels at that time seldom enter the harbour, without a fresh leading wind. The falls are then impassable, as the tide does not rise to their level.

The body of the river is 17½ feet above low water-mark. Consequently, after the tide has risen to that height, the water descends, or literally falls into the river.

When the tide has flowed twelve feet, the falls are smooth and passable for twenty minutes.

"Above the falls the tide rises four feet; and at Majorfield, 60 miles in the interior, it rises one foot and a half. After passing the falls, you enter a gullet, which is a quarter of a mile wide, and two miles long, winding in different courses, and having 16 fathoms in the channel. Next to this gullet is a fine large basin, a mile and a half wide, and eight miles long, entering the main river. There is water sufficient, except in dry seasons, for vessels of 50 tons, as high as Fredericton, and in all the branches of the lakes. In the middle of May, or earlier in favourable seasons, the snow and ice in the country, melting, make a general overflow in the river, which, in some years, rises so high as to inundate all the low lands. The overflowings were measured, in 1765, by the marks set up at Majorfield; the water was found to have flowed 17 feet above the common height of the water in summer."—(Remarks by Chas. Morris, Esq.)

Of the TIDE, *Captain Napier*, R.N., when commanding H.M. sloop *Jaseur*, has said, "The great volume of fresh water which constantly runs down the Harbour of St. John, in April and May, causes a *continual stream outward* during that period, sometimes to the depth of nearly 5 fathoms, under which the flood and ebb flow regularly: the maximum of its velocity we found to be 4½ knots, and the minimum 2 knots; but, as the log floated very deep in the fresh water, and ultimately sunk in the salt water running underneath, it would not be too much to estimate the maximum at 5 knots, and the minimum at 2½. The fact of the under tide beginning at the depth of nearly 5 fathoms, was ascertained by sinking a lead down to that depth, when it was carried the same way as the current on the surface; but, when lowered below that, it was carried in a contrary direction."

PORT OF ST. JOHN.—SIGNALS displayed at Partridge Island, on the approach of vessels to the Harbour:—

One ball close for one square-rigged vessel.	
One ball half hoisted, for two square-rigged vessels.	
Two balls close, for three	ditto.
Two balls separated, for four	ditto.
A pendant of any colour, for five	ditto.
A ditto under a ball, for six	ditto.
A ditto over a ball half hoisted, for seven	ditto.
A ditto under two balls close, for eight	ditto.
A ditto under two balls separate, for nine	ditto.
A flag of any colour, for ten or more	ditto.

The above are displayed at the east or west yard-arm, according to the direction in which the vessels are at first observed; and as soon as their rig can be distinguished, descriptive colours will be hoisted at the mast-head, in the following order:—

A union jack, with a white pendant over, for a small armed vessel.
A blue pendant, for a merchant ship.
A red ditto, for a merchant brig.
A white and blue ditto, for a foreign vessel.
A white ditto (without a ball), for a topsail schooner or sloop.
A red flag pierced white, for a steam-boat from Saint Andrews and Eastport.
A ball at the mast-head, vessel is on shore or in distress.

Should immediate aid be necessary, guns to be fired.

In foggy weather, a gun will be fired from Partridge Island, in return for each heard at sea. Should a vessel require a pilot, her descriptive pendant will be displayed at a yard-arm, in the place of a ball.

Rates of Wharfage, established by Act 54 Geo. III., cap. 9.

For every decked vessel, or vessel of the description called wood boats, not exceeding 50 tons	1s. 6d. per day.
Above 50 tons, and not exceeding 100 tons	2s. 6d. —
Above 100 tons, and not exceeding 150 tons	3s. 6d. —
Above 150 tons, and not exceeding 200 tons	5s. 0d. —
Above 200 tons, and not exceeding 300 tons	7s. 6d. —
Above 300 tons, and not exceeding 400 tons	10s. 6d. —
400 tons and upwards	12s. 6d. —

Time for going through the Falls, near St. John.

The falls are level (or still water) at about 3½ hours on the flood, and about 2½ on the ebb, which makes them passable four times in twenty-four hours, about 10 or 15 minutes each time.—No other rule can be given, as much depends on the floods in the River St. John, and the time of high water or full sea, which is often hastened by high winds, and in proportion to the height of them.

ST. JOHN'S TO PASSAMAQUODDY.—From Cape Maspeck, *Negro Head*, the opposite extremity of the Bay of St. John, bears W. ½ S. 5½ miles; and the coast from *Negro Head* to *Cape Musquash* trends W.S.W. 4 miles. A remarkable rock, the *Split Rock*, marks the Cape; and at a mile farther westward is the entrance of *Musquash Harbour*, a well sheltered cove, in which there is good anchoring ground in 3 and 4 fathoms.

An irregular coast now succeeds to *Point Lepreau*, 10 miles W.S.W. ¾ W. Near the middle of it are the inlets called *Dipper* and *Little Dipper*, which admit small craft and boats. Between St. John's Harbour and *Point Lepreau* the shore is generally bold; the land broken and high. Many accidents have happened in the vicinity of the Point, and it should therefore be approached with caution.

POINT LEPREAU.—A LIGHTHOUSE has been erected on *Point Lepreau*, which was first lighted on the first of November, 1831, and is now painted red and white, in horizontal stripes, five feet broad. It exhibits two fixed lights, vertically, one being above the other, and distant 20 feet. The lower lantern is fixed to the outside of the building; and both lights can be seen from every point of the compass where they may be useful. The lighthouse bears from the easternmost of the Wolves E. by N. 11 miles, and from Head Harbour

Light, (Campobello Isl.) E. $\frac{1}{2}$ N. about 20 miles. The distance hence along shore, to a sight of Partridge Island, St. John's, is 6 $\frac{1}{2}$ leagues.

At five miles N.W. from Point Lepreau is *Red Head*. The irregular indent between is *Mace's Bay*, a deep and dangerous hight, in which several vessels have been embayed and wrecked. On each side are several clusters of islets and rocks; but there is a good place of shelter, *Poklogan*, at the head of it; and there is good anchorage in the centre, in 3 or 4 fathoms, which will be obtained by entering near the western shore.

