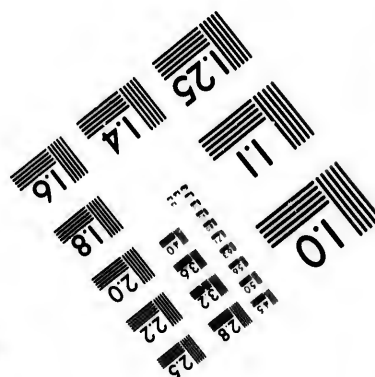
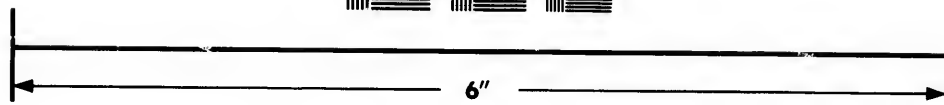
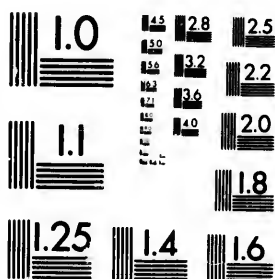


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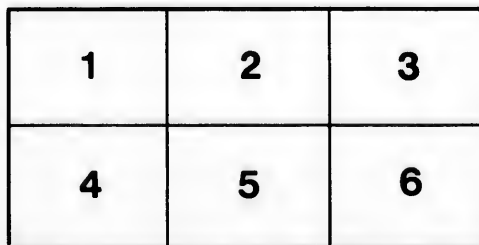
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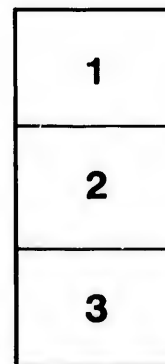
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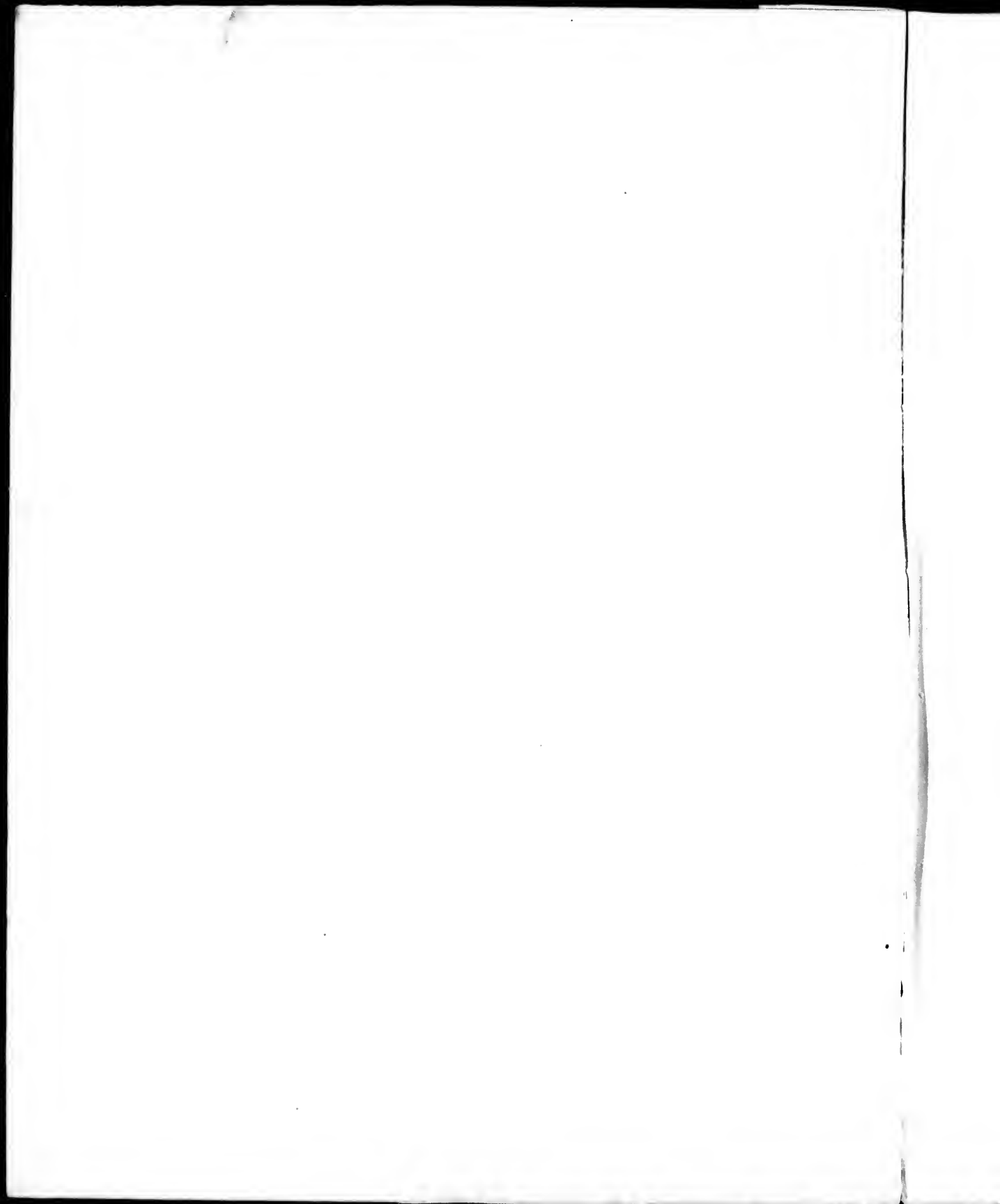
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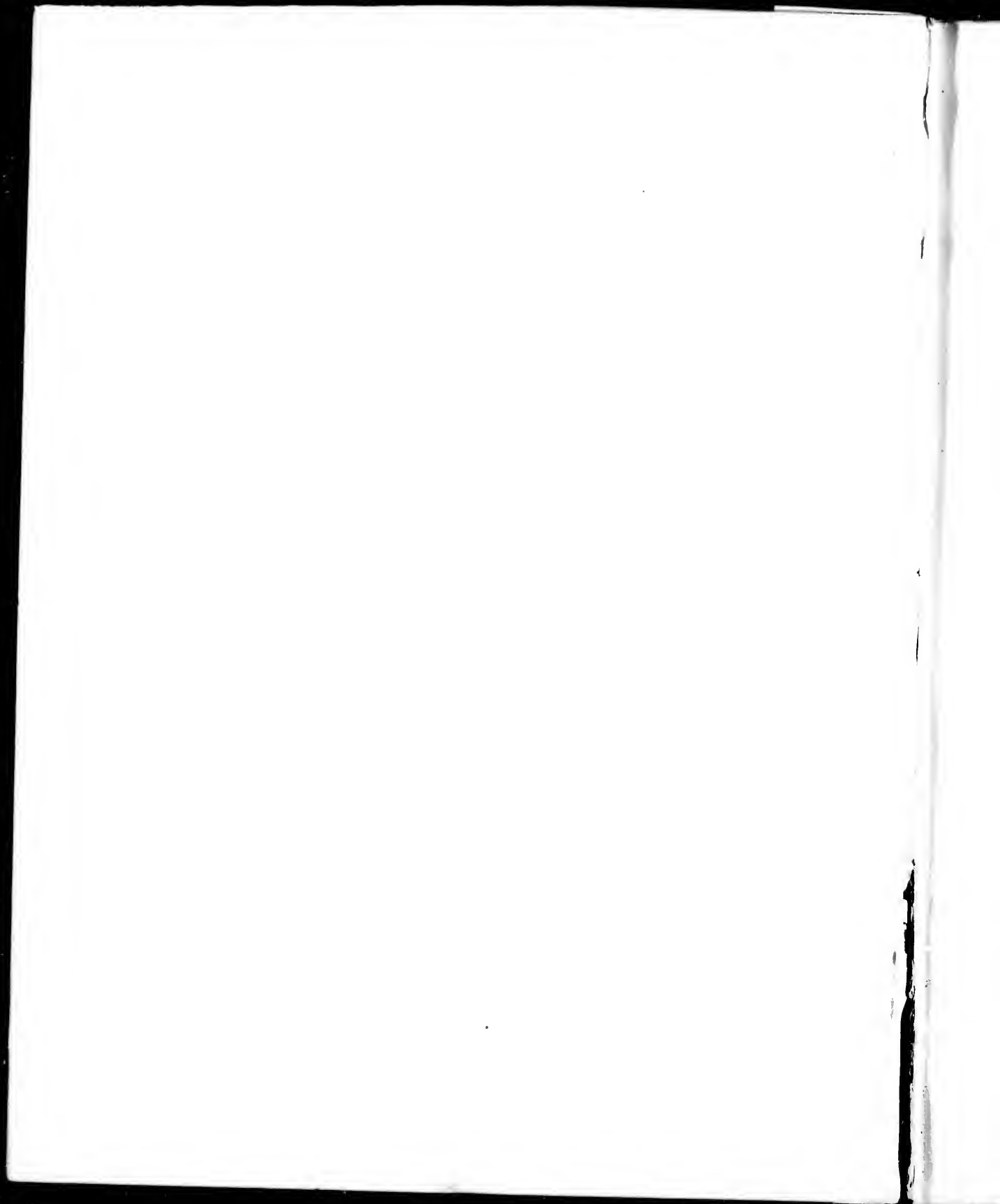
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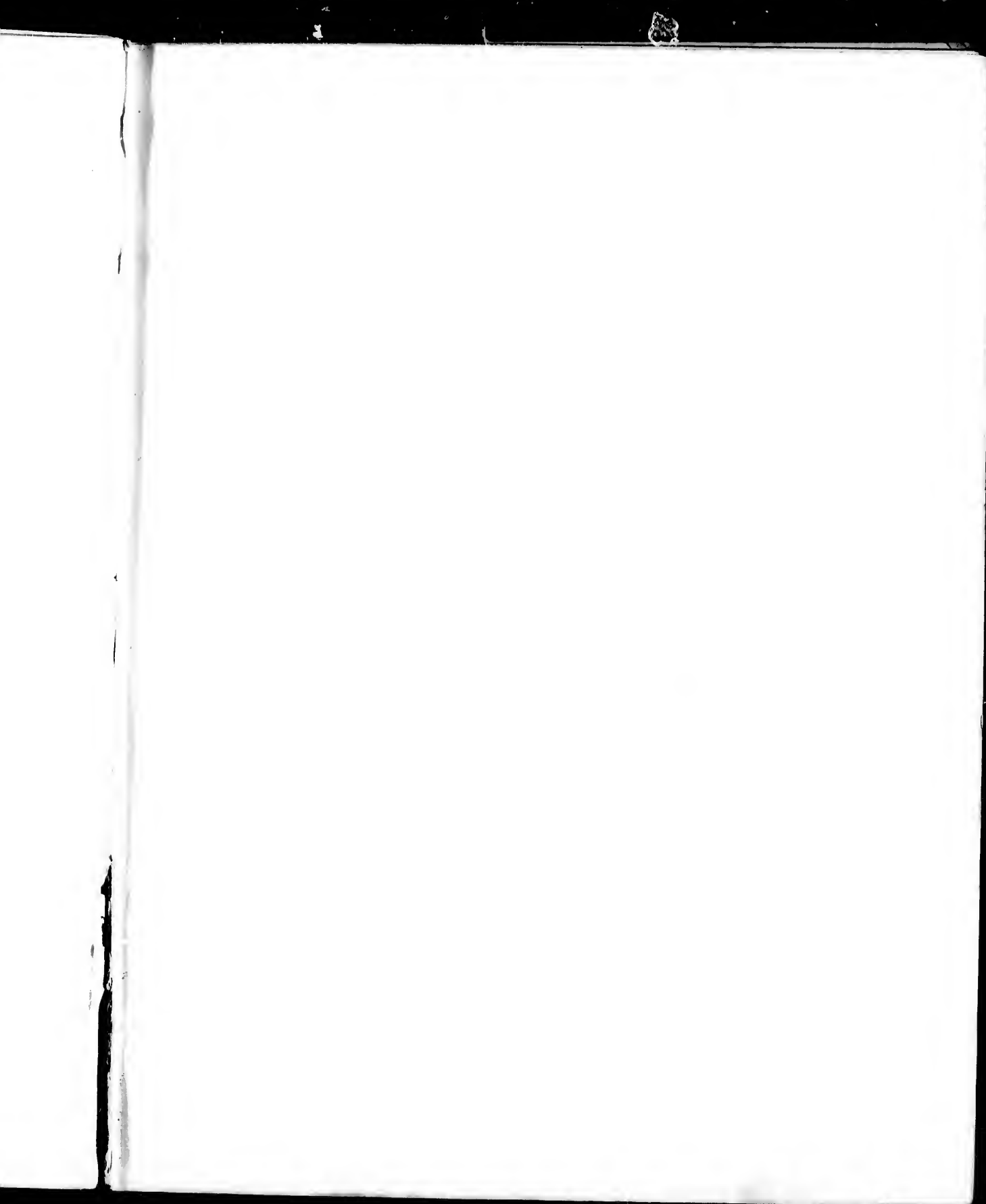
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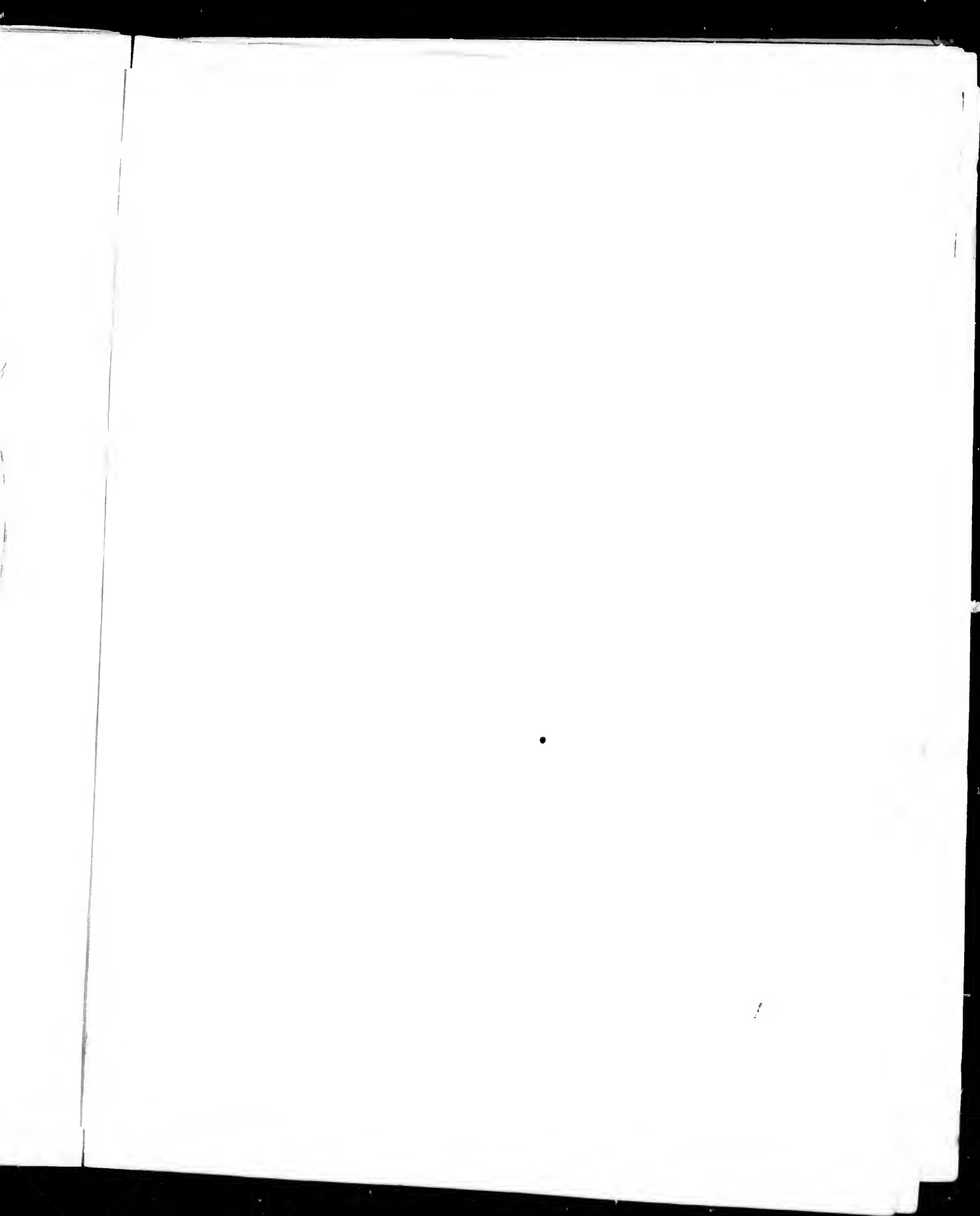


