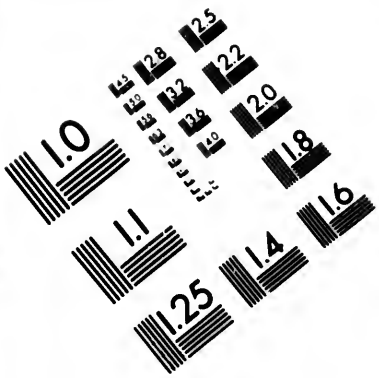

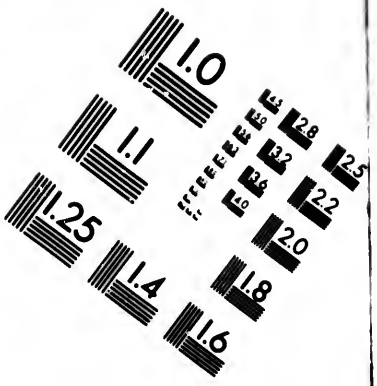

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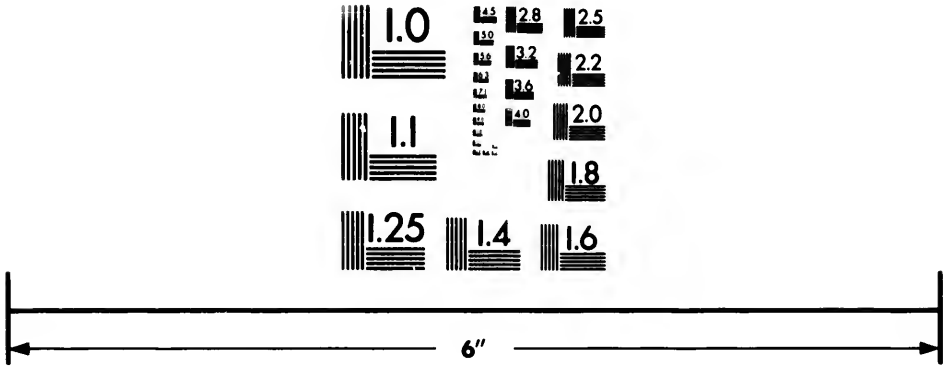

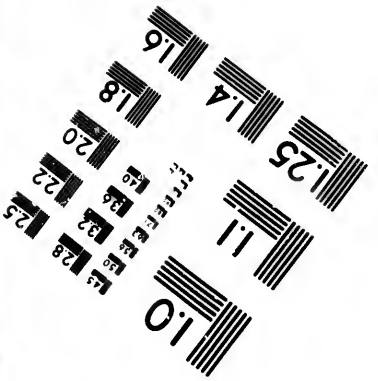

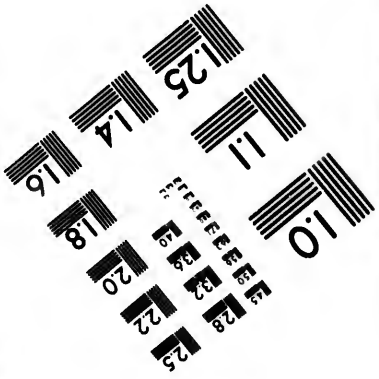

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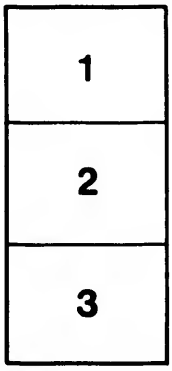

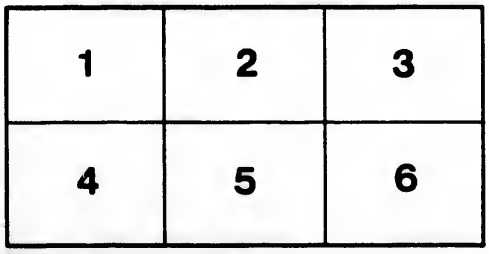

Drawn by Lieut Beechey. R.N

Engraved by Edwd Finden

H.M. SHIPS HECLA & GRIPER IN WINTER HARBOUR.

Published by John Murray, London

JOURNALS

OF THE

FIRST, SECOND AND THIRD VOYAGES

FOR THE DISCOVERY OF

A NORTH-WEST PASSAGE

FROM THE ATLANTIC TO THE PACIFIC,

IN 1819-20-21-22-23-24-25,

IN HIS MAJESTY'S SHIPS

HECLA, GRIPER AND FURY,

UNDER THE ORDERS OF

CAPT. W. E. PARRY, R.N. F.R.S.

AND COMMANDER OF THE EXPEDITION.

FIVE VOLUMES.

WITH PLATES.

VOL. II.

LONDON:

JOHN MURRAY, ALBEMARLE STREET.

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OF

VOL. II.

CHAPTER XI.

VOYAGE

FOR THE DISCOVERY OF A

NORTH-WEST PASSAGE.

CHAPTER VIII.

Journey across Melville Island to the Northern Shore, and Return to the Ships by a different Route.

THE weather being favourable on the morning of the 1st of June, I made such arrangements as were necessary, previous to my departure on our intended journey. I directed Lieutenants Liddon and Beechey to proceed with all possible dispatch in the equipment of the ships for sea, having them ready to sail by the end of June, in order

that we might be able to take advantage of any favourable alteration in the state of the ice at an earlier period than present appearances allowed us to anticipate.

The party selected to accompany me, out of the numerous volunteers on this occasion, consisted of Captain Sabine, Messrs. Fisher, Nias, and Reid, Serjeant M'Mahon, of the marines, Serjeant Martin, of the artillery, and three seamen and two marines belonging to both ships, making a total of twelve, including myself. We were supplied with provisions for three weeks, according to the daily proportion of one pound of biscuit, two-thirds of a pound of Donkin's preserved meat, one ounce of salep powder, one ounce of sugar and half a pint of spirits, for each man. Two tents, of the kind called in the army horsemen's tents, were made of blankets, with two boarding-pikes, fixed across at each end, and a ridge-rope along the top, which, with stones laid upon the foot of the blankets, made a very comfortable and portable shelter. These tents, with the whole of the provisions, to-

gether with a *conjuror* or cooking apparatus, and a small quantity of wood for fuel, amounting in the whole to eight hundred pounds, were carried upon a strong but light cart, constructed for the purpose: this method having been decided on as the most convenient for the country in which we were about to travel.

Each officer and man was also furnished with a blanket made into a bag, with a drawing-string at each end, a pair of spare shoes and stockings, a flannel shirt, and a cap to sleep in. The clothing and blankets were carried on our backs in knapsacks, those of the officers weighing from seventeen to twenty-four pounds each, and one between every two men weighing twenty-four pounds, to be carried for half a day alternately. Mr. Dealy, with a party of three men, was appointed to attend us for the first day's journey, to assist in carrying our baggage, and then to return to the ships. It was my intention to proceed as directly north as possible, and, if we came to the sea in that direction, to turn to the westward, making

such a circuit in returning to Winter Harbour as might occupy from one to three weeks, according to circumstances. It was proposed to travel entirely at night, if any part of the twenty-four hours could properly now be so called, when the sun was constantly above the horizon. This plan was considered to be advantageous, both for the sake of sleeping during the warmth of the day, and to avoid, as much as possible, the glare of the sun upon the snow while travelling.

At five P.M., we left the ships, accompanied by a large party of officers and men from each, who were desirous of relieving us from the weight of our knapsacks for an hour or two; and, having been cheered by the ships on our departure, we went round the head of the harbour, and ascended the north-east hill. This route was chosen on account of the ground being clear of snow only on the ridges and higher parts of the land. Our companions left us at eight P.M., and we proceeded across a level plain almost entirely covered with snow, which,

however, was so hard as to make the travelling very good; and the cart was dragged along without difficulty. At eleven P.M., we came to three remarkable round hills, composed entirely of sand and masses of sandstone, and halted to dine close to the northward of them. Those parts of the land which were clear of snow appeared to be more productive than those in the immediate neighbourhood of Winter Harbour, the dwarf-willow, sorrel, and poppy, being more abundant and the moss more luxuriant; we could not, however, collect a sufficient quantity of the slender wood of the willow, in a dry state, for the purpose of dissolving snow for water, and were, therefore, obliged to use a part of the fuel which we had provided for that purpose. The thermometer stood at 31° at midnight.

Having set off soon after midnight, at the distance of half a mile in a N.b.E. direction, we came to a piece of frozen water, half a mile in length and two hundred yards wide, situated on the south side of the range of hills which bound the prospect

from Winter Harbour. The ice, on the surface of this lake or pond, was in some parts nearly dissolved, and in all too soft to allow us to cross it. We here saw a pair of ducks, one of which being white and the other brown, we supposed them to be of that species called king ducks. We soon after came in sight of an extensive level space to the north-westward, upon which not a single dark spot could be distinguished even with a glass, to break the uniformity of the snow with which it was covered, till it appeared to terminate in a range of lofty hills, which we had occasionally seen from the southward, and which, from the appearance given them by their distance, we had called the Blue Hills. We had, for some time past, entertained an idea, from their bold and precipitous appearance in some parts, that water would be found at the foot of them; and had we not been certain that we had now ascended three or four hundred feet above the level of Winter Harbour, the appearance of the plain before us, which resembled a branch of the sea

covered with ice, would have confirmed us in this idea. We halted at half-past six A.M., and pitched the tents on the hardest ground we could find, but it became quite swampy in the course of the day. We killed seven ptarmigan, and saw two plovers, and two deer, being the first we had met with this season, with a fawn, so small as to leave no doubt of its having been dropped since the arrival of the female upon the island. They were so wild as not to allow us to approach them within a quarter of a mile. The day was fine, with light and variable airs; the thermometer stood at 34° in the shade, at seven A.M., at which time it was unfortunately broken.

As we proceeded to the northward, the delusion respecting the level plain to the westward began to wear off, some brown spots being here and there perceptible with a glass, which left no doubt of its being principally, if not entirely land. Beyond this plain, however, there was a piece of bold land in the distance, having every appearance of an island, lying between the

Blue Hills on the north and some high land to the south. There was a bright and dazzling ice-blink over the plain of snow, and exactly corresponding with it as to extent and position.

Having halted three hours to dine and rest, we again set forward at two A.M., on the 3d, crossing one or two ravines, running E.N.E. and W.S.W., in which there was a large collection of snow, but as yet no appearance of water in the bottom of them. Captain Sabine and myself, being considerably a-head of the rest of the party, had sat down to wait for them, when a fine reindeer came trotting up, and played round us for a quarter of an hour, within thirty yards. We had no gun, nor do I know that we should have killed it, if we had, there being already as much weight upon the cart as the men could well drag, and having no fuel to spare for cooking; besides, we felt it would have been but an ill return for the confidence which he seemed willing to place in us. On hearing our people talking on the opposite side of the ravine,

the deer immediately crossed over, and went directly up to them, with very little caution; and, they being less scrupulous than we were, one or two shots were immediately fired at him, but without effect; on which he again crossed over to where we were sitting, approaching us nearer than before. As soon as we rose up and walked on, he accompanied us like a dog, sometimes trotting a-head of us, and then returning within forty or fifty yards. When we halted, at six A.M., to make the usual observations, he remained by us till the rest of the party came up, and then trotted off. The rein-deer is by no means a graceful animal; its high shoulders, and an awkward stoop in its head, giving it rather a deformed appearance. Our new acquaintance had no horns; he was of a brownish colour, with a black saddle, a broad black rim round the eyes, and very white about the tail. We observed that, whenever he was about to set off, he made a sort of playful gambol, by rearing on his hind legs.

A fog, which had prevailed during the

early part of the day, having cleared away in the afternoon, we struck the tents at five P.M., and having travelled three-quarters of a mile, came to a ravine not less than a hundred feet deep, and in most parts nearly perpendicular. A place was at length found in which the cart could be got across, which we succeeded in effecting, through very deep snow, after an hour's labour. On the north side of this ravine large masses of sandstone were lying on the surface of the ground, over which the cart could with difficulty be dragged; and we remarked on this, and several other occasions, that the stones which were bruised by the wheels emitted a strong smell, like that of fetid limestone when broken, though we could never discover any of that substance. In some of the sandstone we found pieces of coal embedded; and some large pieces of a slaty kind of that mineral, which burned indifferently, were also picked up in the ravine.

We had hitherto, as we judged, rather ascended than otherwise since leaving the

north-east hill of Winter Harbour, and the height of this part of the island may be estimated at three or four hundred feet above the level of the sea. At two miles and a quarter to the northward of the ravine, we entered upon a snowy plain, of which we could not see the termination to the northward. Here and there only we came to a small patch of uncovered land, on one of which we observed the sand and sandstone to be tinged of a light brick colour. We halted to dine before midnight, having made good by our account a distance of only five miles, and that with difficulty, the snow being soft, which made travelling very laborious. We found here nothing but two small pools of dirty water, but as it was of importance to save our wood in case of accidents, we went on an allowance of half a pint of this water each, rather than expend any of it in melting snow, a process requiring more fuel than perhaps those who have never made the experiment are aware of. There was no vegetation in this place, even the poppy having now forsaken us.

At two o'clock on the morning of the 4th we continued our journey to the northward, over the same snowy and level plain as before, than which it is impossible to conceive any thing more dreary and uninteresting. It frequently happened that, for an hour together, not a single spot of uncovered ground could be seen. The few patches of this kind forcibly reminded one of the description given of the *oases* in the deserts of Africa, not only because they relieved us for a time from the intense glare of the sun upon the snow, which was extremely oppressive to the eyes, but because it was on these alone that we could pitch our tents to rest, or that we could expect to meet with any water. The breeze freshened up to a gale from the S.S.E. as we proceeded, and the men, as if determined not to forget that they were sailors, set a large blanket upon the cart as a sail, which, upon the present level ground, was found to be of material assistance. The snow was deep, and rather soft, which made the travelling heavy; and, as the wind produced a good

deal of snow-drift, most of the bare patches of ground became covered up, so that when our time for halting had arrived, not a piece of ground could be seen on which to pitch the tents. Captain Sabine and myself went forward to look out for a spot, and at length were fortunate to meet with one, on which there was just room for our little encampment. It was with some difficulty, by building a wall with stones and our knapsacks, that we prevented its being covered with snow before the party came up, which they did at half-past seven A.M., having travelled ten miles in a N.W.b.N. direction. We saw a few fox-tracks, but no animals, nor the smallest symptom of vegetation, during this march. It is not improbable, however, that these snowy plains, when uncovered by the warmth of summer, may present a more luxuriant vegetation than is elsewhere to be met with on this island.

By the time we had secured the tents the wind blew hard, with a continued fall as well as drift of snow, so that we could not but consider ourselves fortunate in having

met with a spot of ground in good time. Notwithstanding the inclemency of the weather, we found the tents afford us very comfortable and sufficient shelter, the cart being tilted up to windward of them, so as to break in some measure the violence of the wind; and when wrapped up, or rather enclosed in our blanket-bags, we were generally quite warm enough to enjoy the most sound and refreshing repose. I may here notice, once for all, that the moment the tents were pitched, however short the time for which it was proposed to halt, every man was directed immediately to change his shoes and stockings, and at the same time had his feet examined by Mr. Fisher. As it froze hard every night, we used only to get our things dried during the noon halting, so that we were always under the necessity of putting on the same wet boots and stockings after resting at midnight. This was the only way to make certain of dry stockings for sleeping in, and as we were sure to be wet in half an hour after starting, our putting on wet ones to walk in

was of little consequence. I insist the more on this circumstance, because it is to our attention to these precautions that I attribute the good health we enjoyed during the journey. To this, indeed, we had one exception, Captain Sabine having suffered some uneasiness from indigestion, in consequence of having eaten some of the salep-powder badly mixed; but by attention to his diet, together with a little medicine, the complaint was soon removed. It is scarcely possible, perhaps, to imagine the comfort which was afforded in this instance by the small quantity of fuel we were provided with, as it enabled us to furnish Captain Sabine with one or two warm messes, which chiefly contributed to his recovery; and we, therefore, determined to use no more of our wood, except under similar circumstances.

It continued to blow and snow till seven P.M., when the wind having veered to the S.W., and become more moderate, we struck the tents; and having now placed the men's knapsacks on the cart to enable them to drag with greater facility, we proceeded on

our journey to the northward. We passed a narrow but deep ravine lying across our course, in some parts of which the snow reached nearly to a level with the banks, forming a kind of bridges or causeways, on one of which we crossed without difficulty. The men had hoisted one sail upon the cart at first setting off; but the wind being now, as they expressed it, "on the larboard quarter," a second blanket was rigged as a main-sail, to their great amusement as well as relief.

After crossing a second ravine, on the north side of which the ground rose considerably, we entered upon another snowy plain, where there was nothing to be seen in any direction but snow and sky. To make it the more dreary, a thick fog came on as the night advanced, and as this prevented our taking any mark more than fifty or a hundred yards a-head, we had to place the compass, by which we were now entirely travelling, upon the ground every five minutes; and as it traversed with great sluggishness, we made a very crooked and un-

certain course. For more than two hours we did not pass a single spot of uncovered ground, nor even a stone projecting above the snow.

The weather being at length too foggy to proceed, we sat down on our knapsacks for a short time, and then continued our journey, the fog being somewhat less thick. At one A.M. we came to a few large stones sticking up above the snow, and as the people were a good deal fatigued, and I was at the same time desirous not to run the risk which might be incurred by suffering them to lie upon the snow, we determined to try what could be done in picking out the stones, one by one, and paving a spot for the tents over it. This plan succeeded, and after an hour's work we completed a dry, though hard flooring, for our encampment. This being properly our dinner-time for the 4th of June, though our meal had been unavoidably delayed beyond that day, we did not forget to drink His Majesty's health in both tents, not aware at the time that our venerable Monarch

had many months before paid the debt of nature.

The fog continued too thick to allow us to move till six A.M., at which time we resumed our journey. There was a broad and distant haze-bow of very white and dazzling light directly opposite the sun. The weather being still too foggy to see more than a quarter of a mile a-head, it was with considerable difficulty that we could proceed on a tolerably straight course. To effect this, it was necessary to determine the point on which we were walking by the bearing of the sun, which was still visible, and the apparent time, and then to take a mark a-head by which our course was to be directed. From the thickness of the weather, however, it was necessary to repeat this operation every five or ten minutes, which, together with the uniform whiteness and intense glare of the snow, became so extremely painful to the eyes, that Mr. Fisher and myself, who went a-head as guides, soon became affected with snow-blindness, and the headmost man at the

cart, whose business it was constantly to watch our motions, began to suffer in a similar manner, and from the same cause. We had now also frequent occasion to experience—what had so often occurred to us during the winter—the deception occasioned in judging of the magnitudes, and consequently the distances of objects, by seeing them over an unvaried surface of snow: this deception was now so much increased by the thickness of the fog, that it frequently happened that, just as we had congratulated ourselves on having pitched upon a mark at a sufficient distance to relieve us from the necessity of straining our eyes for a quarter of an hour, we suddenly came up to it; and were obliged to search, and often in vain, for another mark, at no great distance, and subject to the same delusion.

It may, perhaps, be conceived, then, under these circumstances, how pleasing was the relief afforded by our seeing, at eight A.M., a stripe of black or uncovered land a-head, which proved to be the bank of a ravine fifty or sixty feet deep, and three

hundred yards wide, on the north side of which we pitched the tents, having made good only one mile and a half, the snow being so soft and deep as to make it difficult to drag the cart through it. This ravine was full of innumerable masses of sandstone, besides which we could not find a single mineral substance of any other kind. By removing any of these, we found abundance of pure water, which tempted us to take this opportunity of cooking the grouse we had killed, on which we made a most sumptuous meal before we retired to rest.

The latitude observed here was 75° 22′ 43″, and the longitude, by the chronometer, 111° 14′ 26″, in which situation a cylinder of tin, containing an account of our visit, was deposited under a pile of stones eight feet high, and seven feet broad at the base. At half-past five P.M. we continued our march in a north-easterly direction, the wind being moderate from the S.S.E., with fine weather. Another of our party complained of snow-blindness, which always

continued to be very painful during the time we were walking, but was generally relieved by the usual cool bathing and a few hours' rest. Our people were all supplied with crape veils, which, I believe, saved us a good deal of uneasiness from this complaint.

On leaving the ravine, where we had last halted, we had entered on another snowy plain similar to those I have before described; and, after travelling several miles over it without a single object to produce variety, or to excite interest, came at length to a rising ground at half-past eleven, from which we descried some dark-coloured ground to the north-eastward, and shortly after some higher land at a considerable distance beyond it, in the same direction. The intermediate space looked like a sea covered with ice, or a very level snowy plain, and we were once more puzzled to know which of these two it would prove. Having reached a good dry spot for the tents, with plenty of water in the neighbourhood, we halted at midnight, having

marched seven miles and a half in a N.b.E. direction by account, but much more easterly by subsequent observations. I cannot help remarking in this place how extremely liable to error any account must necessarily be of the course and distance made good during even a single day on a journey of this nature.

The wind increased to a fresh breeze from the S.S.E. on the 6th with a sharp frost, making it very cold in the tents, which we therefore struck at four A.M., and at the distance of half a mile came to the summit of a hill overlooking what appeared to be a frozen sea before us. The distant high land beyond it, to the north-east, now appeared a separate island, which it afterwards proved to be, and which I named after my friend and fellow-traveller, CAPTAIN EDWARD SABINE, of the Royal Artillery. The brow of this hill, which, from the best estimate I could form, appeared to be from four to five hundred feet above the level of the sea, was covered with large masses of sandstone, over which we could scarcely get the wheels

of the cart. We then descended the hill, with the intention of pushing forward to determine whether the white and level space before us was the sea or not. We had not proceeded far, however, when the clouds began to gather heavily in the south-east, and shortly after snow and sleet began to fall. Being unwilling, therefore, to allow the men's clothes to be wet, when there was no absolute occasion for it, we halted on a piece of dry ground, and, having built a wall six feet high to shelter us from the weather, pitched the tents very comfortably under the lee of it, till the weather should allow us to proceed.

We here saw one or two flocks of geese, which, to judge from those which we afterwards killed, were probably brent-geese, and were the first living animals we had met with for two or three days. We had occasionally, during that time, seen upon the snow the tracks of a solitary deer, but even these seemed now to have deserted a place so totally devoid of vegetation, that for miles together we scarcely met with a

tuft of moss or a single poppy on which they could have fed. The tracks of foxes and mice were also occasionally seen, but we did not meet with any of these animals in this dreary and uninteresting part of our journey.

At six P.M., the wind having gradually got round to the N.N.E., and the weather being more clear and cold, I set out, accompanied by Messrs. Nias and Reid, and a quarter-master of the Griper, with the intention of examining the situation and appearance of the sea to the northward; leaving the rest of the party, several of whom were suffering from snow-blindness, though otherwise in good health, to remain quietly in the tents till our return. Having travelled N.N.W. a mile and a half through much deep snow, of which a good deal had fallen during the day, we came to some ice thrown up on the beach, having cracks in it parallel to the line of the shore, which we immediately recognised to be of the same kind as those to which we had so long been accustomed in Winter Harbour, and

which are occasioned by the rise and fall of the tide. Such, however, was the sameness in the appearance of the sea and of the low shelving shore interposed for two or three miles between it and the hill we had descended in the morning, that, had it not been for the circumstance I have just mentioned, we should still have been in great doubt respecting the nature of the level space to the northward. The place where we came to the sea happened to be near the outlet of a ravine, and the upper surface of the ice was here covered with pools of fresh water, which had probably been formed by the streams from the ravine, and which at a little distance appeared, as usual, of a beautiful blue colour. We turned to the westward along the beach, and at the distance of two miles ascended a point of land in that direction, from whence we had a commanding view of the objects around us. As soon as we had gained the summit of this point, which is about eighty feet above the sea, and was named after Mr. Nias, we had an additional confirmation that it was

the sea which we had now reached, the ice being thrown up on the beach under the point, and as far as we could see to the westward, in large high irregular masses, exactly similar to those which had so often afforded us anchorage and shelter upon the southern shores of the island. Being desirous, however, of leaving nothing uncertain respecting it, we walked out a few hundred yards upon the ice, and began with a boarding-pike and our knives, which were all the tools we had, to dig a hole in it in order to taste the water beneath. After nearly two hours' labour, however, we could only get down as many feet, the ice being very hard, brittle, and transparent; more so, as we imagined, than salt-water ice usually is, which made us the more desirous to get through it. I, therefore, determined to return to our people, and to remove our encampment to Point Nias, for the purpose of completing the hole through the ice with all our hands, while we were obtaining the necessary observations on shore.

On our return to the tents, we dined, and

rested till one o'clock on the morning of the 7th, when we set out for the Point, at which we did not arrive till half-past four, the snow being here so deep as to make the cart an improper, and, indeed, almost impracticable mode of conveying our baggage. It froze all day in the shade, with a fresh breeze from the north, and though the tents were pitched under the lee of the grounded ice upon the beach, we found it extremely cold; all the pools of water were frozen hard during the night, and some of our canteens burst from the same cause. The people were allowed to rest after their supper till four P.M., and were then set to work upon the ice, and in building a monument on the top of the Point.

We saw nothing living in this spot, except a flock of five or six ducks, none of which were killed. There was scarcely any thing, except a little stunted moss and some lichens, which deserved the name of vegetation; and the only exception to the tiresome monotony of sandstone which had occurred for many days past, consisted in

two or three pieces of red granite and of red and white feldspar, which several hours' search enabled us to find. Two pieces of drift-wood were also found upon the beach, from ten to twenty feet above the present level of the sea; they were both pine, one of them being seven feet and a half long, and three inches in diameter, and the other much smaller. They were both partly buried in the sand, and the fibres were so much decayed and separated, as to fall to pieces upon being taken hold of.

We dined at midnight; and at half-past one A.M., on the 8th, struck the tents, and drew the cart to the higher part of the Point, where we occupied two hours in completing our monument, which is of a conical form, twelve feet broad at the base, and as many in height. Within it were deposited a tin cylinder, containing an account of the party who had left it, and one or two silver and copper English coins. This monument may be seen at several miles' distance from the sea or land side; and, as great pains were taken by Mr.

Fisher in constructing it, it may probably last for a long period of years.

Having now satisfactorily determined the extent of Melville Island to the northward upon this meridian, which corresponds very nearly with that of Winter Harbour, and finished all the requisite observations, I proposed pursuing our journey towards the Blue Hills, which were still in sight at the distance of several leagues to the westward; and having advanced to the south-west as long as circumstances should appear to make it interesting or practicable, to return by a circuitous route to the ships. We travelled in a W. $\frac{1}{2}$ S. direction, in order to keep on a ridge along the coast, which afforded the only tolerable walking, the snow being very deep on the lower parts of the land. We had to-day frequent occasion again to notice a strong smell produced by the wheels of the cart going over the blocks of sandstone, similar to that of fetid limestone when recently fractured. We halted at half-past seven A.M. on a fine sandy ground, which gave us the softest, as well

as the driest, bed which we had yet experienced on our journey, and which was situated close to a little hillock of earth and moss, so full of the burrows of hares as to resemble a warren. We tried to smoke them out by burning port-fire, but none appeared; and it is remarkable, that though we constantly met with the dung of these animals, especially in this place, where it occurred very abundantly, we never saw one of them during the journey. As soon as we had halted, we found that Mr. Reid's knapsack had dropped off the cart; he had therefore to go back to look for it, and did not return till eleven o'clock, being so much affected by snow-blindness as to be scarcely able to see his way to the tents. This circumstance was sufficient to show the advantage, and even the necessity of travelling entirely by night under these circumstances, the intense glare of light from the snow during the day inevitably producing this painful irritation in the eyes. Our present station, which was about half-a-mile distant from the sea, commanding an open view of

Sabine Island and Cape Fisher, and the weather being very clear for observations, a short base was obtained for the survey between this and Point Nias. The only birds we saw here were a pair of ptarmigans, which were killed by Mr. Fisher. There was some moss, and a few short tufts of grass; and we found, for the first time this season, the *saxifraga oppositifolia* coming out in flower, a remark which I afterwards found to occur in the Hecla's Meteorological Journal at Winter Harbour on the following day.