GRAND MANAN.—This island, 11 miles in length, from N.N.E. to S.S.W., by 4 or 5 in breadth, is included in Charlotte County, in the Province of New Brunswick. The nearest distance from the opposite coast of the State of Maine is two leagues. The western side is very high; its cliffs being nearly perpendicular, and about 600 feet high above the level of the sea. On this side is but one little inlet, *Dark Cove*, which affords shelter for boats only. The northern head (*Bishop*) is equally abrupt and bold; but to the south-eastward of it is *Whale Cove*, having anchoring ground, with 25 to 15 fathoms, in which ships may stop for a tide, during a southerly gale, but it is exposed to the north.

The eastern coasts of Manan abound in fish, and the interior is in a rapid state of improvement. The soil is in general good, and it produces all the species of fir, beech, birch, and maple, in size and quality adequate to all purposes for which they are generally used.

To the S.E. of Whale Cove, on the same side of the island, is *Long Island Bay*, so called from the island on the S.E. side of it. The N.E. point of this bay, called, from its shape, the *Swallow's Tail*, is high, bold, rugged, and barren. The bay is open, but possesses all the advantages of a harbour: the bottom is wholly of mud, excepting a ridge of rocks and gravel that shows itself within the Swallow's Tail, and the north end of Long Island; there is also a small cluster of sunken rocks, of 5 feet at low water, at half a mile from Long Island Point.

Under Long Island, and opposite to the beach, ships may anchor, even locking in the north end of Long Island with the Swallow's Tail, on a strong muddy bottom, entirely sheltered from the wind and sea. In the northern part of the bay, bottom of stiff clay, vessels have frequently been protected during a severe gale.

Half-way down off the eastern coast of Great Manan, at a mile from shore, is *Great Duck Island*, under which there is good ground; but here a pilot will be required, as there are hidden dangers in the vicinity. To the south-westward and southward of Duck Island, lie *Ross*, *Cheney*, and *White Head Islands*; the latter occupied by a skilful and intelligent pilot: from these the rocks and foul ground extend 6 $\frac{1}{2}$ miles to the S.S.E.

On the southern bank of Great Manan, the most dangerous ledge is that called the *Old Proprietor*, which lies two leagues S.S.E. from White Head Island, and covers the space of half an acre at low water: it is dry at half-ebb. When covered, the tide sets directly over it, at the rate of four miles an hour. The S.W. head of Manan open of all the islets off the south side of that island, will lead clear to the southward of it. The north-eastern-most high land, open of the islets on the east, leads clear to the eastward of all the dangers. During an easterly wind, the tide-rips are impassable.

The **THREE ISLANDS**, (KENT'S,) the southernmost of the Manan Islets, are low and ledgy. The eastern side of the largest is bold to the rocks, which are at all times visible. Off the N.W. of these rocks is a ledge called the *Constable*, dry at low water. These isles, with Green Islets to the northward of them, afford occasional anchorage, in from 14 to 7 fathoms.

WOOD ISLAND, on the south side of Manan, with the S.W. Head of the latter, form a bay containing excellent ground. The upper part and head of it, in a gale of wind, are places of security; and here supplies, if requisite, may be obtained from the inhabitants.

Between Wood Island, on the S.W., and Ross Island, on the N.E., is the passage to **GRAND HARBOUR**, a shallow muddy basin, into which you may enter by passing near the *Green Islets*. It is a convenient place for vessels without anchor or cable, as they may lie in the mud, in perfect security. At the entrance, which is narrow, the depths are from 6 to 3 fathoms, bottom of clay.

The **GANNET**, a small rock, 40 feet high, and having many sunken rocks and ledges about it, stands at the distance of 3 $\frac{1}{2}$ miles S.S.W. from the Three Islands. Mr. Lockwood, many years ago, observed that this would be a fine situation for a lighthouse, which would be the means of saving many ships. The ledges and sunken rocks in the vicinity always break.

The lighthouse has been erected, and was lighted for the first time on the 1st of December, 1831. The lantern was originally fitted with red glass, as its characteristic distinction; but the coloured glass was found to be too obscure in so foggy an atmosphere. It has since been changed to a brilliant flashing light; the light appearing for 40 seconds, and succeeded by 20 seconds of darkness. The lighthouse is painted in stripes, vertical, black and white.

The three low islets, called **MACHIAS SEAL ISLES**, lie 10 miles to the W. by N. of the Gannet, with the S.W. head of Grand Manan bearing E.N.E. about 3 leagues distant.

The bearings of the Gannet Rock Lighthouse from the dangers in the vicinity, as given by authority, are as follow:—From the Old Proprietor, which dries at three-quarters ebb (very dangerous), W. by S. $\frac{1}{2}$ S., seven miles; Black Rock (always above water, 25 feet), off White Head, S.W. $\frac{1}{4}$ W.; South-west Head of Grand Manan, S.E. $\frac{1}{4}$ S.; Northernmost of the Murr Ledges (dry at two-thirds ebb), S.E. by E. $\frac{1}{4}$ E.; Southernmost of ditto, called Saint Mary's Ledge (always out of water), N.E. by E. $\frac{1}{4}$ E.; Machias Seal Islands Lights (distant about thirteen miles), E. by S. $\frac{1}{4}$ S.

Between the northernmost and southernmost of the Murr Ledges, there is a range of dangerous rocks and shoals, many of them always above water, and which extend westward from the lighthouse about four miles; from this range, farther westerly about eight miles lies a dangerous breaker, called the *Roaring Bull*; this may be avoided by keeping three remarkable headlands near the S.W. end of Grand Manan open.

LIGHTS ON MACHIAS SEAL ISLES.—On the southernmost of these isles are two lighthouses, first lighted in September, 1832; by which circumstance of two lighthouses at the same station, they will be immediately distinguished from all other lights upon the coast, British or American. Both the buildings are painted white: they stand at 200 feet apart, exhibit brilliant *fixed* lights, horizontally, about 45 feet above high water, and bear from each other, when in a line, E.S.E. and W.N.W. with the keeper's house between them: these lights bear W.N.W. $\frac{1}{4}$ W. 13 miles, from that on the Gannet Rock. When in a line bearing W.N.W., they lead clear of the ledges lying to the eastward. If approaching to the latter, a vessel must, of course, tack or stand off to the southward, into deep water.