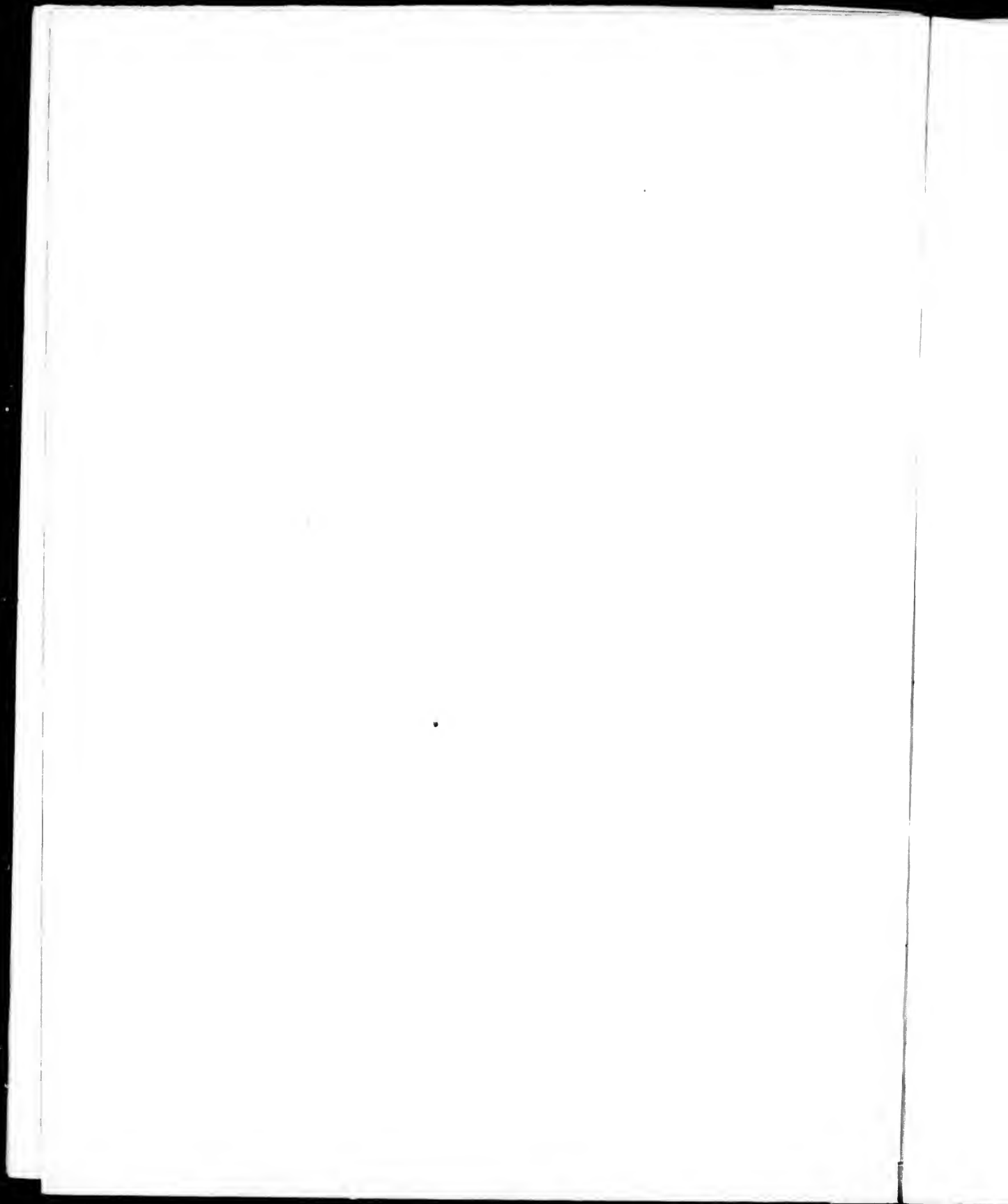


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ARCTIC EXPEDITIONS
FROM
BRITISH AND FOREIGN SHORES
FROM THE EARLIEST TIMES
TO
THE EXPEDITION OF 1875-76

BY
D. MURRAY SMITH, F.R.G.S.

Numerous Coloured Illustrations, Maps, and other Engravings

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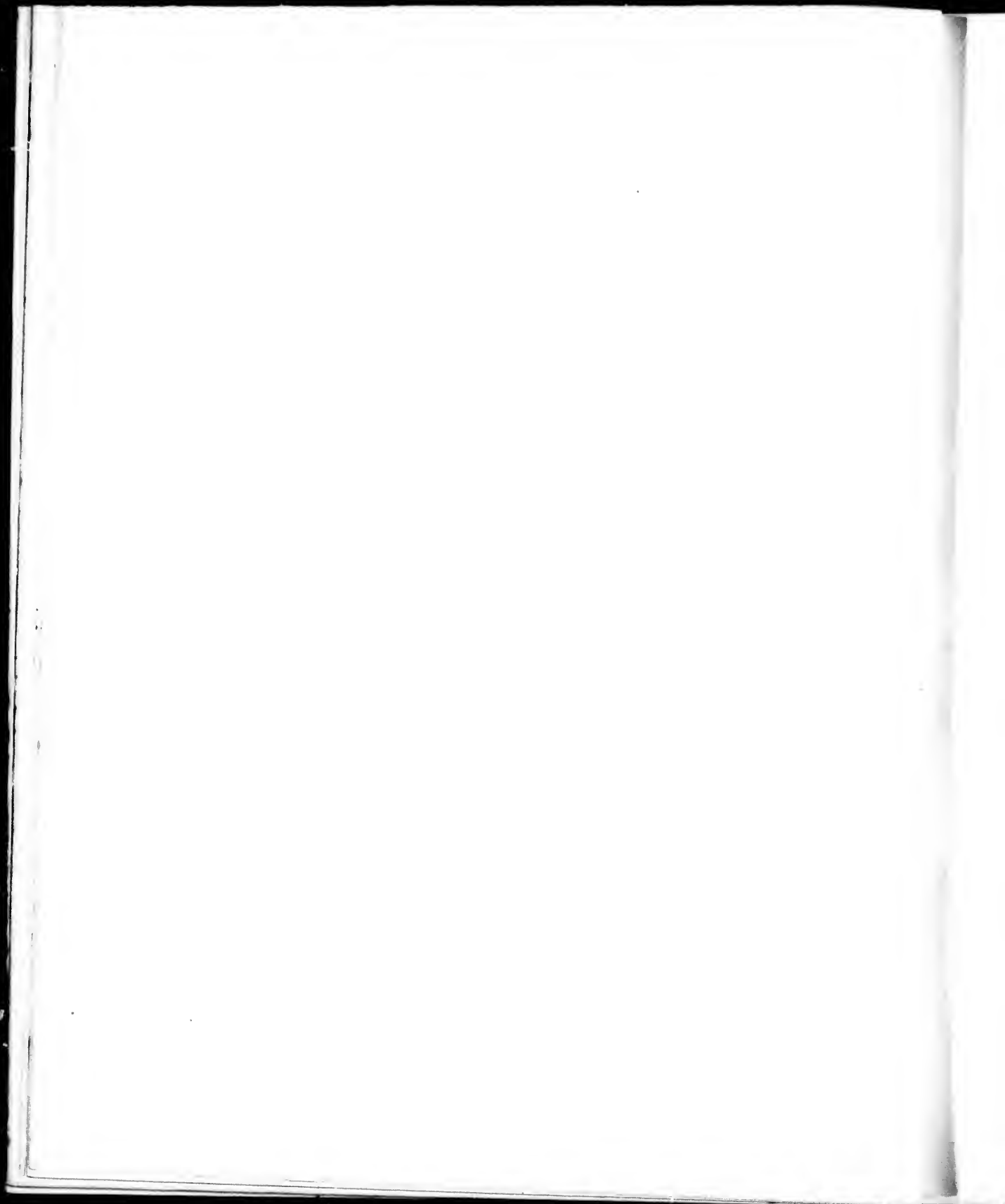
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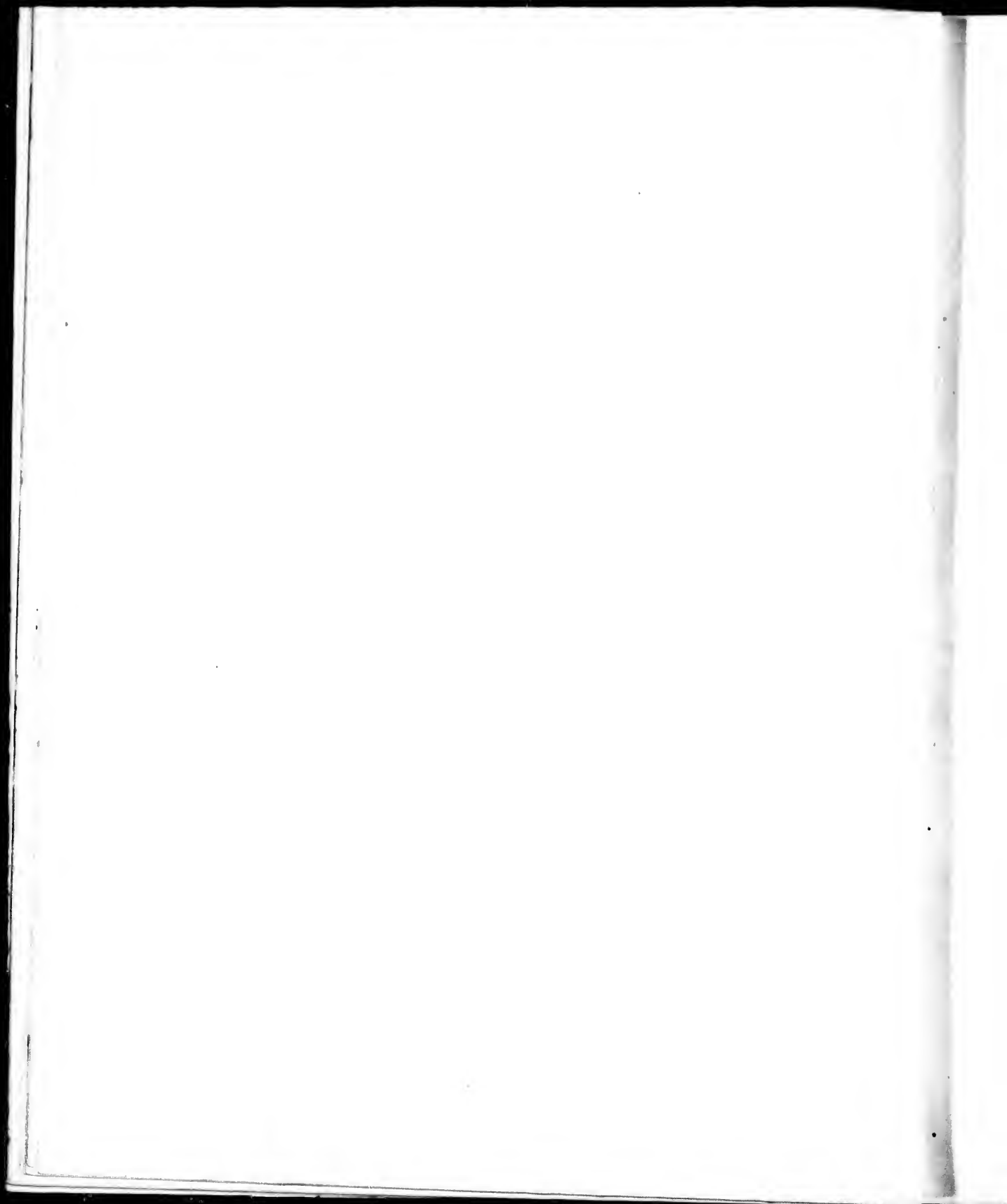
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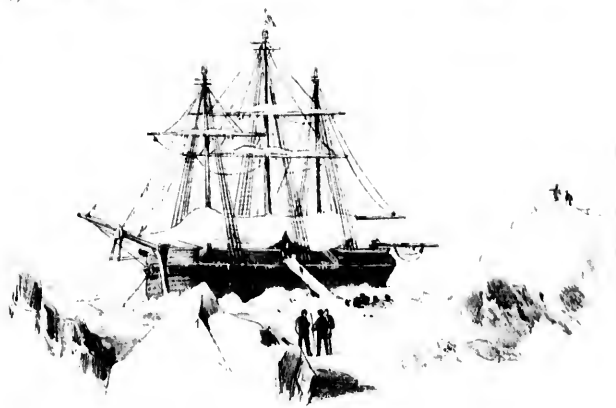
ARCTIC EXPEDITIONS
FROM
BRITISH AND FOREIGN SHORES.