At a quarter-past five P.M. we resumed our journey to the south-west, and soon after crossed a snowy plain a mile and a quarter in breadth, extending to the sea to the north, and as far as the eye could reach to the south. When we had travelled five miles, we began to ascend considerably, and were now entering upon the Blue Hills, the higher parts of which, however, were three or four leagues distant to the westward of us. Having travelled S.W.b.W. seven miles, we halted, at half-an-hour be-

fore midnight, at the distance of three or four miles from the sea, the weather being very clear and fine, with a moderate breeze from the S.S.W. During the last march we passed over much uneven ground, of which a great deal was extremely wet; moss, saxifrage, and short tufts of grass here became more abundant, and, interspersed among the former, some sorrel began to make its appearance. One or two pieces of red granite, and some of feldspar, were all that occurred in this way to repay the tedious search which we had for many days been making to discover any thing but sandstone.

Having rested, after our dinner, till half-past two A.M., we set out again to the south-west, making, however, a very crooked course on account of the irregularity of the ground. Although this circumstance made the travelling somewhat more laborious, we were glad to be among the hills, being heartily tired of the sameness which the snowy plains and low grounds present. In the first quarter of a mile, we passed the

first running stream which we had seen this season, and this was but a small one, from six to twelve inches deep. The ground, as well as the pools of water, was frozen hard during the last night, but thawed during the day, which made travelling worse and worse, as the sun acquired power. We passed a few horns of deer, killed three ptarmigans, and saw a pair of ducks. The plumage of the cock grouse was still quite white, except near the tip of the tail, where the feathers were of a fine glossy black; but in every hen which we had lately killed, a very perceptible alteration was apparent, even from day to day, and their plumage had now nearly assumed that speckled colour which, from its resemblance to that of the ground, is so admirably adapted to preserve them from being seen at the season of their incubation. We found it difficult in general to get near the hens, which were very wild; but the male birds were at all times stupidly tame. Serjeant Martin, who was well acquainted with birds, reported having seen a pair of bank-swallows. We

halted at seven A.M., having made only three or four miles, and found abundance of water, which allowed us the comfort of washing our flannel shirts, and putting on clean ones. From this time, indeed, we had more water than we wanted, the abundance of it making a great deal of swampy ground, through which the cart was dragged with great difficulty. The latitude observed at this station was 75° 26′ 43″, the longitude by chronometer being 111° 22′ 41″.

We pursued our journey at half-past five P.M., and found the ground extremely wet and swampy, which made the walking very laborious; but we remarked that our feet always came to the frozen ground at the depth of eight or ten inches, even in those parts which were the most soft. At the distance of two miles and a half, we came to a ravine, of which the principal branch, being not less than a quarter of a mile wide, took a N.N.E. and S.S.W. direction, and had a considerable stream of water running to the northward. Another branch from the S.E., which we crossed, was three hun-

dred yards wide, and was as yet quite dry at the bottom. As the night came on, the weather became overcast, and a good deal of snow fell; from which, however, the people were sheltered by the sail which a fresh northerly wind once more enabled them to set on the cart. Two other ravines occurred within three-quarters of a mile, apparently connected with a large one, and which it required our utmost exertion to cross, the water being higher than our knees in the middle, and the whole of the sides of the ravine covered with deep and soft snow, into which the wheels of the cart sunk nearly to the axle, so that we could only get it across by what sailors call a "standing pull." The men having got their trowsers wet, we continued our journey till half-past eleven, to give them a chance of drying, and then halted, having only travelled four miles in a S.W. direction. We met with abundance of sorrel in some parts of this journey; its leaves were as yet scarcely the size of a sixpence, and almost entirely red. A few ptarmigans and

a couple of geese were all the living animals seen, but we passed several tracks and horns of deer.

At half-past two A.M., on the 10th, we struck the tents, and proceeded to the S.W., the wind having got round to the S.E., with continued snow. At the distance of two miles we entered upon a level plain three miles wide, which, with the exception of a patch here and there, was entirely covered with snow. The uncovered parts of this plain were so wet as to be almost impassable for the cart: and we were now as desirous of keeping on the snow as, at the beginning of our journey from Winter Harbour, we had been anxious to avoid it. The plain terminated by a ravine, on the south bank of which, finding good ground for the tents, and plenty of water, we halted at a quarter-past seven, being in latitude, by observation, 75° 20′ 54″, the longitude, by account, 111° 42′ 15″.

The weather continued hazy, with snow occasionally, but our clothes dried in the sun towards noon; soon after which, how-

ever, the snow became more thick and constant, so that we could scarcely see a hundred yards around the tents. We waited for some time in hope of the weather clearing, and then, at a quarter-past five, continued our journey; as we were under the necessity, however, of directing our course entirely by compass, which is here a very uncertain and deceitful guide, we made but a slow and tedious progress. The wind freshened up to a gale from the S.E. soon after we had set out, which made it impossible for us any longer to pursue our journey, and we began to look out for a spot on which the tents could be pitched, so as to afford us a dry flooring, if not shelter, during the gale. Having crossed three ravines within a mile and a quarter, we at length came to a very deep one, which was nearly perpendicular on each side, with the snow over-hanging in some parts, so as to make it dangerous to go near the edge of the bank. We were at length fortunate in finding a narrow sloping ridge of snow, leading down to the bottom of the ravine; and

having descended this with some difficulty, we found such good shelter as to determine me to halt here for the night, which now became more and more inclement.

The weather continued very inclement during the night, but we were so well sheltered, as to be very comfortable in the tents, which answered every purpose for which they were intended, and without which no warmth could have been obtained while resting. I may also here remark, that the mode we had adopted with the blankets, of making them into bags, appeared the warmest, and in every respect the most comfortable as well as convenient which could have been devised. The wind gradually veered to the N.N.W. in the morning, and the weather having cleared up about half-past four, we struck the tents, and set off to the southward. The south bank of the ravine being nearly as steep, and much higher than the other, it was with considerable labour and difficulty that we were able to get the cart up it, in which, however, we succeeded by six o'clock, when we found

that we were travelling on much higher ground than before, overlooking that which we had left the preceding evening. Having proceeded four miles over a level country, with much snow upon it, we suddenly and unexpectedly came in sight of the sea, or a lake, at the distance of two or three miles before us, just appearing between two high and steep hills which terminated a deep and broad ravine. In a short time, we opened out an island, which was soon recognised to be the same which we had seen to the eastward of us, on our journey to the north, and which we now found to be situated in this lake or gulf. We hastened forward to the point of the nearest hill, from whence the prospect was extremely grand and picturesque. We were looking down nearly perpendicular from a height of eight or nine hundred feet, on an extensive plain of ice, of which, to the westward, we could perceive no termination for a distance of five or six leagues, the prospect to the eastward being obstructed by other hills. A thick mist or vapour was at times carried

rapidly along by the wind over this ice, to which it was entirely confined, occasionally covering the top of the island with a dense cloud. The impression made upon our minds at the time was, that it was a frozen lake on which we were now looking; but this conjecture, as it afterwards appeared, proved erroneous. The ravine at which we had arrived discharges its waters into a snug cove two or three miles deep, which was named after Mr. Bushnan, and at the head of which we now proposed resting, if a place could be found at which our descent into the ravine could be effected. The sides of the ravine, which were very steep, were covered with innumerable blocks of sandstone of every size and shape, over which alone any road could be found to the cove below. It was necessary, therefore, to make the attempt, but it was impossible for the best built carriage to travel long on such a road; and when we had half descended the bank, which led into the ravine on its north side, the axle-tree broke short in the middle. The baggage was therefore

taken off, and carried down to the bottom, where the tents were pitched at eleven A.M., the wheels being left where the cart broke down, as sound as at first.

The latitude observed here was 75° 12′ 50″, the longitude, by chronometer, 111° 50′ 05″, and the variation of the magnetic needle 125° 12′ 22″ easterly. The wind being fresh from the W.N.W., and the weather being cold and raw, we built a wall to windward of the tents, as a substitute for the usual shelter afforded by the cart; after supper, the people being a good deal fatigued, were allowed to rest till near midnight, and then employed in arranging the baggage, so as to carry it on our shoulders for the rest of the journey. We saw here a great number of brent-geese, some ptarmigan, and many snow-buntings; the constant and cheerful note of the latter reminded us of a better country. The wood which composed the light frame-work of the cart being now disposable as fuel, we were glad to make use of it in cooking a few ptarmigan, which afforded us another sumptuous meal. It is

not, perhaps, easy for those who have never experienced it, to imagine how great a luxury any thing warm in this way becomes, after living entirely upon cold provisions for some time in this rigid climate. This change was occasionally the more pleasant to us, from the circumstance of the preserved meats, on which we principally lived, being generally at this time hard frozen, when taken out of the canisters.

Having finished our arrangements with respect to the baggage, which made it necessary that each of the men should carry between sixty and seventy pounds, and the officers from forty to fifty: we struck the tents at half-past two on the morning of the 12th, and proceeded along the eastern shore of the cove, towards a point which forms the entrance on that side. The rocks above us, which here approach the sea within fifty yards, were composed of sandstone in horizontal strata; and, in many parts of the cliffs which overlook the cove, their appearance resembled more the ruins of buildings than the work of nature. Large fragments

of stones, which had fallen from above, were strewed about at the base of these precipices, filling up nearly the whole space between them and the beach. The head of Bushnan Cove is one of the pleasantest and most habitable spots we had yet seen in the Arctic Regions, the vegetation being more abundant and forward than in any other place, and the situation sheltered and favourable for game. We found here a good deal of moss, grass, dwarf-willow, and saxifrage, and Captain Sabine met with a ranunculus in full flower.

We arrived at the point at five o'clock, and as we could now perceive that the lake or gulf extended a considerable distance to the eastward, as well as to the westward, and that it would require a long time to go round in the former direction, I determined to cross it on the ice; and as the distance to the opposite shore seemed too great for one journey, the snow being soft upon the ice, first to visit the island, and having rested there, to proceed to the southward. Having walked five miles in a S.S.W. di-

rection, we landed at seven A.M., near the south-east part of the island, which I named after my friend Mr. Hooper. We had now little doubt that we had been travelling over a gulf of the sea, as we had not seen any land enclosing it to the westward, for more than two points of the compass, the weather being very clear; but, as nothing could make this absolutely certain but tasting the salt-water, I had just signified my intention of occupying the rest of the day in digging a hole through the ice for this purpose, when one of the party having gone to a pool on the floe for some water to drink, found it to be quite salt, and thus saved us any further trouble or doubt respecting it. The wind was fresh from the westward, and the tents were pitched near the beach, under the lee of the high part of the island. Captain Sabine and myself, having ascended to the top, which is on the east side from five to six, and on the west, about seven hundred feet above the sea, and in many parts nearly perpendicular, we had a commanding view of this fine gulf,

which I named after my much-esteemed friend and brother-officer, LIEUTENANT LIDDON. The entrance of the gulf to the westward was now very apparent, the headlands which appeared to terminate its north and south shores, being distant from us from five to seven leagues. I named them after Lieutenants BEECHEY and HOPPNER, and their astronomical bearings were S. 86° W., and S. 65° W. respectively.

The north shore of Liddon's Gulf, being the termination of the Blue Hills to the south-west, is high, bold and precipitous as far to the eastward as Bushnan Cove, and its formation appeared, with a glass, to be the same as in that neighbourhood; beyond this, to the eastward, the land becomes low, and the gulf takes a bend to the north-east. In this direction we could not distinguish its extent, but we must have passed at no great distance from the head of it on the 4th. A bluff cape on this shore, which is seen very conspicuously on a clear day from the Table Hill of Winter Harbour, was named after MR. EDWARDS, who had been

the first among us to conjecture, from its appearance, that water would be found at its foot. Immediately to the westward of Cape Edwards the land recedes, forming a bay, called Barry's Bay, of which our situation and distance did not allow us to see the extent. We found that the nearest land to us on the opposite shore was not on the south coast of the gulf, as we had supposed, but a point to the E.S.E., for which it was, therefore, proposed that we should next cross the ice: the south shore is all high and steep, but much less so than the north; its nearest part was seven or eight miles distant.

We rested till six P.M., and then set off across the ice for the point. The snow had now become so soft after the heat of the day, that, loaded as we were, we often sunk nearly up to the knees, which made travelling very laborious, and we were, therefore, not sorry to get on shore by half-past eight, having walked, by our account, three miles and a half. On landing we saw two deer, but they were too shy to allow our sports-

men to come near them. We directed our course to the south-east, along a narrow ridge of land interposed between the sea and a lagoon, which now made its appearance at the back, and which is about three-quarters of a mile long in a north-east direction, and a quarter of a mile wide. It communicates with the gulf by a narrow opening, only forty or fifty yards across, which as well as the lagoon, was still completely frozen over. In this neighbourhood we picked up the root and three feet of the trunk of a small pine-tree, about fifteen feet above the present level of the sea. We passed also a part of the skeleton of a musk-ox, frozen hard into the ground. The soil here became very rich, and abounded with the finest moss, together with a great deal of grass, saxifrage, and poppy; and the quantity of dung which covered the ground shewed it to be a feeding place for the deer, musk-oxen, and hares: the tracks of the former were numerous and recent. We halted at half-past eleven, Hooper's Island being distant from us five miles and a half

in a W. b.N. direction. The night was remarkably clear and fine, with a light wind from the westward.

The spot on which we encamped appeared so favourable for obtaining specimens of the different animals which frequent this island, that I determined to remain here one day for the purpose of sporting and examining its natural productions. The latitude observed at the tents was 75° 02′ 37″, the longitude, by the chronometer, 111° 37′ 10″, and the variation 126° 01′ 41″ easterly; from this station astronomical bearings were obtained for the survey of the gulf.

The sportsmen went out early in the morning, and soon after met with a musk-ox feeding on a spot of luxuriant pasture-ground, covered with the dung of these animals, as well as of deer. They fired at him from a considerable distance, without wounding him, and he set off at a very quick pace over the hills. The musk-ox has the appearance of a very ill-proportioned little animal, its hair being so long as to make its feet appear only two or three

inches in length; they seem, indeed, to be treading upon it at every step, and the individual in question actually did so in some instances, as the hair was found in several of the foot-tracks. When disturbed and hunted, they frequently tore up the ground with their horns, and turned round occasionally to look at their pursuers, but they never attempted to attack any of them. Our gentlemen also met with a herd of twelve deer, three only of which had horns, and they were much the largest of the herd, and constantly drove the others away when they attempted to stop. The birds seen by our people were many brent-geese and ptarmigans, several golden plovers, one or two "boatswains," and abundance of snow-buntings. One or two mice were caught; like several others we had seen, these were turning brown about the belly and head, and the back was of a dark grey colour. In every part of the island over which we travelled, the holes and tracks of these little animals were occasionally seen; one of them which Serjeant Martin ran after, finding no

hole near, and that he could not escape, set himself against a stone, as if endeavouring to defend himself, and bit the serjeant's finger when he took hold of him.

On a point of land at the distance of three-quarters of a mile to the W.b.S. of the tents, and within a hundred yards of the sea, the remains of six Esquimaux huts were discovered; they consisted of rude circles, about six feet in diameter, constructed irregularly of stones of all sizes and shapes, and raised to the height of two feet from the ground: they were paved with large slabs of white schistose sandstone, which is here abundant; the moss had spread over this floor, and appeared to be the growth of three or four years. In each of the huts, on one side, was a small separate compartment forming a recess, projecting outwards, which had probably been their store-room; and at a few feet distant from one of the huts was a smaller circle of stones, which had composed the fire-place, the mark of fire being still perceptible upon them. The huts which we

had seen upon Byam Martin Island, as well as those which we had visited on the coast of Greenland in 1818, had each one of these small circles attached to them; there was also a separate pile of stones at a little distance from the huts, on which the ptarmigan had lately taken up their abode, and which was probably another fire-place. If the Esquimaux derive any part of their subsistence from the land, and are under the necessity of coming to this high latitude in quest of it, they will, perhaps, no where find better fare for a month or six weeks than in this neighbourhood, for I have no doubt that, in the months of July and August, the game is here in great plenty. It is scarcely possible, however, upon the whole, that these people could long subsist on any part of Melville Island, the summer season being much too short to allow them to lay in a sufficient stock of provisions for a long and severe winter. It was remarked by Captain Sabine and Mr. Fisher, who had both landed on Byam Martin Island, that the huts we had now discovered ap-

peared to be more recently deserted than the others.

The day was fine and clear, with a moderate wind from the westward till four P.M., when it died away, and was shortly after succeeded by a breeze from the southward, with a fall of snow. When we were setting off to the southward, a herd of five deer came towards the tents, but we did not succeed in killing any of them. We now travelled due south with the intention of getting sight of the Table-hills, and returning by that route to the ships, as there appeared to be nothing more within our reach of sufficient interest to detain us any longer from them. At eight P.M., finding that the people's clothes were becoming wet through by the sleet which fell, we halted and pitched the tents, the wind having freshened up to a strong breeze from S.E.b.S.,and the night being very inclement. There was here a great deal of clay mixed with the soil, and the sandstone began to be almost entirely of a greenish colour.

Early on the morning of the 14th, the

wind veered to the westward, and the weather became gradually more clear; we therefore continued our journey to the southward, and having passed over several ridges of high ground lying across our track, and crossed some ravines lying in a N.E. and S.W. direction, we came in sight of the Table-hills bearing S.E. of us, and at eight A.M. pitched the tents on some dry ground on the bank of a ravine. Two of the men complained of disordered bowels during the last march, occasioned, as they supposed, by having taken too copious a draught of very cold water at setting out in the morning. They were quite relieved, however, by a few hours' rest, and our snow-blindness had now completely left us. The snow-buntings, the only birds seen, were here very numerous, and were flying about our tents all day like sparrows. We moved on towards the Table-hills at five P.M., and crossed several ravines without much water in them, running generally to the north-eastward, and which, therefore, probably empty themselves into Liddon's

Gulf. As the Table-hills are almost entirely composed of the *debris* of limestone, while we had hitherto met with nothing but sandstone, we were anxious to observe when the former would be found to commence, but we met with none of it till within a few hundred yards of the hills, when it began to occur in small pieces lying on the surface, with a little granite and feldspar, the soil being still quite sandy. We halted between the Table-hills at ten o'clock, having travelled eight miles over very swampy ground, and with the snow up to our knees in some of the hollows. We met with no living animals during this part of the journey, and it may be remarked generally, that we always found the game of every kind more abundant near the sea than inland, except on the north coast of Melville Island, which is too barren to afford them subsistence.

As I was desirous of remaining here till after noon, to obtain observations for determining the situation of the Table-hills, the easternmost of which is the most con-

spicuous object on this part of the coast, as well as a mark for the anchorage in the bay of the Hecla and Griper, the people were employed early in the morning in carrying stones to the top of it, where a monument ten feet high, and the same in breadth at its base, was erected by Mr. Fisher, and a copper cylinder, containing a full account of our visit, deposited within it. In the meantime, Captain Sabine and myself were occupied in obtaining the necessary observations, by which the latitude of the hill was found to be 74° 48′ 33″, its longitude 111° 11′ 49″, and the variation of the magnetic needle 123° 05′ 30″ easterly.

It may be imagined, that we looked anxiously towards the sea for any appearance of open water in the offing, but nothing of this kind was visible, though the prospect was a commanding one, as far to the westward as a S.S.W. bearing.

As soon as the observations were completed, we set off for Winter-Harbour, and having passed over much rich and wet ground, abounding with sorrel, which now

began to put forth its leaves with more vigour, arrived on board at seven P.M., having been met, and welcomed most heartily, by almost every officer and man belonging to the ships; and it was no small satisfaction to me to hear it remarked, that the whole of our travelling party appeared in more robust health than when we left them.

CHAPTER IX.

Occurrences at Winter Harbour in the early part of June—Gradual Dissolution of the Ice upon the Sea and of the Snow upon the Land—Hunting Parties sent out to procure Game—Decease and Burial of William Scott—Equipment of the Ships completed—Temperate Weather during the Month of July—Breaking up of the Ice near the Ships—Move to the lower part of the Harbour—Separation of the Ice at the Entrance—Prepare to sail—Abstract of Observations made in Winter Harbour.

I HAD the happiness to find, on my return, that the officers and men in both ships continued to enjoy the same good health as before, with the exception of Scott, who was still the only man in the Hecla's sick-list, and whose complaint seemed such as to baffle every attempt that had been made to produce an amendment. A constant dis-

position to fainting and a languid sort of despondency had been, for some time past, the only symptoms which had induced Mr. Edwards to continue the anti-scorbutic treatment; and this it was sometimes absolutely necessary to discontinue for a day or two together, on account of the weak state of his bowels. During my absence he had been much worse than before, notwithstanding the greatest care and attention paid to him, but he was now once more better. He had lived almost entirely on the ptarmigan and ducks, of which a sufficient quantity had been procured to serve the sick and convalescent in both ships abundantly, and none had at this time been issued to any officer or man in the expedition.

The equipmeut of the ships had gone on satisfactorily during my absence, the Griper being nearly ready for sea, the Hecla not quite so forward, on account of the heavy work with the ballast, of which sixty-five tons had been brought on board, to supply the deficiency of weight in her holds. The survey of the provisions, fuel, and other

stores was completed, and the quantity and condition of them, with the exception of the lemon-juice and vinegar before mentioned, were found to be satisfactory. Indeed, the whole of the provision was ascertained to be as good as when it came out of store, more than twelve months before, except a small quantity of bread and of sugar on the outside part of a few casks, on which a little moisture appeared, and which made it expedient to use those articles first. This excellent state of our provisions must, independently of the antiseptic properties of a cold climate, which is unfavourable to the process of putrefaction or the accumulation of vermin, be mainly attributed to the care which had been taken to supply us with every article of the best quality, and to pack the whole in strong, tight casks, which were at once impervious to water and less liable to damage by accidents in the holds. With respect to vermin, I may here mention, that not a mouse, or rat, or maggot of any kind, ever appeared on board, to my knowledge, during this voyage.

A very perceptible change had taken place in the ice of the harbour on its upper surface, it being covered with innumerable pools of water, chiefly brackish, except close inshore, where the tides had lifted the ice considerably above the level of the sea.

Being desirous of procuring as much game as possible during the remainder of the time we might be destined still to remain in our present inactive state, and finding that the short daily excursions which our sportsmen were enabled to make in the usual way, did not take them to a sufficient distance from the ships for this purpose, I directed a party of officers and men to be prepared from each ship, under Lieutenants Beechey and Hoppner, to remain a few days out, at the distance of ten or twelve to the eastward and westward of the harbour, and to send in their game whenever any should be procured. They accordingly left the ships this evening, carrying with them tents, blankets, fuel, and the same allowance of provisions as was issued on board. Lieutenant Hoppner, who com-

manded the party which went to the south-west, was directed carefully to watch the ice, that any appearance of its breaking up might immediately be made known to me. Captain Sabine and his men were indefatigably employed during the day in pitching a laboratory-tent, having a marquee within it, for the reception of the clocks, it being his wish, now that the weather was more favourable for the purpose, to occupy the whole of the time which might elapse previously to the sailing of the Expedition, in making a fresh series of observations for the pendulums. At half an hour before midnight, a triple rainbow appeared, the outer arch being quite complete, and strongly tinged with the prismatic colours; the second nearly perfect; and the inner one being only perceptible near its eastern leg.

A fog in the early part of the morning being dispersed by the warmth of the sun, the weather became fine and pleasant. Having observed that the sorrel was now so far advanced in foliage as to be easily gathered in sufficient quantity for eating, I

gave orders that two afternoons in each week should be occupied by all hands in collecting the leaves of this plant; each man being required to bring in, for the present, one ounce, to be served in lieu of lemon-juice, pickles, and dried herbs, which had been hitherto issued. The growth of the sorrel was from this time so quick, and the quantity of it so great on every part of the ground about the harbour, that we shortly after sent the men out every afternoon for an hour or two: in which time, besides the advantage of a healthy walk, they could without difficulty pick nearly a pound each, of this valuable antiscorbutic, of which they were all extremely fond. A part of the leaves thus daily collected, was served to the messes, both of officers and men, and eaten in various ways, such as pickles, salad, in puddings, or boiled as greens; in all of which modes it was constantly and abundantly used till we sailed from Winter Harbour, and for three weeks after, whenever an opportunity offered of sending on shore to procure it. Of the

good effects produced upon our health by the unlimited use of fresh vegetable substances, thus bountifully supplied by the hand of nature, even where least to be expected, little doubt can be entertained, as it is well known to be a never-failing specific for scorbutic affections, to which all persons deprived of it for a length of time are probably more or less predisposed. It is reasonable, therefore, to attribute in a great degree to the use of the sorrel, the efficient state of our crews at the time of our recommencing our operations at sea. We found also a few roots of scurvy-grass, but they were too rare and the leaves too small to be of any service to us.

Mr. Wakeham, with a party from the S.W., returned in the evening from a shooting excursion, having killed the first deer that we had procured this season, which gave us sixty pounds of meat. A second, sent in by Lieutenant Beechey on the 19th, weighed only fifty-two pounds, when cleaned, though not of a very small size; but these animals are extremely lean on their

first arrival from the south, and appear to improve in this respect very rapidly by the good feeding they find upon this island.

By the 20th of June the land, in the immediate neighbourhood of the ships, and especially in low and sheltered situations, was much covered with the handsome purple flower of the *saxifraga oppositifolia,* which was at this time in great perfection, and gave something like cheerfulness and animation to a scene hitherto indescribably dreary in its appearance. The poppy and some other plants, which will be described hereafter, and most of which appeared in flower during the month of July, afforded us a degree of enjoyment that made us for a while forget the rigour of this severe climate.

The wind increased to a fresh gale from the north on the night of the 20th, and continued to do so during the following day; so that Captain Sabine had great difficulty in keeping his tents secure, and in spite of every exertion the canvass came in upon one of them and put it out of its place. The ravines, which had no water in them a week before,

were now discharging such deep and rapid torrents into the sea, as to render them quite impassable. The suddenness with which the changes take place during the short season which may be called summer, in this climate, must appear very striking when it is remembered that, for a part of the first week in June, we were under the necessity of thawing artificially the snow, which we made use of for water during the early part of our journey to the northward; that, during the second week, the ground was in most parts so wet and swampy that we could with difficulty travel; and that, had we not returned before the end of the third week, we should probably have been prevented doing so for some time, by the impossibility of crossing the ravines without great danger of being carried away by the torrents, an accident that happened to our hunting parties on one or two occasions, in endeavouring to return with their game to the ships. Lieutenant Hoppner sent in another deer, being the largest of a herd of fifteen, notwithstanding which, it only furnished

us with seventy-eight pounds of venison. Lieutenant Hoppner reported that the pools upon the upper surface of the ice to the south-west were rapidly increasing in size and number, but that no indication of its breaking up had yet appeared.