The following are the bearings of the lighthouse, viz.—From the southernmost Murr Ledge (St. Mary's), W.N.W. westerly; Gannet Rock Light, W. by N. $\frac{1}{4}$ N. 13 miles; Southern Head of Grand Manan, W. by S. $\frac{1}{4}$ S.; Northern Head of Grand Manan, S.W. $\frac{1}{2}$ W.; Northeast Rock, distant two miles, S.W. by S.; Little River Head, S. by E.; Libby Island Lighthouse (American), S.E. by E.

Vessels standing in to the northward, between these lights and the Gannet Rock, should tack or haul off the moment they bring these lights into one, as they will not then be more than three-fourths of a mile from the Murr Ledges, if more than five miles to the east of the lights.

At $3\frac{1}{2}$ miles West from the Seal Island Lighthouse, is a rock, not generally known, and on which several vessels have struck. It was seen by Captain Johnson, of the ship Liverpool, trading to St. John's, in 1834, and is acknowledged to exist by the regular traders and pilots.

* *The Commissioners of Lighthouses*, in their specification of the lighthouse, annexed thereto the following remarks, dated St. John, 4th Oct. 1831:—

This light, from its proximity to several very dangerous ledges and shoals, ought not to be run for; it is intended to give timely warning to vessels which are, by the rapid tides about these ledges, frequently drawn into danger, and too often wrecked.

The dangerous shoal called the *Old Proprietor*, which dries at three-quarters ebb, bears from this lighthouse E. $\frac{1}{2}$ S. about $7\frac{1}{2}$ miles. St. Mary's Ledge, dry at all times, S.W. by W. $\frac{1}{4}$ W. $1\frac{1}{2}$ mile. Northerly from this ledge, the whole space westerly from the lighthouse, for the distance of five miles, is full of dangerous ledges, (several of them dry at high water,) called the *Murr Ledges*: the inner or northernmost of these ledges bears from the light W.N.W. nearly, and is dry at two-thirds ebb.

Within the Murr Ledges, there is a clear channel round the southwest head of Grand Manan, which bears from the lighthouse N.W. $\frac{1}{4}$ N. about $7\frac{1}{2}$ miles. Black Rock, off White Head Island, bears N.E. $\frac{1}{4}$ E. about 8 miles. Vessels, except in cases of extremity, ought not to attempt running between this rock and the Old Proprietor, as there are some dangers in the way, the ground rocky, and the tides very rapid.

The S.W. point of the *Machias Seal Islands* bears from this lighthouse W. $\frac{1}{4}$ S. 12 miles, and the N.E. rock of these islands W.N.W. about the same distance.

The CHANNEL between GRAND MANAN and the coast of the State of MARY is from 9 to 6 miles wide; both shores bold, the depths quickly increasing on each side, from 12 to 70 and 75 fathoms; the greatest depths near Manan, where you haul quickly, from 10 to 75. This is the best passage up the Bay of Fundy, because the safest, and most advantageous with the prevalent winds, which are from the westward.

The WOLF ISLANDS, which lie eight miles to the N.E. by N. from Grand Manan, are from 60 to 100 feet in height, steep and bold. The passages between them are deep, and they afford temporary shelter, in the depth of from 20 to 12 fathoms. Between Manan and these Isles, the depths vary from 70 to 40 fathoms, bottom of oaze and mud.

PASSAMAQUODDY BAY.—The Bay of Passamaquoddy, with the Chape-noticook River, or River of St. Croix, divide the British American territory from that of the United States.* The south-western side of the bay is distinguished by a lighthouse, on Quoddy Head, which was erected by order of Congress, in the year 1808. This structure exhibits a *fixed* light, which, in clear weather, may be seen seven leagues off. Its lantern is 90 feet above the sea. Near the lighthouse is an alarm-bell, which during foggy weather will strike ten times in a minute: its sound, in calm weather, may be heard five miles off. From the north head of Grand Manan the lighthouse bears W.N.W. $\frac{1}{2}$ W. 7 miles; and from the Machias Seal Islands N.N.E. $\frac{1}{2}$ E., 17 miles.

Seal Rocks.—At about one-quarter of a mile without Quoddy Head lie two remarkable rocks, called the *Seal Rocks*, which, at a distance, resemble a ship. To the eastward of these there is a whirlpool. In passing here it is therefore requisite to give these objects a berth of half or three-quarters of a mile before you haul in.

There are several passages into Passamaquoddy Bay; but particularly the southern, (commonly called the *Western*), the *Ship Channel* or *Middle Passage*; and the *Northern* (commonly called the *Eastern*) Passage. The first is that between the Isle of Campobello and the main land to the S.W. The Ship Channel is that between Campobello and Deer Island: the Northern Passage is that along the New Brunswick shore.

At 2 $\frac{1}{2}$ miles N.E. $\frac{1}{2}$ E. from the northern extremity of Campobello is the *White Horse*, appearing at a distance like a white rock; but it is really a small islet, barren and destitute of trees, while the isles about are covered with them; it therefore serves as a beacon.

At the N.E. end of Campobello is *Head Harbour*, a place of easy access, small, but perfectly safe, with 6, 7, and 8 fathoms, muddy bottom: A *good fixed light* was first exhibited on the extreme point of this harbour, 1st Nov. 1829, which enables vessels to enter at all times. The light is elevated about 60 feet, and the building is white, with a *red cross* on it. The fine harbour, called *Harbour Delute*, lies on the west side of the island; and at its S.W. end is *Snug Cove*, another good harbour, where there is a British custom-house. *Moose Island*, on the opposite side, belongs to the United States, and British ships are not allowed to ride there above six hours at any one time. In a fine cove at the south end of this island a ship of 500 tons may lie, moored head and stern, safe from all winds, but the anchors are very much exposed with wind from the east.