CAPTAIN ROSS





lay helpless upon a sheet of water two or three miles in diameter, and apparently ice-locked—"idle as a painted ship upon a painted ocean." What matter that the sun shone brilliantly, gilding the icy landscape, when the sails were hanging sluggishly from the masts? M'Clure seemed to have reached an Arctic "Doldrums;" but a surprise was in store for him. A light air sprang up in the afternoon, and soon a moderate gale was blowing from the south-east. The captain took advantage of the wind to follow up an east-north-east course; but the navigation was of the most dangerous description. "It was quite appalling," writes Armstrong, "to observe immense floes coming on towards us as we sped our way through the narrow channels of water that separated them from each other, and some of which were almost magically closed as we approached them, by the junction of these ponderous masses, propelled onward, as they were, by the united power of wind and currents. . . . Some fragments it was impossible to avoid, and, as the ship struck them from time to time, the shock was tremendous, and vibrated through every timber of its solid framework—even endangering the safety of the masts; and it was only by an effort that any one could maintain his equilibrium on board. . . . The gale imparted an appearance of grandeur and wildness to the scene difficult to conceive; but so perfectly ice-locked were we, and so circumscribed was the area, that it could not exercise its power."

Next day, the wind having fallen, all the boats were called away to tow, and at about eight P.M. Point Drew was reached. On the following morning, when close to Point Pitt, Mr Court, the ice-master, was sent ashore to erect a cairn, with a notice to the effect that the "Investigator" had passed that point. On landing, Mr Court's party were met by three Eskimos, who at first showed extreme timidity, but after being addressed in their own language and allowed to rub noses with the strangers, became, as usual, friendly and communicative. The most valuable information obtained from them, however, at this and subsequent interviews, was that open water, from three to five miles wide, extended to the east along the mainland, and that no other big oomiak like the "Investigator" had visited their coasts—from which M'Clure learned, first, that the lost expedition must still be detained in the central polar sea, and second, that, to a certainty, the "Enterprise" had not preceded him, and must yet be far behind. On the 11th, the ship was visited by two baidars containing twenty-four natives, of whom the chief, who carried an old musket marked "Barnet, London, 1840," was probably the same troublesome individual who headed the attack on Mr Pullen in 1849. All communications with the natives were carried on intelligently and satisfactorily by the "Investigator's" interpreter, Mr Mierching, a Moravian missionary, who, though he had learned all he knew of the Eskimo language and character at the settlements on the coast of Labrador,

was able to converse with the western Eskimos dwelling at a distance of nearly 4000 miles—a circumstance which seems clearly to prove the unity and distinctiveness of the Eskimo race.

On the 14th August, McClure had penetrated eastward beyond Return Reef to long. 148° 17' W., and was now sailing in waters hitherto deemed completely impracticable for ships. But the navigation was exceedingly difficult owing to numerous shoals, many of which were hidden by floes. "These shoals," says Osborn, "are composed purely of driftwood and the alluvial deposits of neighbouring rivers. A mass of the former takes the ground, or becomes fixed by some accident, in three or four fathoms water; the current soon feels the impediment, and begins to deposit in and around the nucleus matter that forms a shoal; the shoal grows rapidly; more driftwood grounds, more sediment is deposited, and even within the lifetime of a man, as one Eskimo assured Mr Mierching, an island rises from the bottom of the sea." Amid shoals of this description the "Investigator" was beset on the 14th, and in trying to work her way out she took the ground. The moment was one of extreme danger, as the ship was for the time at the mercy of the moving floes. To provide against casualty the deck-load of provisions was removed into the boats, and in the midst of the operations for getting the ship into deep water, one of these boats, laden with eleven casks of salt meat, capsized. The meat was, of course, lost.

After three days' detention McClure forced his way on the 18th into open water, and passed Flaxman Island, in longitude about 146° W. On the 19th, with the water deepening around him, he steered north-east for Banks Land. He soon discovered, however, that he was working into a blind lead in the pack, and was glad to struggle out toward the south, and resume his course eastward along the mainland. Crossing the mouth of the Mackenzie River on the 21st, McClure reached Cape Dallhousie on the 27th. The season was now drawing to a close, and instead of continual daylight there were already three hours of darkness at night, during which, at intervals, guns and rockets were fired, as signals to any parties from the Franklin expedition that might be in the neighbourhood. Cape Bathurst was reached on the 31st.

A few days previously, on the 24th, when the "Investigator" was stationed off Cape Warren, on the eastern shore of the mouth of the Mackenzie, Captain McClure, with his interpreter, Mr Mierching, went ashore to communicate with the natives of the district. In the course of his intercourse with them, the captain asked why they did not trade with the white men up the big river—meaning the Hudson's Bay Company's traders on the forts up the Mackenzie. The natives replied that the white men "had given the Indians a water which had killed a great many of them, and made others foolish, and they did not want to have any of it!" This dread of rum and

its consequences was not confined to the natives of Cape Warren. The numerous natives at and around Cape Bathurst, expressed the same sentiment respecting the effects of "fire-water." This tribe, numbering about a hundred and fifty persons, leaves Cape Bathurst as soon as the young ice covers the sea, and proceeds westward to meet a tribe from the Mackenzie, with whom they trade, and who, in turn, trade with the Indians who are in direct communication with the Hudson's Bay Company's agent. These natives, like those of Cape Warren, "repeated," says Dr Armstrong, "the accusation of the fire-water having been given in barter, and its fatal results." It is just, however, to state that the practice of giving rum to the Indians in exchange for furs, has for many years been abandoned by the Company.

McClure closely questioned the Eskimos of Cape Bathurst, with regard to the existence of land to the northward. They only pointed to it with an expression of anxiety, and exclaimed, "That is the Land of the Great White Bear!" "While at Cape Bathurst," writes Sherard Osborn, "a constant exchange of garments went on between the seamen and officers on the one side, and the natives on the other; but one Eskimo, more knowing than the rest, hit upon an ingenious plan to obtain clothing without giving a *quid pro quo*. He went to several of the individuals of the 'Investigator's' company, commencing with the commander, and pretended to be suffering from excessive cold. His teeth chattered, and his whole frame shook so, that compassion was immediately aroused, and a Guernsey frock given him. Then he felt better; but watching an opportunity, the rogue would slip it off, stow it away in his kayak, and then return to obtain a fresh one. At last, however, an old quartermaster, who had been watching him with some degree of amusement, flew into a passion at the fellow trying the same trick on with him, called him '*a Jew*,' and threatened to knock his head off, accompanying his threat with a demonstration from a large horny fist, which the Eskimo understood better than the profuse volley of adjectives, that rolled out at the same time over the quartermaster's quid."

Having obtained a promise from these natives to be kind to any "white men" who might come amongst them, Captain McClure resumed his voyage, and on the morning of the 6th September, had reached Cape Parry, in longitude about 124° W., and immediately south of Banks Land. A strong south-easterly wind, which set the ice off the coast, was blowing, and as the sea was clear to the north, McClure pursued his course in that direction—in sleepless anxiety for what secret this unknown sea had to give up to him. He had not long to wait. "At 11.30 A.M. (on the 6th)," writes Dr Armstrong, "the joyful report of 'land on the port bow,' was proclaimed, from the mast-head, and as noon dispelled the haze which hung around its lofty outline, and revealed it to our delighted eyes, it bore from N.E. to E.N.E., distant about thirty miles. I need not attempt," continues the Doctor, "to describe

the feeling of joy which this pleasing intelligence diffused amongst us ; of the hopes indulged in, or the variety of opinions entertained and freely expressed. All eyes were directed towards it for the remainder of the day, anxiously looking forward to our soon reaching this newly-discovered territory. Some thought it would prove to be a continuation of Wollaston Land, others that of Banks Land, as we had then nearly reached its meridian ; but whichever it might prove to be, the interest was absorbed by the feeling of confidence universally entertained that the land before us would prove a certain guide to lead us to the northward—perhaps to Melville Island. . . . As if to add to the cheerful feeling we experienced, the sunset was peculiarly beautiful, tinting the western horizon with colours no effort of art could portray—the most brilliant scarlet and crimson, stratified on a rich neutral ground, formed by a harmonious blending of all the elementary colours of the rainbow—a picture of pure Arctic scenery, stillness, and beauty, which cast an auspicious halo around this new land.” On the following morning, the “Investigator” having reached to within two miles of the southern point of the land—a lofty cape, 1000 feet high, afterwards named Nelson Head—Captain M’Clure and Dr Armstrong left the ship in one of the whale-boats, followed by Lieutenant Cresswell with a party of officers in the first cutter, for the purpose of landing upon, and taking possession of, their discovery, which, with the usual formalities, was named “Baring Island.” It was afterwards discovered, however, that the island was no other than Banks Land, the northern shores of which were discovered from the coast of Melville Island by Sir Edward Parry, as early as 1819-20. Parry named the land he discovered Banks Land, and this name it has properly retained.

M’Clure and his companions proceeded to examine the shores, and found that vegetation was general, that the Arctic flora occurred in perfection, and that there were recent traces of reindeer and hares. Better than all, however, a perfectly open sea extended away toward the north-east—the route to Barrow Strait and to England. In this direction the vessel was now worked against a moderate east wind. The south-eastern coast of Banks Land revealed itself point after point, and was found to consist mainly of limestone, covered with soil and verdure, and sloping to the sea. Pushing on for two days, on the 9th M’Clure discovered new land to the eastward, or “on the starboard bow,” and the “Investigators” began seriously to fear, as the trend of the shores both on the right and left was toward the north-east, that they were running into some deep fiord or land-locked inlet. Still there was the chance that this inlet, which was about thirty miles in width, might prove an open passage leading into Barrow Strait, and in that hope M’Clure pressed on toward the north-east. “Early on the morning of the 10th,” writes Dr Armstrong, “the joyful intelligence of land on either quarter was reported as day advanced ; and as the fog cleared away, it could be seen running in

a parallel direction on either side as far as the eye could reach; and the hope so ardently entertained, that this fine sheet of water might prove a strait, was likely to be realised, as we uninterruptedly pursued our way to the northward. Still the same anxious feelings pervaded our minds; and one almost felt afraid to give expression to one's hopes, lest the reports from the mast-head, frequently as they came, might destroy them." On the same day the vessel had reached two islands, afterwards named Princess Royal Islands; and at noon the observations taken demonstrated that the explorers had now reached a point only sixty miles distant from the known northern limit of Banks Land, or, in other words, from Barrow Strait and the achievement of the North-West Passage. At this period Captain McClure suffered intense anxiety and ceaseless excitement. "I cannot describe my anxious feelings," he writes, in his private journal. "Can it be possible that this water communicates with Barrow Strait, and shall prove to be the long-sought North-West Passage? Can it be that so humble a creature as I am will be permitted to perform what has baffled the talented and wise for hundreds of years?" On the afternoon of the 10th, however, the wind veered round to the north-north-east, and brought down with it, right against the "Investigator," large quantities of ice not previously in sight. The gale drove the ship on the eastern or lee shore of Prince of Wales Strait, as this new channel had been named, and pressed her, together with the ice that surrounded her, down upon the coast of Prince Albert Land, the name given to the land on the east side of the strait. For three days the ship remained beset in the ice, and in constant danger of being overrun by the moving floes. On the 15th the wind changed to the southward, and gradually drifted both the ship and the floes with which she was surrounded, toward the north. "Drifting along in a churning sea of ice," writes Osborn, "amid darkness and snowstorm, the 'Investigator' held her way, her gallant company contented to run all risks, so long as her course was onward, and towards the north-east."

On the 17th September McClure reached his most advanced position in Prince of Wales Strait—lat. $73^{\circ} 10'$ N., long. $117^{\circ} 10'$ W.—a point only *thirty miles distant from the waters of Barrow Strait*. North of this point the ice, jammed together by the heavy pack of Melville Sound, which lay across its northern extremity, could find no outlet toward the north. After being drifted up and down the strait by shifting winds, liable to sudden destruction at any moment from the moving and irresistible ice, McClure found himself, on the 30th September, finally beset in the pack, in lat. $72^{\circ} 50'$ N., long. $117^{\circ} 55'$ W. On this day the temperature fell below zero for the first time; and as the ship was now stationary, preparations were immediately commenced, by dismantling the ship and erecting the woollen housing, for spending the winter in the pack.

CHAPTER II.

FIRST WINTER IN THE ICE.

IN the early October days of the first winter among the ice, nothing important occurred. The excellent spirits of officers and men were dashed, but only for a moment, by the discovery that 500 lbs. of preserved meat were putrid, and had to be thrown overboard. Taken in connection with the loss of the boatful of salt meat already mentioned, this was a serious loss to a crew now firmly enclosed amid the ice of an unknown sea. But despair is death in the Arctic regions, and Captain M'Clure was ever anxious to keep the attention of his men fully engaged, so that there should be no time allowed for grumbling or despondency. One of the means toward this end, was to send out parties of officers and men to explore the lands they had discovered on either side of Prince of Wales Strait. On one of these excursions an incident occurred, which might have resulted in the sudden and tragical termination of the expedition.

On the 10th October, with a temperature of 40° below freezing point, Captain M'Clure, Lieutenant Cresswell, Dr Armstrong, and Mr Mierching the interpreter, with four seamen, started from the ship to visit the land on the eastern side of the strait, and take possession of it. The route was first over broken and rugged pack, afterwards over a belt of smooth ice, extending to near the shore, and finally across a barrier of broken floe, formed by the violent contact of the sea-ice with the grounded hummocks on the shore. "The tide happened to have brought the two edges together with much violence," writes Osborn, "and the lighter ice (some feet in thickness, however) was turning up and rolling over, layer upon layer. 'Follow my leader' was the idea of all the party; and away they rushed over the pile formed by the battling floes, cheering as they reached the land, and regardless of the fact that at turn of tide those very floes might part and cut off their retreat." The party having arrived on shore, the seamen were ordered to construct a cairn on this new land, which had been named after Prince

Albert ; while the officers, marching on for two hours, were rewarded with a view of "a headland, which appeared like the termination of Banks or Baring Land, with a blank space between it and the coast side of the strait, which confirmed Captain McClure in his belief in a channel through, and made his companions exclaim that they saw into Barrow Strait." In this excursion no living creature was seen, though traces of bears, deer, and foxes, were observed. The scant vegetation consisted merely of small patches of dwarf willow and moss. On the whole, Prince Albert Land was unpromising as a hunting-ground.