On the 22d, at four P.M., a thermometer, in the shade on board the Hecla, stood at 51°, being the highest temperature we had yet registered this season. A swan was seen by Mr. Scallon on a pond to the S.W.; this was, I believe, the only bird of the kind seen during our stay here, except a dead one which was picked up on our first arrival.

On the 24th we had frequent showers of snow, which occur in this climate more or less at all times of the year; at this season, however, when the earth is warm, it seldom or never lies on the ground for a whole day together.

Captain Sabine, among the numerous difficulties he had to overcome in completing his series of observations for the pendulum, was now annoyed by the constant thawing

and sinking of the ground, though much pains had been taken to lay a solid foundation for the clocks to stand upon; fortunately, however, no serious inconvenience arose from this new annoyance. Lieutenant Beechey and his people procured another deer, and several hares and birds, which, added to the game already received, afforded a supply sufficient to substitute for three days' regular allowance; while near the ships scarcely a single bird could now be procured. Not doubting, therefore, of the advantage of this plan, I determined to continue it till near the time of our sailing, by relieving the parties after a certain number of days' absence. An account of the total quantity of game obtained during our long stay at Melville Island will be given hereafter. The men were, in general, particularly fond of these excursions, from which they invariably returned in the best possible health, though generally a little thinner than when they went out. As a matter of good policy, it was our custom to consider the heads and hearts of the deer as

the lawful perquisites of those who killed them, which regulation served to increase their keenness in hunting, while it gave the people thus employed rather a larger share of fresh meat than those who remained on board.

Lieutenant Beechey, on his return from the eastward at midnight on the 26th, reported that the ice along shore in that direction appeared in a more forward state of dissolution than near Winter Harbour, there being almost water enough in some places to allow a boat to pass, with several large cracks in the ice extending from the land some distance to seaward. The deer had now become much more wild near the tents, and it was therefore necessary to shift the ground a little. Lieutenant Beechey succeeded in killing one of these animals, by lying down quietly, and imitating the voice of a fawn, when the deer immediately came up to him within gun-shot. The horns of the deer, killed at this season, as Mr. Fisher remarks, were " covered with a soft skin, having a downy pile or hair upon it; the

horns themselves were soft, and at the tips flexible and easily broken." The foxes, of which they saw several, "had a black spot, or patch, on each side of the hind-quarters, or hams." Lieutenant Beechey reported also, that one of the Hecla's quarter-masters, who belonged to his party, had met with the crown-bone of a whale at the distance of a mile from the sea, and considerably above its present level. Another was subsequently found in a similar situation, more than a mile to the north of the harbour, and nearly buried in the earth, which was hard frozen around it. Two headlands, to the eastward of the ships, near the station which Lieutenant Beechey had chosen for the tents, and for the position of which he had obtained angles during his late excursion, were named after Messrs. HALSE and WAKEHAM.

On the 29th, one of the men, in returning on board, from the daily occupation of gathering sorrel, found in a hole upon the ice a small fish, which appeared to be of the whiting species, and on going to examine

the place where it was picked up, Mr. Edwards and myself found two others exactly similar. As there was as yet no communication between the sea and the upper surface of the ice, sufficiently large to admit these fish, it became a matter of question in what manner they had got into the situation in which we found them. It appeared most likely that they were frozen on the surface of the water at the beginning of winter when the frost first commenced, and perhaps, therefore, had been floating there dead. We remarked that whenever any hard substance is laid upon the ice in small quantities, it soon makes a deep hole for itself, by the heat it absorbs and radiates, by which the ice around it is melted. There were at this time upon the ice innumerable holes of this kind, some forming small, and others large pools of water; and in every one of these, without exception, some extraneous substance, such as seaweed, sand, and not unfrequently a number of small putrid shrimps were found. In one of these holes the fish alluded to were.

found. It was curious to see how directly contrary was the effect produced upon the ice by a quantity of straw which was put out upon it in the early part of May, and which, by preventing the access of warmth, had now become raised above the general surface more than two feet; affording a strong practical example of the principle on which straw is made use of in ice-houses, and, what was at that time of more importance to us, a proof how much the upper surface of the ice had been insensibly wasted by dissolution.

Lieutenant Hoppner returned, on the evening of the 29th, from his hunting excursion to the south-west, bringing with him some game, and, what was to us much more acceptable, the welcome information that the ice had been observed in motion in the offing on the 22d. This circumstance was first observed by Messrs. Skene and Fife, who were of Lieutenant Hoppner's party, and who were awakened by a loud grinding noise, which, as they had soon the satisfaction to find, was occasioned by the

heavy field-ice setting rapidly to the eastward, at the distance of five miles from the land, and apparently at the rate of a mile an hour. The wind was at this time moderate, but on the preceding day it had blown a fresh northerly gale.

Lieutenant Hoppner likewise reported that he had, in the course of his late excursion, met with a lake between four and five miles in circumference, situated at the distance of twelve or fourteen miles to the westward of the entrance of Winter Harbour, and four miles from the sea. This lake was still frozen over, but, from the nature of the banks, had the appearance of being deep; and it is, probably, the same which Mr. Fife had fallen in with, at the time he lost his way in September, 1819, and of the situation of which he had not been able to give any satisfactory account.

On the 27th of June, William Scott, of whose complaint I have before had occasion to speak, had become quite delirious, and could only be kept in bed by force. Mr. Edwards was at first in hopes that this was

the effect of some temporary cause, but was afterwards of opinion that it resembled in every respect, a state of absolute and permanent derangement; and this opinion was subsequently strengthened by some circumstances which only now came to our knowledge, and of which an account will be given in another place.

For some days past Scott had been gradually growing worse, and on the evening of the 29th, he was so far exhausted, that Mr. Edwards did not expect him to survive through the night. At two A.M. on the 30th, I was informed by that gentleman, that Scott was dying, and before I could get my clothes on, he had breathed his last, without any apparent pain. As it was proper and desirable, in every respect, that his body should be opened, notwithstanding the prejudice which seamen entertain against this practice, and which it would, perhaps, be as well to overcome by more frequently insisting upon it, I willingly complied with Mr. Edwards's request to be allowed to perform the dissection. The result was satis-

factory to the medical gentlemen in whose charge this unfortunate man had been placed; and, I may be permitted to add, to myself also, inasmuch as it proved his death to have been immediately occasioned by a disease which, perhaps, no skill nor attention could have cured in any climate, or under any circumstances, and having no immediate connexion with our present peculiar situation, or with the nature of the service in which we were engaged.

For the last two or three days, the spring-tides, which had been unusually high, overflowed the ice near the beach, so as to make it difficult to land near high water. In the general appearance of the ice in the harbour, there was no perceptible alteration from day to day, though the thawing process was certainly going on with great rapidity at this period. The officer who relieved Lieutenant Hoppner, in command of the hunting party to the south-west, received strict injunctions to watch the ice constantly, and to make an immediate report of any appearance of open water in any direction.

For the last four or five days in June, we had experienced more of southerly winds than usual, the weather being generally cloudy, with a good deal of small rain, and now and then a little snow; the general temperature of the atmosphere, however, was pleasant and comfortable to our feelings, as well as favourable to the dissolution of the ice, for which we were so anxiously looking.

One of Mr. Nias's party arrived from the eastward on the morning of the 1st of July, with a good supply of hares, ducks, and ptarmigans; he had seen above fifty deer in three days, but they were too wild to allow the party to get near them, in a country without the smallest cover of any kind. Another fish was picked up to-day in a hole on the ice, of the same kind as those before found.

On Sunday the 2d of July, after divine service had been performed, the body of the deceased was committed to the earth, on a level piece of ground about a hundred yards from the beach, with every solemnity

which the occasion demanded, and the circumstances of our situation would permit. The ensigns and pendants were lowered half-mast during the procession, and the remains of our unfortunate shipmate were attended to the grave by every officer and man in both ships. To the performance of this last melancholy duty, under any circumstances sufficiently impressive, the peculiarity of the scene around us, and of the circumstances in which we were placed, could not fail to impart an additional feeling of awful solemnity, which it is more easy to imagine than to describe. A neat tomb-stone was afterwards placed at the head of the grave by Mr. Fisher, who carved upon it the name of the deceased, with the other usual information.

A herd of fourteen deer being seen near the ships, a party was despatched in pursuit of them, with our customary want of success, it being almost impossible to approach them in so open and exposed a country, so that these excursions generally ended in a chase between the men and the deer; some

good dogs would, perhaps, have been serviceable to us on these occasions.

Having taken on board our bower anchors and cables from the beach, on account of the difficulty we should have found in removing them after the ice began to break up, each ship placed two stream anchors on shore with hawsers from the bow and quarter, to hold them in case of any sudden motion of the ice, the pools upon which now increased very perceptibly both in depth and extent from day to day. In looking into these pools, it always appeared, during the day, as if drops of rain were falling into them; this was caused by the continual extrication of air from the ice which was thawing below, and by the rising of the bubbles to the surface. At six P.M. the atmosphere being clear and serene, the thermometer rose to 53° in the shade, but immediately on a moderate breeze springing up from the northward it fell to 45°. On the 5th and 6th, however, it stood for three hours from 50° to 52°, with a fresh breeze from the northward, accompanied

by cloudy weather; and on the afternoons of the two following days, the wind being still northerly, the atmosphere continued for some time at the temperature of 55°.

The dissolution of the ice of the harbour went on so rapidly in the early part of July, that we were greatly surprised, on the 6th, in finding, that in several of the pools of water, on its upper surface, holes were washed quite through to the sea beneath. On examining several of these, we found that the average thickness of the ice, in the upper part of the harbour, where the ships were lying, did not exceed two feet, which was much less than we had any idea of. Towards the mouth of the harbour, however, where the water was deeper, no such holes made their appearance for some days after this. It must here be remarked, that in all cases we found the ice to be first thawed and broken up in the shoalest water, in consequence, I suppose, of the greater facility with which the ground, at a small depth below the surface of the sea, absorbed and radiated the heat of the sun's rays; and,

as it is in such situations that water generally freezes the first, this circumstance seems a remarkable instance of the provision of nature for maintaining such a balance in the quantity of ice annually formed and dissolved, as shall prevent any undue or extraordinary accumulation of it in any part of the Polar regions of the earth. In consequence of this circumstance, we were now enabled, for the first time, to bring our boats down to the beach, so as to allow them to float about high water, in order to prevent their being split by the sun, while in every other part of the harbour, except thus near the shore, we had not the means of doing so till some days afterwards.

On unhanging the rudders, and hauling them up on the ice for examination, we found them a good deal shaken and grazed by the blows they had received during the time the ships were beset at the entrance of Davis' Strait. We found, also, that the rudder-cases in both ships had been fitted too small, occasioning considerable difficulty in getting the rudders down when working,

a circumstance by no means disadvantageous, (perhaps, indeed, rather the contrary,) on ordinary service at sea, but which should be carefully avoided in ships intended for the navigation among ice, as it is frequently necessary to unship the rudder at a short notice, in order to preserve it from injury, as our future experience was soon to teach us. This fault was, however, soon remedied, and the rudders again hung, in readiness for sea. About this time, a few flocks of looms occasionally made their appearance, invariably flying quite round the harbour, exactly over the narrow and only strip of water which I have before described as occurring next the beach, as if looking out for food.

On the 14th, a boat passed, for the first time, between the ships and the shore, in consequence of the junction of a number of the pools and holes in the ice, and on the following day the same kind of communication was practicable between the ships. It now became necessary, therefore, to provide against the possibility of the ships being

forced on shore by the total disruption of the ice between them and the beach, and the pressure of that without, by letting go a bower-anchor underfoot, which was accordingly done as soon as there was a hole in the ice under the bows of each, sufficiently large to allow the anchors to pass through. We had now been quite ready for sea for some days; and a regular and anxious look-out was kept from the crow's-nest for any alteration in the state of the ice, which might favour our departure from Winter Harbour, in which it now became more than probable that we were destined to be detained thus inactively for a part of each month in the whole year, as we had reached it in the latter part of September, and were likely to be prevented leaving it till after the commencement of August.

From six A.M. till six P.M. on the 17th, the thermometer stood generally from 55° to 60°; the latter temperature being the highest which appears in the Hecla's Meteorological Journal during this summer. It will readily be conceived how pleasant

such a temperature must have been to our feelings after the severe winter which immediately preceded it. The month of July is, indeed, the only one which can be called at all comfortable in the climate of Melville Island.

On the 18th I rowed round the harbour in a boat, in order to take the soundings as far as the ice would permit; when it was worthy of remark how exactly the extent of the clear water between the ice and the shore corresponded with its depth, it being nearly a quarter of a mile wide on the north-eastern side of the harbour, where the deepest water was from eight to ten feet; while on the western side where we found two fathoms, the passage for the boat did not exceed forty or fifty yards in width. This channel was almost daily becoming wider, especially after a strong breeze from any quarter causing a ripple on the sea, by which the edge of the ice was constantly washed and rapidly dissolved. My intention, therefore, at this time was carefully to watch the increasing breadth of this open

water; and, whenever a depth of three fathoms could be found, to warp the ships through it along-shore, as the only means which appeared likely to be allowed us of commencing our summer's navigation.

On the 20th, there being a strong breeze from the N.N.E., with fog and rain, all favourable to the dispersion of the ice, that part of it which was immediately around the Hecla, and from which she had been artificially detached so long before, at length separated into pieces, and floated away; carrying with it the collection of ashes and other rubbish which had been accumulating for the last ten months; so that the ship was now once more fairly riding at anchor, but with the ice still occupying the whole of the centre of the harbour, and within a few yards of her bows: the Griper had been set free in a similar manner a few days before. But it was only in that part of the harbour where the ships were lying that the ice had yet separated in this manner at so great a distance from the shore; a circum-

stance probably occasioned by the greater radiation of heat from the ships, and from the materials of various kinds which we had occasion to deposit upon the ice during the time of our equipment.

Lieutenant Liddon accompanied me in a boat down the west shore of the harbour, to the southern point of the entrance, in order to sound along the edge of the ice, where we found from seven to fifteen feet water; the ice about the entrance appeared still very solid and compact, and not a single hole was at this time noticed through any of the pools upon its surface, except one which was made by a seal, and which discovered the thickness of the ice to be there between two and three feet.

Mr. Dealey, with a hunting party, returned late at night without success, having lost his way in a thick fog, that hung over the land at intervals during the day, a circumstance which did not often occur while the ships remainded in harbour: we frequently, however, especially in the month

of July, perceived heavy fog-banks covering the horizon in the offing, while the weather was perfectly clear near the shore.

On the 21st, Mr. Fife returned from our hunting station twelve or fourteen miles to the south-west, and reported that the appearance of the ice in that quarter was much the same as in Winter Harbour, except that the space between the ice and the land was in most parts not so broad.

There was a fresh breeze from the north-eastward, with fine clear weather, on the 22d, which made the Hecla swing round into twenty feet water astern; and the ice, being now moveable in the harbour, came home towards the shore with this wind, but not so much as to put any considerable strain on the cable of either ship; and the holding-ground being excellent, there was nothing to apprehend for their security.

During a walk which I took to the southward this day for the purpose of examining the ice near the mouth of the harbour, I was glad to find that a quantity of it had lately been forced up on the reef, by the

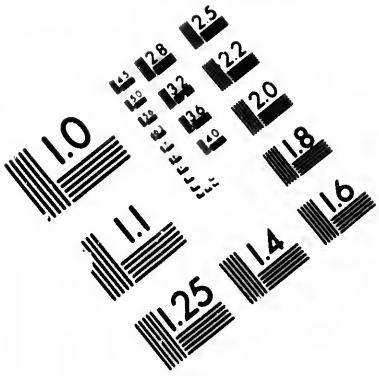
pressure of the external ice, a proof that it had some room in which to acquire motion, and which encouraged a hope that when the wind should blow directly off the land, it might drift the ice sufficiently from the shore to afford us a navigable channel to the westward. I, therefore, went down in a boat in the afternoon, to see if any thing could be done, but found the shore so loaded with broken ice which a north-east wind had first separated and then drifted upon the beach, that I could not get so far as the south point of the entrance.

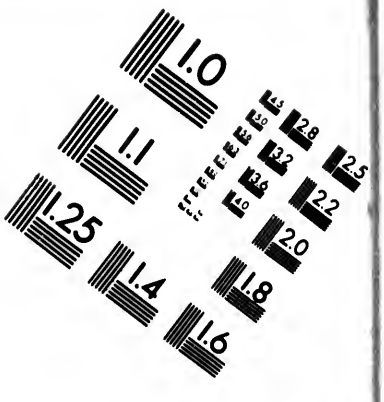
A fresh gale which blew from the northward, on the morning of the 23d, caused a great alteration in the appearance of the ice near the ships, but none whatever in that in the offing, or at the mouth of the harbour, except that the shores were there more encumbered than before, owing to the quantity of pieces which were separated and driven down from the northward, so that our small boat could not succeed in getting along the shore. The north shore of the harbour was now, however, so clear

as to induce me to send Lieutenant Beechey, with two boats to haul the seine, in the hope of catching some such fish as we had some time ago found upon the ice. Our fishermen, however, had little success, having brought on board only three small fish, which were all that were found in the net.

On the 24th, the sails were bent, in readiness for our starting at a moment's notice, though, it must be confessed, that the motive for doing so was to make some shew of moving, rather than any expectation which I dared to entertain of soon escaping from our long and tedious confinement; for it was impossible to conceal from the men the painful fact, that, in eight or nine weeks from this period, the navigable season must unavoidably come to a conclusion.

I went away in a boat early on the morning of the 25th, in order to sound the harbour, in those parts where the ice would admit the boat, with a view to take advantage of the first favourable change which might present itself. The wind having come round to the southward in the after-





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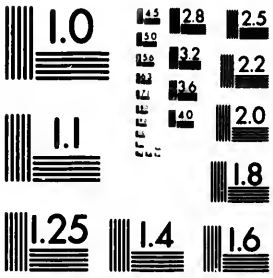

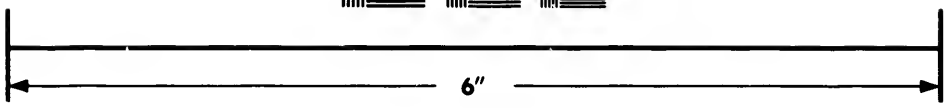

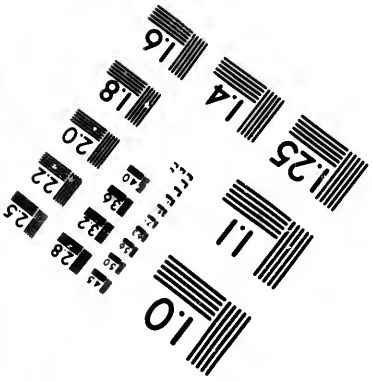

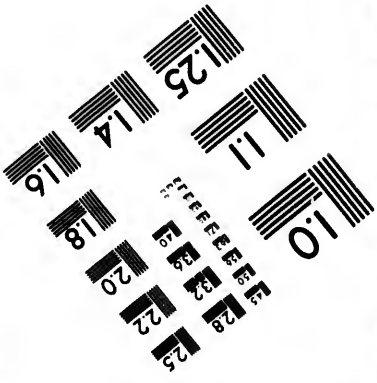

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noon, caused the separation of a large portion of ice on the northen side of that which now occupied the harbour, and the detached pieces drifting down towards us, rendered it necessary to be on our guard, lest the ships should be forced from their anchorage. On this account, as well as from an anxious and impatient desire to make a move, however trifling, from a spot in which we had now unwillingly but unavoidably passed nearly ten months, and of which we had long been heartily tired, I directed lines to be run out for the purpose of warping the ships along the ice in the centre of the harbour, and at half-past two P. M. the anchors were weighed. As soon as a strain was put upon the lines, however, we found that the ice to which they were attached came home upon us, instead of the ships being drawn out to the southward, and we were, therefore, obliged to have recourse to the kedge-anchors, which we could scarcely find room to drop, on account of the closeness of the ice. Having warped a little way out from the shore, into five fathoms and a half, it

was found impossible to proceed any farther without a change of wind, and the anchors were, therefore, dropped till such a change should take place. In the course of the evening all the loose ice drifted past us to the northward, loading that shore of the harbour with innumerable fragments of it, and leaving a considerable space of clear water along shore to the southward. Our hunting parties were now recalled, and returned on board in good health in the course of this and the following day; having supplied us, during the whole time which this mode had been adopted, with a quantity of game sufficient to substitute for more than one month's established proportion of meat on board both ships. Their success had of late, however, become very indifferent, as they had not seen a deer for several days, and the birds were grown extremely shy. A herd of seven musk-oxen had lately been met with to the south-west.

On the morning of the 26th, it was nearly calm, with continued rain and thick weather; and there being now a space of clear water

for nearly three quarters of a mile to the southward of us, we took advantage of a breeze which sprung up from the northward to weigh, at nine A.M., and run down as far as the ice would permit, and then dropped our anchors in the best births we could select, close to the edge of it, with the intention of advancing step by step, as it continued to separate by piece-meal. The ice across the entrance of the harbour as far as this spot, and the whole of that in the offing, of which we had here a commanding view from the Hecla's crow's-nest, was still quite continuous and unbroken, with the same appearance of solidity as it had during the middle of winter, except that the pools of water were numerous upon its surface.

The wind being from the S.S.W. during the night of the 30th, served to close the lane of water which had appeared in the offing the preceding day, which we considered a favourable circumstance, as shewing that the external mass of ice was in motion. In the course of the day, the wind shifting to the W.N.W., we once more discovered a small

opening between the old and young floes, and at eleven P.M., the whole body of the ice in the harbour was perceived to be moving slowly out to the south-eastward, breaking away, for the first time, at the points which form the entrance of the harbour. This sudden and unexpected change rendering it probable that we should at length be released, I sent to Captain Sabine, who had been desirous of continuing his observations on the pendulum to the last moment, to request he would have the clocks ready for embarkation at an early hour in the morning.

I furnished Lieutenant Liddon with instructions for his future guidance during the ensuing season of operations, appointing also certain places of rendezvous, to facilitate our meeting, in case of unavoidable separation during that period. I sent also on board the Griper, in compliance with my Instructions on that head, a chart of our late discoveries, together with a duplicate copy of every document of interest relating to the Expedition.

CHAPTER X.

Leave Winter Harbour—Flattering Appearance of the Sea to the Westward—Stopped by the Ice near Cape Hay—Further Progress to the Longitude of 113° 48′ 22.5″, *being the Westernmost Meridian hitherto reached in the Polar Sea, to the North of America—Banks's Land discovered—Increased Extent and Dimensions of the Ice—Return to the Eastward, to endeavour to penetrate the Ice to the Southward—Discovery of several Islands—Re-enter Barrow's Strait, and survey its South Coast—Pass through Sir James Lancaster's Sound, on our Return to England.*

The wind still blowing fresh from the northward and westward, the ice continued to drift out slowly from the harbour, till, at eight A.M. August 1st, it had left the whole space between the ships and Cape Hearne completely clear, and at eleven o'clock there

appeared to be water round the hummocks of ice which lie aground off that point. In the mean time, our boats were employed in embarking the clocks, tents, and observatory, while I sounded the entrance of the harbour, in order to complete the survey, which no opportunity had offered of doing before this time. At one P.M., having got every thing on board, and the ice appearing to be still leaving the shore, we weighed, and ran out of Winter Harbour, in which we had actually, as had some time been predicted, passed ten whole months, and a part of the two remaining ones, September aud August. The mind is always anxious, however, to find some ground of encouragement and hope for attaining the object of its pursuit, and we did not fail to remember, on this occasion, that short as our season of navigation must of necessity be, we were about to begin that season on the anniversary of the day on which we had commenced our discoveries from the entrance of Sir James Lancaster's Sound westward, in the preceding year; and that if we were

favoured with the same degree of success during the same period as before, there could be little doubt of the eventual accomplishment of our enterprise.

In running along shore towards Cape Hearne, generally at the distance of half a mile from the land, we had from ten to sixteen fathoms' water, and rounded the hummocks off the point in six and a half fathoms by three P.M. As we opened the point, it was pleasing to see that the coast to the westward of it was more clear of ice, (excepting the loose pieces which lay scattered about in every direction, but which would not very materially have impeded the navigation with a fair wind,) than it had been when we first arrived off it, a month later in the foregoing year; the main ice having been blown off by the late westerly and north-westerly winds, to the distance of four or five miles from the shore, which, from all we have seen on this part of the coast, appears to be its utmost limit. The navigable channel, with a beating wind between the ice and the land, was here from one to

two or two miles and a half in width, and this seemed, from the mast-head, to continue as far as the eye could reach along-shore to the westward.

We found the wind much more westerly after we rounded the point which made our progress slow and tedious; the more so, as we had every minute to luff for one piece of ice, and to bear up for another, by which much ground was unavoidably lost. We also found the ships to be considerably impeded by a tide or current setting to the eastward, which, as it slackened about seven in the evening, I considered to be the flood, the time of high water at Winter Harbour this day being about half-past seven. After a very few tacks, we had the mortification to perceive, that the Griper sailed and worked much worse than before, notwithstanding every endeavour which Lieutenant Liddon had been anxiously making, during her re-equipment, to improve those qualities in which she had been found deficient. She missed stays several times in the course of the evening, with smooth water and a fine

working breeze; and, by midnight, the Hecla had gained eight miles to windward of her, which obliged me to heave-to, notwithstanding the increased width of the navigable channel, the weather having become hazy, so as to endanger our parting company.

At three A.M., on the 2d, the Griper having joined us, we again made sail to the westward. As, however, I could not but consider that her bad sailing had already lost us a distance of at least seven miles in the first day after our leaving harbour; and as it was evident that such detention must, if continued, absolutely preclude the possibility of accomplishing the main object of the Expedition, I addressed a letter to Lieutenant Liddon, desiring to be made acquainted with all the circumstances of the Griper's incapacity, that immediate steps might be taken either for improving her trim by any means in our power, or, in the event of failing to do so, for removing her crew and provisions to the Hecla, and prosecuting the voyage in that ship singly.

During the whole forenoon of the 2d,

we observed a well-defined line of ripple, at the distance of two or three miles from the land, and a few hundred yards from the edge of the ice, running parallel to the shore. We tried the current about noon, by the small boat moored to the bottom, on each side of this ripple; and found that outside, or to the southward of it, it was running to the eastward at the rate of one mile per hour, while within it, no current was perceptible. Our latitude, at noon, by an indifferent observation, was 74° 36′ 33″, and the longitude by account 110° 59′, being in forty-nine fathoms water, on a bottom of blue clay.

Soon after noon, a breeze sprung up from the S.S.W., which, being rather upon the shore, made it likely that the ice would soon begin to close it; we therefore began to look out for a situation where the ships might be secured in-shore, behind some of the heavy grounded ice, which had so often before afforded us shelter, under similar circumstances. At one o'clock, we perceived that a heavy floe had already closed completely in with the land, at a point a little to the west-

ward of us, preventing all hope of further progress for the present in that direction. A boat was therefore sent to examine the ice in-shore, and a favourable place having been found for our purpose, the ships were hauled in, and secured there, the Griper's bow resting on the beach, in order to allow the Hecla to lie in security without her. This place was so completely sheltered from the access of the main body of the ice, that I began to think seriously of taking advantage of this situation to remove the Griper's crew on board the Hecla, and had consulted the officers upon the subject. The circumstances, however, which subsequently occurred, rendering such a measure inexpedient, because no longer necessary to the accomplishment of the object in view, by which alone it could be justified, I was induced to give it up, adopting the best means in our power to remedy the evil in question.