QUODDY HEAD, on which stands the lighthouse above-mentioned, forms the south side of the Southern Passage, the entrance of which, between Campobello and the Head, is a mile in breadth; but the passage gradually narrows to the W.N.W. and N.N.W., and at two miles up a rocky bar stretches across, which is dry at low water. At rather more than a mile within the entrance, you may come to anchor, in 4 or 5 fathoms, well sheltered, either by day or night. Here a pilot may be obtained, on firing a gun and making the usual signal, who will take the ship to Snug Cove or Moose Island, whence another may be obtained for St. Andrew's, the River Scoodic, or St. Croix, &c.

LARGE SHIPS for PASSAMAQUODDY BAY, pass to the eastward of Campobello, steering N.E. by E. and N.E. toward the Wolf Isles, which lie about 6 $\frac{1}{2}$ miles eastward from the northern part of Campobello. So soon as the passage between Campobello and the White Horse bears W.N.W., steer for it, leaving the White Horse at a distance on the north or

* In November, 1817, the commissioners appointed by the respective governments, under the treaty of Ghent, (the last treaty of peace,) decided that Moose, Dudley, and Frederic Islands, in the Bay of Passamaquoddy, do belong to the United States; and that all the other islands in the same bay, with Grand Manan, in the Bay of Fundy, do belong to Great Britain, by virtue of the treaty of peace of 1783. The citizens of the United States continue to enjoy the right of navigating through the Ship Channel, between Deer Island and Campobello; and, of course, through the channel between Moose and Deer Islands.

starboard side, and keeping Campobello nearest on board. You will now, proceeding south-westward, leave a group of islands on your starboard side, and will next see Harbour Delute, above-mentioned.

Between the Wolves and the north end of Campobello, there is a depth of from 60 to 100 fathoms. With the latter bearing S.S.E. or S.E. there is a depth of 19 and 20 fathoms, where ships may anchor securely from all winds. The courses thence to Moose Island are S.W. by W. $\frac{1}{2}$ W. and S.W. 5 miles.

If bound from Moose Island up the River Scoodic, as you pass *Bald Head*, opposite Deer Island, give it a berth of half a mile, as a ledge of rocks lies off it. Having passed this point, the course and distance to *Oak Point*, or *Devil's Head*, will be N. by W. 4 leagues. The latter may be seen from the distance of 10 or 12 miles.

ST. ANDREW'S.—The *Town and Port of St. Andrew* lie on the eastern side of the entrance of the Scoodic. A small island, *Navy Island*, forms the harbour. This island is bold-to on its S.W. side, but eastward of it is a shoal bank, stretching nearly half a league from St. Andrew's Point. The town is a pleasant little place; and the harbour being good, many ships load timber here, which is generally much longer than that of Nova Scotia. The merchants of this town load timber also at other places, viz. at Oak Bay, on the Scoodic, and at Rushabec, Didiquash, and Magadavick, on the N.E. side of Passamaquoddy Bay, all being excellent and very convenient harbours. In the bay, in general, are from 17 to 25 fathoms of water.

ETANG HARBOUR, which lies to the eastward of the North Passage of Passamaquoddy Bay, is recommended to the mariner as one of the best and most convenient harbours in British America. It has two entrances, which, though narrow, have very deep water, and either may be taken, according to circumstances. The principal one is a mile and a half N.E. by N. from *White Horse Isle*, between two islands, *Pain* and *Bliss*. To run into this place, bring the centre of the White Horse to bear S.W. by S., and run northward with that bearing, until you pass a low, flat, rocky point on *Bliss*, or *Etang Island*. Having passed this point, keep the island close on board until you come up to a ledge which shows itself, and which lies off a round island covered with trees on the larboard side. The ledge is bold close-to. Having advanced thus far, you may anchor near the centre of the harbour, inclining under the north shore, in 8 or 10 fathoms. The only inconvenience here is, the extreme tenacity of the ground, for which every precaution should be taken, that the anchor may not be lost. As the rise and fall of the tide are considerable, a sufficient scope of cable should, of course, be allowed.

BEAVER HARBOUR.—At 5 miles E. by N. from the entrance of Etang Harbour is that of *Beaver Harbour*, another snug place of shelter, with 15 to 11 fathoms at the entrance, and 5 in the centre. In sailing in, keep the west shore on board, as a reef stretches half-way over from the opposite side: in the line of this reef are 3 and 4 fathoms. From the S.E. point of this harbour, *Point Lepreau*, noticed on page 192, bears E.S.E. $\frac{1}{2}$ E. 11 miles.

TIDES.—Within the Southern Passage of Passamaquoddy Bay, common tides rise from 20 to 25 feet. At Moose Island the tide flows at 11 $\frac{1}{2}$, full and change; and runs, when strongest, between Moose Island and Marble Island, and between Deer Island and Campobello, nearly five miles an hour. In the Bay, the stream of tide is scarcely perceptible. On the eastern side of Grand Manan it is high water at 10 h., springs rise 25, and neaps 20 feet.

BEARINGS AND DISTANCES OF PLACES IN THE BAY OF FUNDY.

From	(Variation 15° West, 1836.)	Magnetic Bearing.	Distance. Miles.
Bryer's Island Lighthouse to	Machias Seal Isles	N.W. $\frac{1}{2}$ W.	36
the Gannet Rock Lighthouse	N.N.W. $\frac{1}{2}$ W.	23
the Old Proprietor	N. $\frac{1}{2}$ W.	18
the Southern Wolf	N. $\frac{1}{2}$ W.	43
Point Lepreau Lighthouse	N. by E.	49
St. John's Harbour	N.N.E. $\frac{1}{2}$ E.	62

DIRECTIONS FOR THE BAY OF FUNDY.