"We had returned to the shore," writes Captain McClure, "and were following our track back to the ship, anticipating the pleasure of a good dinner, after a twenty miles' walk, when, on coming to where the junction of the land-ice and the sea-floes took place, we beheld a separation of fifty yards of clear black water ! Our feelings are easier to be imagined than described : nearly five miles from the vessel, a Polar night closing in, and the only provision amongst the whole party a solitary tin of preserved meat, which had been issued to the men for their dinner, but had now become so solidly frozen as to defy both their knives and teeth !" The situation was threatening. The starving seamen ranged along the edge of the land-ice in the hope of finding a floating piece on which, as on a raft, they might cross over the open water that gloomed black between them and safety. No such ice-raft, however, was to be found, and, as the men wandered along the floe-edge, they fell heavily into icy clefts, or bruised their limbs on the iron hummocks, and were fain to sit down and fall off into the sleep of fatigue, which, in these regions, knows no waking. The officers prevented this by keeping every man on his feet and in motion, until at last, in answer to the resounding muskets of the despairing men, rockets and guns were fired from the ship, and the wanderers knew that a rescue party would soon be with them. This party soon arrived within hail on the opposite side of the open water. "Have you a boat with you ?" cried McClure. "No," was the answer, "we did not know you wanted one." The captain ordered them to return immediately, and bring one. In the meantime, however, another relieving corps had been sent from the "Investigator" with a boat, by means of which McClure and his companions were rescued. By four in the morning the travellers had partaken of a substantial meal, and retired to their beds, almost exhausted, after eighteen hours' exertion, but grateful for the fortunate termination of their adventure. "The distance we had travelled," writes Dr Armstrong, "exceeded thirty miles, which, in consideration of the nature of the ground, was more trying than double the distance over level country ; and what with the intense cold of the night, no tents, inadequate clothing, and entire want of food, had we not been happily rescued, there was but too much reason to fear that morning would have furnished a serious list of casualties."

Between the 12th and 18th of October, 424 lbs. of preserved meat were thrown overboard, as unfit for human food, and this loss, taken in connection with those that had preceded it, was somewhat ominous. Still the spirits of the men were excellent, and McClure endeavoured to preserve cheerfulness by keeping them constantly employed. On the 21st October 1850, the captain, at the head of a party, including Dr Armstrong, set out on a sledge excursion for Barrow Strait. The "Investigator," however, was but scantily furnished with the necessary apparatus for efficient sledge-travelling, nor does the deficiency in this respect appear to have been compensated for by the training or the ingenuity of her officers. For example, McClure did not know how to construct and load his sledges, so as to include a sufficiency of necessary provisions; and we find that, at the close of the first day's journey toward Barrow Strait, the only supper for officers and men was "a pint of tepid water apiece, into which a little oatmeal was thrown." A sledge expedition conducted on this scale could only achieve success at the expense of infinite labour and the most poignant suffering. After three days however, the party had so far ascended Prince of Wales Strait, as to obtain a clear view into Barrow Strait, or, in other words, to behold before them the completed North-West Passage. The following is McClure's report of what led to the incident: "October 24th was not so cutting a day, the thermometer having risen to 5° Fah., I walked ahead whilst the sledge was packing, ascended a point of land a hundred feet above the level of the sea, and observed distinctly that the eastern shore of Prince of Wales Strait trended far away to the eastward, whilst that of the western coast (which we were upon) preserved its northerly direction. The point whereon I stood appeared to be the most contiguous to the opposite shore, and the breadth across about fifteen miles; beyond me the shores of the strait evidently began to separate. This encouraged me in the hope that we were on the point of reaching Barrow Strait; and seeing a hill at what appeared a distance of twelve miles due north of my position, I returned to the sledge, and pointed it out to the crew as a cape whence we should see that long-wished-for sea." On the morning of the 26th the cape referred to was reached, and ascending a hill 600 feet high before sunrise, the captain and his party waited till daylight should reveal the North-West Passage from the Atlantic to the Pacific Ocean. As the sun rose, the wondrous prospect was unveiled. Prince Albert Land trended away to the eastward, and Banks Land, near the north-east angle of which the party stood, was seen to terminate in a low point about twelve miles ahead. Northward across the northern entrance to Prince of Wales Strait extended the frozen waters of Barrow Strait, or rather of that western reach of it now known as Melville Sound. "A North-West Passage was discovered," exclaims Osborn. "All doubt as to the existence

of a water communication between the two great oceans was removed, and it now only remained for Captain McClure and his men to perfect the work, by traversing the few thousand miles of water between them and their homes."

The cape from which the discovery was made, afterwards named Mount Observation, is in lat. $73^{\circ} 30' 39''$ N.; long. $114^{\circ} 39'$ W.; and from this point the explorers pushed on to Point Russel, the extremity of Banks Land, on the veritable shores of Melville Sound. The return journey was now commenced, and after great suffering from extreme cold, etc., the party safely reached the "Investigator" on the 31st October.

On the 11th November the sun was seen by the "Investigators" for the last time during the winter of 1850-51, and the dreary eventless season of darkness set in. Christmas was celebrated in the usual time-honoured fashion; and, writing on the 31st December, McClure states that "nothing could be more satisfactory than the state of the vessel, her crew, and her resources on this day."

After a long and monotonous winter of eighty-four days of twilight and darkness, the sun reappeared to the "Investigators" on the 3d February. The returning spring was hailed, as it always is in these remote regions, with delight, although the Arctic navigator knows that the reappearing sun brings with it, for a time, the intensest cold of the year. The officers and men now extended their walks in the neighbourhood of the ship; hunting parties were formed, out-door sports were commenced, and with the prolonged exercise in the open air the health of the crew vastly improved. "Appetites that had failed now began to return; pale and yellow faces again to recover their ruddy and sunburnt colours; and long discussions already arose as to how Jack would spend his money when he arrived in England—an anxiety which in every clime weighs upon his mind when nothing else will." Preparations were now commenced for the despatch of several sledge parties in spring, to prosecute the search for Franklin along the hitherto unvisited shores of this desolate region. It was arranged that the travelling parties should be three in number; one, under Lieutenant Haswell, to follow the coast of Prince Albert Land, in a south-east direction, towards Wollaston Land; another, under Lieutenant Cresswell, to examine the coast of Banks Land towards the north-west; and the third, under Mr Wynniatt (mate), to travel along the coast of Albert Land, in a north-east direction, round the shores of Melville Sound.

On the 18th April 1851 the sledges left the ship. Each sledge was provisioned for six weeks, weighed eleven hundredweights, and was manned by six hands. Sherard Osborn, who had practical experience of the kind of work these men should have to do, writes, not without kindly eloquence of the trials that lay before them: "If they should feel cold, they must be patient, for until their return to the ship, there will be no fire to warm them.

Should their parched tongues cleave to their mouths, they must swallow snow to allay their thirst, for water there is none. Should their health fail, pity is all that their comrades can give them, for the sledge must move on its daily march. If hungry, they must console themselves by looking forward to being better fed when the travelling is over, for the rations are necessarily, in sledge journeys, weighed off to an ounce. In short, from the time they leave the ship till their return to it, the service is ever one of suffering and privation, which call for the utmost endurance and most zealous energy." On the 20th May, Lieutenant Cresswell's party returned to the ship, after thirty-two days' absence, and after having examined the coast of Banks Land, in a north and north-west direction, for 170 miles. He had experienced north-west gales of intense severity, and his party were frequently frost-bitten. Two of his men were severely bitten, and as mortification threatened to supervene, he was obliged to fall back on the ship to save the men's lives. Of these men, one lost "a portion of his feet." On the 29th May, Lieutenant Haswell returned, after being out forty-seven days, and having explored a great extent of the coast of Albert Land toward the south-east. On his return journey he had fallen in with several Eskimo families near the south-east entrance to Prince of Wales Strait, but was unable to communicate with them. This was remarkable intelligence for Captain McClure, who had never dreamed that natives were so near him, though all the land around the winter quarters of the "Investigator" abounded in Eskimo ruins, which, however, were moss-grown and very ancient. Being desirous of seeing the natives, the captain, together with the interpreter, Mr Mierching, set out for their quarters. On reaching the encampment, he found it consisting of five tents, each containing a family—husband, wife, and children. One of these Eskimos he described, "a fine, active, broad-shouldered savage, with bow and quiver slung at his back, and a large, copper-bladed hunting-knife in his hand." He was well clothed in sealskins, and "his finely-proportioned limbs were neatly encased in beautifully made mocassins and overalls." Mr Mierching and the natives communicated with the most perfect freedom and intelligence, as their dialect was the same as that spoken in Labrador, in which the interpreter had so long resided. This circumstance corroborates the surprising assertion of Dr Rink and others, that the language spoken by this singular and ancient people is homogeneous over the entire area in which they are found—an area 5000 miles in breadth.

On the 7th June the third sledge party, under Wynniatt, the mate, returned. In none of these excursions had any traces of the lost expedition of Franklin been discovered.

During the absence of the sledges a singular incident, exemplifying the constant danger to which Arctic navigators are exposed, occurred near the

ship. A shooting party had been formed on the western shore, to which a young man named Whitefield was attached. All the sportsmen were out on one occasion, and were delighted, and at the same time chagrined, to behold a large flock of hares come trooping along a ravine, for just at the time a blinding snowstorm came on. All the men at once retreated for safety into their tent except Whitefield, who was tempted to go on after the hares. He was soon missed, and the sportsmen, alarmed for his safety, went out in parties of two at a time to seek for and rescue him, each relieving party running much risk of being lost and smothered in the drift. "Failing in all their efforts," says the narrator, "and fairly at their wit's end, the party, which was in charge of a petty officer, retreated to their tent again, and began to fear the worst, when one of them suddenly exclaimed that he 'heard the footsteps of a bear!' All heard the sound for a minute, and then it ceased. The drift was so dense they could see nothing, and to their shouts of 'Whitefield!' no answer came. Shortly afterwards, during a lull in the gale, some one happened to look out of the tent, and there, not a yard from the tent, knelt poor Whitefield, stiff and rigid as a corpse, his head thrown back, his eyes fixed, his mouth open and full of snow, and his body being fast buried in a snow-wreath. They pulled him into the tent, restored animation, and then sent for aid to the ship. When the man eventually recovered sufficiently to tell his tale, it was strange indeed. He said that whilst struggling with the snowstorm, and endeavouring to find his way home, he felt a chill, and then a fit came on, which appeared to have deprived him of his senses to some extent, for he had seen his companions looking for him—some of them had even passed within a hundred yards of him—yet he could neither call them nor discharge his gun as a signal; and, meantime, the snow had covered him. After a while he regained some strength, and fortunately discovered a track leading to the tent. He had actually almost reached it—indeed, those were his footsteps that the people had heard—when again the fit came on, and he sank down a yard from the tent door, in the attitude of supplication in which he was found in the snow. He was fast becoming rigid and freezing, when, by the mercy of Providence, his shipmates saw him." There can hardly be in all Arctic history a more striking example than this of the semi-conscious stupor which affects those who have been long exposed to the bewildering influence of a Polar snowstorm.

CHAPTER III.

RELEASED FROM WINTER QUARTERS—A SECOND WINTER IN THE ICE—
SERGEANT WOON'S EXPLOITS—A THIRD WINTER IN THE ICE.

JUNE 1851 came with but half a promise of favour to the "Investigators," shut up in the ice in the middle of Prince of Wales Strait, and with an icy wilderness on either hand. All around the winter quarters changes were taking place, which announced the fact that summer was close at hand. At the close of the month the ice had lost two feet ten inches of its thickness, while the water-pools on its surface were broadening, running into each other, and so acting on the ice beneath as to produce holes in it here and there. Meantime the hummocks, snow-white, like blocks of granite during the winter, were becoming yellow, and evidently hastening to decay, while round the vessel the air was loud with the cries of ducks, geese, and swans. The month of July, the summer of lat. 70° N., was a season of great expectation and anxiety on board the "Investigator." Her sails have been bent, the boats hoisted up, and a constant watch set to observe and report the gradual increase of water which is now detaching the floe from the shore on either side. Meantime, like the Arctic hare, the scenery around has changed the white of winter for the brown of summer, while in the vales and southward sloping banks there is a faint blush of colour from the now blooming flora of these regions—from the yellow anemone and poppy, the purple saxifrage, the modest sprigs of the London pride (blooming so far away from London) and the leaves of the sorrel glowing as if dipped in wine. On the 10th July the floe commenced moving and breaking up, and the "Investigator" was again free from the ice. The western shore of the strait now seeming clear of ice, McChure sailed for it on the 17th, but was caught by the ice-pack, and in a thick fog was drifted with the crushing floes so close to Princess Royal Island that he could hear the screams of the sea-fowl on the cliffs, against the iron ribs of which he only escaped destruction by a miracle. On the 24th, remembering the fact that along the eastern side of the strait a north-east current flowed away in

the desired direction towards Melville Sound, the captain steered for that side on the 24th, and arrived near the shore opposite Point Armstrong. Here he found on the beach an immense quantity of driftwood—all American pine—and sent a cutter to obtain a load of it. The wood was so fresh that it could not have been more than two years since it was growing in its native forest, on the banks of the Mackenzie or Coppermine.

After being again beset for some time in the ice, the "Investigator" continued to drift north-eastward with the current referred to, until about the middle of August she was in lat. $73^{\circ} 43' 43''$ N., long. $115^{\circ} 32' 30''$ W., in which position she was only *twenty-five miles* from the waters of Melville Sound. Beyond this point it seemed impossible to push the old ship; for there were occasional north-east winds causing southward sets of the ice, while at night the young ice of the approaching winter was already beginning to form on the strait. McClure had now the alternative of waiting for an opportunity of pushing north into Barrow Strait, with the prospect of spending the coming winter in the midst of its stupendous pack, or of retreating down the strait, and after sailing round the island (Banks Land), to try for an eastward and a homeward passage by Banks Strait and Melville Sound. He decided upon the latter course, and immediately acted on his decision. The bow of the "Investigator" was turned round toward the south, and soon she was beating fast down Prince of Wales Strait with all sails set, and with a glorious reach of open water extending southward in front of her. After a splendid run of a hundred miles, the "Investigator" passed Nelson Head on the 17th August, and following round the coast for twenty-five miles, found that it was a continuation of lofty cliffs as far as Cape Hamilton. Here a strong breeze and heavy swell were encountered, and the ship, that had so long been immovably fixed among ice, pitched freely, with a true ocean roll, among the heaving waves, to the intense delight of the crew, who were overjoyed to feel the old ship "throw up her heels" once more. Round Banks Land by the south, round Banks Land by the north, and on the 19th McClure found himself in lat. $73^{\circ} 55'$ N., higher than he had yet reached on this voyage—and purposing in his secret heart to round Melville Island, and then seek his way through some sound or strait into Baffin's Bay, and home!