The beach near which we were lying is so bold, that in standing off-and-on in the afternoon, in more than one part, we had from seven to ten fathoms at two hundred

yards from the shore; to which distance, from the confidence we had acquired in the regularity of the soundings, we had no hesitation in standing as often as there was occasion to do so, and always without any apparent risk. So perfectly free from danger, indeed, is the whole of this coast, as long as the hand-leads are kept going, that it has often occurred to me as not improbable, that the annual motion of large and heavy masses of ice may in some degree prevent the accumulation of sandy shoals near the shore, where local circumstances might otherwise tend to produce them, as in other seas.

Shortly after our anchoring, the Griper's people heard the growling of a bear among the ice near them, but the animal did not appear; and this was the only instance of our meeting with a bear during our stay at Melville Island, except that which followed one of our men to the ships, soon after our arrival in Winter Harbour. Both crews were sent on shore to pick sorrel, which was here not less abundant than at our old quar-

ters, but it was now almost too old to be palatable, having nearly lost its acidity and juice. We were here a mile or two to the westward of Lieutenant Hoppner's hunting station, and the wall which he had built round his tents, with a boarding-pike in the middle of it, was visible from the ships. The only game we obtained here consisted of a few king-ducks, some of the young of which were also procured.

The snow which fell in the night was, in the morning of the 3d, succeeded by a thick fog, which continued during the day preventing our seeing the state of the ice to the westward. I, therefore, despatched Mr. Palmer in a boat to the point, for the purpose of ascertaining whether it was still close there. On his return in an hour, Mr. Palmer reported that no alteration had taken place since the preceding day, there not being sufficient room for the smallest boat to pass between the ice and the point, close to which he found a depth of nine fathoms. At night the wind got round to W.N.W., and afterwards to north, which made the weather

clear, and gave us hopes of the ice drifting off the land.

At one A.M. on the 4th, the loose ice was observed to be drifting in upon us, the wind having veered to the eastward of north; and soon after a floe, of not less than five miles in length, and a mile and a half across, was found to be approaching the shore at a quick rate. The ships were immediately hauled as near the shore as possible, and preparation made for unshipping the rudders, if necessary. The floe was brought up, however, by the masses of ice aground outside of us, with which it successively came in contact, and the ships remained in perfect security; the floe, as usual after the first violence is over, moved off again to a little distance from the shore. The meridian altitude of the sun gave the latitude of this station 74° 36′ 06″, and the longitude, by the chronometers, was 111° 16′ 39″.

At noon, the heavy floe at the point near us began to quit the land, and at half-past one P.M., there being a narrow passage between them, the breadth of which the breeze

was constantly increasing, we cast off and stretched to the westward. The channel which opened to us as we proceeded, varied in its general breadth from one to two miles; in some places it was not more than half a mile. The soundings were very regular, and sufficiently deep close to the shore; in one place we found twenty-three fathoms at one hundred yards from the beach, in another fourteen at sixty or seventy yards. At seven P.M., we passed the place where we had been detained so long during the preceding September, and where Mr. Fife and his party had been lost. We here seemed to be among our old acquaintance, and among these, the berg to which we had been anchored during so many days of anxiety and fruitless labour was easily recognised, as well as the pile of stones which had been erected on the hill above it. The wind was variable and squally, but we made great progress along the land to the S.W.b.W., and the Griper, by keeping up tolerably with the Hecla, in some measure redeemed her character with us. Having arrived off Cape Providence at ele-

ven P.M., the wind became light and baffling, so that we had just got far enough to see that there was a free and open channel, beyond the westernmost point visible of Melville Island, when our progress was almost entirely stopped for want of a breeze to enable us to take advantage of it. The anxiety which such a detention occasions, in a sea where, without any apparent cause, the ice frequently closes the shore in the most sudden manner, can perhaps only be conceived by those who have experienced it. We had now, also, arrived off that part of the coast which, from Cape Providence westward, is high and steep near the sea, having no beach or shelving shore on which the heavy masses of ice can fix themselves, so as to afford security to a ship when the floes approach the land, which circumstance increased the anxiety we felt to push on, while the present opportunity offered, with all rapidity to the westward. We remarked, in sailing near the ice this evening, while the wind was blowing a fresh breeze off the land and therefore directly towards the ice, that

it remained constantly calm within three or four hundred yards of the latter; this effect I never remember to have witnessed before, upon the windward side of any collection of ice, though it invariably happens in a remarkable degree to leeward of it. I may here mention, as a striking proof of the accuracy with which astronomical bearings of objects may be taken for marine surveys, that the relative bearing of Capes Providence and Hay, as obtained this evening when the two headlands were opening, differed only one minute from that entered in the surveying-book, and found in the same manner, the preceding year.

We had this evening occasion to observe once more that darkness in the horizon to the southward, and as far as a S.S.W. bearing, which had been noticed from this station, in 1819, and more frequently since that time, during our detention in Winter Harbour, as bearing a great resemblance to the loom of land in that quarter. We were the more inclined to the belief that there was land at no very great distance to the southward,

from the conviction that there must be something which prevented the ice being drifted off the shore of Melville Island, in this place more than five or six miles, with any direction or force of wind.

There was a very light air on the morning of the 5th, which died away an hour before noon, when the opportunity was taken to bring up some water from the depth of one hundred and five fathoms. Its temperature on coming to the surface was 32°, that of the surface water being 31¼°, and of the air 34°. The depth of water here was two hundred and twenty-five fathoms, on a bottom of dark-brown clay, at the distance of four miles from the land; the latitude observed being 74° 21′ 49″, and the longitude by chronometers 112° 48′ 18″.

At one P.M., the weather continuing quite calm, and being desirous of examining the ice in-shore, that we might be ready for the floes closing upon us, I left the ship, accompanied by Captain Sabine and Mr. Edwards, and landed near one of the numerous deep and broad ravines, with which the whole of

this part of the island is indented. All the ice which was here fixed to the ground was literally upon the beach, with a very deep water close alongside of it, and none of the masses projected to a sufficient distance from the shore to afford the smallest shelter to the ships in case of accidents. We saw several white hares here, and on this and many subsequent occasions found them frequent the sides of the high banks which face the south, and where there is usually a plentiful vegetation for them to feed upon. We were ascending the hill, which was found by trigonometrical measurement to be eight hundred and forty-seven feet above the level of the sea, and on which we found no mineral production but sandstone and clay ironstone, when a breeze sprung up from the eastward, bringing up the Griper, which had been left several miles astern. We only stopped, therefore, to obtain observations for the longitude and the variation of the magnetic needle; the former of which was 112° 53′ 32″, and the latter 110° 56′ 11″ easterly, and then immediately returned on

board and made all sail to the westward. After running for two hours without obstruction, we were once more mortified in perceiving that the ice, in very extensive and unusually heavy floes, closed in with the land a little to the westward of Cape Hay, and our channel of clear water between the ice and the land gradually diminished in breadth till at length it became necessary to take in the studding sails, and to haul to the wind, to look about us. I immediately left the ship, and went in a boat to examine the grounded ice off a small point of land, such as always occurs on this coast at the outlet of each ravine. I found that this point offered the only possible shelter which could be obtained, in case of the ice coming in; and I, therefore, determined to take the Hecla in-shore immediately, and to pick out the best birth which circumstances would admit. As I was returning on board with this intention I found that the ice was already rapidly approaching the shore; no time was to be lost, therefore, in getting the Hecla to her intended station, which was effected

by half-past eight P.M., being in nine to seven fathoms water, at the distance of twenty yards from the beach, which was lined all round the point with very heavy masses of ice, that had been forced by some tremendous pressure into the ground. Our situation was a dangerous one, having no shelter from ice coming from the westward, the whole of which, being distant from us less than half a mile, was composed of floes infinitely more heavy than any we had elsewhere met with during the voyage. The Griper was three or four miles astern of us at the time the ice began to close, and I therefore directed Lieutenant Liddon by signal to secure his ship in the best manner he could, without attempting to join the Hecla; he accordingly made her fast at eleven P.M., near a point like that at which we were lying, and two or three miles to the eastward.

At the time of making the Hecla fast, a current was setting to the westward, at the rate of a mile and a half an hour, with a strong eddy running into the bight where we lay; at ten P.M. it took a sudden turn, all

the loose ice near us running past the ship out of the bight, and the floes outside beginning to set to the eastward, and towards the land withal. We, therefore, hauled the ship still more into the bight formed by the point, getting her into four fathoms abaft and six forward, and abreast a part of the beach where there was not quite so much heavy ice within us, to endanger the ship being crushed. This was done from a belief that, if the floes came in, the ship must inevitably be "nipped," and in this case it was better to be lying in six fathoms than nine; besides, the masses of ice now inside of us, not being so large as the rest, might possibly be forced up on the shore before the ship, instead of offering so great a resistance as to expose her to all the force of the squeeze. On the whole of this steep coast, wherever we approached the shore, we found a thick stratum of blue and solid ice, firmly embedded in the beach, at the depth of from six to ten feet under the surface of the water. This ice has probably been the lower part of heavy masses forced aground by the pres-

sure of the floes from without, and still adhering to the viscous mud of which the beach is composed, after the upper part has, in course of time, dissolved. Captain Sabine suggested, that the underground ice found in cold countries, and to which I have before alluded, might thus have been deposited. The land gains upon the sea, as it is called, in process of time, as it has certainly done here, from the situation in which we found drift-wood and the skeletons of whales; the ice which fixes itself upon the beach is annually covered in part by alluvial deposit, and thus may a connected stratum of it be buried for ages several feet below the surface of the earth. From the tops of the hills in this part of Melville Island a continuous line of this sub-marine ice could be distinctly traced for miles along the coast.

In running along the shore this evening, we had noticed near the sea what at a distance had every appearance of a high wall artifically built, and which was the resort of numerous birds. Captain Sabine, being desirous to examine it, as well as to procure

some specimens of the birds, set out, as soon as we anchored, for that purpose, accompanied by his servant and Serjeant Martin. The wall proved to be composed of sand-stone in horizontal strata from twenty to thirty feet in height, which had been left standing, so as to exhibit its present artificial appearance, by the decomposition of the rock and earth about it. Large flocks of glaucous gulls had chosen this as a secure retreat from the foxes, and every other enemy but man; and when our people first went into the ravine in which it stands, they were so fierce in defence of their young, that it was scarcely safe to approach them till a few shots had been fired.

Besides a number of gulls, Captain Sabine and his party brought with them ten hares, which, together with what we had obtained as we came along the land, furnished us with a fresh meal for the whole crew. Captain Sabine also brought me word from Lieutenant Liddon that the Griper was in a situation exactly similar to that of the Hecla, where "nipping" appeared unavoidable if

the floes should come in. The ice remained quiet, however, about the Hecla during the day, even though a strong breeze freshened up from the E.S.E., with continued snow; a circumstance which, while it added to our present security, did not give us very flattering hopes that there could be any room for the ice to drift to the westward. In the course of the evening I heard again from the Griper, Lieutenant Liddon informing me that the floes had once come in towards her, so as to lift her two feet out of the water, and then retired without doing any damage. I acquainted Lieutenant Liddon with the similarity of our situation to his, and desired him not to join us at present, even should the ice open sufficiently to allow him to do so; for there was not room for the two ships where the Hecla was lying, and the chances of saving one of them from the catastrophe we had reason to apprehend, were greater by their being separate. At eleven P.M. a narrow lane of water opened near the Griper, extending about three miles to the S.S.W.; near us it had also slackened

a little about midnight, but it would have been difficult to find a "hole" of water in which a boat could have floated, more than three hundred yards beyond the ship.

On the morning of the 7th, a black whale came up close to the Hecla, being the first we had seen since the 22d of August the preceding year, about the longitude of 91¾° W.; it therefore acquired among us the distinctive appellation of *the* whale. Since leaving Winter Harbour, we had also, on two or three occasions, seen a solitary seal. The wind continued fresh from the east and E.N.E. in the morning, and the loose ice came close in upon us, but the main body remained stationary at the distance of nearly half a mile. Considering that it might be of service to know the state of the ice farther to the south and west than the view from the Hecla's mast-head would allow us, I despatched Lieutenant Beechey with one of the marines, along the top of the hills to the westward, for that purpose. At two P.M. he returned with a fawn, which gave us thirty-eight pounds of venison, and with the in-

formation of having discovered land from W.S.W. to S.S.W. at a great distance, and the loom of it also extending as far round to the eastward as a S.E. bearing. Lieutenant Beechey considered the general distance of the land to be from forty to fifty miles, the nearest being about a S.S.W. bearing, and three capes could be plainly distinguished with a glass. The report of the state of the ice was by no means favourable to our hopes, the sea being covered with floes as far as the eye could reach, and the space between them so filled with broken ice, or the floes so closely joined, that scarcely a "hole" of water was to be seen.

In the afternoon, a man from each mess was sent on shore to pick sorrel, which was here remarkably fine and large, as well as more acid than any we had lately met with. The shelter from the northerly winds, afforded by the high land on this part of the coast, together with its southern aspect, renders the vegetation here immediately next the sea much more luxuriant than in most parts of Melville Island which we visited;

and a considerable addition was made to our collection of plants, of which an account is given in another place.

The easterly breeze died away in the course of the day, and at three P.M. was succeeded by a light air from the opposite quarter; and as this freshened up a little, the loose ice began to drift into our bight, and that on the eastern side of the point to drive off. It became expedient, therefore, immediately to shift the ship round the point, where she was made fast in four fathoms abaft, and seventeen feet forward, close alongside the usual ledge of submarine ice, which touched her about seven feet under water, and which, having few of the heavy masses aground upon it, would, probably have allowed her to be pushed over it, had a heavy pressure occurred from without. It was the more necessary to moor the ship in some such situation, as we found from six to seven fathoms water, by dropping the hand-lead down close to her bow and quarter on the outer side.

We had scarcely secured the ship, when

the wind once more shifted to the eastward, and the loose ice almost immediately began to move back in the opposite direction. The wind being however rather off the land than otherwise, I preferred remaining in our present situation, on account of the safer beach which we found here; and as there was, in other respects, little or no choice betwixt the two places, unless the wind came more on the land. At half-past ten P.M., the loose ice began to fill up the small space which had hitherto been clear about the ship, although the wind was at N.E., which is more off the land than we had before experienced it. Several heavy pieces of floes drove close past us, not less than ten or fifteen feet in thickness, but they were fortunately stopped by a point of land without coming in upon us. At eleven o'clock, however, a mass of this kind, being about half an acre in extent, drove in, and gave the ship a considerable "nip" between it and the land-ice, and then grazed past her to the westward. I now directed the rudder to be unhung, and the ship to be

swung with her head to the eastward, so that the bow, being the strongest part, might receive the first and heaviest pressure.

The ice did not disturb us again till five A.M. on the 8th, when another floe-piece came in, and gave the ship a heavy rub, and then went past, after which it continued slack about us for several hours. Every thing was so quiet at nine o'clock, as to induce me to venture up the hill abreast of us, in order to have a view of the newly-discovered land to the south-west, which, indeed, I had seen indistinctly and much refracted from the Hecla's deck in the morning. The weather being rather unfavourable, I had not so clear a view as Lieut. Beechey, but I distinctly saw high and bold land from S. 75° W. to S. 30° W., the part most plainly visible, and appearing the nearest, being at a S. 55° W. bearing. The general distance of this land, I considered to be somewhat greater than that at which Lieutenant Beechey had estimated it, and it is placed on the chart at from sixteen to eighteen leagues from the station at which the

ships were lying. This land, which extends beyond the 117th degree of west longitude, and is the most western yet discovered in the Polar Sea, to the northward of the American Continent, was honoured with the name of BANKS'S LAND, out of respect to the late venerable and worthy President of the Royal Society, whose long life was actively engaged in the encouragement and promotion of discovery and general science.

The loom of land was frequently seen as far as a south-east bearing from the present station of the ships, which corresponds with the appearances often observed during our stay in Winter Harbour; as I have scarcely a doubt, therefore, that this forms a continuation of Banks's Land, which is, in all probability, another island of the North Georgian group, I have marked it on the chart by an unshaded line as far as the above bearing.

From the top of the hill, not a "hole" could be seen in the ice in any direction; the wind being extremely variable during

the day, kept us in a constant state of anxiety, lest the ice should come in, but it gave us no disturbance. A few hares were brought in by our sportsmen, and a dovekey was seen, being the first for this season.

On the morning of the 9th, a musk-ox came down to graze on the beach, near the ships. A party was despatched in pursuit, and having hemmed him in under the hill, which was too steep for him to ascend, succeeded in killing him. When first brought on board, the inside of this animal, which was a male, smelt very strongly of musk, of which the whole of the meat also tasted, more or less, and especially the heart. It furnished us with four hundred and twenty-one pounds of beef, which was served to the crews as usual, in lieu of their salt provisions, and was very much relished by us, notwithstanding the peculiarity of its flavour.* The meat was remarkably fat, and,

* Some pieces of this meat, which we brought to England, were found to have acquired a much more disagreeable flavour than when first killed, though,

as it hung up in quarters, looked as fine as any beef in an English market. A small seal, killed by the Griper's people, was also eaten by them; and it was generally allowed to be very tender and palatable, though not very sightly in its appearance, being of a disagreeable red colour.

In the morning watch, a breeze sprung up from the westward, which we were always ready to welcome, having found that it invariably served to open the ice, while an easterly wind as constantly made it closer. This was, however, of short duration, being succeeded soon after noon by a light air from the south-east, which brought all the loose ice into our bight. At half-past three P.M., a large piece of a very heavy floe came close to us, and would have given us a "nip" against the shore, had we not avoided it by heaving the ship a few yards a-head in good time. It was then brought up by the point of land, and remained quietly half a cable's length astern of us, there not

they had not undergone putrefaction in the slightest degree.

being room for it to drift farther to the westward between the point and an enormous floe which blocked up the passage to the southward and westward.

At ten P.M., the whole body of ice, which was then a quarter of a mile from us, was found to be drifting in upon the land, and the ship was warped back a little way to the westward, towards that part of the shore, which was most favourable for allowing her to be forced up on the beach. At eleven o'clock, the piece of a floe, which came near us in the afternoon, and which had since drifted back a few hundred yards to the eastward, received the pressure of the whole body of ice, as it came in. It split across in various directions, with a considerable crash, and presently after we saw a part, several hundred tons in weight, raised slowly and majestically, as if by the application of a screw, and deposited on another part of the floe from which it had broken, presenting towards us the surface that had split, which was of a fine blue colour, and very solid and transparent. The violence with

which the ice was coming in being thus broken, it remained quiet during the night, which was calm, with a heavy fall of snow.

The mass of ice which had been lifted up the preceding day, being drifted close to us on the morning of the 10th, I sent Lieutenant Beechey to measure its thickness, which proved to be forty-two feet; and, as it was a piece of a regular floe, this measurement may serve to give some idea of the general thickness of the ice in this neighbourhood.

It now became evident, from the combined experience of this and the preceding year, that there was something peculiar about the south-west extremity of Melville Island, which made the icy sea there extremely unfavourable to navigation, and which seemed likely to bid defiance to all our efforts to proceed much farther to the westward in this parallel of latitude. We had arrived off it on the 17th of September, 1819, after long and heavy gales from the north-westward, by which alone the ice is ever opened on this coast, and found it, in unusually heavy and extensive fields, com-

pletely closing in with the land, a mile or two to the eastward of where we were now lying. We again arrived here in the early part of August, and though the rest of the navigation had been remarkably clear for fifty miles between this and Winter Harbour, seeming to afford a presumptive proof that the season was rather a favourable one than otherwise, the same obstruction presented itself as before; nor did there appear, from our late experience, a reasonable ground of hope, that any fortuitous circumstance, such as an alteration in winds or currents, was likely to remove the formidable impediments which we had now to encounter. The increased dimensions of the ice hereabouts would not alone have created an insurmountable difficulty in the navigation, but that it was very naturally accompanied by a degree of closeness which seldom or never admitted an open space of clear water of sufficient size for a ship, or even a boat, to sail in. We had been lying near our present station with an easterly wind blowing fresh for thirty six hours to-

gether; and although this was considerably off the land, beyond the western point of the island now in sight, the ice had not, during the whole of that time, moved a single yard from the shore; affording a proof that there was no space in which the ice was at liberty to move to the westward, and offering a single and a striking exception to our former experience.

Under these circumstances, I began to consider whether it would not be advisable, whenever the ice would allow us to move, to sacrifice a few miles of the westing we had already made, and to run along the margin of the floes, in order to endeavour to find an opening leading to the southward, by taking advantage of which we might be enabled to prosecute the voyage to the westward in a lower latitude. I was the more inclined to make this attempt, from its having long become evident to us, that the navigation of this part of the Polar Sea is only to be performed by watching the occasional openings between the ice and the shore; and that, therefore, a continuity of

land is essential, if not absolutely necessary, for this purpose. Such a continuity of land, which was here about to fail us, must necessarily be furnished by the northern coast of America, in whatsoever latitude it may be found; and, as a large portion of our short season had already been occupied in fruitless attempts to penetrate farther to the westward in our present parallel, under circumstances of more than ordinary risk to the ships, I determined, whenever the ice should open sufficiently, to put into execution the plan I had proposed.

The westerly wind cleared us by slow degrees of the loose masses of ice about the ship, and in the afternoon the main body went off about three hundred yards, drifting also a little to the eastward. It may always be expected, in icy seas, that a breeze of wind, however light, will set the ice in motion, if there be any room for it to move; in such cases, the smaller pieces of course begin to drift the first, and the heavier ones soon follow, though at a slower rate: almost every separate piece is seen to move with a

different velocity, proportioned to its depth under water.

Having gone on shore in the evening to make some observations for the variation, I afterwards ascended the hill, in order to take a view of the state of the ice in the offing. The breeze had now begun to open several "holes," particularly in the west and south-east quarters; it was most loose in the latter direction, except close along the land to the eastward, where a ship might possibly have been got, had this been our immediate object. The ice, however, looked just as promising to the westward as in any other quarter, and I found, before I returned on board, that it continued to drift to the eastward and to leave more and more space of clear water in the required direction. I, therefore, communicated to Lieutenant Liddon my intention of pushing on to the westward the instant the sea became clear enough for the ships to make any progress with a beating wind; but, in the event of failing to do so, that I should next try what could be done by attempting a passage considera-

bly to the southward of our present parallel.

At seven P.M., we shipped the rudder, and crossed the top-gallant yards, in readiness for moving; and I then again ascended the hill and walked a mile to the westward, along the brow of it, that not a moment might be lost, after the ice to the westward should give us the slightest hope of making any progress by getting under-way. Although the holes had certainly increased in size and extent, there was still not sufficient room even for one of our boats to have worked to windward; and the impossibility of the ships' doing so was rendered more apparent, on account of the current which, as I have before had occasion to remark, is always produced in these seas, soon after the springing up of a breeze, and which was now running to the eastward, at the rate of at least one mile per hour. It was evident, that any attempt to get the ships to the westward must, under circumstances so unfavourable, be attended with the certain consequence of their being drifted the con-

trary way; and nothing could, therefore, be done but still to watch, which we did most anxiously, every alteration in the state of the ice. The wind, however, decreasing as the night came on, served to diminish the hopes with which we had flattered ourselves of being speedily extricated from our present confined and dangerous situation. At half-past ten P.M., Lieutenant Beechey, at my request, ascended the hill; and, on his return at eleven o'clock, reported that, "the ice was slack from W.b.N. to W.S.W., but that, without a leading wind, it did not appear that a ship could make any way among it."

At one A.M., on the 11th, I despatched Mr. Ross to the top of the hill, from whence he observed, that "the ice had slackened considerably from W.b.S. to south, but was still too close for a ship to work among it." At this time the wind was dying away gradually; and, at four A.M., when Mr. Ross again ascended the hill, it had fallen quite calm. The ice immediately ceased to drift to the eastward, and at half-past five, a light

breeze springing up from the south-east, caused it at once to return in the opposite direction. Being desirous, if possible, to take advantage of this breeze, Lieutenant Beechey and myself again went on shore, in order to form a judgment whether there was room for the ships to sail among the ice, should it appear otherwise expedient to get them under-way. We agreed that it was by no means practicable with the present light wind, which would scarcely have given them steerage-way, even in a clear and unincumbered sea, and much less, therefore, could have enabled them to force their way through the numberless heavy masses which lay in our way to the westward. So close, indeed, did the ice about us still continue, that it was necessary to shift the Hecla once more round to the westward of the point of land, to secure her from that which the change of wind was once more bringing back in great abundance, and at the rate of nearly a mile per hour. In an hour after we had effected this, I had reason to be satisfied with the determination

to which I had come, of not getting the ships under-way, for there was literally not a single "hole" of open water visible from the mast-head, in which a boat would have floated, except immediately under the lee of the point where we were lying, and within one hundred yards of the ship.

The latitude observed at our present station was 74° 25′ 35″, the longitude, by chronometers, 113° 43′ 01″, and the variation of the magnetic needle 106° 06′ 38″ Easterly, each of these being the mean of several observations taken on different days. There was nothing in the appearance or productions of this part of the island different from those which had been found elsewhere, except that the ravines were more strikingly grand and picturesque, in consequence of the greater height of the land upon this part of the coast: this, as I have before remarked, was found, in one instance, to exceed eight hundred feet above the level of the sea; and the hills, immediately at the back of this, at the distance of nine or ten miles, appeared to be at least

one or two hundred feet higher; so that the extreme height of Melville Island, as far as we had an opportunity of seeing it, may, perhaps, be fairly estimated at about one thousand feet. The rocks consisted entirely of sandstone in horizontal strata, and the soil of sand, intermixed occasionally with decayed plants, forming here and there a sort of vegetable mould, on which the other plants, and a few tufts of very luxuriant moss, were growing: we remarked, that almost the whole of the plants had a part of their flowers cropped by the hares, and other animals, which are fond of feeding in the sheltered and warm situations afforded by the banks next the sea.

The weather was foggy for some hours in the morning, but cleared up in the afternoon, as the sun acquired power. The wind increased to a fresh gale from the eastward, at nine P.M., being the second time that it had done so, while we had been lying at this station; a circumstance which we were the more inclined to notice, as the easterly winds had hitherto been more faint

and less frequent than those from the westward. In this respect, therefore, we considered ourselves unfortunate, as experience had already shewn us, that none but a westerly wind ever produced upon this coast, or, indeed, on the southern coast of any of the North Georgian Islands, the desired effect of clearing the shores of ice.

The gale continued strong during the night, and the ice quite stationary. Not a pool of clear water could be seen in any direction, except just under the lee of our point, where there was a space large enough to contain half a dozen sail of ships, till about noon, when the whole closed in upon us without any apparent cause, except that the wind blew in irregular puffs about that time, and at one P.M, it was alongside. The ship was placed in the most advantageous manner for taking the beach, or rather the shelf of submarine ice, and the rudder again unshipped, and hung across the stem. The ice which came in contact with the ship's side consisted of very heavy loose pieces, drawing twelve or fourteen feet water,

which, however, we considered as good "fenders," comparatively with the enormous fields which covered the sea just without them. So much, indeed, do we judge at all times by comparison, that this kind of ice, which in Davis' Strait we should not like to have had so near us, was now considered of infinite service, when interposed between the ship and the heavier floes. Every thing remained quiet for the rest of the day, without producing any pressure of consequence; the wind came round to N.b.E. at night, but without moving the ice off the land.