From	Magnetic Bearing.	Distance. Miles.
Machias Seal Isles to Little River Head	North.	8 1/2
the N.W. Head of Grand Manan	N.E. by E.	20
Quoddy Head Lighthouse	N.E. by N.	18
the Southern Wolf	N.E. 1/4 E.	30
Little River to the S.W. Head of Grand Manan	S.E. by E. 1/4 E.	10
N.W. Head of Grand Manan	E. by N.	16
Quoddy Head Lighthouse to the Southern Wolf	E.N.E.	12
the North Head of Grand Manan	E.S.E.	9
the S.W. Head of Grand Manan	S. 1/4 W.	11
Machias Seal Isles	S.W. by S.	18
Head Harbour Lighthouse to White Horse Islet	N.E. 1/4 E.	2 1/2
the Northern Wolf	E. 1/4 S.	9
the Southern Wolf	S.E. by E. 1/4 E.	8
the North Head of Grand Manan	S. by E. 1/4 E.	12
White Horse Isle to the Ship Channel	S.W. by W.	2 1/2
Latete or North Passage	N. 1/4 W.	2 1/2
Etang Harbour	N.E. by N.	1 1/2
Beaver Harbour	E.N.E. 1/4 E.	8
Point Lepreau Lighthouse	E. 1/4 S.	20
the Northern Wolf	E.S.E. 1/4 E.	7 1/2
the Southern Wolf	S.E.	7
the N. Head of Grand Manan	S. by E.	13
West Entrance of Etang Harbour to Head Harbour	S.W. by S.	4
North end of Grand Manan	S. 1/4 E.	15
Etang Harbour, South Point, to the Northern Wolf	S.E. 1/4 E.	6
the Southern Wolf	S.S.E. 1/4 E.	7
Northern Wolf to a Vigia or Shoal	E. 1/4 N.	7
Point Lepreau Lighthouse	E. 1/4 N.	12
Beaver Harbour	N. 1/4 E.	5
Point Lepreau to the Gut of Annapolis	S.E. 1/4 S.	37
Petit Passage	South.	40
Grand Passage	S. by W.	46
Bryer's Island Lighthouse	S. by W.	49
North end of Grand Manan	S.W. by W. 1/4 W.	22
Beaver Harbour Head	W.N.W. 1/4 W.	12
Etang Harbour, South Point	W. 1/4 N.	16

GENERAL REMARKS ON, AND DIRECTIONS FOR, THE BAY OF FUNDY.

SHIPS navigating the BAY OF FUNDY have to encounter an atmosphere almost constantly enveloped in thick fogs; tides setting with great rapidity over the rocks and shoals with which it abounds, and a difficulty of obtaining anchorage, on account of the depth of water: so that, under these circumstances, the most unremitting attention is requisite, in order to prevent the disastrous consequences which must necessarily attend a want of knowledge and caution.

When off Cape Sable, with a westerly wind, and destined for the Bay, it is best to make the coast of the United States about the Skuttock Hills and Little Manan lighthouse, described hereafter; as you can pass with greater safety to the westward of Grand Manan than to the eastward, and can have shelter, if required, in the several harbours of that coast. Add to this, that

Vessels bound up the Bay, to St. John's, &c., should make the coast of Maine, on the west, rather than the eastern coast, because it is bold, and the prevalent winds from the westward may secure the passage; also that, during the summer months, the sky and horizon are generally quite clear on the United States' coast, while the shores of Nova Scotia and greater part of the Bay of Fundy are enveloped in fog.

On proceeding to the westward of the Machias Seal Isles, be cautious in avoiding the rock lying 3 1/2 miles to the west of the lighthouse on these isles, as shown in page 194.

Between *Grand Manan* and the coast of *Maine*, the passage is free from danger; vessels beating through, generally stand from side to side, particularly in fogs; the depth being from 12 to 72 fathoms, with a bold shore on each side, and the tide through regular and strong. The *Wolf Islands* may be passed on either side, having deep water close-to: but afford no sheltered anchorage, except for small fishing vessels in summer time: they are, as already noticed, from 60 to 100 feet high. With light winds, a lee tide, or thick weather, you may let go an anchor anywhere between the *Wolf Islands* and *Beaver Harbour*, in good holding ground, in a depth of 20 or 25 fathoms. *Point Lepreau* is bold-to, but was formerly dangerous in dark weather, as it projects so far into the sea. Its lighthouse, with double lights, as described on page 192, is now an excellent guide. Hence to *St. John's* the course is free from danger.

When steering between *Grand Manan* and *Bryer's Island*, the utmost caution is requisite during thick weather, as vessels are frequently drawn amongst the islands and ledges to the southward of *Manan*, by the flood's setting directly on them: the most dangerous of these is the *Old Proprietor*, which at low water is uncovered for the space of half an acre: When the wind, therefore, veers at all to the southward, make the best of your way to *St. John's Harbour*, or you may secure an anchorage in *Grand Passage*, or *St. Mary's Bay*, as it seldom blows in that direction above eighteen hours without bringing on a fog.

The PREVAILING WINDS here, and on all the coasts of *Nova Scotia*, are from W.S.W. to S.W., nearly as steady as *trade winds*; excepting that, during the summer months, they are rather more southerly, accompanied with but little intermission by fog, which requires a north-westerly wind to disperse it. It is therefore recommended, not to leave an anchorage without making arrangements for reaching another before dark, or the appearance of a fog coming on, which, with a S.W. wind, is so sudden, that you are unawares enveloped in it; nor to keep at sea during the night, if it can be avoided. Whenever the wind blows directly off the land, the fog is soon dispersed.

The TIDES are very rapid, but regular; and, although the wind against them alters the direction of the rippling, and sometimes makes it dangerous, it has little or no effect upon their courses. The flood sets from *Cape Sable* to the north-westward through the *Seal Islands* and *Tuskets*, at two or three knots in the hour; after which its rate increases to four or five knots; thence taking the direction of the shore, it flows past *Cape St. Mary*, and then N.N.W. toward *Bryer's Island*; it sets but slowly up the extensive *Bay of St. Mary*, which adds to its strength along the eastern shore; then, increasing its rapidity as the *Bay* contracts, it rushes in a bore into the *Basin of Mines*, and up *Chignecto Bay*.