But the exultant feeling was soon to be checked. On the same night, McClure had no sooner crossed Burnet Bay than the coast suddenly became as abrupt and precipitous as a wall. During the night the space of open water gradually lessened in width, and, besides, was much hampered with loose ice. "In some places," says Osborn, "the channel was so narrow that the quarter-boats had to be 'topped up,' to prevent them touching the cliffs upon the one hand, or the lofty ice upon the other; and so perfectly were they running the gantlet that on many occasions the ship could not 'round to'

for want of space. Their position was full of peril, yet they could only push on; to attempt to retreat was now out of the question. The pack was of the same fearful description as that which they had encountered in the offing of the Mackenzie River during the previous autumn. The surface of the floes resembled rolling hills, some of them 100 feet from base to summit; and the edge of this wonderful oceanic ice rose in places from the water as high as the 'Investigator's' lower yards." On the 20th the ship was beset among the ice off the north-west angle of Banks Land; but on the 29th another extraordinary change occurred. A sudden disruption of the previously fixed ice took place, and a moving floe struck a huge mass to which the ship had been secured; and, to the horror of those on board, this mass slowly reared itself on its edge under the enormous pressure, and towered over the ship's bows until it rose above the fore-yard. Another moment of motion and the "Investigator" must be crushed to atoms, for the ice weighed thousands of tons. For a moment the heaving ice-mountain hung in the air, on the point of toppling over on the vessel. But soon a shout of joy rose along the deck of the ship, for the enormous mass, after oscillating fearfully, broke away, rolled back into its former position, and sank, a harmless heap. For some time longer the explorers remained beset among the ice on the north-west coast of Banks Land; and whilst thus detained in enforced inactivity, the officers employed their time in rambling along the shores, and inland. They saw musk-oxen and deer, and discovered a "most surprising accumulation of fossil trees, as well as fragments not fossilised, lying over the whole extent of the land from the shore to the height of 300 feet above sea level. Of this most singular deposit of timber trees McClure writes: "The summits of the hills are about 300 feet high, and nothing can be more wildly picturesque than the gorges which lie between them. From the summit of these singularly-formed hills to their base, abundance of wood is to be found; and in many places layers of trees are visible, some protruding twelve or fourteen feet, and so firm that several people may jump on them without their breaking. The largest trunk yet found measured one foot seven inches in diameter." Under the present climatic conditions of the Polar regions, no higher vegetation than the dwarf willow occurs. How then came these vast deposits of timber on this island, and at the summit of hills 300 feet high? In the same district McClure found the north side of a ravine, "for a depth of forty feet from the surface, composed of one mass of wood similar to what I had seen before." Sir Roderick Murchison, in endeavouring to account for this vast quantity of timber trees on Arctic islands, in which, under present conditions, they do not, and cannot, exist, gives it as his opinion that at the period when the distribution of this timber took place, large portions of these Arctic "tracts were beneath the waters, and that the trees and cones were drifted from the nearest lands on which they grew. A subsequent elevation, by

which these islands assumed their present configuration, would really be in perfect harmony with those great changes of relative level which we know to have occurred in the British Isles, Germany, etc. The transportation of immense quantities of timber towards the North Pole, and its deposit on submarine rocks, is by no means so remarkable a phenomenon as the wide distribution of erratic blocks during the glacial epoch over northern Germany," etc. Sir Roderick's theory seems unsatisfactory, as failing to explain the immense quantities of solid wood in layers seen by Captain McClure; the similar deposits of trees, the bark of which was in a perfect state, seen by Lieutenant Meham on Prince Patrick Land; and the fir-tree discovered by Sir Edward Belcher on the east side of Wellington Channel, standing vertically, and with its roots extending into the soil. On this interesting subject Sherard Osborn shrewdly remarks that "a very different climate must *then* have existed in those regions, to allow driftwood (so perfect as to retain its bark) to reach such great distances; and I may, perhaps, be allowed to remark," he adds, "that when the Polar Sea was sufficiently clear of ice to allow such timber to drift unscathed to Prince Patrick Land, might not fir-trees have then *grown* in a soil naturally fertile?" Reviewing all the evidence at his command, Dr Armstrong of the "Investigator," alluding specially to the discovery of numerous trunks of trees imbedded in a white, sandy soil on Prince Patrick Land, affirms that such evidence "establishes a fact no less important than interesting, that throughout the wide extent of the Polar Sea, so far as observation has enabled us to determine, there existed at one period various and luxuriant forms of arborescent growth in regions where there is nothing now to be seen but desolate lands and trackless ice wastes." After which digression, we leave this curious point, in the meantime, for consideration at a future period.

From the 1st to the 10th September the "Investigator" continued to lie beset in her icy cradle, and there was every prospect that the explorers should be compelled to pass the coming winter in a shelterless and dangerous position on the edge of the pack of the inexorable north-west coast of Banks Land. On the 10th the wind veered to the south, and drove the ice, in which the ship was beset, off the coast. The "Investigator" was thus consigned to "the tender mercies of the much-dreaded pack-ice." To free the ship from the pack, and secure her behind some promontory or island that would protect her when the pack should crash in again on the shore, which it must certainly do as soon as the southerly wind should abate, were now the great objects of the navigators. The first of these objects was attained by blasting with immense charges of gunpowder placed among the ice by which the ship was bound. McClure now struggled on towards the east for two days and nights, seeking shelter, behind huge masses of grounded ice, from the pack that was now rolling in upon the beach, pulverising shore-masses thirty

or forty feet thick, or piling them on top of one another, and throwing them high up on the beach. No such exhibition of resistless and uncontrollable natural force had these navigators ever seen. "Through the long dark night," says Osborn, "the sullen grinding of the moving pack, and the loud report made by the ice-fields bursting under the pressure, echoed through the solitude; and, as the starlight glimmered over the wild scene to seaward, the men could just detect the pack, rearing and rolling over, by the alternate reflected lights and shadows." On the 19th September the "Investigator" was again creeping along eastward. On the 22d Cape Austin was rounded, and it was some encouragement to the jaded spirits of the explorers to know that they were now actually in the waters of Barrow Strait, or of that part of it known as Melville Sound. On the 23d September water was seen ahead before dawn, sail was set, and M'Clure, now reduced to the necessity of getting his ship into shelter for the winter, however imperfect and unsatisfactory such shelter might be, drove on toward the east, keeping close inshore. The land trended slightly southward, and he followed its trend. It had never been his custom to sail all night in these unknown seas, but on this occasion he departed from his usual rule, for he felt he was following an inland bend into some bay. In the morning the "Investigators" found themselves in a large bay, affording good winter quarters, and out of which, on the north-east side, they found it impossible to emerge. In these circumstances, Captain M'Clure resolved to winter here, and in gratitude for having at last found a haven for the winter, he named the inlet into which he had sailed in the darkness Mercy Bay. And there was no affectation in so naming it, for there was not a soul on board that fated ship but was filled with heartfelt gratitude that at last security was found from the deadly pack and the winter-laden gale; "and many prayed that in after-years, should they be spared to reach their homes, the recollection of the bounty and goodness of Him who had upheld them through such anxieties and dangers" might ever remain fresh in their memories.

On the morning of the 25th the sails were unbent, and the usual preparations made for housing-in the vessel. The arrangements, generally, were the same as those carried out during the previous winter spent by the "Investigators" in Prince of Wales Strait. One very impressive novelty, however, was observed. Captain M'Clure ordered that officers and men should now be put on an allowance of two-thirds of their ordinary rations *per diem*. This painful but necessary measure was adopted to provide against the possible contingency of having to spend yet another year within the ice. The hardship, however, was tempered by the discovery of the fact that the country around Mercy Bay abounded in deer and hares, and no sooner were the first preparations for the winter completed, than officers and men were out on the track of these animals. Both Osborn and Dr Armstrong state

that these creatures, together with the ptarmigan, were never absent from the neighbourhood of Mercy Bay, even in the depth of winter, and it was owing only to the cold and darkness that the sportsmen failed to bring them in throughout the whole season. This fact disproves the oft-repeated assertion that in winter reindeer migrate southward from the islands of the Arctic archipelago to other feeding grounds. On this point Dr Armstrong, an accomplished naturalist, is no less explicit. He says: "It has hitherto been the generally received opinion that these animals migrate to the southward on the approach of winter, to lands where the cold is less intense, and the pasturage more abundant—an opinion formed from the writings of the distinguished Polar voyagers who formerly wintered amid the icy solitudes of the north; but the experience of four years enables me to speak from the result of observation in contradiction to this. In the Prince of Wales Strait reindeer were seen in January—our distant position from the shore not enabling us to hunt during the winter—and in the Bay of Mercy for two successive winters they were constant inhabitants of the land, and were killed throughout the winter months of the coldest season in the records of Arctic voyaging. How far the migratory habits of the animal may be established in a more southern latitude, on the coast of America, in their instinctive resort to localities where pasturage may be more abundant, I shall not attempt to decide; but this I will say, that from the more distant lands of the Polar Sea they do not migrate on the approach of winter." Deer-hunting was assiduously pursued as soon as the daylight began to increase. A number were shot before the close of January, and proved a welcome addition to the resources of the ship.

One of the luckiest of the sportsmen was Sergeant Woon, of the marines—a man who had won the esteem of all the "Investigators" for energy, intelligence, and self-sacrifice. Of this gallant marine a story is told both by Sherard Osborn and Dr Armstrong, which well deserves to be remembered. A number of men had been out shooting on the 9th February. Before evening all had returned except two—Sergeant Woon and Charles Anderson, the latter a man of colour and one of the heaviest and most powerful of the crew. Night came, and at eight P.M., neither having yet returned, a mortar was fired and rockets sent up at intervals. At ten P.M. three relieving parties, each consisting of an officer and three men, furnished with rockets, blue lights, and refreshments, were sent out to search in different directions for the missing men. They had not gone far when they met Sergeant Woon hastening toward the ship for assistance. Two of the search parties were still within hail of each other; they united, and, guided by the sergeant, soon reached the unfortunate Anderson. The latter, during the day, had wounded a deer and had followed it for some time, until, a fog coming on, he was unable to find his own track back to the ship. He became bewild-

ered, panic-struck, and commenced wandering wildly about, when, by good chance, he met the sergeant, who had also been out in search of game. Woon found Anderson beside himself with excitement and horror. He had given himself up for lost, and the presence of the sergeant, who promised to conduct him back, failed entirely to soothe or reassure him. So prostrate morally and physically had he become, that he could only with difficulty be roused to make an attempt to walk a little. At last he sank upon the snow, bleeding at the nose and mouth, and writhing in convulsions. The sergeant saw that all hope of the man saving himself was at an end; yet to leave him where he was was to leave him to certain death, and a prey to the wolves then heard howling in the distance. There was no alternative but to drag him to the ship. Carrying was out of the question, as Woon was one of the lightest and Anderson one of the heaviest men in the ship's company. Accordingly, the heroic Woon slung his own and his companion's gun over his shoulder, took the man's arms round his neck, and commenced to drag him over the snow toward the ship. The labour was excessively severe; and the only relief the sergeant had, when he had dragged the half-dead man up one side of a hill or had reached a ravine, was to roll him down the descent—rather severe treatment for Anderson, but under the circumstances beneficial, as it tended to rouse him from his lethargy. Woon had commenced his fearful journey at two o'clock, and at eleven at night he had dragged Anderson to within a mile of the ship. But nine hours of this toil had almost completely exhausted him, and again he tried to rouse his companion to make some effort to advance. "Leave me alone to die!" was the only response. Woon then laid him in a bed of soft snow, and hurried off to the ship for assistance. On the arrival of the sergeant with the relieving party, Anderson was found insensible, with arms extended and rigid, his hands clenched and frozen, his eyes fixed and glassy, his jaws rigid and so firmly clenched, that great force had to be applied to separate them in order to pour restoratives down his throat. He was quickly transported on a sledge to the ship, where Dr Armstrong succeeded in restoring him to hopeful animation. His life was saved, and the courage and devotion of Sergeant Woon were amply recognised by all on board.

Another hunting adventure of a more cheerful description may here be told. Mr Kennedy, the boatswain, when out shooting late one evening, succeeded in breaking two out of the four legs of a fine buck. Knowing that the animal could not go far, he returned to the ship, and next morning started early to secure his game. Arriving at the place, he was disgusted to find five large wolves and several foxes in possession of the deer. "Determined to have his share of the spoil, the boatswain shouted and called them by every strong term he could muster, yet he was afraid to fire his single-barrelled gun at the brutes, for fear of their turning upon him, especially as

they seemed inclined to show fight, and made no sign of retreat until he was within four yards of them. Even then only four of them moved away, and sat down a pistol-shot off, howling most dismally. 'Pipes' picked up a leg of the deer which had been dismembered, and then grasped one end of the half-picked carcass, whilst a large female wolf tugged against him at the other end. The position was, to say the least of it, a disagreeable one; and if the music of the four wolves had brought others of their fraternity to the rescue, the consequences of a struggle between hungry wolves and a no less hungry sailor might have been serious." At this critical moment, however, Mr Mierching, attracted by the howling of the wolves, hurried to the scene. The sedate Moravian described the scene as the strangest he had ever seen. So close were Kennedy and the wolf in their struggle, that he fancied the animal had actually attacked the boatswain. The arrival of an important contingent in the shape of the interpreter seemed to the wolves good reason to withdraw from the field. They had, however, devoured 100 lbs. weight of the meat, leaving only 20 lbs. weight for the bold boatswain.

Beyond these and other similar adventures and incidents arising from the pursuits of the men on shore, nothing worthy of record occurred at the winter quarters of Mercy Bay during the spring of 1852. The gloom of winter had passed, however, before the middle of April, and the time for action had arrived. That there was urgent necessity for doing something to ameliorate the condition of the ship's company was evident from the thin and worn appearance of the men, and the gradually increasing numbers on the sick-list. It is not surprising, then, that when the weather moderated and brightened in the beginning of April, Captain M'Clure resolved to set out with a sledge for Melville Island. This step was resolved upon in the hope of finding some of Captain Austin's ships stationed in the Winter Harbour of Parry, or ascertaining whether a depôt of provisions had been placed there by them in the interest of the "Investigators," should these be obliged to abandon their ship, and retreat upon Melville Island. This island, the home of Parry, and the most westerly land hitherto discovered in Polar seas, could be dimly seen in clear weather from the heights above Mercy Bay, from which it was often wistfully surveyed by officers and men. Some of these were now about to visit it.

On the 11th April 1852, Captain M'Clure, accompanied by an officer and six men, and provisioned for twenty-eight days, set out from the ship across the pack to Melville Island. He reached Winter Harbour on the 28th, and was profoundly disappointed to find neither ship nor provisions. All that he did find was the notice which Lieutenant M'Clintock had left of his visit on the 6th June 1851. There was nothing to be done but to face the pack again, and return to the ship. The party reached the "Investigator" on the 7th May. During M'Clure's absence the sportsmen had been extraordinarily

successful, and when he arrived on board, he was no less surprised than pleased to see joints of all descriptions decorating the rigging. Nineteen deer and sixteen hares (yielding over 1000 lbs. of meat) had been shot, and this unexpected addition to the ship's resources justified a slight increase of rations to the poorly-fed men. Each man was now ordered $1\frac{1}{2}$ lbs. of venison six days in every fortnight; which, together with six days of preserved meat, left only two salt-meat days in every two weeks. "One would have supposed," says Osborn, "that on such fare, with a dry and comfortable ship to live in, scurvy would be impossible; but, as the sequel will show, the progress of that dire disease became most marked, and though the care of the captain and the skill of the medical men checked it considerably, still the health of the crew was evidently failing." On the 15th May, a week after the captain's return from the fruitless visit to Winter Harbour, the number on the sick-list had increased to the unprecedented average of thirteen. The moral effect of the failure of the captain to find help, provisions, or at least news, is believed to have been the cause of the increased number of invalids. At sea, depression of spirits, combined with insufficient nutriment, is well known as an infallible predisposer to scurvy.