Early in the morning of the 13th, I received, by Mr. Griffiths, a message, from Lieutenant Liddon, acquainting me, that, at eleven o'clock on the preceding night, the ice had been setting slowly to the westward, and had at the same time closed in upon the land where the Griper was lying, by which means she was forced against the submarine ice, and her stern lifted two feet out of the water. This pressure, Lieutenant Liddon remarked, had given her a twist, which

made her crack a good deal, but apparently without suffering any material injury in her hull, though the ice was still pressing upon her when Mr. Griffiths came away. She had at first heeled inwards, but on being lifted higher, fell over towards the deep water. Under these circumstances Lieutenant Liddon had very properly landed all the journals and other documents of importance, and made every arrangement in his power for saving the provisions and stores, in case of shipwreck, which he had now every reason to anticipate. Convinced as I was that no human art or power could, in our present situation, prevent such a catastrophe, whenever the pressure of the ice became sufficient, I was more than ever satisfied with the determination to which I had previously come, of keeping the ships apart, during the continuance of these untoward circumstances, in order to increase the chance of saving one of them from accidents of this nature. I, therefore, thought it right merely to direct Lieutenant Liddon's attention to the necessity of saving the provisions

and fuel, in preference to any other species of stores, and established signals to be made upon the point of land which intervened between the ships, in case of any thing occurring. In the mean time, the ice remained so close about the Hecla, that the slightest pressure producing in it a motion towards the shore must have placed us in a situation similar to that of the Griper; and our attention was, therefore, diverted to the more important object of providing, by every means in our power, for the security of the larger ship, as being the principal depôt of provisions and other resources.

At five P.M. Lieutenant Liddon acquainted me by letter, that the Griper had at length righted, the ice having slackened a little around her, and that all the damage she appeared to have sustained was in her rudder, which was badly split, and would require some hours labour to repair it, whenever the ice should allow him to get it on shore. He also stated that, from the particular situation into which the Griper

had been forced, and of the masses of ice immediately about her, a westerly wind, though it might eventually clear the shore, would, in the first place, subject her to another squeeze like that from which she had just been so opportunely released. Lieutenant Beechey observed from the hill, in the course of the day, that the ice was so compact as not to leave an opening in any direction, and that it was set so close against the shore, that nothing could have passed between them. It had moved off a few yards from the Hecla for two or three hours, and in the evening closed again, so as to press her firmly against the land, though without any material strain. This pressure arose principally from the approach of the large block of ice which I have described as having been raised up on the 9th, and which, having been frequently drifted backwards and forwards past the ship since that time, had once more stationed itself rather nearer to us than we could have wished. I may here remark that this mass, of which we knew the demensions by actual

measurement, served, when driving among the heavy floes in the offing, as a standard of comparison, by which the height of the latter above the sea, and thence their whole bulk, could be estimated with tolerable accuracy; and it was principally in this manner that a judgment was formed of those enormous fields with which this part of the sea was incumbered. There was a very light air from the southward and eastward for the greater part of the evening, and a fog came on as the atmosphere cooled at night.

Soon after midnight the ice pressed closer in upon the Hecla than before, giving her a heel of eighteen inches towards the shore, but without appearing to strain her in the slightest degree. Most of the boats had been lowered down, and securely moored upon the beach, to prevent their being damaged, should the ship be forced upon her broadside, and the rest were now placed in a similar situation. By four P.M., the pressure had gradually decreased, and the ship had only three or four inches heel; in

an hour after she had perfectly righted, and the ice remained quiet for the rest of the day. A light easterly wind, with small snow at times, continued till six A.M., when it died away, and was soon after succeeded by a gentle air from the westward.

Every moment's additional detention now served to confirm me in the opinion I had formed, as to the expediency of trying, at all risks, to penetrate to the southward, whenever the ice would allow us to move at all, rather than persevere any longer in the attempts we had been lately making with so little success, to push on directly to the westward. I, therefore, gave Lieutenant Liddon an order to run back a certain distance to the eastward, whenever he could do so, without waiting for the Hecla, should that ship be still detained; and to look out for any opening in the ice to the southward, which might seem likely to favour the object I had in view, waiting for me to join him, should any such opening occur.

The westerly breeze freshening up, with

continued snow, the ice about the ship began to move at seven P.M. The usual superficial current was soon observed to make, carrying with it to the eastward the loose and broken fragments of ice. At eight o'clock the heavier masses had also acquired motion, and it became necessary to shelter the Hecla from their approach by shifting her once more to the eastward of the point. In doing this, we found the current at the extreme point running at the rate of two, or two and a half miles an hour, so as to require great caution in laying out our warps to prevent the ship being carried back to the eastward; and this not three hours after it had first begun to make. The frequent experience we had of the quickness with which currents are formed, in consequence merely of the wind setting the various bodies of ice in motion, naturally leads to this useful caution, that one or two trials of the set of the stream in icy seas must not be too hastily assumed in drawing any conclusion as to its constant or periodical direction. I am convinced, indeed, that,

of all the circumstances which render the navigation among ice so precarious and uncertain, there is none so liable to constant alteration, and on which, therefore, so little dependence can be placed, as an indication of the existence of a passage in this or that direction, as the set and velocity of the superficial currents.

The breeze died away in the course of the night, just as the ice was beginning to separate, and to drift away from the shore; and, being succeeded by a wind off the land, which is here very unusual, Lieutenant Liddon was enabled to sail upon the Griper at two A.M. on the 15th, in execution of the orders I had given him. As I soon perceived, however, that she made little or no way, the wind drawing more to the eastward on that part of the coast, and as the clear water was increasing along the shore to the westward, much farther than we had yet seen it, I made the signal of recall to the Griper, with the intention of making another attempt, which the present favourable appearances seemed to justify, to push forward

without delay in the desired direction. At five A.M., therefore, as soon as the snow had cleared away sufficiently to allow the signal to be distinguished, we cast off, and ran along shore, the wind having by this time veered to the E.b.N., and blowing in strong puffs out of the ravines as we passed them. We sailed along, generally at the distance of a hundred or a hundred and fifty yards from the beach, our soundings being from ten to seventeen fathoms; and, after running a mile and a half in a N.W. b.W. direction, once more found the ice offering an impenetrable obstacle to our progress westward, at a small projecting point of land just beyond us. We, therefore, hauled the ship into a birth which we were at this moment fortunate in finding abreast of us, and where we were enabled to place the Hecla within a number of heavy masses of grounded ice, such as do not often occur on this steep coast, and which, comparatively with the situation we had lately left, appeared a perfect harbour. In the mean time, the wind had failed our consort, when

she was a mile and a half short of this place; and Lieutenant Liddon, after endeavouring in vain to warp up to us, was obliged, by the ice suddenly closing upon him, to place her in-shore, in the first situation he could find, which proved to be in very deep water, as well as otherwise so insecure, as not to admit a hope of saving the ship, should the ice continue to press upon her. It now became of essential importance to endeavour to get the Hecla so far into security in her present situation, as to allow of assistance being sent to the Griper in case of accidents. With this view, I assembled the officers and ship's company, and having acquainted them with my intention, caused such arrangements to be made for sending parties round, accompanied by proper officers, as might prevent confusion whenever that measure became necessary. The plan proposed was, to cut large scuttles or holes in the decks, if time were allowed for doing so, whenever the wreck of the ship should appear to be unavoidable, in order to allow the casks of provision to float up out of the

hold, as in any other case they must have sunk with the ship, in deep water. The Hecla's crew were set to work to saw off some thick tongues of ice, which prevented her going into a sort of "natural dock," as the sailors term it, formed by the masses of grounded ice; a tedious and cold operation, which they performed with their usual alacrity, and thus placed the ship in complete security. I then walked round to the Griper to acquaint Lieutenant Liddon with the arrangements that had been made, and to consult with him as to the other means to be adopted for her safety, and the preservation of her stores. We were shortly afterwards, however, relieved from any further apprehension on this account, by the ice gradually receding from the shore, in consequence of a westerly breeze springing up, and allowing the Griper to warp up near the Hecla, where, though she was by no means so safe as that ship, she was at least placed in a situation, with which the extraordinary nature of our late navigation taught us to be satisfied.

Mr. Fisher found very good sport in our new station, having returned in the evening, after a few hours' excursion, with nine hares; the birds had, of late, almost entirely deserted us, a flock or two of ptarmigan and snow-buntings, a few glaucous gulls, a raven, and an owl, being all that had been met with for several days.

A fog which had prevailed during the night, cleared away in the morning of the 16th, and a very fine day succeeded, with a moderate breeze from the westward. In order to have a clear and distinct view of the state of the ice, after twenty-four hours' wind from that quarter, Captain Sabine, Mr. Edwards, and myself, walked about two miles to the westward, along the high part of the land next the sea, from whence it appeared but too evident that no passage in this direction was yet to be expected. The only clear water in sight was a channel of about three-quarters of a mile wide in some places, between the ice and the land, extending as far as a bold headland, bearing N. 52°W., distant two miles and a quarter,

which formed the western extreme in sight, and was called CAPE DUNDAS, as appropriate to the name which the Island had received. The ice to the west and south-west was as solid and compact, to all appearance, as so much land; to which, indeed, the surface of so many fields, from the kind of hill and dale I have before endeavoured to describe, bore no imperfect resemblance. I have no doubt that, had it been our object to circumnavigate Melville Island, or, on the other hand, had the coast continued its westerly direction instead of turning to the northward, we should still have contrived to proceed a little occasionally, as opportunities offered, notwithstanding the increased obstruction which here presented itself; but as neither of these was the case, there seemed little or nothing to hope for from any further attempts to prosecute the main object of the voyage in this place. I determined, therefore, no longer to delay the execution of my former intentions, and to make trial, if possible, of a more southern latitude, in which I might

follow up the success that had hitherto attended our exertions.

The place to which we had now walked, was the eastern bank of the largest ravine we had ever seen upon the island; its width at the part next the sea being above half a mile, and its sides, which are nearly perpendicular, not less than eight hundred feet in height. In watching the little stream, not more than a yard or two wide and a few inches in depth, now trickling along the bottom of this immense water-course, it was impossible not to be forcibly struck with the consideration of the time which must have been required, with means apparently so inadequate, to hew out so vast a bed for the annual discharge of the winter's snow into the ocean.

The station at which the ships were now lying, and which is the westernmost point to which the navigation of the Polar Sea to the northward of the American continent has yet been carried, is in latitude 74° 26′ 25″, and longitude, by chronometers, 113° 64′ 43″ .5. — Cape Dundas is in latitude 74°

27′ 50″, longitude 113° 57′ 35″, by which the length of Melville Island, in an E.N.E. and W.S.W. direction, appears to be about one hundred and thirty-five miles, and its breadth, about the meridian of Winter Harbour, from forty to fifty miles.

At nine P. M. we were abreast the place where we had landed on the 5th, and here we perceived that the ice closed in with the land a little to the eastward. There was no security to be found for the ships without getting past one of the small points at the mouth of a ravine, against which a floe was setting the smaller pieces of ice, and had blocked up the passage before we arrived at it. After two hours' labour in heaving with hawsers, during which the Hecla narrowly escaped a severe "nip" by the sudden closing of the ice, we succeeded in getting through, and, soon after midnight, made the ships fast to some very heavy grounded ice near the beach. We observed a number of hares feeding on the sides of the cliffs, as we sailed along in the afternoon, and also, a few ptarmigan.

The place where the Hecla was now secured, being the only one of the kind which could be found, was a little harbour, formed, as usual, by the grounded ice, some of which was fixed to the bottom in ten to twelve fathoms. One side of the entrance to this harbour consisted of masses of floes, very regular in their shape, placed quite horizontally, and broken off so exactly perpendicular, as to resemble a handsome well-built wharf. On the opposite side, however, the masses to which we looked for security were themselves rather terrific objects, as they leaned over so much towards the ship, as to give the appearance of their being in the act of falling upon her deck; and as a very trifling concussion often produces the fall of much heavier masses of ice, when in appearance very firmly fixed to the ground, I gave orders that no guns should be fired near the ship during her continuance in this situation. The Griper was of necessity made fast near the beach, in rather an exposed situation, and her rudder unshipped, in readiness for the ice coming in; it re-

mained quiet, however, though quite close, during the day, the weather being calm and fine.

The weather became foggy at night; the young ice, which had, for several evenings past, begun to form upon the surface of the sea, as the sun became low, did not thaw during the whole of this day. Mr. Fisher was again successful in his sporting excursion, bringing in nine hares, the greater part of which were still beautifully white; about a dozen young ptarmigan were also killed in each ship. The vegetation in this neighbourhood was much the same as in our last station; the sorrel had now become too insipid to be at all palatable.

On the 18th the weather was alternately clear and cloudy, with a slight air of wind from the S.W. The ice continued close to the land as far as we could see in both directions, and without the smallest perceptible motion till the evening, when it slackened a little along the shore. I immediately despatched Mr. Nias to Cape Providence, which was still two miles and a half to the

eastward of us, to examine the appearance of the ice beyond it. He reported, on his return, that it was slack at the distance of two hundred yards from the shore, as far as the Cape, but that to the eastward there was no appearance of clear water. As there was not the smallest security for the ships for the next three or four miles along the shore, it was necessary still to continue in our present place of refuge.

It was again nearly calm on the 19th, and the weather was foggy for some hours in the morning. In the evening, having walked to Cape Providence, to see if there was any possibility of moving the ships, I found the ice so close that a boat could not have passed beyond the Cape; but a light air drifting the ice slowly to the eastward at this time, gave me some hopes of soon being enabled to make our escape from this tedious as well as vexatious confinement. At a quarter past eight it was high-water by the shore; about this time the ice ceased driving to the eastward, and shortly after returned in the opposite direction. This coincidence, if it

be only such, seemed in some degree to confirm what I had hitherto considered to be the case with respect to the flood-tide coming from the westward upon this coast; but it may, perhaps, have been occasioned only by the usual superficial current, as a light air sprung up from the eastward about that time.

At half-past eleven P.M., some heavy pieces of the grounded ice, to which our bow-hawser was secured, fell off into the water, snapping the rope in two, without injuring the ship. As, however, every alteration of this kind must materially change the centre of gravity of the whole mass, which already appeared in a tottering state, I thought it prudent to move the Hecla out of her harbour to the place where the Griper was lying, considering that a ship might easily be forced on shore by the ice without suffering any serious damage; but that one of those enormous masses falling upon her deck must inevitably crush or sink her.

The weather being again calm on the

20th and 21st allowed the "young ice" to form upon the surface to such a degree as firmly to cement together the loose pieces which hung about the ships; and it did not thaw during those days, though the sun was shining clearly upon it for several hours. Although this alone was sufficient to deter me from moving the ships, without a fresh breeze of wind, I was anxious to know the state of the ice to the eastward, and I, therefore, sent Mr. Nias to the Cape on the evening of the 21st, to examine it with a glass. On his return he acquainted me that no alteration had taken place, the whole body of the ice remaining still close in with the shore, and perfectly compact and impenetrable to the eastward, as well as to the south.

On the 22d, the ice still remained as close as before, more so indeed, as, on the failure of a light breeze which had been blowing from the eastward for an hour or two, and had amused us with hopes of getting away, the loose ice surrounded us completely, so that we were immoveably beset. Calm

weather is observed always to make ice open out, and occupy more space than it had done before, as if the previous breeze had been acting on an elastic substance, which springs back as soon as the force of the wind is removed from it.

The "young ice" had increased to the thickness of an inch and a half on the morning of the 23d, and some snow which had fallen in the night served to cement the whole more firmly together. On a breeze springing up from the westward, however, it soon began to acquire a motion to leeward, and, at half an hour before noon, had slackened about the ships sufficiently to allow us to warp them out, which was accordingly done, and all sail made upon them. The wind having freshened up from the W.N.W., the ships' heads were got the right way, and by great attention to the sails, kept so till they had got abreast of Cape Providence, after which they were no longer manageable, the ice being more close than before. I have before remarked that the loose ice in this neighbourhood was

heavy in proportion to the floes from which it had been broken; and the impossibility of sailing among such ice, most of which drew more water than the Hecla, and could not therefore be turned by her weight, was this day rendered very apparent, the ships having received by far the heaviest shocks which they experienced during the voyage. They continued, however, to drive till they were about three miles to the eastward of Cape Providence, where the low land commences; when finding that there was not any appearance of open water to the eastward or southward, and that we were now incurring the risk of being beset at sea, without a chance of making any farther progress, we hauled in for the largest piece of grounded ice we could see upon the beach, which we reached at six P.M., having performed six miles of the most difficult navigation I have ever known among ice. The Hecla was made fast in from eighteen to twenty feet water close to the beach, and the Griper in four fathoms, about half a mile to the westward of us.

The situation in which the ships were now placed, when viewed in combination with the shortness of the remaining part of the season, and the period to which our resources of every kind could be extended, was such as to require a more than ordinary consideration, in order to determine upon the measures most proper to be pursued, for the advancement of the public service and the security of the ships and people committed to my charge. Judging from the close of the summer of 1815, it was reasonable to consider the 7th of September as the limit beyond which the navigation of this part of the Polar Sea could not be performed, with tolerable safety to the ships, or with any hope of further success. Impressed, however, with a strong sense of the efforts which it became us to make in the prosecution of our enterprise, I was induced to extend this limit to the 14th of September, before which day, on the preceding year, the winter might fairly be said to have set in. But even with this extension our prospect was not very encouraging: the di-

rect distance to Icy Cape was between eight and nine hundred miles, while that which we had advanced towards it this season, fell short of sixty miles.

I have already detailed the reasons which inclined me to believe, that there was little hope of making further progress to the westward in this latitude, and the grounds upon which I had determined to run along the edge of the ice to the eastward. Such, however, was the extreme difficulty with which we were enabled to navigate the ships in this, or any other direction, that it had for many days been equally out of our power to effect this object. Indeed, we had experienced, during the first half of the navigable season, such a continued series of vexations, disappointments and delays, accompanied by such a constant state of danger to the ships, that I felt it would no longer be deemed justifiable in me to persevere in a fruitless attempt to get to the westward.

By Mr. Hooper's report of the remains of provisions, it appeared that, at the pre-

sent reduced allowance, (namely, two-thirds of the established proportion of the navy,) they would last until the 30th of November, 1821; and that an immediate reduction to half allowance, which must, however, tend materially to impair the health and vigour of the officers and men, would only extend our resources to the 30th of April, 1822; it therefore became a matter of evident and imperious necessity, that the ships should be cleared from the ice before the close of the season of 1821, so as to reach some station where supplies might be obtained by the end of that, or early in the following year.

By the same report, it appeared that the fuel, with which we were furnished, could only be made to extend to a period of two years and seven months, or to the end of November, 1821; and this only by resorting to the unhealthy measure of both crews living on board the Hecla, during six of the ensuing winter months. The above calculation was made according to the proportion of fuel hitherto consumed on board

each ship, varying at different periods of the year, from one and a half to three bushels of coal per day,—a quantity which, far from affording the officers and men comfort in so rigorous a climate, was found barely sufficient to preserve their health.

The ships might be considered almost as effective as when the Expedition left England; the wear and tear having been trifling, and the quantity of stores remaining on board being amply sufficient, in all probability, for a much longer period than the provisions and fuel. The health of the officers and men continued also as good, or nearly so, as at the commencement of the voyage. Considering, however, the serious loss we had sustained in the lemon-juice, the only effectual anti-scorbutic on which we could depend, during at least nine months of the year in these regions, as well as the effects likely to result from crowding nearly one hundred persons into the accommodation intended only for fifty-eight, whereby the difficulty of keeping the inhabited parts of

the ship in a dry and wholesome state would have been so much increased, there certainly seemed some reason to apprehend, that a second winter would not leave us in possession of the same excellent health which we now happily enjoyed, while it is possible that the difficulty and danger of either proceeding or returning might have been increased.

These considerations, together with some others of minor importance, induced me, at this time, to call for the opinions of the principal officers of the Expedition, being desirous of profiting by their united judgment and experience, previous to forming my ultimate decision as to the measures most proper to be pursued. I, therefore, addressed a letter to Lieutenants Liddon, Beechey and Hoppner, Captain Sabine, and Messrs. Edwards and Hooper, respectively, directing their attention to the different points connected with our situation which I have just detailed, and requesting their advice upon the subject within thirty-six hours after the receipt of my letter.

A herd of musk-oxen being seen at a little distance from the ships, a party was despatched in pursuit; and Messrs. Fisher and Bushman were fortunate in killing a fine bull, which separated from the rest of the herd, being too unwieldy to make such good way as the others. He was, however, by no means caught by our people in fair chase, for though these animals run with a hobbling sort of canter that makes them appear as if every now and then about to fall, yet the slowest of them can far outstrip a man. In this herd were two calves, much whiter than the rest, the older ones having only the white saddle. In the evening, Serjeant Martin succeeded in killing another bull; these two animals afforded a very welcome supply of fresh meat, the first giving us three hundred and sixty-nine, and the other three hundred and fifty-two pounds of beef, which was served in the same manner as before.*

* The total quantity of game obtained for the use of the Expedition, during our stay upon the shores of Melville Island, being a period of nearly twelve

The wind died away soon after we reached the point, affording no hope of making, for the present, any further progress by the drifting of the ice from the land; we, therefore, hauled the ships into the best births we could find, in doing which the Hecla's fore-top rested on the ground for a short time, but she was afterwards secured in four fathoms. It was low water by the shore at eight P.M.

Immediately under the hills, which here, for the first time, in sailing from Cape Providence to the eastward, recede about two miles from the sea, was the most luxuriant pasture-ground we had yet met with on Melville Island. It consisted of about a dozen acres of short thick grass, intermixed with moss, which gave it almost the same lively appearance as that of an English meadow. It was covered with the dung and foot-tracks of musk-oxen, of which twelve or fourteen skulls were picked up near it:

months, was as follows:—3 musk-oxen, 24 deer, 68 hares, 53 geese, 59 ducks, 144 ptarmigans: affording 3,766 pounds of meat.

and it was here that the herd before-mentioned was feeding. When walking over this spot, on which there were many small ponds of water, our surprise in some degree ceased at the immense distance which these animals must travel in the course of their annual visits to these dreary and desolate regions; as such a pasture, affording undisturbed and luxuriant feeding during the summer months, may, in spite of the general dreary appearance of the island, hold out sufficient inducement for their annual emigration.

We here obtained our last supply of sorrel, the leaves of which are now become so shrivelled, as well as insipid, as to be no longer worth gathering. We saw no birds here but one or two flocks of king-ducks, a speckled owl, which was killed, and now and then a solitary glaucous gull.

Having now received the answers of the officers to my letter addressed to them on the 23d, and given the matter my most serious and mature consideration, it was necessary that I should make up my mind as to the future conduct of the Expedition.

It was gratifying to me to find that the officers unanimously agreed with me in opinion that any further attempt to penetrate to the westward in our present parallel would be altogether fruitless, and attended with a considerable loss of time, which might be more usefully employed. They also agreed with me in thinking, that the plan which I had adopted, of running back along the edge of the ice to the eastward, in order to look out for an opening that might lead us towards the American continent, was, in every respect, the most advisable; and that, in the event of failing to find any such opening, after a reasonable time spent in search, it would be expedient to return to England rather than risk the passing another winter in these seas, without the prospect of attaining any adequate object; namely, that of being able to start from an advanced station at the commencement of the following season.

Under all the circumstances of the case, therefore, I could not but admit the propriety of immediately returning to England, should

our attempt to penetrate to the southward prove unsuccessful in any part of the navigation between the position we now occupied and Barrow's Strait; as it would, in that case, be impossible to make so much progress either to the southward or the westward during the short remainder of the present season, as to bring the accomplishment of the passage through Behring's Strait within the scope of our remaining resources.

At three P.M. we were abreast of Cape Hearne; and, as we opened the bay of the Hecla and Griper, the wind, as usual on this part of the coast, came directly out from the northward; but as soon as we had stretched over to Bounty Cape, of which we were abreast at eight P.M., it drew once more along the land from the westward. We found a large quantity of loose and broken ice off Cape Hearne, and not far from the same place we came to a floe of young ice, of nearly a mile in length, and about two inches and a half in thickness, which had undoubtedly been formed this

summer, probably in some of the bays and inlets in the neighbourhood of Bounty Cape. The distance between the ice and the land increased as we proceeded, and at midnight the channel appeared to be four or five miles wide, as far as the darkness of the night would allow of our judging; for we could at this period scarcely see to read in the cabin at ten o'clock. The snow which fell during the day was observed, for the first time, to remain upon the land without dissolving; thus affording a proof of the temperature of the earth's surface having again fallen below that of freezing; and giving notice of the near approach of another long and dreary winter. One or two fulmar petrels, some tern, and numerous flocks of snow-buntings, were seen about the ships in the course of the day.

The navigable channel increased so much in breadth, as we ran to the eastward with a fresh and favourable breeze, that at eight A.M., on the morning of the 27th, when we had advanced beyond the east end of Melville Island, it was not less than ten

miles wide. We kept near the ice, running at such a distance from it as not to get the ships embayed between the points, which often occasions a long and useless delay in afterwards beating round them with a scant wind. A constant look-out was kept from the crow's-nest for an opening to the southward, but not a single break could be perceived in the mass of ice which still covered the sea in that direction. We were at noon in latitude 75° 02′ 15″, and longitude 105° 14′ 20″, the soundings being ninety-four fathoms, on a muddy bottom.

At seven P.M., a fog coming on, we hauled up close to the edge of the ice, both as a guide to us in sailing during the continuance of the thick weather, and to avoid passing any opening that might occur in it to the southward. We were, in the course of the evening, within four or five miles of the same spot where we had been on the same day and at the same hour the preceding year; and by a coincidence perhaps still more remarkable, we were here once more reduced to the same necessity as before, of

steering the ships by one another for an hour or two; the Griper keeping the Hecla a-head, and our quarter master being directed to keep the Griper right astern, for want of some better mode of knowing in what direction we were running. The fog froze hard as it fell upon the rigging, making it difficult to handle the ropes in working the ship, and the night was rather dark for three or four hours.

A fresh breeze continued from the S.W. b.W., with some swell, to which we had long been unaccustomed, and which, together with the extreme thickness of the weather, and the uncertainty of our course, made great caution necessary in running along the ice. We had for some time been steering principally by the moon, but when she became obscured, we were under the necessity of hauling our wind to the northward and westward, which led us from the ice, till the weather should become more favourable. The fog began to clear away at half-past five A.M. on the 28th, and immediately after we saw land from N.E.b.E.

to N.N.W. The ships' heads were now put to the S.S.E., in order to take up the ice where we had last seen it, but at six o'clock, in approaching some heavy detached masses, which appeared to be aground, and therefore made us very cautious with the hand-leads, we shoaled the water rather more suddenly than usual from thirty-five to ten, and then to seven, fathoms, and tacked in five and three-quarters at the distance of half a mile to the westward of the grounded ice. There is certainly no land within two or three leagues of this shoal, on which, however, I have little doubt, from the appearance of the ice aground upon it, there is water enough for any ship, and which will probably be at all times clearly pointed out by the never-failing beacons of these seas. It is customary to judge by the tide-mark upon the ice whether it be aground or not, and by its dimensions whether it may be boldly approached.

Having hauled to N.N.E., and then gradually more to the eastward, we deepened

our water till no soundings could be obtained with forty fathoms of line, and then steered again to the S.E., in order to make the main ice. The impossibility of keeping any thing like an accurate reckoning during the last night's run, and the difficulty of recognising the land in consequence of the snow which now almost entirely covered it, left us for some time at a loss to ascertain our position, till we found ourselves at noon off Cape Cockburn, our latitude by observation being 74° 58′ 28″. We were now enabled to determine the continuity of the land from that point to Graham Moore's Bay, which, on its first discovery, we could not exactly ascertain, on account of the distance at which we sailed from it.