Between *Bryer's Island* and the opposite northern coast, and for some distance up the *Bay* to the eastward, the first of the flood sets strongly to the northward (nearly north); so that it will be extremely dangerous for a vessel to run in the night, or thick weather, from any part of the southern to the northern coast, without making a large allowance for the set of the tide, and keeping the lead constantly going. H.M. sloop *Jaseur* was nearly ashore, having been set by this tide in a fog $8\frac{1}{2}$ miles in 3 hours and 10 minutes.

V.—THE COASTS OF THE UNITED STATES, FROM PASSAMAQUODDY TO THE PENOBSCOT RIVER.

THE most remarkable elevations of land between the *Bay of Passamaquoddy* and *Cape Elizabeth* are, the *Skuttock Hills*, *Mount Desert Hills*, and *Hills of Penobscot*. The *Skuttock Hills* are five in number, and, at a distance, appear round; they stand to the northward of the *Port of Gouldsborough*, and are readily distinguishable from any hills to the eastward. The *Mount Desert Hills* may, in clear weather, be seen from a distance of 15 to 20 leagues. The *Penobscot Hills* may be seen to the N.W. and N.N.W. over the *Fox Islands*. When within 4 or 5 leagues of the *Mount Desert Hills*, the *Skuttock Hills* will bear about N.N.E.

In sailing toward this coast, the lighthouse on *Mount Desert Rock* will be seen: this rock lies $7\frac{1}{2}$ leagues to the southward of *Mount Desert Island*, in latitude $43^{\circ} 32'$, and longitude $68^{\circ} 31'$: observe here to make proper allowance for the tide, &c. At *Mount Desert Rock* the stream of flood divides to run westward and eastward. With the *Skuttock Hills* about N.N.E., and within 4 or 5 leagues of those of *Mount Desert*, the tide of flood sets E.N.E., and the ebb W.S.W.; but at the distance of 9 or 10 leagues from the land, the current, in general, sets to the S.W., and more westward. From the *Mount Desert*

Rock to the Fox Islands the flood-stream sets W.S.W. along shore; but it still runs up to the northward into Blue Hill Sound, Isle Haute Bay, &c.

The LIGHTHOUSE on MOUNT DESERT ROCK is conspicuous; and it exhibits a *fixed light*, tinged red, at 56 feet above the sea, which commenced on the night of the 20th of August, 1830.

MACHIAS BAY.—The entrance of the BAY or PORT of MACHIAS, in the state of Maine,* bears N.W. [*N. 60° W.*] 15 leagues from Bryer's Island Lighthouse; N.W. by W. $\frac{1}{2}$ W. [*W. by N.*] 22 miles from the lighthouse on the Gannet Rock; and N.W. $\frac{1}{2}$ N. 9 miles from the lighthouses of the Machias Seal Isles. The last-mentioned point and Gannet Rock are nearly *true east* and west from each other, at the distance of 14 miles, and between them lie several dangerous ledges. Of these ledges, the southernmost, called *St. Mary's*, is a mile and three-quarters W.S.W. from the Gannet.

Directly fronting the Entrance of Machias, within the distance of a league, are two little isles, called the *Libbee* or *Liby Isles*, on the southernmost of which is a modern *lighthouse*, exhibiting a fixed light, in or near latitude $44^{\circ} 35'$, and elevated 60 feet above the level of the sea. At a league N.E. $\frac{1}{2}$ N. from this lighthouse is the S.W. end of *Cross Island*, which forms the eastern side of the entrance to the Bay.

On advancing toward Machias Bay from the Seal Isles, and steering N.W. $\frac{1}{2}$ W., you will gain sight of the *Libbee Isles Lighthouse*, which is to be left on the larboard side; rounding these isles, you thence proceed north into the Bay. On this course you will leave a large white rock, called the *Channel Rock*, on your larboard side; and unless bound upward into Machias Harbour, may haul to the westward. When you have advanced half a mile above this rock, bring a high round island, which is covered with trees, to bear north, when you may anchor in 4 or 5 fathoms, muddy bottom. If you mean to go up to the town of Machias, keep on a north course, until you have advanced above a high round island on your larboard hand, when you may steer W.N.W. or N.W. by W. for a point covered with birch-trees, and having a house on it. On the starboard hand there are flats and shoals. You may keep on the larboard after you pass this house, until the river opens to the northward, when you may run up to Cross River, and anchor in 4 fathoms.

MACHIAS is the chief town of Washington County, in the state of Maine. Its present population is 1351 persons.

LITTLE RIVER HARBOUR is about a league and a half E.N.E. from Cross Island. It may afford occasional shelter. The entrance bears N.W. by W. $\frac{1}{2}$ W., 10 miles from the S.W. Head of Grand Manan, and north, $8\frac{1}{2}$ miles, from the western Seal Island. It cannot be seen until you approach the northern shore; and the pilots say you should not run for it before it bears N.W. or N.N.W. There is a bluff point of rocks on the starboard hand, going in, and an island in the middle of the harbour. On going in, leave the island on your larboard side, and when you have passed it half a mile you may anchor in 4 or 5 fathoms, muddy bottom, and be protected from all winds. The land between this harbour and Quoddy Head trends N.E. by E. 4 leagues.

MACHIAS to GOULDSBORO'.—In proceeding from Machias towards Gouldsboro', you will pass numerous islands on the starboard hand, with many inlets and good harbours, but generally too intricate for strangers to attempt with safety. On quitting Machias Bay, you first pass the *Libbee Islands*, thence *Head Harbour Island*, the *Wass Islands*, &c. The course and distance from off the Libbee Islands to a berth off the Great Wass Island, are S.W. by W. 10 miles; and from the latter to the Little Manan Isle W. by S. 13 miles.