May and June passed without incident, the men being employed in the laborious but prosaic labour of ballasting and watering the ship, and preparing generally to set sail when the break-up of the ice should take place. In early July the ground became so soft from the melting of the snow that hunting became a most laborious and consequently an almost unproductive employment. All the stock of venison was exhausted by the 7th of the month; and the men were about this time humorously bewailing the want of this agreeable and health-sustaining food, when handy and clever Sergeant Woon came on board to report that he had just shot two musk-oxen. The intelligence was hailed with delight. The men swarmed out immediately, and brought in the carcasses, which were found to yield 647 lbs. of good meat. The sergeant had come upon the two animals at rest—one of them asleep. He approached within 120 yards, fired, and wounded the larger, which at once rose, approached to within forty yards, and then paused, as if about to make a rush. Woon fired again, but the brute remained standing unmoved. The other now approached, and, with the view of securing both, the marine fired at and wounded this one also. He then turned his attention to the larger, and struck and killed him, *but with his last ball*. The other animal, raging furiously, rushed towards the sergeant, and a serious catastrophe was apparently imminent. But Woon was never known to fail in resource. "He quickly re-loaded," says Dr Armstrong, "and fired the screw of his ramrod into the animal, wounding him in the neck, when he fiercely advanced to the distance of only a few feet. Thinking he was about to make a final rush, Woon, who had again loaded, as a last resource fired his

ramrod, which entered at the left fore-shoulder, passed diagonally through his body, and out of his right flank—inflicting a fatal raking wound—and he fell lifeless at his conqueror's feet."

Down to the close of July no actual thaw had taken place. Ice everywhere—no water, and no water sky, the token of open water in the distance. On the 16th August the ice began to loosen from the shore, though it was still blocked by the floes that choked the mouth of the bay. A few days after, these floes at the entrance of the bay opened up, and a broad lane of water was seen extending along the shore to the eastward. The navigators prayed for a south wind to blow the ice out of the harbour, and the ship with it. To take advantage of such a wind, should it spring up, the "Investigator's" sails were bent, and every preparation made for sailing. After the 20th August the temperature fell, chilling the hearts and the hopes of the navigators. The open part of the bay again froze over; and on the 24th the open lane of water to the east *was closed*, and the "Investigators" were able to walk across to shore over the young ice. Rapidly now the scant vegetation withered; not a blade of the medicinal sorrel could be found; the land again resumed its mantle of snow, and the dreaded third winter among the ice gathered gloomily around the fated "Investigator."

CHAPTER IV.

THE THIRD WINTER AMONG THE ICE—CAPTAIN M'CLURE'S PROGRAMME—FIRST DEATH IN MERCY BAY—AN ANGEL-VISIT—THE "INVESTIGATOR" ABANDONED—RESCUE OF THE "INVESTIGATORS"—RETURN OF THE EXPEDITION.

SLOWLY during the first days of September 1852 the unwelcome fear that the wretched ship's company must pass a third winter amid the ice assumed the form of a conviction. The more sanguine of the crew, hoping against hope, trusted that a south wind might spring up, and drive the "Investigator," icy mooring and all, right out of Mercy Bay, and into the open water of Melville Sound. The hope was soon dispelled, for before the first week of September had passed, the vessel was conclusively fixed for the year. "The winter found us," says M'Clure, "ready to combat its rigours as cheerfully as on previous occasions. We were all thinner than we used to be, for we had been twelve months on two-thirds of our allowance; but we were still in good working condition." In considering this declaration of the gallant captain, one is pained to confess to a suspicion that his representation of the robust and cheerful condition of the "Investigators," on the eve of the third winter in the ice, and the second year of short commons, is just a little highly coloured—tinted with just a dash too much of what a distinguished American has described as "yaller varnish." And here let it be noted that from this point onward to the close, Captain M'Clure seems to conduct affairs with rather a high hand. To the last he cannot be brought to own that his crew are unable to accomplish impossibilities. His men are always "healthy," "cheerful," "able for anything," etc., even at the moment when, as we know on incontestible evidence, the men were wasted shadows, victims of scurvy almost to a man. Could it be that blinded by the ambition of carrying his ship triumphantly through the North-West Passage and home to England, he was fain to make himself believe that his men were really as fit and able as we know they were willing to struggle on amid suffering and privations such as it seldom falls to the lot of man to endure?

However this may be, it is certain that at this trying period the captain

of the "Investigator" was oppressed with difficulties of no ordinary nature. It was clear that if all the ship's company remained in the ship till the summer of 1853, and if they should fail to get free *then*, all would starve; for the ship was inadequately provisioned for another year. The difficulty was how to save the men *and the ship*. The "Investigator" was still sound and strong, and the captain's sense of duty, which was great, and his pride, which was as great, constrained him to make every possible exertion to save the ship to his country and his profession. At last, having resolved on the course he should pursue, he summoned the ship's company to the quarter-deck, and informed them that in the spring of the year he should send away one-half of the crew in two divisions. The larger division, consisting of the senior lieutenant, assistant surgeon, two mates, and twenty-two men, would proceed eastward to Cape Spencer, at the east side of the entrance to Wellington Channel—a distance of about 550 miles—with provisions for forty-five days. It was believed that at Cape Spencer a small store of provisions and a boat had been deposited. Having reached the cape, and found or missed the supposed depôt, these twenty-six unfortunates "were to use their best efforts in searching for a whaler, or endeavour to reach some point of succour on the distant shores of Baffin's Bay, whence they might be forwarded to England." The smaller division—six men, led by the second lieutenant and the interpreter—were to proceed eastward along the shore of Banks Land, and south through Prince of Wales Strait, to the Princess Royal Islands, where a boat and depôt of provisions had been left by M'Clure. Here they were to remain until the ice broke up in the summer, on which "they were to make an attempt to reach the coast of America, and proceed to one of the Hudson's Bay Company's posts on the Mackenzie River, whence they were to be forwarded on through North America to England." The gallant but somewhat autocratic captain might just as well have decided on sending away his men on a journey from this world to the next.

In all Arctic expeditions it has been customary for the commander, before detaching any of his company on any service attended with hardship and serious danger, to consult the ship's surgeon respecting the capability of the men, physically, to perform the service. It does not appear, however, that Captain M'Clure took Dr Armstrong into his counsels in the matter above mentioned. The doctor knew well the debilitated condition of the men. "I could arrive at no other conclusion," he says, "than that they were utterly unfit for the performance of the service, and that they would be still more so at the expiration of eight months (the men were to set out in April 1853), after having passed through the trying ordeal of a third Arctic winter. . . . Captain M'Clure had been fully informed by me, on many occasions, of the state of the men; nevertheless I felt called on again to represent their condition, and to express my opinion of their

unfitness for the performance of this service, without entailing great and inevitable loss of life. *It had no result.*"

If Captain M'Clure was to provide for spending a fourth winter in the ice, rather than fail to achieve the glory of sailing his ship through the North-West Passage, it was evident that not only must he curtail the number of his ship's company, and thus place himself in command of an ample store of provisions for those who should remain with him to navigate the ship; but he must also in every practicable way cut down the daily issue of rations to all hands. The former objects he had already attained by anticipation, in deciding to send away thirty-four out of his company of sixty-five officers and men; the second object he set himself to realise on the very day on which he had announced his intentions respecting the future. Accordingly, we learn that on the 8th September 1852 the provisions were still further reduced. After this date the allowance of vegetables was only two ounces daily. "The quantity of meat issued," writes Dr Armstrong, "was eight ounces daily; but making due allowance for bone in the salt, and jelly in the fresh, meat, the average weight did not exceed six ounces, which, with ten ounces of flour, constituted the allowance on which we had lived *for the previous twelve months*. The articles tea, cocoa, and sugar, were issued in fractional parts of an ounce. That this allowance is quite inadequate to maintain health in an Arctic climate our condition fully proved; much less is it able to sustain life for any lengthened period when men are laboriously engaged, and exposed to the rigorous severity of intense cold." At this time, too, the allowance of lime-juice was reduced by one-half—a deplorable necessity, now that scurvy had appeared on board. No extra food was allowed to the sick, the same scale of diet being ordered for all. Previously officers and men had only just felt the want of a sufficiency of food; they now experienced absolute and continuous hunger. The morsel of meat given out daily shrunk so much when boiled, that, in order to make the most of it, both officers and men abjured the pot for good, and ate their salt beef, pork, and half-frozen preserved meat, raw. The officers had long ago exhausted their private stock of viands, and were now on the same miserable allowance as the men; "and like them," says Osborn, "they adopted the system of each being cook or carver for the mess. The carver's share consisted in getting the last portion out of the eight into which the food had to be divided, a method which ensured, we need hardly say, the utmost impartiality on the part of the carver, the other members helping themselves to their shares before him. The rations for the day were given out every morning, and each ate it at his own discretion or inclination, at either breakfast or dinner. They had in fact but one meal *per diem*, for the breakfast, if it deserved the name, consisted of a cup of the weakest cocoa, and a small portion of the small allowance of bread; the rest of the bread, and half-a-pound of salt meat—

containing a good proportion of bone—with just enough preserved vegetable to swear by, constituted the other meal. There was a cup of weak tea in the evening; but few were able to save anything to eat with it." Only from eight to twelve pounds of coals were allowed daily for the whole ship, and the amount of oil was so small that lights could be had only at certain periods of the day, the men having the choice during the unilluminated intervals, of walking on the deck, or sitting in the dark. *Everything that had life*, we are informed, was hunted with eagerness, and eaten voraciously—seals, foxes, lemmings, or field-mice. The field-mouse, a tender morsel, of delicate flavour when slightly cooked, and very delicious when eaten raw, is a nice-looking little animal, with a soft and fine fur, white in winter, and of a beautifully mottled-grey colour in summer.

An ugly and ominous incident occurred on the 4th October. The ship's company, who had suffered long from insufficiency of food, and, for the previous four weeks from something approaching starvation, came on the quarter-deck in a body on the date named, and asked the captain for more food. Captain McClure refused to grant their request. Meantime disease was spreading in the ship, and the men had become so dispirited and weak, that, with one or two exceptions, they ceased to join the hunting parties which were now made up almost exclusively of officers. When the hunters were successful in striking down a deer, they eagerly drank the fresh and warm blood, as it flowed from the wound, and found the draught nourishing and sustaining. The blood, however, froze on the men's faces as they drank, and when they returned on board, they presented a most surprisingly picturesque and frightful appearance.

By this company of unfortunate men, Christmas Day was celebrated as in former years; but there was an element of pathos in this humble rejoicing which was absent from the Christmas feasts of the two previous winters. Hitherto, though much privation had been endured, the ship's company had remained entire, the "goodly fellowship" had continued unbroken. Now, however, disease was among them, and it was *absolutely certain* that this Christmas dinner was the last they would all enjoy together. Was there any man at that table, who looked round the ring, and speculated who should be the first victim to hunger and Arctic frost? Perhaps not; for our sailors are not given much to speculation. Meantime there is mirth and good humour all round. The poets of the crew sang songs of their own composition, the painters rigged up the most extraordinary representations of Arctic scenery and adventure, the comic actors recited, and upon the faces of the sick a gleam of "watery sunshine" seemed to play. And why should they not be happy? Had not the hungry men feasted on "Banks Land Venison," "ptarmigan pasties," and "Mercy Bay hare soup." "Mercy Bay!" exclaims Dr Armstrong, as he records one of the most curious jokes

ever made ; "some amongst us not unappropriately said, it ought to have been so called from the fact that it would have been a *mercy had we never entered it.*"

The New Year brought with it nothing of promise or comfort. It seemed, indeed, as if the "Investigators" were to be sacrificed to a man, for the cold of the in-coming year was intense enough, one might have thought, to have frozen the marrow in the bone. "In the month of January," says the doctor, "the temperature fell lower than has ever been experienced by any former expedition—to 65° below zero, and in the interval of the usual period for taking the observations, it fell to -67°," or *ninety-nine degrees below freezing point.*

Dr Armstrong was not mistaken ; for speaking of the severity of the winter of 1852-53, Osborn states that "from 60° to 65° below zero was registered by the 'Investigator,' as well as other ships elsewhere. Yet this extreme cold, so intense that the very ship seemed to suffer from it, and bolts, trenails, and fastenings, were heard to crack under the influence of frost and contraction, forced the deer to approach the ship and the sea-shore so closely, as to afford venison weekly throughout this trying season." Existence under such a temperature promised, indeed, to prove fatal to men under-fed, scorbutic, and with a walk of six hundred miles over the ice, to look forward to.

Among men so situated the most ordinary event created extraordinary excitement. On the 23d March, a party going out to carry in a deer that had been shot on the previous day, found a wolf feeding on the carcass. They fired at the animal and drove it off. Determined, however, to bag the wolf if they should be disappointed in getting the deer, they concealed themselves near the spot. The wolf returned and had resumed operations, when Sergeant Woon sent a bullet through his heart, and he fell dead on the body of the animal he was devouring. He weighed 80 lbs., had a skin of spotless white, was five feet ten inches in length, and three feet four inches in height. "The meat when cooked," says the doctor, "was excellent—much resembling in taste that of fox—and we considered it preferable to bear's flesh." Mr Court, the second master, was among the wolves a few days later, and had a narrow escape. He found himself surrounded by a pack of seven, five of which, however, drew off to a short distance, while the remaining two commenced the attack on Court, with all the science of old campaigners. One of them commenced his advances in front, the other in rear, of the second master, howling a dismal grace before meat, as they neared their intended victim. Court made sundry efforts to frighten them ; then, taking aim at the nearest, yet still looking with one eye over his shoulder, he fired, and mortally wounded the beast in the neck. Still, however, the animal crawled on toward the man, and was only despatched by a second shot when within

three yards. The other wolf, profiting by the misfortune of his comrade, made off.

Meantime arrangements for sending away the travelling parties were rapidly progressing. These arrangements had a startling beginning. "On the 2d March," says Dr Armstrong, "the day following the monthly inspection, Captain McClure made known to me his intention of despatching the weaker half of our crew from the ship, and retaining the most efficient; at the same time, he requested me to make the necessary selection." This is as much as to say, "Select the men that are best fitted to undertake a journey there is little probability they will ever accomplish, and be sure they are the weakest men in the ship's company." On the following day the men were told off. "They consisted," says Osborn, "of thirty of the most weakly hands, divided into two parties of fifteen men each." On the same day Dr Armstrong and the assistant-surgeon, Mr Piers, recorded by letter their opinion "of the absolute unfitness of the men for the performance of this journey." However, the inexorable McClure had so willed it, and so it must be. Let the battalions fall—*l'idée* must not be abandoned! These thirty "most weakly hands" were now put upon full allowance, and a number of them, at least, visibly improved under the more liberal diet. Their faces were fuller, their expression more animated, and the dull, haggard stare of former days were away. A sentence in Osborn's work referring to this period is sadly suggestive. "The close of March," he says, "saw all the many preparations for a sledge journey well in hand. The officers, though cognisant of the risk and dangers which beset their lines of retreat, wisely hid them from the knowledge of the men. The healthy amongst the sledge crews were consequently sanguine in their hopes of success; but many a poor fellow, whose black and swollen limbs hardly served to carry him about the ship, knew in his heart that, although the journey he was about to take would be his only chance for life, yet it was but a very slender one."