The weather was again so thick with snow in the afternoon, that we were once more obliged to sail round all the bays in the ice, instead of running from point to point, in order to leave no part of it unexamined; and, on its clearing up in the evening, we found that the ice was leading us to the northward of Garrett Island, the pas-

sage to the southward of it, through which we had sailed to the westward the preceding year, being now completely blocked up by floes, which did not appear to have been detached from the Island during this season. We had here occasion to notice, in a very striking degree, the deception occasioned by snow lying upon the land, in judging of its distance; this, indeed, is much more remarkable in these seas than in any other, when any part of the intermediate space is occupied by floes of ice, the whiteness of which mingles so imperceptibly with that of the snow upon the land, that it is impossible, from the total absence of any shadow, to tell where one ends, and the other commences. Such, indeed, was the illusion this evening, with respect to Garrett Island, which was completely covered with snow, that although we were sailing at the distance of only four or five miles from it, we should scarcely have been aware that any land was in that direction, had we not previously surveyed these islands, and been running with the chart before us.

In passing between Garrett and Bathurst Islands, at the distance of five miles from the former, we could find no bottom with thirty-five to fifty fathoms of line; and when its centre bore S.b.W. $\frac{1}{4}$ W. at the same distance, another island was discovered to the northward, which had not before been seen, and which I named after my friend and former commander, CAPTAIN THOMAS BAKER, of the Royal Navy. The eastern part of Bathurst Island was now observed to extend farther to the N.N.E. than we had before been enabled to see it, terminating by a point of land called CAPE CAPEL, out of respect to the HONOURABLE CAPTAIN THOMAS BLADEN CAPEL, of the Royal Navy.

We continued to run along the edge of the ice to the eastward, till half-past ten P.M., when, more land being discovered a-head, of the extent and position of which we had no previous knowledge, and the night growing dark, the ships were hove-to with their heads to the northward and westward, in which direction there was a space of

clear water several miles in extent, being in ninety fathoms, on a bottom of soft mud.

Having again got sight of land at half-past two A.M., on the 29th, we bore up for it along the edge of the ice, which completely surrounded Lowther Island, but left us a free passage to the eastward. The land, discovered the preceding evening, proved to be an island, about a mile and a half in length; and being rather high, and remarkably bluff in every view, appeared to have deep water all round it. We were abreast of it at half-past five, and I named it BROWNE ISLAND. The ice then led us in a S.E.$\frac{1}{2}$E. direction, towards another island, distant from the first three miles and a half, bearing S.S.E. It was named after my friend DR. SOMERVILLE; and is low at both ends like Garrett Island.

At half an hour before noon, the weather being alternately thick and clear from occasional showers of snow, a deeper bight than usual was perceived in the ice, which had hitherto been nearly as compact as if it were composed of a single floe. As I had always

entertained an idea, that there was no part of this sea, in which we were more likely to get to the southward, than immediately to the westward, of Cape Bunny, I was desirous of thoroughly examining the state of the ice in this neighbourhood, and bore up to the southward under all sail for that purpose. After running two or three miles, however, we were again stopped at twenty minutes past noon; and the weather having now cleared up, we perceived that the ice was as compact as before, except that there was one "hole" of water about a third of a mile wide just within its margin, but beyond this it was quite close and impenetrable. We were, therefore, under the necessity of again hauling to the eastward, along the edge of the floes, which lay in a direction nearly parallel to the southern shore, and at the distance of seven or eight miles from it, being much nearer than we had been able to approach it, only six days earlier the preceding season. It is remarkable that we here found a strong rippling on the surface of the water, in the same place

where we had before noticed it; and, as we could discover nothing like shoal-water, or unevenness in the bottom, we concluded it must have been occasioned by some particular set, or meeting, of the tides in this place. The space between us and Cornwallis Island was entirely free from ice, and Wellington Channel presented the same broad navigable passage, as on the former occasion.

The continuity or otherwise, of a large portion of the land now to the southward of us having before remained undetermined, on account of the hazy weather we had experienced on our passage to the westward, I was glad to have an opportunity of filling up the deficiencies which had unavoidably been left in the chart, upon this part of the coast. Immediately to the eastward of Cunningham Inlet is a bold headland, which formed the extreme of the land visible in this direction, in 1819, and which now being clearly distinguished, I named after MAJOR RENNELL, a gentleman well known as the ablest geographer of the age.

At the back of Cape Rennell, the land recedes considerably, forming a large bay, which I called GARNIER BAY, and which, as we did not distinctly see the bottom of it in one part, may not improbably be found to communicate with Cunningham Inlet, making the intermediate land, on which Cape Rennell stands, an island. Before night came on, we had traced the land to the eastward nearly as far as Cape Clarence; but being desirous of leaving no part of this coast unexamined, by running past it in the night, I hove-to at half past ten, with the ships' heads to the northward, and found no soundings with an hundred and thirty fathoms of line. The whole of the land we passed this day was much covered with snow, and, perhaps, permanently so, as the mean temperature of the atmosphere had, for some time past, fallen rather below the freezing point. If this conclusion be just, it would appear that the present season was about to close-in somewhat earlier than it had done the preceding year. A flock of brent-geese, some fulmar-petrels, a dove-

key, and one or two ivory gulls, were all the birds seen in the course of this day's run.

To the land along which we had now been sailing, I gave the name of NORTH SOMERSET, in honour of my native country; and the northern shore of Barrow's Strait was called NORTH DEVON, after that of Lieutenant Liddon.

At a quarter past three, on the morning of the 30th, we bore up to the eastward, the wind continuing fresh directly down Barrow's Strait, except just after passing Prince Leopold's Islands, where it drew into Prince Regent's Inlet, and as soon as we had passed this, again assumed its former westerly direction; affording a remarkable instance of the manner in which the wind is acted upon by the particular position of the land, even at a considerable distance from it. The islands were incumbered with ice to the distance of four or five miles all round them, but the Strait was generally as clear and navigable as any part of the Atlantic.

Having now traced the ice the whole way from the longitude of 114° to that of 90° without discovering any opening to encourage a hope of penetrating it to the southward, I could not entertain the slightest doubt, that there no longer remained a possibility of effecting our object with the present resources of the expedition; and that it was, therefore, my duty to return to England with the account of our late proceedings, that no time might be lost in following up the success with which we had been favoured, should His Majesty's government consider it expedient to do so. Having informed the officers and men in both ships of my intentions, I directed the full allowance of provisions to be, in future, issued, with such a proportion of fuel as might contribute to their comfort; a luxury which, on account of the necessity that existed for the strictest economy in this article, it must be confessed, we had not often enjoyed since we entered Sir James Lancaster's Sound. We had been on two-thirds allowance of bread between ten and eleven

months, and on the same reduced proportion of the other species of provisions, between three and four; and, although this quantity is scarcely enough for working men for any length of time, I believe the reduction of fuel was generally considered by far the greater privation of the two.

We ran along the south shore, at the distance of four or five leagues, with a fresh westerly wind, and fine clear weather; a bay on that coast, a little to the westward of Cape York, was named after my friend, The Honourable Mr. Eardley. We noticed a striking similarity in the geological character of this part of the coast, as far as we could judge at a distance, to that on the opposite shore of Barrow's Strait, both being remarkable for that buttress-like structure, which has before been observed to resemble the works of art, and which gives this land a magnificent and imposing appearance, such as it is impossible to describe. The shores were covered with ice to the distance of four or five miles, and the first solitary iceberg was seen in the course

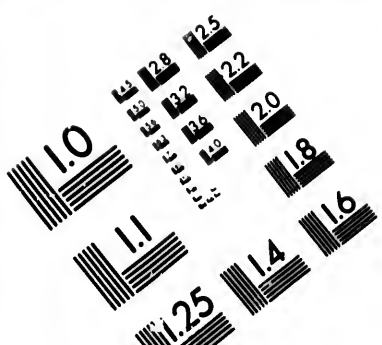
of the afternoon; but the Strait was, in other respects, perfectly free from obstruction. At eleven P.M., we were abreast of a bluff and remarkable headland, which I named after my much esteemed friend, Mr. William Petrie Craufurd, and to the eastward of which the land appeared to recede, forming a large bay. I continued to run during the night, however, being desirous of taking advantage of the westerly breeze which was still blowing, to run out of Sir James Lancaster's Sound.

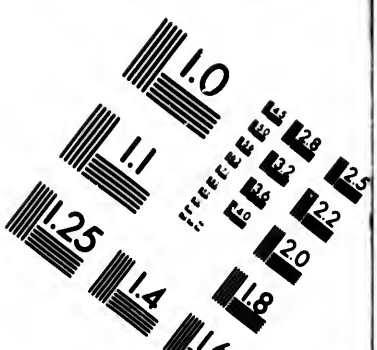
It was not light enough till half-past three on the morning of the 31st, to enable us to perceive that the land immediately to the eastward of Cape Craufurd was not continuous, there being a space subtending an angle of 21° 42′ in the middle of the supposed bay, where none was visible, though the weather was perfectly clear. As the wind drew almost directly out of this opening, to which I gave the name of Admiralty Inlet, and as it was entirely occupied by ice, I did not think its further examination of sufficient importance to detain the ex-

pedition, and therefore continued our course to the eastward. The headland, which forms the eastern point of the entrance, I named after THE RIGHT HONOURABLE CHARLES YORKE, late First Lord of the Admiralty; and to another within the inlet, I gave the name of CAPE FRANKLIN, after my friend CAPTAIN JOHN FRANKLIN, of the Royal Navy, now employed in investigating the northern shore of North America. On an inspection of the chart, it will appear more than probable, that the Admiralty Inlet may one day be found to communicate to the southward with Prince Regent's Inlet, making the land between them an island.

At half-past eight A.M., we were abreast of the Navy-Board Inlet, round the bottom of which the continuity of the land was still by no means clear to us; in fact, it receded so far to the southward, as rather to strengthen the opinion we had before formed of the existence of a passage in that direction; the quantity of ice which ocupied this inlet, however, prevented our ascertain-

ing this satisfactorily. Immediately off Cape Castlereagh, we discovered two low islands, which had not been seen on the preceding voyage, and which I named after Dr. William Wollaston. To the eastward of the Cape, there is some comparatively low land next the sea, from which abruptly rise the lofty Byam Martin Mountains, whose summits are covered with perpetual snow. One of the highest of these, immediately at the back of Catherine's Bay, of which we were abreast at noon, was found trigonometrically to be three thousand three hundred and eighty-two feet above the level of the sea. It may be remarked that the castellated appearance of the land is very much less on the eastern than on the western side of Admiralty Inlet. Towards the west side of Navy Board Inlet, the land next the sea becomes comparatively low, but rises at the back in high hills, which are round at the top; in this respect forming a striking contrast with the Martin Mountains, the latter being peaked, though not so sharply as those of Spitzbergen.





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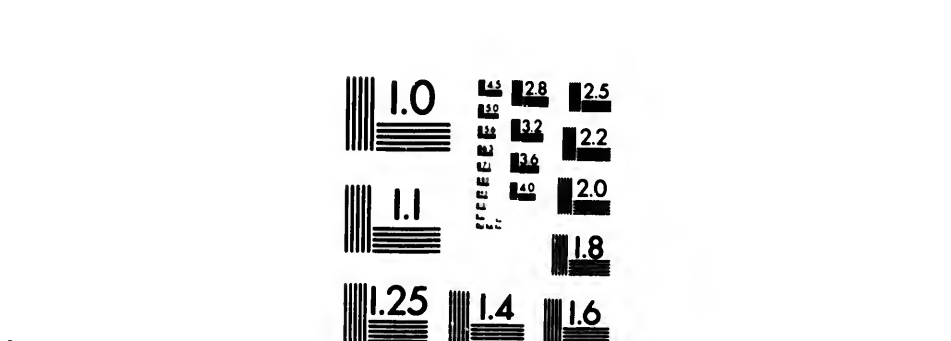

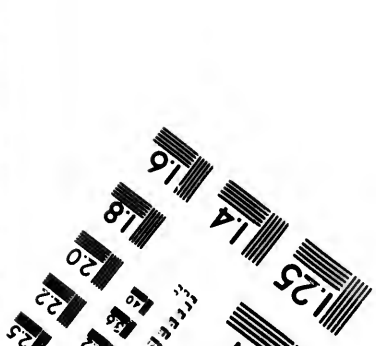

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Our horizon being obstructed at noon by the closeness of the land, I was desirous of going on shore to observe the meridian altitude; but, on hauling the ships to the wind with that intention, I found the beach so lined with ice for about half a mile out, that it was no where practicable to land, and the ice itself was too unsteady for the artificial horizons; we, therefore, continued to run to the eastward. A large bear was seen swimming, and our boats despatched in pursuit of him; but before the ship could be rounded to, we had run too far to keep sight of him, and the boats returned without success. We here passed several large icebergs, and a few narrow streams of ice, of the same thickness as that which usually occurs in Baffin's Bay, and which appeared very light to us, in comparison with that to which we had lately been accustomed. Being off Cape Liverpool, which headland is formed by a projecting point of the same comparatively low land that I have mentioned above, the water became of a very light green colour, and was filled

with innumerable shoals of the *Argonauta Arctica;* we found no bottom with eighty fathoms of line, at the distance of two or three miles from the shore. In the course of this day's run we saw two threshers, one black whale, a seal, some dovekeys, ivory gulls, phalaropes, and fulmar-petrels. Considering the extraordinary number of whales we had met with in our passage up Sir James Lancaster's Sound in 1819, it could not but be a matter of surprise to us that we had now seen so few; but this circumstance was afterwards satisfactorily accounted for in a manner we least expected. In the evening, being off Cape Fanshawe, we observed a long low iceberg, between that headland and Possession Bay, not less than three-quarters of a mile in length, and quite flat and even at the top; this kind of iceberg appears to be almost entirely confined to the western coast of Baffin's Bay and Davis' Strait, as we never met with them in any other part; they are probably formed upon the low strips of land which occur between the foot of the hills and the sea in many parts of this coast.

As it appeared to me that considerable service might be rendered by a general survey of the western coast of Baffin's Bay, which, from Sir James Lancaster's Sound southwards, might one day become an important station for our whalers, I determined to keep as close to that shore, during our passage down, as the ice and the wind would permit; and as the experience of the former voyage had led us to suppose that this coast would be almost clear of ice during the whole of September, I thought that this month could not be better employed than in the examination of its numerous bays and inlets. Such an examination appeared to me more desirable, from the hope of finding some new outlet into the Polar Sea, in a lower latitude than that of Sir James Lancaster's Sound, a discovery which would be of infinite importance towards the accomplishment of the North-West Passage.

Previously to commencing this survey, it was my wish to have landed at Possession Bay, of which the longitude had been accurately determined on two former occa-

sions, in order to compare our chronometers with the time found there, as an intermediate station between Winter Harbour and England, but, as this would have detained us a whole night, with a fair wind, and with the chance of the following day being after all unfavourable for observations, I gave up my intention, and made all sail along shore to the southward. This was however, the less to be regretted, as the few observations obtained during our quick return from Melville Island, had confirmed the accuracy of the rates assigned to the chronometers on leaving Winter Harbour.

CHAPTER XI.

Progress down the Western Coast of Baffin's Bay —Meet with the Whalers—Account of some Esquimaux in the Inlet called the River Clyde —Continue the Survey of the Coast, till stopped by Ice in the Latitude of 63¼°*—Obliged to run to the Eastward—Fruitless attempts to regain the Land, and final Departure from the Ice—Remarks upon the Probable Existence and Practicability of a North-West Passage, and upon the Whale-Fishery—Boisterous Weather in Crossing the Atlantic—Loss of the Hecla's Bowsprit and Foremast—Arrival in England.*

The wind continuing fresh from the northward, on the morning of the 1st of September, we bore up and ran along the land, taking our departure from the flag-staff in Possession Bay, bearing W.S.W. five miles, at half-past four A.M.

When abreast of the inlet, which had been called Pond's Bay on the former Expedition, the opening of the two shores, as far as the eye could reach, appeared so large as to excite considerable interest. We, therefore, hauled in with the intention of examining it, but found the ice so close, that the ship was stopped almost in the entrance. The weather, however, was at this time remarkably clear, and it was the opinion of the officers, as well as my own, that the two shores did not unite, there being nearly a whole point of the compass in which no land was visible; and it was the general belief that this opening would be found to communicate with the Navy-Board or Admiralty Inlet.

The ice led us off very much to the eastward after leaving Pond's Bay; and the weather became calm, with small snow, towards midnight. In this day's run, the compass-courses were occasionally inserted in the log-book, being the first time that the magnetic needle had been made use of on board the Hecla, for the purposes of

navigation for more than twelve months. A few rotges were seen, being the first this season.

There being some swell upon the ice, which extended generally to the distance of three or four leagues from the land, we were under the necessity of heaving-to for a few hours at night, a precaution which was always henceforward adopted in running down this coast. At nine A.M., we were abreast of an inlet having every appearance of a well sheltered harbour, with an island near the middle of its entrance. We again commenced throwing bottles overboard, containing papers with the usual information, which practice was continued daily till the Expedition reached England. We saw no ice to the eastward of us in the course of this day's run nor any blink in that direction.

On the morning of the 3d, we passed some of the highest icebergs I have ever seen, one of them being not less than one hundred and fifty to two hundred feet above the sea, judging from the height of the

Griper's masts, when near it. At half-past seven A.M., being off a point of land, which is comparatively low near the sea, with hills rising at the back to the height of more than a thousand feet above the sea, we observed to the southward a remarkable dark perpendicular cliff, forming the most singular and conspicuous object we had seen upon this coast. This cliff, which in coming from the northward has the appearance of being detached, and is not unlike the Bass Rock in the Frith of Forth, is situated, as we afterwards discovered, upon an island, lying in the entrance of one of the numerous inlets, or *fiords*, with which this coast is indented. The wind becoming light and variable in the afternoon, I took the opportunity of landing near this inlet, accompanied by Captain Sabine, and some of the officers.

We landed on a bold sandy beach, two or three miles to the northward of a low point, at the entrance of the inlet, towards which we walked, and ascended a hill at the back of the point, in order to obtain a

view of this large opening. We now found that the perpendicular cliff formed the north-eastern point of a remarkably steep and precipitous island, on each side of which there is a wide and bold entrance. Above the island, the inlet branches off in at least two different directions, which our situation would not allow us to trace to any great distance, but we saw no termination to either of them.

The mineral productions were found to consist principally of granite and gneiss: but there were also abundance of limestone and quartz, the latter beautifully white, which, together with the other specimens obtained here, will be described in another place. The vegetation was tolerably luxuriant in some places upon the low land which borders the sea, consisting principally of the dwarf-willow, sorrel, saxifrage, and poppy, with a few roots of scurvy-grass. There was still a great deal of snow remaining even on the lower parts of the land, on which were numerous ponds of water; on one of these, a pair of young red-throated

divers, which could not rise, were killed; and two flocks of geese, one of them consisting of not less than sixty or seventy, were seen by Mr. Hooper, who described them as being very tame, running along the beach before our people, without rising, for a considerable distance. Some glaucous gulls and plovers were killed, and we met with several tracks of bears, deer, wolves, foxes, and mice. The coxswain of the boat found upon the beach part of the bone of a whale, which had been cut at one end by a sharp instrument, like an axe, with a quantity of chips lying about it, affording undoubted proof of this part of the coast having been visited at no distant period by Esquimaux; it is no more than probable, indeed, that they may inhabit the shores of this inlet, which time would not now permit us to examine. More than sixty icebergs of very large dimensions were in sight from the top of the hill, together with a number of extensive floes to the north-east and south-east, at the distance of four or five leagues from the land.

The latitude of the place of observation on shore was 71° 15′ 34″, its longitude 71° 17′ 23″.6, and the variation of the magnetic needle 91° 28′ 32″ westerly. The tide was falling when we landed; it was low water by the shore at three o'clock, and at half-past five, when we left the beach, it had risen only twelve inches. The tide set to the southward in the offing during the afternoon, especially, about three o'clock, at which time the Hecla was observed by Lieutenant Beechey to be drifting fast against the wind in that direction.

On our return on board, I found that a piece of whale-blubber, cut into a square shape, had been picked up on the water, which we then considered as a confirmation of this part of the coast being inhabited, but which was afterwards more satisfactorily accounted for.

The wind, which had been light from the southward during the night, shifted to the north-west early in the morning, which induced me to give up the intention I had formed of further examining the inlet, and

we, therefore, continued our course along shore to the southward. At seven A.M., we passed another inlet, similar to that of the preceding day, though much smaller, the land being of the same steep and precipitous character, and the water, apparently, deep near it.

While occupied in attending to the soundings, soon after noon, our astonishment may readily be conceived, on seeing, from the mast-head, a ship, and soon after, two others, in the offing, which were soon ascertained to be whalers, standing in towards the land. They afterwards bore up to the northward along the edge of the ice which intervened betwixt us, and we lost sight of them at night. It was now evident that this coast, which had hitherto been considered, by the whalers, as wholly inaccessible in so high a latitude, had become a fishing station like that on the opposite or Greenland shore, and the circumstance of our meeting so few whales in Sir James Lancaster's Sound this season, was at once accounted for by supposing, what, indeed, we afterwards found

to be the case, that the fishing-ships had been there before us, and had, for a time, scared them from that ground. The piece of blubber we had picked up was also sufficiently accounted for in a similar manner.

In standing in-shore at night, we got into deep water, between the banks and the land, having no soundings with sixty to ninety fathoms of line, where we lay-to till day-light.

It was so squally on the morning of the 5th, that we could scarcely carry our double reefed topsails, while, as we afterwards learned from the fishing ships, which were in sight at day-light, there was scarcely a breath of wind at a few leagues' distance from the land. In running to the southward, we passed, in the course of the forenoon, a headland, which is remarkable as appearing from the northward exactly like three round topped islands, for which they had been taken on the voyage of 1818; but they are only small hills situated on comparatively low land, which commences from hence to the southward next the sea. We

coasted this low shore, as we had done in the preceding voyage, at the distance of two or three miles, having from twenty-three to twenty-nine fathoms' water. We here met with another of our fishing-ships, which proved to be the Lee, of Hull, Mr. Williamson, master; from whom we learned, among other events of a public nature which were altogether new to us, the public calamity which England had sustained in the death of our late venerable and beloved Sovereign, and also the death of His Royal Highness the Duke of Kent. Mr. Williamson, among others, had succeeded in getting across the ice to this coast as high as the latitude of 73°, and had come down to this part in pursuit of the fish. One or two of the ships had endeavoured to return home by running down this coast, but had found the ice so close about the latitude of $69\frac{1}{2}°$, as to induce most of the others to sail to the northward, in order to get back in the same way that they came. Mr. Williamson also reported his having, a day or two before, met with some Esquimaux in

the inlet named the River Clyde in 1818, which was just to the southward of us. Considering it a matter of some interest to communicate with these people, who had, probably, not been before visited by Europeans, and that it might, at the same time, be useful to examine the inlet, I bore up, as soon as I had sent our despatches and letters on board the Lee, and stood in towards the rocky islet, called Agnes' Monument, passing between it and the low point which forms the entrance to the inlet on the northern side. This channel, which is two miles wide, appears bold in every part. As soon as we had opened the inlet, we dropped off at once from twenty into no bottom with thirty fathoms of line; we then hauled over to the Monument, and, passing at the distance of one hundred and fifty yards from it, had twenty-seven fathoms on a bottom of coarse sand.

The north shore of the entrance to this inlet has a sandy beach, along which we stood for three or four miles towards some low islands, near which we were directed to

look for the Esquimaux huts. Night came on, however, before we could discover them; and we, therefore, stood out till day-light. We saw, in the course of this day, more than a dozen large black whales, principally near the inlet, and the Friendship, of Hull, Mr. Macbride, master, was in sight to the eastward, with a fish alongside.

The weather was too thick, with snow, on the morning of the 6th, to allow us to stand in for the land. We spoke the Friendship, and Mr. Bell, one of the owners, kindly offered us any assistance in his power. The weather having cleared before noon, we bore up for the inlet, being near an immense iceberg, which, from its situation and dimensions, we recognized to be the same that had been measured in September, 1818, and found to be upwards of two miles in length. It was aground in precisely the same spot as before, where it will probably remain year after year, till gradually wasted by dissolution.

At six in the evening, being near the outermost of the islands, with which we

afterwards found this inlet to be studded, we observed four canoes paddling towards the ship; they approached with great confidence, and came alongside without the least appearance of fear or suspicion. While paddling towards us, and indeed before we could plainly perceive their canoes, they continued to vociferate loudly; but nothing like a song, nor even any articulate sound, which can be expressed by words, could be distinguished. Their canoes were taken on board by their own desire, plainly intimated by signs, and with their assistance, and they at once came up the side without hesitation. These people consisted of an old man, apparently much above sixty, and three younger, from nineteen to thirty years of age. As soon as they came on deck, their vociferations seemed to increase with their astonishment, and, I may add, their pleasure; for the reception they met with seemed to create no less joy than surprise. Whenever they received a present, or were shewn any thing which excited fresh admiration, they expressed their delight by

loud and repeated ejaculations, which they sometimes continued till they were quite hoarse, and out of breath, with the exertion. This noisy mode of expressing their satisfaction was accompanied by a jumping which continued for a minute or more, according to the degree of the passion which excited it, and the bodily powers of the person who exercised it, the old man being rather too infirm, but still doing his utmost, to go through the performance.

After some time passed on deck, during which a few skins and ivory knives were bought from them, they were taken down into the cabin. The younger ones received the proposal to descend somewhat reluctantly, till they saw that their old companion was willing to shew them the example, and they then followed without fear. We had soon occasion to remark that they were much better behaved people than the Esquimaux who had visited our ships in 1818, on the north-eastern coast of Baffin's Bay. Although we were much at a loss for an interpreter, we had no great difficulty in

making the old man understand, by shewing him an engraved portrait of an Esquimaux, that Lieutenant Beechey was desirous of making a similar drawing of him. He was accordingly placed on a stool near the fire, and sat for more than an hour with very tolerable composure and steadiness, considering that a barter for their clothes, spears, and whalebone, was going on at the same time near him. He was, indeed, kept quiet by the presents which were given him from time to time; and when this failed, and he became impatient to move, I endeavoured to remind him that we wished him to keep his position, by placing my hands before me, holding up my head, and assuming a grave and demure look. We now found that the old gentleman was a mimic, as well as a very good natured and obliging man; for, whenever I did this, he always imitated me in such a manner as to create considerable diversion among his own people, as well as ours, and then very quietly kept his seat. While he was sitting for his picture, the other three stood behind him, bartering

their commodities with great honesty, but in a manner which shewed them to be no strangers to traffic. If, for instance, a knife was offered for any article, they would hesitate for a short time, till they saw we were determined to give no higher price, and then at once consented to the exchange. In this case, as well as when any thing was presented to them, they immediately licked it twice with their tongues, after which they seemed to consider the bargain satisfactorily concluded. The youngest of the party very modestly kept behind the others, and, before he was observed to have done so, missed several presents, which his less diffident, though not importunate, companions had received. As the night closed in, they became desirous to depart, and they left us before dark, highly delighted with their visit. As I had purchased one of their canoes, a boat was sent to land its late owner, as only one person can sit in each. Mr. Palmer informed me, that, in going on shore, the canoes could beat our boat very much in rowing whenever the Esquimaux chose to

exert themselves, but they kept close to her the whole way. During the time that they were on board, we had observed in them a great aptness for imitating certain of our words; and, while going on shore, they took a particular liking to the expression of "Hurra, give way!" which they heard Mr. Palmer use to the boat's crew, and which they frequently imitated, to the great amusement of all parties.