1. The STATE, formerly DISTRICT of MAINE, containing, according to the census of 1840, 501,793 inhabitants, is bounded on the east by New Brunswick, as already noticed, and on the west by New Hampshire. The face of the country is generally hilly, but not mountainous; the coast indented with bays, and abounding with excellent harbours. The soil, on the sea-coast, is stony and barren, but more fertile in the interior, producing grain, grass, &c. The minerals are iron, copperas, sulphur, and ochres. The summer here is short, but agreeable; the autumn clear and healthy; winter long and severe; spring, as in Canada, very short. The Penobscot, Kennebec, Androscoggin, and Saco, are its principal rivers. This state is not yet thickly peopled, but slavery is here unknown. Portland, the seat of the provincial government, is situate on a good harbour in the S.W., as described hereafter. The ports of entry for foreign ships are Machias, *Frenchman's Bay*, Castine or Penobscot, Wiscasset, *Bath*, *Portland*, *Falmouth*, Saco, and *Pepperelboro'*. The names printed in Italics are those of ports to which vessels from or beyond the Cape of Good Hope are restricted.

MOOSPECK HEAD LIGHT.—On Mistake Isle, three leagues S.W. $\frac{1}{2}$ W. from the Libbee Island light, is a tower, with *revolving light*, at 54 feet above the sea, and which is eclipsed twice in every four minutes. It is, therefore, readily distinguished from that of the Libbee Isles to the N.E. and another on the Little Manan, at 14 miles to the S.W. At 6 leagues off, the duration of light and dark appears nearly equal: but, on approaching, the time of darkness will diminish, and that of light increase. Within the distance of 3 or 6 miles, there will still appear a small interval of darkness.

On *little Manan*, a small islet, is a *lighthouse of stone*, which exhibits a *fixed light*, at 53 feet above the level of the sea, although the building itself is only 25 feet high. From the lighthouse the entrance of the Port of Gouldsboro' bears N.W. $\frac{1}{2}$ N. 4 $\frac{1}{2}$ miles. At the entrance is an islet covered with trees on the eastern, and two on the western side. Within the entrance, the harbour is a mile wide, and you may anchor in from 4 to 6 fathoms, where you please. The course in is N.N.W., then N. $\frac{1}{2}$ W. 4 miles; and thence W. by N. to Gouldsboro'.

The *Skuttock Hills*, already mentioned, form a good mark for Gouldsboro', as they lie to the northward of the harbour. Hence, by bringing them in that direction, and steering on that course, you will, on approaching the harbour, see the Little Manan Lighthouse, which is to be left on the larboard hand.* The latter stands at about a league to the southward of the point between *Dyer's Bay* and *Pigeon Hill Bay*: it is connected with the land by a rocky ledge or bar, which is partly uncovered with the ebb.

DYER'S BAY.—Immediately to the eastward of the entrance to Gouldsboro' is *Dyer's Bay*, which you may enter by giving Little Manan a berth of half a mile, leaving it on the starboard hand. If you bring the light to bear N.E., at three quarters of a mile, a N. by W. course will carry you into the mouth of the bay, leaving a large dry ledge on the larboard hand: when abreast of this ledge, which is bold-to, give it a berth of 15 or 16 fathoms, then steer N. $\frac{1}{2}$ E. about 4 miles, where you may anchor, safe from all winds, in 4 or 5 fathoms, muddy bottom.

PLEASANT BAY, or the Mouth of *Pleasant River*, is two leagues to the N.E. of Little Manan Lighthouse. Here you pass the islet called *Petit-manan*, and several dangerous ledges. For this place, therefore, as in all the other harbours of this coast, a pilot is indispensable.

From Little Manan Lighthouse to a berth off the Great Wass Island, already noticed, the course and distance are E. by N. 19 $\frac{1}{2}$ miles; and from the latter to the Libbee lighthouse, off Machias Bay, N.E. by E. 10 miles.

GOULDSBOROUGH TO BLUE HILL BAY.—At two leagues without the harbour of Gouldsborough, to the S.W. is *Scodic Point*, with its three islets, forming the west side of the entrance of *FRENCHMAN'S BAY*, or the N.E. harbour of Mount Desert. Next follow the *Cranberry Isles*, to the S.E. of the same island.

BAKER'S ISLAND, which is the outermost of the *Cranberry Isles*, is now distinguished by a lighthouse, exhibiting a *brilliant fixed light*, at 70 feet above the sea, which bears from that on the Little Manan W.S.W. 5 leagues.

To the S.S.W. of the *Cranberry Isles* are the *Duck Islands*, off the entrance of Blue Hill Bay, or the S.W. harbour of Mount Desert. To enter this harbour, leave the two *Duck Islands* on the starboard side, and *Long Island* with a cluster of other islands on the larboard. It is not safe for a stranger to run in during the night, as there is a great ledge, which is uncovered at half-tide, about one mile from the harbour. This is to be left on the starboard hand. There is also a long ledge on the larboard side, which extends half a mile off: there is, however, a good turning channel between. The S.W. passage is not fit for large vessels at low water; but, at high water, any one may enter, by keeping nearest to the starboard shore when sailing in. With the harbour open, you may steer N.W. or W.N.W., and anchor, when well up, in 5 or 6 fathoms, muddy bottom; where, with any wind, you will lie safely. Here, however, as in every other part hereabout, a pilot is required.

PENOBSCOT BAY AND RIVER.—This extensive bay is included between Point Naskeag and Sedgwick Point on the N.E., and White Head on the S.W.: the distance between these points is 10 leagues; and it therefore includes the *Isle Haute*, *Deer*

* The pilots say that a ledge, called *Moulton's Ledge*, and dry at low tides, lies W. by N. 4 miles from the lighthouse: a sunken ledge, with 7 feet of water on it, S.E. by E. 5 miles from the same; another of 12 feet, S.S.W. 4 miles.

Island, the Fox Islands, Isleborough or Long Island, and a multitude of small isles, rocks, and ledges. Through the bay, to the mouth of the river of its name, the western channel is by the headland on the west, called *Owl's Head*; thence, by Isleborough on the west, and Cape Rozier on the east, to Bagaduce Point or Castine River.