On the 5th April death visited the "Investigator." John Boyle, a seaman, had been appointed an extra attendant in the sick bay, though he himself was a sufferer from scurvy. He was attacked by illness on the morning of the 5th; but continued talking cheerfully until, on making a slight exertion in his bed, sudden syncope ensued, and he died without a struggle. The effect of Boyle's death upon the men was very depressing, especially among those who were to remain in the ship. But on the following day, an event occurred, which altogether changed the character of their anticipations.

On the grey afternoon of the 6th April, when the twilight was deepening on the horizon, a peculiar, unusual stillness reigned in the Bay of Mercy, and an unaccustomed gloom seemed to have settled over the silent ship in which the dead man lay. Four men were out on the shore laboriously digging a

grave in soil that was frozen hard as granite. Captain M'Clure and Lieutenant Haswell, who had been giving the men the necessary instructions, were slowly returning across the ice to the ship discussing the arrangements for the funeral, which was to take place on the following day. The scene was one of savage gloom, the business upon which the officers had been employed was of the dreariest, saddest description, and their talk was of graves. As they wandered slowly onward, their attention became fixed on a solitary figure approaching from the entrance of the bay. There was something strange in the appearance of this mysterious man coming towards them out of the twilight. "Is he one of our own men?" asked M'Clure. "He seems to be dressed differently from any of the 'Investigators,'" replied Haswell. "Yes, yes," said M'Clure, "it is some lad belonging to one of the travelling parties out trying his new travelling dress for the first time." The two officers strolled forward; but their eyes were fixed on the wild figure stumbling over the ice, as he hurried forward throwing up his arms, and shouting madly. "He must be pursued by a bear!" exclaimed M'Clure. Onward came the strange man out of the twilight, until, having reached within two hundred yards of the two officers, he threw up his arms, and gesticulated excitedly like the Eskimos when agitated by violent emotion. He then shouted an incoherent salutation; for the wind blew his words away, and made only one wild screech of his voice. M'Clure and Haswell stopped—their pulses beating fast, and their brain beginning to heat. Onward came the frantic stranger, and it was with something that was at once surprise, amusement, and horror that the officers perceived that this strange creature's face was as black as ebony. When the sable visitor had arrived within speaking distance, M'Clure called out in English—"In the name of God, who are you?" "I'm Lieutenant Pim of the 'Resolute,' now at Dealy Island," replied the vision, "and I've come to relieve Captain M'Clure and the 'Investigators.'"

Staggered as if by a sudden blow, the officers failed for a moment to understand the meaning of this glorious announcement. Then all the sweetness of the message of relief flowed in upon their minds, and they knew that they were rescued. England and home were restored to them at last. "To rush at the stranger and seize him by the hand," writes M'Clure, "was the first impulse, for the heart was too full for the tongue to speak. The announcement of relief being close at hand, when none was supposed to be even within the Arctic circle, was too sudden, unexpected, and joyous for our minds to comprehend it at once. The news flew with lightning rapidity, the ship was all in commotion; the sick, forgetful of their maladies, leapt from their hammocks; the artificers dropped their tools, and the lower deck was cleared of men; for they all rushed for the hatchway to be assured that a stranger was actually amongst them, and that his tale was true. Despondency fled the ship, and Lieutenant Pim received a welcome—pure,

hearty, and grateful—that he will assuredly remember and cherish to the end of his days.”

Lieutenant Pim was the first Englishman the “Investigators” had beheld for three years. Soon after his arrival, his dog-sledge, with the two men who accompanied him, reached the ship; and while the gallant lieutenant was monopolised by the officers in the gun-room, his two men were hurried down to the lower deck, and their story of relief listened to with such feelings as are experienced by dying men recalled to life. The “Resolute,” to which Lieutenant Pim was now attached, had arrived at Dealy Island, off the south shore of Melville Island, during the autumn of 1852, and while employed in laying a winter depôt of provisions in Winter Harbour, the officers had discovered the record which Captain M’Clure had left there in April of the same year, intimating the circumstances of his visit to the harbour and the disappointment he experienced in finding neither ships nor provisions, and stating that the “Investigator” was wintering in Mercy Bay, on the north coast of Banks Land. On receiving this record, Captain Kellett of the “Resolute” decided upon sending a sledge-party in search of the frozen-in navigators as early as possible in the spring of 1853. The hazardous service was entrusted to Lieutenant Pim, who had, in the most gallant manner, volunteered for it, and who set out with his dog-sledge and two men from Dealy Island on the 10th March. After a month’s journey over the ice, with the thermometer registering 82° below zero, he arrived safely in Mercy Bay on the 6th April.

Profound and genuine was the gratitude which the “Investigators” felt towards their heroic deliverer—a gratitude which his continued kindness and generous sympathy tended only to increase. “When he saw us sitting down,” says Armstrong, “with a half-starved aspect, on the morning after his arrival, to what was denominated breakfast (a cup of weak cocoa without sugar, and a moiety of bread), his feelings overcame him, he rushed to his sledge, brought a large piece of bacon, placed it before us, and gave us the only breakfast we had known for many a long day.” And the kindness of the lieutenant was equalled by that of his two men, Bedgood and Hoyle. On their arrival on board, the crew of the “Investigator” were about to draw lots for their evening meal—a pannikin of tea and a little biseuit—a strange and pitiful sight to them who had come from a ship abundantly stored with excellent provisions. When the strangers saw the preparations for the miserable meal, and noted the haggard appearance of the men who were to partake of it, their emotion was uncontrollable until it had found vent in tears.

On the 8th April, Captain M’Clure, with an officer and six men, set out, in company with Lieutenant Pim and his party, to travel over the ice to Dealy Island, where all arrived in safety on the 19th, and where the enfeebled “Investigators” were welcomed with great cordiality on board

the "Resolute" (Captain Kellett), and the "Intrepid" (Commander M'Clin-tock). In the meanwhile, though Captain M'Clure knew that safety and abundance of provisions were secured to his crew, by the fact that these two rescue ships were stationed off the south coast of Melville Island and within twelve days' march of Mercy Bay, and although the hold of the "Investigator" was still stored with ample supplies, he had not put his men upon an improved scale of diet. This unnecessary rigour on the part of the captain had its natural result in prolonging and increasing the enfeebled condition of the ship's company. Every man on board suffered continuously from hunger. Dr Armstrong had received no authority to give the sick extra rations, and the allowance of lime-juice was so limited in quantity as to be of little use in checking the advances of scurvy. "As these were the remedial agents then most requisite," says the doctor, "our losses by death were entirely owing to the want of them." John Boyle, who had died on the 5th, was buried on the 8th. A second death occurred on the 11th, and a third on the following day.

Before leaving the ship, M'Clure had arranged that the weaker hands, who were to have been sent away from the ship to seek their way to England as best they might, should start from Mercy Bay and join him in the "Resolute" at Dealy Island. Accordingly, on the appointed day, the 15th April, the party, consisting of twenty-seven men, under the command of Lieutenant Cresswell, and dragging three sledges with provisions for twenty-four days, took their way over the ice amid the cheers of their shipmates. "The appearance of the party," writes Armstrong, "as the sledges formed in line, wending their way over the ice, at times enveloped in thick snow-drift that swept around them, was remarkably wild and forlorn, and they thus commenced their journey on a cold and cheerless evening, with the prospect of an icy bed before them." They reached the "Resolute" on the 2d May. The appearance they presented on their arrival at Dealy Island was woeful. "One officer," we learn from the Arctic Blue-Book for 1855, "was subject to periods of mental aberration; one man in a state of *dementia* or imbecility, his condition and appearance rendered still more pitiable from severe frost-bite of the fingers; two men carried on the sledges, the one with scurvy, the other with disease of the legs; the remainder all more or less affected with scorbutic disease, as indicated to the spectator in the tottering gait, attenuated form, and careworn expression of countenance, occasionally lighted up as the truth and recollection of their altered condition flitted across the imagination, a change (as some expressed themselves) difficult to realise." To such a condition of weakness were they reduced that, in order to lighten their sledges, they threw away all their spare clothes and left them on the ice.

On the 19th May Captain M'Clure returned to the "Investigator,"

accompanied by Dr Domville of the "Resolute." Captain Kellett appears to have had some doubt of the accuracy of M'Clure's statement, to the effect that the twenty men still left in the "Investigator" were physically able to extricate the ship from her winter quarters in Mercy Bay, or, in the event of failure, to bear up against a fourth winter among the ice. He accordingly had deputed his surgeon, Dr Domville, to act in concert with Dr Armstrong in making a medical survey of what remained of the crew of the "Investigator." M'Clure was still inflexible in his determination to sail his ship through the North-West Passage into Lancaster Sound at whatever risk; and Kellett, his superior officer, suspecting that such an attempt would result in disaster, had adopted the precaution of having an impartial inspection of the crew held. Should the physical condition of the "Investigators" prove satisfactory, M'Clure was to place before them the alternative of remaining in the ship with him, in the hope of extricating her and bringing her triumphantly home, or of abandoning her and retreating upon Dealy Island. The result of the medical survey, which was held on the 23d, was that *none* of the men were found free from the taint of scurvy, while in many the disease had reached an alarming stage of development. The condition of the crew was made known to M'Clure; but even in the face of the melancholy facts it revealed, the inexorable captain called his men on deck, and asked them if they were willing to volunteer for further service in the ship. Only *four* seamen, together with the five officers on board, stepped forward to stand by the captain. This force was of course quite inadequate to work the vessel, and the only course now left open for M'Clure was to abandon the ship. The men were now injudiciously placed all at once on full allowance of provisions. They had never known what it was to have a good meal for twenty months; and now, when abundance was suddenly placed before them, they devoured their food ravenously—to the very serious, though only temporary derangement of their systems.

Preparations were now hurried on for leaving the vessel. "On the 2d June the sledges were packed," writes Armstrong, "and everything got in readiness to start at an hour's notice. . . . The long looked-for and anxiously-expected day, the 3d of June, at length came. The weather was cloudy and threatening in the morning, presenting nothing cheering in its aspect. . . . The ship was cleaned throughout from stem to stern, and everything left in perfect order, so as to be immediately available for any party whom adverse fate might compel to seek for succour in the Bay of Mercy. At 5.30 P.M., all being mustered at divisions on deck, Captain M'Clure, the senior lieutenant, and myself, inspected the ship for the last time. A few words—*not complimentary*—were addressed to the men, and all were piped to take their places at their respective places on the ice." The colours were then hoisted to the mast-head—the white ensign of St

George at the peak, and the pendant at the main; and the officers stepping over the side and joining the men on the ice, bade adieu to the "Investigator" for ever.

During the first few marches "tremendous packed ice" was encountered, among which, at times, the rate of advance was no more than a mile in six hours. As the party proceeded, many of the men suffered from snow blindness; but still, dragging blindfolded, they staggered on, constantly falling and slipping among the drag ropes. Suffering intensely from thirst, the men ate quantities of snow, the effect of which, however, was only to increase the evil from excoriation of the mouth. "To obviate this," says Armstrong, "we kept the snow in our hands until it became consolidated into a ball, and then sucked it by degrees. As the thaw advanced, and icicles began to form," continues the doctor, "it was a great relief to us, for we could carry them in our pockets without thawing, and refresh ourselves as we advanced. Although it was then the height of summer, the temperature in the night journeys frequently froze the moccasins or boots to our feet; but during the sleeping hours they were thawed and dried on exposure to the sun, by suspending them outside the tent."

After a fearful march of fourteen days the travellers, on the 17th June, encamped within sight of Dealy Island. The men then rested for four hours, and after washing their faces in a pool, in preparation for meeting strangers, resumed their journey at two p.m. Toiling onwards for several hours, they at last beheld the dark outline of the ships, and knew that once more they had reached the land of the living. At the distance of two miles from the vessels a party of officers belonging to the "Resolute" and "Intrepid" met and warmly welcomed them. They had considerably brought refreshments with them, which the exhausted "Investigators" received with grateful alacrity. "We were joined in a few minutes," writes Armstrong, "by all our old shipmates who were ble to come out, and they ran eagerly to meet us. Salutations and greetings, warm and cordial, were exchanged; shipmates and messmates, who had only so very recently parted, again met as if years of absence had intervened; and the hearty greeting, the word of welcome, and the joyous laugh succeeded to each other, as they tackled to our sledges, which they bore rapidly along. . . . Our numbers increased as we advanced, all the officers and men of both ships having come out to meet us. The ships were gaily decorated in honour of our arrival, the remnant of our crews were drawn up on the ice to receive us, with Captain Kellett at their head; and those who had previously joined us fell out of the sledge and received us with three loud and hearty British cheers. A few steps brought us alongside the 'Resolute,' and we at length experienced the pleasant realisation of all our hopes and wishes." The men from Mercy Bay were distributed about equally between the two vessels, in which every-

thing for their comfort had been provided, including a magnificent banquet, of the quality of which the hungry "Investigators" showed a just appreciation.

On arriving at Melville Island Armstrong learned that Lieutenant Cresswell had joined the "North Star" at Beechey Island with a number of volunteers, in the hope of getting a ship for England during the summer of 1853. In this hope the party were not disappointed. They were taken on board H.M.S. "Phoenix," and arrived in England in October with the first intelligence of the discovery of the North-West Passage, and of the rescue of the "Investigator." But the trials of the majority of the crew of that unfortunate vessel were not yet at an end. The "Resolute" and "Intrepid," between which the remainder of the crew was portioned, continued stationed at Dealy Island, awaiting the breaking up of the ice. The thaw progressed satisfactorily during the brief summer, and on the morning of the 18th August, under the influence of a gale from the north-west, the ice drove off shore, and the ships once more rode in free water. Sail was made eastward along the pack edge, but on the 10th September the ships were beset among young ice off Point Griffiths, on the south-east coast of Melville Island, and after drifting for three weeks, became again fixed in the pack about midway between Byan Martin Island and the west shore of Bathurst Land, and the wretched "Investigators" knew that they were to be imprisoned a *fourth winter* among the ice. Bitter indeed was the disappointment of these gallant men, who had so confidently relied on being released during 1853. All of them, however, accepted the inevitable with good humour, or at least with equanimity, except Mr Sainsbury, the second mate, who had long been suffering from pulmonary disease. Had the ships been set free, and their crews safely transported to England, poor Sainsbury might have rallied, but when the announcement was made to him that they were fixed in the pack for another year, his doom was spoken. No more might he indulge in the vision of his home far away in England, and when the vision faded, life faded with it, and the mate, a good officer and brave man, died on the 14th September. The 16th was the day appointed for the funeral. Part of the impressive service for burials at sea was read on board the "Resolute" by Captain Kellett. The uncoffined body was wrapped in canvas and placed on a sledge, covered with the union-jack. The sledge was drawn by six petty officers of the "Investigator," and followed by all the officers and men of both ships, to a smooth sheet of ice about 200 yards distant, in which a square hole had been cut. Here the sledge was drawn up while the remainder of the burial service was read. "We all gronped round," says Armstrong, "gazing in melancholy silence on the toaching scene before us, and when the words were pronounced, 'We therefore commit his body to the deep,' it glided slowly from the sledge, and was silently engulfed in the watery

grave beneath the ice on which we stood. The bleak and dreary character of the day was quite in keeping with the occasion; a cold, biting, north-west wind, and a temperature of 57° below freezing point, adding in no small degree to its solemnity and gloom.