Being desirous of seeing more of these people, of whom the first interview had given us a favourable impression, I determined to lie-to during the night, and to take the ships higher up the inlet on the following day. Mr. Bell came on board from the Friendship in the evening, and, after repeating his offers of assistance, communicated to us many events of a public nature which could not but be extremely interesting to us, after a complete seclusion from the rest of the world for a period of seventeen months.

The calm weather which prevailed during the night was succeeded by a breeze from

the westward on the morning of the 7th, of which advantage was immediately taken to beat up the inlet, which proved a very extensive one, and of which a particular chart is annexed. The sun did not break through the clouds till half-after seven, when the expected eclipse was found to have commenced, and I determined to land, with Captain Sabine, upon the nearest island, in order to observe the end of it, as well as to obtain the other usual observations, together with angles for the survey. At ten minutes past eight the sun again became obscured, and was not visible till twenty minutes past nine, when we had landed, and were prepared with our glasses, but were disappointed, in finding that the eclipse was over.

Soon after we had landed, the old Esquimaux and one of his younger companions paddled over from the main land, and joined us upon the island. They brought with them, as before, some pieces of whalebone and seal skin dresses, which were soon disposed of, great care being taken by them not to produce more than one article at a time,

returning to their canoes, which were at a little distance from our boat, after the purchase of each of their commodities, till their little stock was exhausted. Considering it desirable to keep up among them the ideas of fair and honest exchange, which they already seemed to possess in no ordinary degree, I did not permit them to receive any thing as presents, till all their commodities had been regularly bought. While we were waiting to obtain the sun's meridian altitude, they amused themselves in the most good-natured and cheerful manner with the boat's crew; and Lieutenant Hoppner, who, with Mr. Beverly, had joined us in the Griper's boat, took this opportunity of making a drawing of the young man. It required, however, some shew of authority, as well as some occasional rewards, to keep him quietly seated on the rock for a time sufficient for this purpose; the inclination they have to jump about, when much pleased, rendering it a penalty of no trifling nature for them to sit still for half an hour together. To shew their disposition to do us

what little service was in their power, he afterwards employed himself in sharpening the seamen's knives, which he did with great expertness on any flat smooth stone, returning each as soon as finished, to its proper owner, and then making signs for another, which he sharpened and returned in the same way, without any attempt, and apparently without the smallest desire, to detain it. The old man was extremely inquisitive, and directed his attention to those things which appeared useful, rather than to those which were merely amusing. An instance of this occurred on my ordering a tin canister of preserved meat to be opened for the boats' crews' dinner. The old man was sitting on the rock, attentively watching the operation, which was performed with an axe struck by a mallet, when one of the men came up to us with a looking-glass. I held it up to each of the Esquimaux, who had also seen one the preceding evening, and then gave it into each of their hands successively. The younger one was quite in raptures, and literally jumped for joy for nearly a quarter

of an hour: but the old man, having had one smile at his own queer face, immediately resumed his former gravity, and, returning me the glass, directed his whole attention to the opening of the canister, and when this was effected, begged very hard for the mallet which had performed so useful an office, without expressing the least wish to partake of the meat, even when he saw us eating it with good appetites. Being prevailed on, however, to taste a little of it, with some biscuit, they did not seem at all to relish it, but ate a small quantity, from an evident desire not to offend us, and then deposited the rest safely in their canoes. They could not be persuaded to taste any rum, after once smelling it, even when much diluted with water. I do not know whether it be a circumstance worthy of notice, that, when a kaleidoscope or a telescope was given them to look into, they immediately shut one eye, and one of them used the right, and the other the left eye.

In getting out of their canoes, as well as into them, great care is required to preserve

the balance of these frail and unsteady coracles, and in this they generally assist each other. As we were leaving the island, and they were about to follow us, we lay on our oars to observe how they would manage this; and it was gratifying to see that the young man launched the canoe of his aged companion, and having carefully steadied it alongside the rock, till he had safely embarked, carried his own down, and contrived, though with some difficulty, to get into it without assistance. They seem to take especial care, in launching their canoes, not to rub them against the rocks, by placing one end gently in the water, and holding the other up high, till it can be deposited without risk of injury. As soon as we commenced rowing, the Esquimaux began to vociferate their newly-acquired expression of "Hurra, give way," which they continued at intervals, accompanied by the most good-humoured merriment, as we crossed over to the main land. There being now a little sea, occasioned by a weather tide, we found that our boats could easily beat their canoes in row-

ing, notwithstanding their utmost endeavours to keep up with us.

The two Esquimaux tents, which we were now going to visit, were situated just within a low point of land, forming the eastern side of the entrance to a considerable branch of the inlet, extending some distance to the northward. The situation is warm and pleasant, having a south-westerly aspect, and being in every respect well adapted for the convenient residence of these poor people. We landed outside the point, and walked over to the tents, sending our boats, accompanied by the two canoes, round the point to meet us. As soon as we came in sight of the tents, every living animal there, men, women, children, and dogs, were in motion, the latter to the top of the hill out of our way, and the rest to meet us with loud and continued shouting; the word "*pille-tay*" [give me] being the only articulate sound we could distinguish amidst the general uproar. Besides the four men whom we had already seen, there were four women, one of whom being about the same age as the old man, was probably his wife; the

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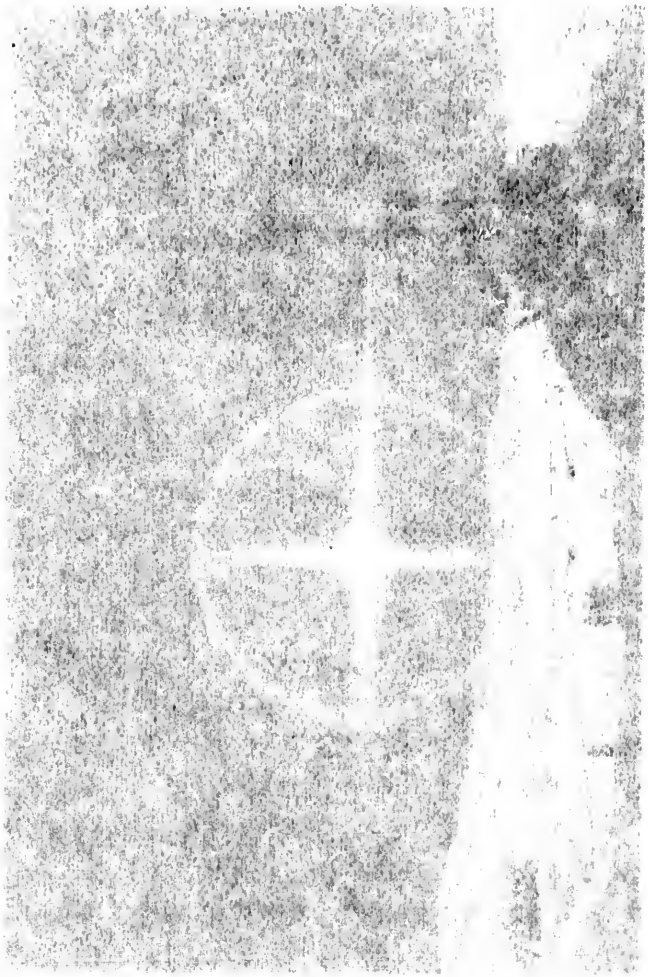

others were about thirty, twenty-two, and eighteen years of age. The first two of these, whom we supposed to be married to the two oldest of the young men, had infants slung in a kind of bag at their backs, much in the same way as gipsies are accustomed to carry their children. There were also seven children, from twelve to three years of age, besides the two infants in arms, or rather behind their mothers' backs, and the woman of thirty was with child.

We began, as before, by buying whatever they had to dispose of, giving in exchange knives, axes, brass kettles, needles, and other useful articles, and then added such presents as might be further serviceable to them. From the first moment of our arrival until we left them, or rather until we had nothing left to give, the females were particularly importunate with us, and "pilletay" resounded from the whole troop, wherever we went: they were extremely anxious to obtain our buttons, apparently more on account of the ornament of the crown and anchor which they observed upon them,

than from any value they set upon their use; and several of these were cut off our jackets to please their fancy. When I first endeavoured to bargain for a sledge, the persons I addressed gave me distinctly to understand by signs, that it was not their property, and pointed towards the woman who owned it; though my ignorance in this respect offered a good opportunity of defrauding me, had they been so inclined, by receiving an equivalent for that which did not belong to them: on the owner's coming forward, the bargain was quickly concluded. The pikes which I gave in exchange underwent the usual ceremony of licking, and the sledge was carried to our boat with the most perfect understanding on both sides. In another instance, an axe was offered by some of the Griper's gentlemen, as the price of a dog, to which the woman who owned the animal consented. To shew that we placed full confidence in them, the axe was given to her before the dog was caught, and she immediately went away with a kind of halter or harness of thongs, which they use

for this purpose, and honestly brought one of the finest among them, though nothing would have been easier than to have evaded the performance of her contract. The readiness, however, with which they generally parted with their commodities, was by no means the effect of fear, nor did it always depend on the value of the articles offered in exchange; for, having as I thought, concluded a bargain for a second canoe belonging to the old woman, I desired the men to hand it down to the boat: but I soon perceived that I had misunderstood her, for she clung fast to the canoe, and cried most piteously till it was set down; I then offered a larger price than before, but she could not be induced to part with it.

The stature of these people, like that of Esquimaux in general, is much below the usual standard. The height of the old man, who was rather bent by age, was four feet eleven inches, and that of the other men from five feet four and a half to five feet six inches. Their faces are round and plump in the younger individuals; skin

smooth; complexion not very dark, except that of the old man; teeth very white; eyes small; nose broad, but not very flat; hair black, straight and glossy; and their hands and feet extremely diminutive. The old man had a grey beard in which the black hairs predominated, and wore the hair rather long upon his upper lip, which was also the case with the eldest of the three others. One of these, we thought, bore a striking resemblance to our poor friend John Sackheuse, well known as the Esquimaux who accompanied the former Expedition, the want of whose services we particularly felt on this occasion, and whose premature death had been sincerely lamented by all who knew him as an intelligent and amiable man, and a valuable member of society.

The grown-up females measured from four feet ten to four feet eleven inches. The features of the two youngest were regular; their complexions clear, and by no means dark; their eyes small, black, and piercing; teeth beautifully white and perfect; and

although the form of their faces is round and chubby, and their noses rather flat than otherwise, their countenances might, perhaps, be considered pleasing even according to the ideas of beauty which habit has taught us to entertain. Their hair, which is jet-black, hangs down long and loose about their shoulders, a part of it on each side being carelessly plaited, and sometimes rolled up into an awkward lump, instead of being neatly tied on the top of the head, as the Esquimaux women in most other parts are accustomed to wear it. The youngest female had much natural bashfulness and timidity, and we considered her to be the only unmarried one, as she differed from the other three in not being tattooed upon the face. Two of them had their hands tattooed also, and the old woman had a few marks of the same kind about each wrist. None of the men or children were thus distinguished.

The children were generally good-looking, and the eldest boy, about twelve years of age, was a remarkably fine and even

handsome lad. They were rather scared at us at first; but kind treatment, and a few trifling presents, soon removed their fears, and made them almost as importunate as the rest.

The dress of the men consists of a seal-skin jacket, with a hood, which is occasionally drawn over the head, of which it forms the only covering. The breeches are also generally of seal-skin, and are made to reach below the knee, and their boots which meet the breeches are made of the same material. In this dress we perceived no difference from that of the other Esquimaux, except that the jacket, instead of having a pointed flap before and behind, as usual, was quite straight behind, and had a sort of scollop before in the centre. In the dress of the women there was not so much regard to decency as in that of the men. The jacket is of seal-skin, with a short, pointed flap before, and a long one behind, reaching almost to the ground. They had on a kind of drawers, similar to those described by Crantz, as the summer dress of the Greenland

women, and no breeches. The drawers cover the middle part of the body, from the hips to one-third down the thigh, the rest of which is entirely naked nearly as far as the knee. The boots are like those of the men, and besides these they have a pair of very loose leggins, as they may be called, which hang down carelessly upon the top of the boats, suffering their thighs to be exposed in the manner before described, but which may be intended occasionally to fasten up, so as to complete the covering of the whole body. The children are all remarkably well clothed; their dress, both in male and female, being in every respect the same as that of the men, and composed entirely of seal-skin, very neatly sewed.

The tents which compose their summer-habitations are principally supported by a long pole of whalebone, fourteen feet high, standing perpendicularly, with four or five feet of it projecting above the skins which form the roof and sides. The length of the tent is seventeen, and its breadth from seven to nine feet, the narrowest part being

next the door, and widening towards the inner part, where the bed, composed of a quantity of the small shrubby plant, the *Andromeda Tetragona*, occupies about one third of the whole apartment. The pole of the tent is fixed where the bed commences, and the latter is kept separate by some pieces of bone laid across the tent from side to side. The door, which faces the south-west, is also formed of two pieces of bone, with the upper ends fastened together, and the skins are made to overlap in that part of the tent, which is much lower than the inner end. The covering is fastened to the ground by curved pieces of bone, being generally parts of the whale; the tents were ten or fifteen yards apart, and about the same distance from the beach.

The canoe which I purchased, and which was one of the best of the five that we saw, is sixteen feet eleven inches in length, and its extreme breadth two feet one inch and a half; two feet of its fore-end are out of the water when floating. It differs from the

canoe of Greenland, in being somewhat lower at each end, and also in having a higher rim or gun-wale, as it may be termed, round the circular hole where the man sits, which may make them somewhat safer at sea. Their construction is, in other respects, much the same, the timbers, or ribs, which are five or six inches apart, as well as the fore and aft connecting pieces, being of whalebone or drift-wood, and the skins with which they were covered, those of the seal and walrus. When the canoes are taken on shore, they are carefully placed on two upright piles or pillars of stones, four feet high from the ground, in order to allow the air to pass under to dry them, and prevent their rotting. The paddle is double and made of fir, the edges of the blade being covered with hard bone to secure them from wearing.

The spears or darts which they use in killing seals and other sea animals, consist, like the harpoons of our fishermen, of two parts, a staff, and the spear itself; the former is usually of wood, when so scarce

and valuable a commodity can be obtained, from three and a half to five feet in length, and the latter of bone, about eighteen inches long, sometimes tipped with iron, but more commonly ground to a blunt point at one end, while the other fits into a socket in the staff to, which it is firmly secured by thongs. The lines which they attach to their spears are very neatly cut out of seal-skins, and when in a state of preparation, are left to stretch till dry, between the tents, and then made up into coils for use. They make use of a bladder fastened to the end of the line, in the same manner as the other Esquimaux. Besides the spears, we purchased an instrument having a rude hook of iron let into a piece of bone, and secured by thongs to a staff, the hook being sharply pointed, but not barbed. While we were on the island (to which I had applied the name of Observation Island), it happened that a small bird flew near us, when one of the Esquimaux made the sign of shooting it with a bow and arrow, in a manner which could not be misunderstood. It is remark-

able, therefore, that we could not find about their tents any of these weapons, except a little one of five or six inches long, the bow being made of whalebone, and the arrow of fir, with a feather at one end and a blunt point of bone at the other, evidently appearing to be a child's toy, and intended, perhaps, to teach the use of it at an early age.

The runners of the only sledge we saw were composed of the right and left jaw-bones of a young whale, being nine feet nine inches long, one foot seven inches apart, and seven inches high from the ground. They are connected by a number of parallel pieces, made out of the ribs of the whale, and secured transversely with seizings of whalebone, so as to form the bottom of the sledge, and the back is made of two deers' horns placed in an upright position. The lower part of the runners is shod with a harder kind of bone, to resist the friction against the ground. The whole vehicle is rudely executed, and, being nearly twice the weight of the sledges we saw among the northern Esquimaux, is probably

intended for carrying heavy burdens. The dogs were not less than fifty or sixty in number, and had nothing about them different from those on the eastern coast of Baffin's Bay, except they do not stand near so high as those of the latitude of 76°. They are very shy and wild, and the natives had great difficulty in catching them while we were by, as well as holding them in when caught. Some of them have much more of the wolf in their appearance than others, having very long heads and sharp noses, with a brushy tail, almost always carried between the legs; while the bodies of others are less lank as well as their noses less sharp, and they carry their tails handsomely curled over their backs: their colour varied from quite dark to brindled. The ravenous manner in which they devour their food is almost incredible. Both the old and young ones, when a bird is given them, generally swallow feathers and all; and an old dog that I purchased, though regularly fed while on board by a person appointed for that purpose, ate up, with great avidity,

a large piece of canvass, a cotton handkerchief, which one of the men had just washed and laid down by his side, and a part of a check shirt. The young dogs will at any time kill themselves by over-eating, if permitted. The children appeared to have some right of property in the smaller puppies, or else their parents are very indulgent to them, for several bargains of this kind were made with them, without any objection or interference on the part of the parents, who were standing by at the time.

Within a few stones, irregularly placed in a corner of each tent, was a lump of oil and moss, and over each of these was suspended a small stone vessel of an oblong shape, and broader at the top than at the bottom, containing a large mess of sea-horse flesh, with a great quantity of thick gravy. Some ribs of this meat were by no means bad looking, and but for the blood mixed with the gravy, and the dirt which accompanied the cooking, might perhaps be palatable enough. I bargained with a woman for one of the stone vessels, giving her a brass

kettle in exchange. Before she gave it into my possession, she emptied the meat into another vessel, and then, with the flap of her jacket, wiped out the remains of the gravy; thus combining with what our notions of cleanliness incline us to consider a filthy act, an intention of decency and a desire to oblige us, which, however inconsistent, it was still pleasing to observe. Some of their vessels are made of whale-bone, in a circular form, one piece being bent into the proper shape for the sides, and another flat piece of the same material, sewn to it for a bottom, so closely as to make it perfectly water tight. Their knives are made of the tusks of the walrus, cut or ground sufficiently thin for the purpose, and retaining the original curve of the tusk, so as to resemble the little swords which children have as toys in England. As they do not appear to have any instrument like a saw, great time and labour must be required in making one of these knives, which seem to answer most of the purposes to which they have occasion to apply them.

From the description given to us by Mr. Williamson, we found that these were the same persons who had been seen by the Lee's people; but we had several proofs of their having had some previous communication, directly or indirectly, with the civilized world; such as some light blue beads, strung by themselves on thin leathern threads; and an instrument for chopping, very much resembling a cooper's adze, which had evidently been secured to a handle of bone for some time past, and of which the iron was part of an old file.

The short time which we were among them, as well as the want of an interpreter, prevented our obtaining much of the information, which would have been interesting, respecting the language, manners, and number of this tribe of Esquimaux. They call the bear, *nennook;* the deer, *tooktook;* and the hare, *ookalik;* being nearly the same words as those used on the eastern coast of Baffin's Bay. As it was considered a matter of some interest to ascertain whether they were acquainted with the musk-ox, a draw-

ing of that animal was put before the men who were on board. The small size of it seemed, at first sight, to confound them; but, as soon as a real head and horns were produced, they immediately recognised them, and eagerly repeated the word *ooming-mack*, which at once satisfied us, that they knew the musk-ox, and that this was the animal spoken of by the Esquimaux of Greenland, under the same name, somewhat differently pronounced.

To judge by their appearance, and what is perhaps a better criterion, the number of their children, there could be little doubt that the means of subsistence which they possess are very abundant; but of this we had more direct proof, by the quantity of sea-horses and seals which we found concealed under stones, along the shore of the north branch, as well as on Observation Island. Mr. Fife reported that, in sounding the north branch, he met with their winter-huts, above two miles above the tents on the same shore, and that they were partly excavated from a bank facing the sea, and the rest built round with stones.

We saw no appearance of disease among the seventeen persons who inhabited the tents, except that the eyes of the old couple were rather blear, and a very young infant looked pale and sickly. The old man had a large scar on one side of his head, which he explained to us very clearly to be a wound he had received from a *nennook* (bear.) Upon the whole, these people may be considered in possession of every necessary of life, as well as of most of the comforts and conveniences which can be enjoyed in so rude a state of society. In the situation and circumstances in which the Esquimaux of North Greenland are placed, there is much to excite compassion for the low state to which human nature appears to be there reduced; a state in few respects superior to that of the bear or the seal, which they kill for their subsistence. But, with these, it was impossible not to experience a feeling of a more pleasing kind: there was a respectful decency in their general behaviour, which at once struck us as very different from that of the other untutored

Esquimaux, and in their persons there was less of that intolerable filth by which these people are so generally distinguished. But the superiority for which they are the most remarkable is, the perfect honesty which characterized all their dealings with us. During the two hours that the men were on board, and for four or five hours that we were subsequently among them on shore, on both which occasions the temptation to steal from us was perhaps stronger than we can well imagine, and the opportunity of doing so by no means wanting, not a single instance occurred, to my knowledge, of their pilfering the most trifling article. It is pleasing to record a fact, no less singular in itself, than honourable to these simple people.

Having made the necessary observations we went to the tents to take leave of our new acquaintance. The old man seemed quite fatigued with the day's exertions, but his eyes sparkled with delight, and we thought with gratitude too, on being presented with another brass kettle, to add to

the stores with which we had already enriched him. He seemed to understand us when we shook him by the hand; the whole group watched us in silence, as we went into the boat, and as soon as we had rowed a few hundred yards from the beach, quietly retired to their tents.

We bore up to run out of the inlet at six P.M., passing between Observation Island and another immediately to the northward of it, and having no bottom with the hand-leads in mid channel; off the north end of Observation Island, however, I found the water shoal for about a hundred yards, and then deepen at once. Soon after we had cleared the inlet, the wind backed to the southward; we, therefore, stood off to the eastward and hove-to till day-light. The land to the southward of this inlet becomes low next the sea, in the same manner as that to the northward of it, and a similar regularity in the decrease of the soundings is observed in standing in-shore; we had from fifty-seven to thirty-nine fathoms in the course of the night, in which depth we met with a number of icebergs aground.

The wind being contrary on the 8th, we made very little progress to the southward. The soundings continuing as regular as before, we stood in-shore to eleven fathoms, and put the trawl overboard for an hour or two in the afternoon, bringing up a great quantity of sea-eggs, a few very small oysters, and some marine insects, but nothing that could furnish us with a fresh meal. The net was much broken by the roughness of the bottom, which consisted of very coarse sand and small stones; we tried it again in the evening, but with no better success. The weather was at this time remarkably fine and pleasant; and it was impossible for us not to contrast our present climate with that against which we had to contend about the same period the preceding year.

In proceeding to the southward, on the 9th, we passed a headland which, like another I have before mentioned, has exactly the appearance of three islands, when seen from the northward; a deception occasioned by three small hills near the point, situated upon comparatively low land. Having

passed this headland, we discovered, immediately to the southward of it, a spacious bay or inlet, at least five or six leagues deep, in the north-west part of it. The land at the bottom of this bay is high and mountainous, with every appearance of deep water near the shore; but in proceeding along shore to the southward, it again becomes low next the sea, with hills at the back, and with the same safe and regular soundings as before.

We stood off-and-on during the night, having from thirteen to twenty fathoms' water, with the intention of examining the large inlet which opens to the southward of Cape Kater. It now became obvious, that what had been mistaken for banks near Cape Kater, on the preceding voyage, were, in reality, only the regular shore soundings, which are in no respect different from those which occur in the whole space between this inlet and the river Clyde, at the same distance from the land. These soundings had appeared to indicate banks in 1818, because

we came into them from an offing of several leagues; whereas, had we been running along shore, as in the present instance, we should have found a similar depth for near a hundred miles to the northward of Cape Kater, except at the mouths of the inlets where the water is always very deep.

There was a great deal of loose ice, and many bergs on this part of the coast; but we did not meet with the same obstruction off Cape Kater as on the former voyage. Several young black whales and a seal were seen in the course of the day.

The wind being fresh and squally down the inlet, on the morning of the 10th, a press of sail was carried, for the purpose of examining it; but in the course of the forenoon we were obliged to close-reef the topsails, and send down the top-gallant-yards. We found this immense bay crowded with islands, which, together with its numerous openings, would require a considerable time to survey them accurately. Towards noon, a haze which had been resting over

the western horizon cleared away, and we saw the land nearly all round the bay; but the distance at which we were was too great to enable us to ascertain satisfactorily its absolute continuity. Such, indeed, was the appearance of this magnificent inlet, of which the width of the entrance is not less than fifteen leagues, that it is highly probable some outlet may be found through it from Baffin's Bay into the Polar Sea; the strong westerly wind, and the intention I had formed of exploring this coast in a lower latitude, particularly about Cumberland Strait, prevented any further examination of it on this occasion. We crossed over, therefore, to the south shore, where we stood off-and-on till day-light should enable us to proceed to the southward. We passed, in the course of the day, the carcass of a dead whale, on which the fulmar petrels and ivory-gulls were feeding, in great numbers.

It must be remarked that, for each of the last three days, and for these only, we had found the ship between seven and eight miles to the southward of the reckoning.

The wind having fallen, we made little progress to the south-east, till the morning of the 12th, when a light breeze springing up from the south-west, all sail was made to examine the state of the ice. On approaching the floes, however, we found such a quantity of bay-ice, the formation of which upon the surface had been favoured by the late calm weather, that the Hecla was soon stopped altogether; a circumstance which gave us, as usual, much trouble in extricating ourselves from it, but not very material as regarded our further progress to the southward, the floes being found to stretch quite close in to the land, leaving no passage whatever between them. At noon we were still no farther to the southward than 68° 15′ 20″, and in longitude 65° 48′ 38″, the former agreeing very well with the reckoning. I was desirous of taking advantage of our present unavoidable detention, to make a set of observations on the irregularities of the magnetic needle on board the Hecla; but the young ice remained so tough during the day, notwithstanding the weather was

calm and clear, with the thermometer at 65° in the sun in the course of the afternoon, that it was found impracticable to turn the ship's head in the desired direction for that purpose. The compasses now traversed very freely, and were made use of for the purposes of navigation, in the ordinary way.

On the 13th, which was nearly calm, the bay ice had so much increased in thickness that the Hecla could not be moved through it, with the assistance of the boats, two of which were rendered unserviceable by the ice cutting their planks. We were off a small inlet, near which some islands were discovered on this part of the coast.

On the 14th, having been set at liberty from the bay ice by a breeze springing up, I determined to occupy no more time in the endeavour to get immediately along shore to the south-east, where the obstructions remained as before, but to run back a short distance along the ice to the northward, in order to endeavour to get round it if possi-

ble, and then to stretch in again towards the land. The ice had closed so much all round us, however, that we had some difficulty in finding a passage out of our present confined situation, which we at length effected before noon, passing by a chain of icebergs which were found to be aground in thirty-five to fifty fathoms, and which, extending four or five leagues from the shore, sufficiently account for the obstruction offered by the floes in this place.