The *Eastern Entrance* is between Isle Haute on the west, and the smaller isles on the east, through a channel called *Long Reach*, formed by the shore of Sedgwick on one side, and Deer Island on the other, until it unites with the main channel between Cape Rozier and Isleborough or Long Island. Above this, on the east, stands Fort Castine, near to which is the town of Castine, opposite to Penobscot, which was incorporated in 1796. Castine is the port of entry.

The noble river, which empties its water into the bay, and which is now decorated with numerous townships, is the most considerable in the state of Maine, and has its sources about 130 miles above the inlet of Castine. The head of tide and navigation is, however, at Bangor, about 30 miles from the same: but vessels of thirty tons may approach within a mile of this place. At the entrance of the river is a depth of 10 fathoms.

From *Mount Desert Rock* and *Lighthouse*, (noticed on pp. 198, 9,) to *White Head*, having also a *Lighthouse* with a *fixed light*, the bearing and distance are W.N.W. 13 leagues. *White Head Island* has been so called from the numerous white rocks about it. The light is brilliant and fixed, at 58 feet above the level of the sea; and though of a secondary class, is important to all vessels entering from the westward by the *Muscle Ledges*, on the western side of the entrance.

By proceeding from *Mount Desert Rock*, on a W.N.W. course, you leave the *Isle Haute* and *Fox Islands* on the starboard, the *Seal Rock*, *Metinicus Isles*, and *Green Islands*, on the larboard side, and thus arrive off the *Muscle Ledge Islands*, which lie to the north-eastward of *White Head lighthouse*, on the western side of the bay. In pursuing this course, you will see, on the larboard side, a lighthouse to the southward of the *Metinicus Isles*, having two lanterns, one at each end of the building, and exhibiting distinct fixed lights, each at 82 feet above the level of the sea. When these lights appear in one, they bear N.N.W. The lights are on the *outer Wooden Ball Rock*, and not on the *Island of Metinicus*, as they have been represented on the charts.

On the western side of the bay, at seven miles above *White Head lighthouse*, is *Owl's Head*,* having also a lighthouse, with *brilliant fixed lights*, at 150 feet above the level of the sea. The fairway course to this head is N.W. by N. Having advanced to this point, you may bear away for either side of Isleborough or Long Island; proceeding, according to Chart, past *Belfast Bay* and *Brigadier Island*, keeping the larboard shore on board. When you pass *Brigadier Island* for *Old Fort Point*, (*Fort Pownall*), observe, before you come to it, that an extensive ledge of rocks lies about three-quarters of a mile to the E.S.E. of it, which is uncovered at half-tide. These rocks are readily discoverable, when the wind blows, by the breakers. You may pass within a cable's length of *Fort Point* in smooth water.

Besides the lighthouses above mentioned, for the navigation of the Penobscot, there is now a small harbour-light on *Brown's Head*, which forms the western side of the *Fox Island* passage, with a fixed light at a short distance from shore, and 80 feet above high water mark.

On *Dice's Island*, upon the eastern side of the river, at the entrance of *Castine Harbour*, is another lighthouse, with a fixed light, at 116 feet; and very useful to vessels going up or down the river.

On *Marshall's Point*, at the entrance of *Herring Gut*, to the S.W. of the Penobscot, and N.W. of *Metinic Isle*, there is also a small fixed light, at 30 feet.

If bound up the river, from *Old Fort Point*, with the wind ahead, and an ebb tide, you may make a good harbour in the *East River*, at about a league E.N.E. from that point. The entrance of this river is on the south side of *Orphan Island*; here you may lie safe from all winds, and anchor in 8 or 7 fathoms, good holding ground. You leave *Orphan*

* *Owl's Head* forms a cove on its northern side, in which a vessel may take occasional shelter, as it lies open to the wind at E. by N. and E.N.E. The directions for sailing in are, to bring a rocky point, which will be on the starboard side, to bear N.E., and a ledge of rocks that lie without that point E.N.E., and anchor in 4 fathoms, muddy bottom.

Hereabout the tide of flood sets to the north-westward, and the tide of ebb S.W. through the *Muscle Ledges*.

Island, and several rocks which are above water, on the larboard hand. If requisite you may anchor to the N.W. of the island, on the starboard hand, before you pass through; but, with the wind and tide favourable, you may proceed up to Marsh Bay, keeping toward the larboard shore. *Marsh Bay* is a league and a half above Orphan Island. When passing it, keep nearly in the middle of the river, and you will have neither rocks nor shoals until you arrive at the falls.

CASTINE.—To sail up to **CASTINE**, &c. by the S.E. and eastern side of **Ileborough**, the course is N.E. by N., keeping the island on the larboard hand. To go into the harbour, by **Bagaduce Point**, so soon as the entrance bears E.N.E., run in on that direction, keeping the middle of the channel on your starboard side until you pass the first island, giving that island a berth of half a mile; then haul to the southward, until the island bears W.S.W., when you may anchor in 8 or 10 fathoms, muddy bottom, and lie safely from all winds. The tide here rises, on the full and change, 10 or 11 feet, and flows at 10 h. 45 m.

To ENTER **PENOBSCOT BAY**, from the S.W.—On approaching *White Head*, or its lighthouse, be careful not to haul in for it until it bears N.E., as you will thus avoid the ledges of rocks lying without the head. Within these ledges, at about a pistol-shot from shore, there is a safe passage. In passing the head, to the eastward, you will see a good harbour, on the larboard hand, called *Seal Harbour*, and in which a vessel may lie safely with any wind. In going into this harbour, give the larboard shore a berth, in order to avoid a sunken ledge, extending about two-thirds over, and which breaks with any sea, excepting at high water.

Vessels of 60 or 70 tons may double close around the head of the light, and anchor right abreast of the river in the harbour. Those taken with ealm and ebb-tide may anchor anywhere off the light in from 12 to 20 fathoms. If the wind takes you at N.E. and ebb-tide, so that you cannot get into *Seal Harbour*, you may run into *Tennant Harbour*, which bears W. by S. from *White Head*, about 4 miles distant.

The description of the Coasts of the United States, &c., S.W. of the Penobscot, is continued in the Colombian Navigator, Vol. I., published by Mr. Laurie.

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