The fog continued so thick on the 16th, as to oblige us to keep the ships fast to the floe. In the afternoon the deep-sea clamms were sent down to the bottom with two thousand and ten fathoms of line, which were fifty-eight minutes in running out, during which time no perceptible check could be observed, nor even any alteration in the velocity with which the line ran out. In hauling it in again, however, which occupied both ships' companies above an hour and a half, we found such a quantity of the line covered with mud as to prove that the whole depth of water was only eight hun-

dred and nine fathoms, the rest of the line having continued to run out by its own weight, after the instrument had struck the ground. I have before had occasion to remark that, on this account, it is not easy to ascertain the actual depth of the sea in the usual manner, when it exceeds five or six hundred fathoms.

The wind shifting to the south-west on the morning of the 17th, we were nearly beset by the loose ice closing upon us, the ships being now on the windward side of the floe. After four hours' labour we succeeded in getting clear, and made sail among loose ice to the south-east. This course, however, we were not able to continue long, as the ice led us, in the course of the day, considerably to the northward; and, in the evening, an iceberg was selected, out of the numerous ones in sight, to which the ships were made fast before dark, it being impossible to keep them under-way during the night. We were not sorry to find some swell affecting the ships, such as we had not before experienced for more

than twelve months, affording an indication of an open sea at no great distance from us. The loose and heavy pieces of ice which drifted in under the lee of the berg, and on which the ships occasionally struck with some force, kept the people constantly employed during the night, in veering and heaving in to avoid coming in contact with them. Some bears were heard growling upon the berg, and some seals, ivory-gulls, and little auks, the latter in small flocks, were seen in the course of the day.

On the 18th, the weather continued too foggy to move the ships in the forenoon. We tried for soundings with eight hundred and ninety-seven fathoms of line, without finding bottom; our latitude, by account, being 68° 24′ 03″; longitude 63° 08′ 12″. The temperature of the sea, at the depth of three hundred and eighteen fathoms, was 30°, that of the surface being the same, and of the air 29°.

Soon after noon, the weather being somewhat less foggy, we cast off and made sail to the eastward. The ice here consisted

generally of loose but heavy pieces, among which there was scarcely room to sail, and here and there a floe which obliged us to make several tacks. We also passed several square pieces of floe ice, which had evidently been cut out of a dock by some of the whalers in the course of the present season. The ships were secured to a berg at six P.M., and the wind having freshened up to a gale from the N.W.b.N., with some swell, we were much annoyed during the night by the ice which drifted under the lee of it, and on which the ships were constantly striking with a heavy shock, such as no others could long have withstood. This danger is avoided by ships lying very close under the lee of a berg, but a much greater is thereby incurred from the risk of the berg's upsetting; a circumstance which is always to be apprehended in a swell, and which must be attended with certain destruction to a ship moored very near to it.

At day-light on the 19th, we cast off from the berg, and occupied the whole of the day in unsuccessful attempts to get

through the ice in to the land, of which we could only obtain a very distant glimpse, bearing from S. 24° W. to S. 69° W. By hauling to the north-eastward, we got into sufficiently clear water to enable me to keep the ships under-way during the night; but, the wind falling light, great attention was requisite in avoiding the icebergs, which were numerous and of large dimensions.

On the 23d, having run to the southward nearly as far as the latitude of Mount Raleigh, without being able to approach the land, the trending of the ice flattered us for some time with the hope of getting in with the coast; but at two P.M. we came to a compact and impenetrable body of it, over which we could not see any clear water from the mast head, and which obliged us to haul off to the south-eastward.

On the 24th and 25th we continued our progress to the southward, but without any better success in approaching, or even getting sight of, the land; the ice being as close and compact as when we sailed along the margin of it in July of the preceding

year. Soon after noon, on the 24th, we crossed the Arctic Circle, having been within it fourteen months and three weeks; and at noon on the 25th had reached the latitude of 66° 13′ 1[illegible]″ being two miles and three-quarters to the southward of the dead reckoning, which difference had occurred on each of the twelve preceding days.

On the morning of the 26th we again stood to the westward as much as the ice would allow, but were soon obliged by it to keep away to the southward, precluding every hope of making the land on that part of the coast which it would have been most interesting to have explored. At noon we were in latitude 65° 41′ 09″, and longitude, by chronometer, 59° 09′ 54″. In the afternoon, after various attempts to get to the westward, appearances became more unpromising than ever, the packed ice extending from N.b.E. round to S.W. There were, indeed, parts of the ice which, with constant day-light, a ship might have entered with some probability of success; but,

with twelve hours' night, the attempt must have been attended with a degree of risk, which nothing but a very important object could justify. The wind had now freshened up from the N.N.W., and the mercury in the barometer fell with unusual rapidity, with every other appearance of an approaching gale. I was, therefore, under the necessity of admitting the conclusion that, under existing circumstances, the season was now too far advanced, and the state of the ice too unfavourable to allow of any further examination of the coast; and I determined, therefore, to make the best of my way to England. The boats were accordingly hoisted in, and the ships made snug, while in smooth water, under the lee of the ice, and a course was then shaped to the E.S.E., in order to obtain an offing, before we bore away to the southward.

Of the existence of a North-West Passage to the Pacific, it is now scarcely pos-

sible to doubt, and from the success which attended our efforts in 1819, after passing through Sir James Lancaster's Sound, we were not unreasonable in anticipating its complete accomplishment. But the season in which it is practicable to navigate the Polar Seas, does not exceed seven weeks. From all that we observed, it seems desirable that ships endeavouring to reach the Pacific Ocean by this route, should keep if possible on the coast of America, and the lower in latitude that coast may be found, the more favourable will it prove for the purpose; hence Cumberland Strait, Sir Thomas Rowe's Welcome, and Repulse Bay, appear to be the points most worthy attention. I cannot, therefore, but consider that any expedition equipped by Great Britain with this view, ought to employ its best energies in attempting to penetrate from the eastern coast of America along its northern shore. In consequence of the partial success which has hitherto attended our attempts, the whalers have already extended their views, and a new

field has been opened for one of the most lucrative branches of our commerce, and, what is scarcely of less importance, one of the most valuable nurseries for seamen which Great Britain possesses. Mr. Bell, in the Friendship, of Hull, whom I have before had occasion to mention, and one or two other of the ships, have sailed up to the very northernmost limits of Baffin's Bay, entered Whale Sound, and were close off the entrance of Sir Thomas Smith's Sound; an exploit which has never before been performed, since Baffin first discovered these inlets, above 200 years ago.

We ran to the southward and eastward with a fresh and favourable breeze, and without meeting with any ice after leaving its main body, except one or two icebergs, and a few straggling pieces, which, however, make it necessary to be very cautious in running at night, especially when there is

any sea, the breaking of which cannot easily be distinguished from a mass of ice. On some occasions, therefore, it was necessary to heave-to for a few hours at night, a precaution which I should always recommend in the latter part of the season, till a ship has passed well to the eastward of Cape Farewell. It is remarked by the whalers, that they usually have a gale of wind to encounter off this headland in returning home from their fishery, which has also occurred on the two occasions on which I have passed it at this season. On the 30th of September, in the evening, there was every appearance of unfavourable weather, and the ships were made snug before dark. Soon after this, a gale came on from the northward and westward, which continued to blow hard, with little intermission, during the 1st and 2d of October.

On the second of October, in scudding before the wind, under the main-top-sail, a heavy sea struck the Hecla on the larboard quarter, rendering it necessary to press her forward under more canvass, by

which we lost sight of the Griper in the course of the morning. As soon as the weather moderated, we hove-to for her; but, as she did not make her appearance, having, as we afterwards learned, been obliged to lie-to during the height of the gale, we continued our course out of the Straits, and did not again meet with the Griper till our return to England. After ten P. M. this night, the Aurora Borealis appeared at times in almost every part of the heavens, but most constantly in the southern quarter. It consisted of no distinct figure, either arch or pencils, but of a generally diffused white light, illuminating the atmosphere at times quite as much as the moon when six or seven days old. This phenomenon occurred almost every night during our passage across the Atlantic, rendering them extremely light, even when the weather was cloudy, just in the same manner that the moon does although her disc is not visible. When the weather was clear, it most frequently resembled the light of that luminary when issuing from behind a dark cloud.

On the afternoon of the 16th, the sea being very high and irregular, and the ship pitching with considerable violence, the bowsprit was carried away close to the gammoning, and the foremast and main-top-mast immediately followed it over the side. The wreck was quickly cleared; and, by the greatest activity and energy on the part of the officers and men, the main-yard and mainmast were saved, the latter having been endangered by the foremast falling across the stay, and the former by the wreck of the main-top-mast and top-sail-yard lying upon it. Notwithstanding the continuance of the gale, and the uneasy motion of the ship for the next two days, we succeeded in getting up our jury-masts so as to make sail on the evening of the 18th.

Nothing material occurred till the afternoon of the 26th, when we struck soundings in seventy fathoms, on a bottom of coarse sand and broken shells, being in latitude 59° 55′, longitude 4° 17′ west. The weather being calm, some fishing-lines were

put over, and several fine cod and torsk were caught, being the first we had met with since leaving Fair Island, at the commencement of the voyage. On the following day, we made Foul Island, bearing S.54°E., distant eleven leagues. Previously to our parting company with the Griper, I had given Lieutenant Liddon an order, in case of separation, to repair to Lerwick in the Shetland Islands, and to wait a week there for my arrival. On the morning of the 28th, however, being between Fair Island and the Orkneys at daylight, and the wind being fresh from the northward, I determined to proceed at once to Leith, where the necessary repairs of the Hecla's masts and rigging would be more quickly and effectually compleated, previously to her venturing upon the English coast, and I should have an earlier opportunity of repairing to London, agreeably to my Instructions, to lay before my Lords Commissioners of the Admiralty a full acccount of the voyage.

On the 29th we made Buchaness, and on

the following day, the wind having come to the southward, so as to make our progress very slow, I landed at Peterhead, accompanied by Captain Sabine and Mr. Hooper; having first, in compliance with their Lordships' directions, demanded from the officers, petty-officers, and all other persons on board the Hecla, the logs, journals, charts, drawings, and other documents which the voyage had furnished, and directed Lieutenant Beechy to proceed with all possible despatch to Leith. Having left Mr. Hooper at Leith, to report the Hecla's arrival to Rear-Admiral Otway, the commander-in-chief at that port, and to provide fresh beef and vegetables for our people, Captain Sabine and myself proceeded without delay to London, where we arrived on the morning of the 3d of November.

Such was the excellent state of health which we at this time continued to enjoy

on board the Hecla, that, during the whole season of our late navigation from Winter Harbour to the coast of Scotland, being a period of thirteen weeks, not a single case had been entered on our sick-list, except from one or two accidents of a trifling nature; and I had the happiness of seeing every officer and man on board both ships, (with only one exception out of ninety-four persons,) return to their native country in as robust health as when they left it, after an absence of nearly eighteen months, during which time we had been living entirely on our own resources.

The Griper arrived at Shetland on the 1st of November, and the Hecla at Leith on the 3d. Both ships came into the River Thames about the middle of November, and were paid off at Deptford on the 21st of the following month.

END OF THE NARRATIVE.

REMARKS

ON THE STATE OF HEALTH AND DISEASE

ON BOARD THE HECLA AND GRIPER.

A VOYAGE distinguished as this has been by a state of salubrity exceeding the most sanguine expectations, may perhaps render interesting a few remarks on the character of the casualties and diseases that did occur; together with a brief view of those circumstances inimical to health, which were so successfully counteracted during the voyage.

The experience of the former voyage had taught us, that, during the summer months, disease of any kind was almost a stranger to the arctic regions, and this voyage con-

firmed the experience of the last. On securing ourselves in winter quarters, in September, 1819, there was not a person inefficient from disease on board either ship, excepting one officer, who was suffering under an attack of rheumatism.

At that time the winter was setting in rapidly; the cold had already become severe, and the men began to feel its effects in their extremities, but more particularly in their toes. Among a few of them the injury amounted to no more than the common chilblain, whilst in others it was more severe. In the latter cases, after suffering a short time from the pain of cold, the toes became gelid, colourless, and insensible, until acted upon by the stimulus of a warmer atmosphere, when pain ensued, which acquired a degree of almost intolerable acuteness. To prevent an excessive excitement which followed when these cases were not immediately attended to, we adopted the practice found most useful in cold countries, that of immediately immerging the injured parts in snow, or water

kept, by the continual addition of snow, at 32° of Fahrenheit. They were directed to continue this application until some time after the pliability of the part had been restored.

In most of these cases, this plan of treatment did not secure the patient against an accession of inflammation, which although in general superficial, usually terminated in vesication of the whole surface, followed by an exfoliation of the nail and epidermis. After this, the milder cases quickly healed, while in the more severe ones, corrosive ulcerations into the cutis formed, which proved troublesome and tedious in the cure.

A case occurred on board the Hecla, which, as it may serve to illustrate the effects of severe cold, I shall particularize.

A house, erected on shore for scientific purposes, caught fire by accident during the winter. A servant of Captain Sabine, in his endeavours to extinguish it, exposed his hands in the first instance to the operation of considerable heat; he afterwards remained in the open air in much distress

of mind, at having been in some measure the involuntary cause of the accident, and was almost unconscious of the effects of a temperature of from 43° to 44° below zero of Fahrenheit, upon his naked hands. He was at length noticed in this situation, and sent on board.

His hands presented a strange appearance; they were perfectly hard, inflexible, colourless, possessing a degree of translucency, exhibiting more the external character of pieces of sculptured marble, than those of animated matter. They were immediately plunged into the cold bath, where they continued for upwards of two hours ere their flexibility was completely recovered; the abstraction of heat had been so great, that the water in contact with the fingers congealed upon them, even half an hour after they had been immersed. During the cold application, a considerable degree of re-action took place, attended by acute pain, from which the patient became so faint and exhausted as to necessitate his being conveyed to bed. In less than three

hours, very active inflammation had supervened, extending high up the arm, and soon afterwards each hand, from the wrist downward, was inclosed in a bladder, containing upwards of a pint of viscid serous fluid. There were, however, three of the fingers of one hand, and two of the other, in which this vesication did not form; they continued cold, and perfectly insensible; and whilst arterial action was powerful, as far as the first joints of these fingers, the vessels of their extremities were in a perfect state of collapsion. During the employment of antiphlogistic remedies to reduce the inflammatory symptoms, various stimuli were used ineffectually, to restore animation to the fingers; when the inflammation began to subside, a separation took place between the dead and the living parts, and eventually the amputation of them became necessary.

A private marine of the Griper had also one of his hands frozen in a similar manner, and with a like result. Mr. Beverly had to amputate three or four of the fingers.

The majority of this sort of injuries took place in the early part of the winter, when the men had not learnt the absolute necessity of extreme caution. The fishermen's boots which they wore, were ill calculated to preserve the warmth of the feet, being formed of hard leather, saturated with salt and grease, and often made too small to admit of a sufficient quantity of stockings to counteract the property they possessed, of being too good conductors of heat. It was not uncommon to see the toes, stockings, and boots cemented together merely by the freezing of the cutaneous exudations of the feet. By a little care, these accidents became less frequent, and subsequently, after Captain Parry had substituted canvass boots in lieu of the leathern, not one case of the kind appeared.

Such were the casualties that formed the sick list for the first three months of the winter; casualties, which from the experience gained by the officers and seamen in the late voyage, may be expected to be totally avoided in any succeeding one; in

fact, the preventive means are so completely within control, that it is only in the event of some contingency similar to that which happened in the case of Captain Sabine's servant, that such an accident ought to occur.

Although the winter was commenced with full confidence in the abundance and efficacy of our resources, we could not be quite indifferent to the many examples on record of the fatality that had attended most of those adventurers, who either by accident or in hopes of commercial profit, had wintered in those climates. With these facts before us, it would have been too much, however sanguine we might have been, to have expected a total exemption from scurvy, and many evils arose during the winter favourable to its production, requiring unceasing vigilance to watch and oppose.

Among the causes which have been considered most active in generating this destructive disease, are to be noticed the following, *viz.*, a diet deficient in quantity

or quality; a cold, damp, and impure air; uncleanliness, habits of idleness; mental disquietude; and, in short, whatever is capable of producing debility. The absence of a due quantity of acescent vegetable food is always the exciting cause.

In the sea-scurvy, the salted provisions used by the seamen have been held by many to be the most constant cause predisposing to the disease, depending, as some think, on the nutritive parts of the meat being dissolved, and lost in the brine; or, according to others, owing to a chemical combination between the salt and the animal fibre, destructive of its nutritious properties. The present unfrequency of the disease in His Majesty's service may induce a doubt whether the rations of the seamen, modified as they are at this time, are capable of producing such a predisposition, without the co-operation of some other powerful remote cause.

In the equipment of the expedition, however, every measure that appeared conducive to the improvement of the antiscor-

butic qualities of the provisions was adopted. A large quantity of the meats preserved by Messrs. Donkin and Co. without salt, as well as of their vegetable and concentrated soups, was embarked, and placed at the discretion of Captain Parry, who, by the substitution of them in lieu of proportional quantities of salt beef, greatly improved the diet of the men. Another deviation from the usual allowance was the employment of good flour instead of biscuit, by which the crews were furnished with a daily supply of well-fermented bread. When to this was added a liberal proportion of lemon-juice, pickles, vinegar, &c., it was reasonable to hope that the exciting cause would not acquire any considerable activity, unless a very strong predisposition prevailed.

Of the remote predisposing causes to which we were exposed from the peculiarity of our situation, a cold and vitiated atmosphere was the most to be dreaded. It is true there was little to be apprehended from the effects of the external air, for during the winter

months, which constitute three-fourths of the year, the atmosphere is pure, clear, and dry; its mean temperature considerably below zero of Fahrenheit, and rarely undergoing any very sudden change. The clothing of the men was found adequately warm to protect them from the severest cold experienced, which they were enabled to confront not only with impunity, but with a degree of profit and pleasure.

In the interior of the vessels the state of the air was necessarily very different. To economize and preserve a tolerable degree of heat below, it was necessary to keep the hatchways continually covered; the rarefied air which escaped by the flues being replaced through the crevices, and by the occasional opening of the hatchways. In this way, although the renewal of pure air was abundantly frequent to maintain healthy respiration, the air was seldom of sufficient temperature to carry off the vapours which floated between-decks. These were deposited upon the cold sides of the ships, overhead, and in the bed-places, in icicles,

which, by alternately thawing and freezing, kept up a dampness that for some time proved a source of danger, demanding continued attention to obviate its pernicious influence on the health of the crews.

Personal uncleanliness was another evil against which it was difficult to guard. The smoke with which the air was loaded, attached itself to the persons and clothing of the men in such quantity as to cause great inconvenience; tolerable comfort was only to be obtained by frequent ablutions, but the time and the fuel necessary to procure enough water for this and other purposes, created a tendency to neglect the duties of cleanliness, an object that required the constant superintendence of the officers to effect. The greatest difficulty, however, in this respect, arose from the obstacles which opposed the drying of the clothes when washed; for many months there was no other mode of effecting this than by suspending them in the neighbourhood of the stoves and flues, and it was fortunate if by these means a clean shirt was procured once a week.

Various were the modes of occupation, in exercises and recreations, put in practice to counteract a disposition to idleness, the prolific source of discontent and its consequences. The dull monotony of the scene was favourable to habits of sloth, particularly among seamen, whose mental resources are too feeble, in general, to enable them effectually to withstand the temptation. As the means employed to obviate these several evils constitute a part of the general system of economy and discipline practised by Captain Parry during the voyage, it is not necessary for me to detail them; the best commentary on the subject is the comparative freedom from disease that prevailed throughout.

Nearly four months had elapsed when the first symptoms of scurvy were observed; this was early in the month of January, one of the severest in the year. The patient was gunner of the Hecla, a spare man of temperate habits, but with a constitution somewhat worn by servitude in warm climates. This morbid predisposition was increased by circumstances connected with

the locality of his cabin, which was situated in the vicinity of a large stove, from which emanated a degree of heat not sufficient to expel the moisture, but quite adequate to keep it in a most comfortless condition; during the day the air was charged with vapour, which at night froze to every adjacent substance. On examining his bed, one side was found to be literally drenched in water, and the other frozen to the bed-place. Under such circumstances it was not astonishing that scorbutic symptoms should have appeared. Their character, nevertheless, was remarkably mild. The removal of the patient from his damp cabin, into a hammock in a dry part of the vessel, the substitution of fresh meat and vegetable soup, instead of the salted portion of his diet, and a small additional allowance of lemon-juice, sufficed to subdue every symptom in three weeks after the attack, and he braved the rest of the voyage on the diet of the ship's company without any recurrence of the complaint.

Early in March two more cases appeared

almost simultaneously, one corresponding closely to the foregoing in its origin and result; the other differing, inasmuch as the subject was a man who had occupied one of the most comfortable beds in the ship; but he had been more than once, while in the service of the East India Company, a sufferer from scurvy; his predisposition was also increased by a pernicious habit of eating pork slush. This substance is the more oily part of the fat, which has so great an affinity for the salt, that during the boiling they are discharged together, leaving the meat in a relative state of freshness. The use of this briny fat is strictly prohibited; but this man was detected by the crew in the act of purloining and eating it, and they, with a praiseworthy zeal for the welfare of the expedition, reported his delinquency.

A fourth case shewed itself in April; the patient was the Greenland mate, employed as a pilot. He had occupied a part of the gunner's cabin, and had, consequently, been exposed to the more tardy operation of the same morbific agents. The remedies used

in the first case were equally successful in the others; but I omitted to notice some auxiliary articles of food which, doubtless, very much accelerated their recovery. These were occasional puddings of preserved fruits, and frequent small salads of mustard and cress forced with some difficulty by Captain Parry in his cabin.

A solitary case of diseased lungs occurred during the voyage, which, in its progress, was combined with scorbutic symptoms. As this case eventually proved fatal, I shall, at the request of Captain Parry, subjoin an abstract of it.

William Scot was entered on the sick list on the 12th of April, having an attack of inflammation of the lungs, which had been ushered in by the usual symptoms of fever. Copious bleedings and abstinence relieved him, but on the 14th he had a relapse, which also yeilded to similar treatment. On the 24th he was in an advanced state of convalescence, when a diarrhœa supervened, which arrested his progress towards recovery. The symptoms were mild, and seemed to

arise rather from the irritation produced by acrid matter in the intestinal canal, than from any organic derangement. Medicine suitable to that view of the case was administered with considerable, though not perfect, relief. At this time also some symptoms of a scorbutic character were apparent, which in the beginning of May were no longer equivocal, consisting of aversion to motion, lassitude, depression of spirits, pale countenance, fetid breath, livid, spongy, bleeding gums. An antiscorbutic and farinaceous regimen was prescribed, with such occasional laxatives and anodynes as were dictated by the state of his bowels. By the 25th the decided symptoms of scurvy had given way; the paleness, debility, and mental anxiety remaining. The last affection had clung to him throughout, diverted at times by such light occupations as were found to suit him. He had also suffered two or three relapses of the diarrhœa. The acescent portion of his diet was now discontinued, and the bitter tonics substituted: in addition to his farinaceous food, he had daily a nutritious broth

of the ptarmigan, of which a few were shot. Under this treatment he appeared to be improving, until the 29th, when he had a recurrence of diarrhœa. The appearance of the alvine feculæ, and a sense of uneasiness, felt by percussion, in the region of the liver, indicated a derangement of the hepatic system. Five grains of the blue pill were prescribed daily until the 7th of June, when the salivary glands becoming excited, it was omitted. While under its influence, which continued a fortnight, the uneasiness in the right hypochondrium ceased, but the bowels continued at intervals disordered. On the 10th he began to feel his respiration hurried, on exposure to the cold; general lassitude and debility; increasing pallidity of countenance, and livid lips, with extraordinary depression of spirits. These symptoms were suspicious, but the principal diagnostic signs of scurvy were wanting; his pulse was small and frequent, skin cold; his appetite for food under these circumstances was, nevertheless, tolerable. His treatment had now for its main object the restoration of strength,

and to soothe the occasional intestinal irritability. On the 19th he for the first time experienced an indescribable sensation of præcordial anxiety, and on the same night he had a short fit of dyspnœa and cough, increased rapidity and weakness of pulse, without pain or fever indicative of inflammatory action. This state of anxiety continued until the 26th, when a stupor supervened, from which he was roused by the irritation of a vesicatory; a degree of incoherence was perceptible during the day, which increased in the evening, and by midnight had become furious delirium. In spite of his debility, he was with difficulty held in his bed, anxious to escape imaginary dangers, and attempts upon his life. It was midnight on the 27th, before this mental agitation subsided, leaving him in a rational state, but exhausted by his struggles, and evidently sinking apace. On the 29th he relapsed again into a stupor, almost unconscious of surrounding objects, and on the morning of the 30th he breathed his last.

On opening the body after death, about

two pints of serum were found in the cavity of the abdomen, the liver was preternaturally enlarged, but in other respects sound; a few of the mesenteric glands were indurated; the rest of the abdominal viscera offering no morbid appearance.

In the thorax, the pericardium contained three or four ounces of fluid. The heart was small, its parietes attenuated, flaccid, and pale, and its cavities filled with firm coagulated lymph.

Both lungs were collapsed and shrunk to half their natural bulk, externally firm and livid. On making incision into them, the parenchymatous substance appeared condensed, and converted into a liver-like substance of a livid hue. There was no sign of tubercle or abscess, nor was there any exudation into the cavity of the chest, or adhesion of the pleura.

The morbid state of the thoracic viscera, discovered by the dissection, elucidated many of the distressing symptoms, the cause of which was involved in so much obscurity; but it leaves the pathology of the disease very imperfect.

The diseased condition of mind under which this poor man laboured, had been much aggravated by circumstances which only transpired a short time before his death. He had unfortunately a propensity to liquors, and it appeared that he had been in the habit of gratifying his desire by means of those illicit barterings among seamen, which it is so difficult to detect. A nocturnal incontinence of urine was the consequence, which had been a source of annoyance to his messmates, ending in a powerful antipathy to him, manifested in their unwillingness to assist him even in his sickness. The consciousness of this had evidently been long preying upon his mind.

The above cases comprehended all in which scorbutic symptoms were manifest; no other of the crew evinced the slightest disposition thereto; although in the early part of April, in consequence of the serious loss of lemon-juice by the bursting of the bottles by the frost, it had been deemed necessary to reduce the consumption of it one-third; and in the middle of June to dis-

continue it entirely. At this period the sorrel (*Rumex Digynus, Linn.*) began to vegetate, and the men were enjoined to gather daily a prescribed quantity; during the whole of July it increased almost to exuberance, proving a most valuable antiscorbutic.

In May two or three cases of pulmonic inflammation entered the sick-list; and in June two of diarrhœa, among the parties employed in procuring game. Among the sportsmen, and also among the party which travelled across the island in June, a few cases occurred of that species of ophthalmia called snow-blindness, produced by the reverberation of the solar rays from the surface of the snow. The inflammation is not excessive, but the irritation is for many hours very distressing. Refrigerant applications, and in severe cases alternated with warm fomentations, generally allayed the irritation in twenty or thirty hours, and in three or four days the patient was fit for service.

The foregoing remarks apply more particularly to the state of health on board the

Hecla. In the Griper the scorbutic symptoms were of a more aggravated character, obviously resulting from the objects attacked being men of more debilitated constitutions. The remote causes depending on the condition of the atmosphere, were also more powerful than in the Hecla; for in consequence of the contracted space in which they lived, the air was charged with moisture which was deposited so plentifully upon the walls and bed-places, that every effort to preserve dryness was fruitless. In this extremity it at length became necessary to put all the men into hammocks, and to break down the bulk-heads and bed-places, thereby throwing open the whole deck to the influence of the fires. This measure proved effectual in removing the nuisance, and with it the disposition to disease.

THE END.

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