On the 1st January 1854 the "Investigators" commenced their fifth year of Arctic service. Little of interest occurred during the spring, and the story of McClure's expedition, and the discovery of a North-West Passage, draws rapidly now to an end. In April the "Investigators" were detached from the "Resolute" and "Intrepid" to travel over the ice to the "North Star," stationed at Beechey Island; and between the 10th and the 13th, the men set off in three divisions. The journey, as every journey undertaken in early spring always must be in these regions, was a very trying one. On the morning of the 11th the temperature was 35° below zero. One of the men, whose intellect had long been affected by the hardships he had endured, was reduced by the extreme cold to a state of complete imbecility, and on one occasion was with difficulty saved in his helplessness from the claws and the jaws of a hungry bear. The cold was so intense that the men's stockings and moccasins adhered so firmly together, that it was necessary to cut them off the feet, which were literally encased in ice. "Everything," says Armstrong, "was either half-thawed, frozen, or covered with hoar-frost, not excepting eyelids, beard, and face, with frostbites constantly occurring, from the exposure of the hands in the manipulation necessary for putting on one's garments, or taking them off. We were frequently frostbitten when asleep, or when in the act of despatching our hasty meal, while sitting up in the tent enveloped in our blankets." All hardships however were braved, all difficulties surmounted, and before the close of April the three divisions arrived safely on board the "North Star." Another death, the fifth and last that occurred during the expedition, took place at Beechey Island.

On the 28th May the officers and crews of the "Resolute" and "Intrepid" joined the "Investigators" in the "North Star"—the two vessels at Dealy Island having been abandoned by order of Sir Edward Belcher, the senior officer of the expedition. In the meantime Captain Kellett had, during the spring (of 1854), detached a travelling party from the "Resolute" to visit Mercy Bay, and report upon the condition of the "Investigator," a year after the abandonment of that vessel. This service was conducted under the command of Mr Krabbè, master of the "Intrepid," whose report respecting the condition of the abandoned "Investigator" is the last we shall ever hear of that ill-fated ship. This report, published in the Blue-Book on Polar Expeditions, 1855, contains the following interesting particulars—the last words about the vessel in which McClure discovered the North-West Passage. "The tattered remains of the ensign and pendant

were still flying, and there was an accumulation of drift on the northern side of the ship, sufficient to enable me to walk in over her gunwale; there was a good deal on her decks, but not sufficient to prevent our easily getting at the fore-hatchway. The ship's head was N. 30° W., her cable hanging slack under her bow. She was heeled about 10° to starboard, and slightly by the head. There were no signs of pressure about her, although the oakum was hanging very loosely out of most of the seams. She was 1400 yards from the cairn, and 426 from the nearest point of beach, her stern being in eleven fathoms of water. On going below I found all things in good order, and the lower deck pretty free from frost; but overhead on the decks were great accumulations. On examining the holds, I found she had leaked during the preceding summer so much, that she was now full to the orlop beams forward, and within ten inches of them abaft, *with solid ice*. . . . Both on entering and leaving the bay, I paid marked attention to the state of the ice in it, and am confident *that there was no water made* inside a line from Point Providence to Point Back (*i.e.*, a line stretching across *the entrance* to Mercy Bay) during 1853." From the last statement it is evident that had M'Clure's men volunteered to remain with him, they would have failed to extricate the ship even after the fourth winter, and must certainly all have perished.

In the middle of August the "North Star," with its several ships' companies, was freed from the floe-edge off Beechey Island. The homeward voyage was commenced soon after; but was scarcely begun, "when," says Armstrong, "the outline of a ship could be faintly observed through the haze, and we soon hailed with emotion the arrival of H. M. Ships 'Phoenix' and 'Talbot' from England." The "Investigators," however, remained on board the "North Star," which continued on her voyage to England, and the explorers arrived off Ramsgate on the 6th October 1854, after an absence of four years and ten months.

Thus ends the narrative of the eventful voyage of M'Clure and his discovery of a North-West Passage. By Parliamentary grant, the sum of £10,000 was granted to the captain, his officers, and men, in consideration of their having been the first to pass from the Pacific to the Atlantic Ocean by the Arctic Sea. It was not known in 1854, however, that the North-West Passage had been discovered by the Franklin expedition several years previously.

CHAPTER V.

KENNEDY'S SECOND VOYAGE OF THE PRINCE ALBERT—LIEUTENANT BELLOT
JOINS IN THE SEARCH FOR FRANKLIN—CUT OFF FROM THE SHIP—RESCUED
BY LIEUTENANT BELLOT—AT SEA ON THE ICE—RESULTS OF THE VOYAGE.

ONE of the most spirited, vigorously-conducted search expeditions of this period (1850-54) was the second voyage of the "Prince Albert" schooner, under the command of Mr William Kennedy, who had gained much experience of Eskimo life and habits, of sledge travelling and surveying, during a long residence among the Eskimos of Labrador. Besides its intrinsic importance as a voyage of search and geographical discovery, this expedition is additionally interesting as bringing before the attention of readers the earlier Arctic exploits of the distinguished French naval officer Lieutenant Bellet.

It will be remembered that the "Prince Albert" was purchased and fitted out by Lady Franklin in the summer of 1850, with the view of prosecuting the search for Franklin in Prince Regent Inlet, and along the coasts of North Somerset and Boothia; that she sailed for the north under the command of Captain Forsyth; and that, after a resultless cruise of four months, her commander returned with her to Aberdeen harbour in October 1850. Captain Forsyth, however, was the first to bring to England the exciting intelligence of Captain Penny's discovery of traces of the Franklin expedition at Beechey Island; and the British Government, the relatives of the officers of the missing expedition, and the public generally, were animated by that intelligence with an ardent desire and a noble resolution to continue the search for the lost squadron until its fate should be ascertained. As one of the results of this enthusiastic state of feeling, the "Prince Albert" was re-equipped to renew the search in the regions to which she had been previously sent; the funds necessary for fitting out and provisioning the little schooner being provided for the most part from the slender private means of Lady Franklin, while the remainder was subscribed by private friends, and by a few eminent public men. Mr William Kennedy, who believed that the search for Sir John must ultimately resolve itself into a grand series of boat and land

journeys, and whose travelling experiences in the territories of the Hudson's Bay Company eminently fitted him for conducting such undertakings, wrote to Lady Franklin from Canada, volunteering his services in aid of the humane enterprise which was then engaging the sympathies of the generous of all nations. His offer was frankly accepted. He was invited to England, and appointed to the command of the "Prince Albert."

The vessel, an easily-handled schooner of only 89 tons burden, was ready for sea on the 22d May 1851. The crew, consisting chiefly of Aberdonians and veteran Arctic hands from Orkney and Shetland, included Richard Webb, a "smart, dashing fellow from London," who had accompanied Sir John Richardson on his journey through North America to the Arctic Sea, and the venerable John Hepburn, the faithful attendant of Sir John Franklin throughout all the trials of the wonderful land expedition of 1819-23, and who now came forward volunteering life and limb once more to go northward in search of his old commander. The schooner was fully provisioned for two years, and was well found in all necessities, and especially in raw material for moccasins, snow-shoes, dog-sledges, etc., in the construction of which Commander Kennedy was an adept. The Admiralty liberally contributed a ton and a half of excellent pemmican to the vessel's stores; and His Royal Highness Prince Albert, who was deeply interested in the projected cruise of the vessel that bore his name, presented its commander with an excellent barrel organ, wherewith to beguile the tedium of life in winter quarters, and to astonish the natives of North Somerset.

Shortly after Kennedy arrived in England from Canada he received a letter from Lieutenant Joseph Rene Bellot, lieutenant in the French navy, and Knight of the Legion of Honour. As the expression of a nature modest, simple, noble, essentially heroic—the imperfect English of it only serving to reveal the fine sincerity and enthusiasm of the writer—this letter is a gem, for the reproduction of which here no apology is necessary. "Sir," writes Bellot, "I am informed that you are about to command the 'Prince Albert.' Since the inquiries about his (Sir John Franklin's) fate were begun I always felt the greatest regret not to be in Europe to partake of the labours undergone by so many brave men that went in quest of the illustrious Lord Franklin. His lordship's glory and success have made him a citizen of the world, and it is but justice that all seamen should take the most lively interest in his fate. I would be particularly proud, sir, to have your consent to serving under your orders in such an honourable expedition. I have been now some years in the French service; and if zeal and devotedness may be relied upon, I can afford them to the greatest satisfaction of my wishes. It would not be for the first time sharing fatigues and hard circumstances with English sailors, as I assisted to an action against the natives of Madagascar in 1848 in company of H.M. frigate 'Conway;' I

was wounded there at the same time as Lieutenant Kennedy, and wish he were a relative of yours. I wrote to our navy secretary for a leave of absence, and to Lady Franklin, but would not do so before warning you of it. I hope, sir, there may be no objection to my being employed under your orders, and beg of you to give communication of my letter to Lady Franklin. Please believe me, sir, your most humble servant, J. BELLOT." Such a letter was irresistible. Bellet's offer, the gallantry of which was duly recognised by the English press, was readily accepted, the volunteer being appointed second in command of the schooner. The vessel's complement of officers and men numbered only eighteen.

The "Prince Albert" set sail for Aberdeen at six p.m. on the 22d May, with the union-jack flying at the peak, and the French flag at the fore, in honour of Bellet. Early on the morning of the 25th, the schooner came safely to anchor off Stromness. Here Lady Franklin and her niece, Miss Sophia Craicraft, took farewell of the officers and men. Some idea of the extraordinary personal influence which Lady Franklin exercised over all the officers and men engaged in the Franklin search with whom she came in contact, may be estimated from the following somewhat impulsive but certainly sincere passage from Commander Kennedy's narrative: "There, in our little cabin, with her estimable niece, sat the truly feminine yet heroic spirit who presided over our gallant little enterprise, one whose name—if her husband's is already associated with the highest honours of geographical discovery—will not be the less so, hereafter in the hearts of Englishmen, with honours of another kind—the most noble, devoted, and unwearied efforts to rescue or solve the fate of our missing countrymen. One by one each of our little party was introduced and cheered by her words of wise and affectionate counsel. If ever three English cheers were given with the heart's best feelings of a British sailor, they were given when, stepping over the vessel's side, our noble patroness waved us her last adieu, and God's blessing on our voyage."

The weather during the voyage out, was all that could be desired. On the 24th June Cape Farewell was sighted, and on the 8th July Kennedy was nearing the Danish colony of Uppernavik. On the 17th August Kennedy entered the "middle ice," in latitude 72° N., and after a perilous passage through 120 miles of the pack, occupying four days, he reached the "west water" on the 21st. On the 26th, when off Pond's Bay, the "Prince Albert" was visited for the first and last time during the voyage by a small party of four Eskimos. On the 4th September the schooner was lying close off Leopold Island. From this locality an unbroken barrier of ice extended as far as the eye could reach down the west side of Regent Inlet. An unavailing attempt was made to run into Leopold Harbour. Kennedy then sailed south to Elwin Bay, which he found sealed up with ice,

then to Batty Bay, which was also closed, and finally to Fury Beach, where finding himself in a narrow lane of water, between the shore on the one hand, and a threatening field of moving ice on the other, he thought it prudent to withdraw. Returning northward he resolved at all hazards to make another attempt to reach and enter Leopold Harbour. Accordingly taking four of the crew with him, in the gutta-percha boat, he left the ship at seven in the evening, and was fortunate or unfortunate enough to strike upon a narrow lane of water, by which he reached the shore. After an hour spent in reconnoitring, he prepared to return to the ship, and rowed out some distance with that intention, when to his great alarm he found that his return was barred by ice, and communication with the schooner thereby rendered impossible. "To add to our perplexity," writes Kennedy, "night had come on. Nothing could be seen or heard around us but huge masses of ice, grinding, tossing, and rearing furiously on every side. To attempt to reach the ship under such circumstances, was to ensure certain destruction to the boat and everybody in it; and nothing was left, therefore, but to return to the shore, which we succeeded in reaching in safety, about two miles to the south of Cape Seppings. Drawing our boat up on the beach, and turning her up, as a shelter from the night air, we prepared to pass the night under her as we best could. The weather was bitterly cold; our clothes were little else than a mass of ice, and knowing, under such circumstances, the danger of allowing the men to fall asleep, I permitted each of them to take an hour's rest in turn, under the boat, but no more, and kept them for the remainder of the night in active exercise. With the dawn of the following morning, we scrambled to the highest cliff of Cape Seppings, stiff, cold, and weary; and the consternation of the poor men may be conceived on discovering, that every vestige of the 'Prince Albert' had disappeared during the night!" But if the men were distressed on their own account, Kennedy was chiefly concerned respecting the fate of the ship. He knew that Sir James Ross had in 1849 deposited provisions at Whaler Point, close to Port Leopold, and a few miles north of Cape Seppings; and as breakfast was now eminently desirable, he immediately set out with his men toward the spot, where alone there was a chance of obtaining it. He was fortunate in finding the depôt almost precisely in the condition in which Ross had left it. The house also, which that navigator had erected, was still standing, although its covering had been sadly damaged by the gales of the last two years. From the circumstances that the depôt was found intact, it was evident to Kennedy that the port had not been visited by any party from the "Erebus" and "Terror."

But what was Kennedy and his four companions now to do? It was now the 10th of September, winter was fast setting in, the "Prince Albert" had vanished, no one knew whither; but wherever she might be, one thing

seemed certain, namely, that her commander and his four companions would be unable to join her that season. Nothing remained therefore but to face the inevitable courageously, and prepare to pass the winter beside the depôt at Whaler Point. Accordingly, with the impulse of a born leader of men, Commander Kennedy—a new Crusoe—began his preparations for the winter at once, discussed his plans for the future with a cheerfulness which was mainly “from the teeth outwards,” and inspired his men with a feasible amount of hope and courage by his example. The first thing to do was to rig up some sort of house which should protect them from the dreaded winter weather. Sir James Ross’s house, as we have seen, was practically roofless, and otherwise ineligible as a winter residence. But his steam launch? He had brought it out with the view of making it useful in navigating the narrow leads into which his ship could not enter; but he had no opportunity of using it. But if it had never been useful before, Kennedy resolved to turn it to some account now. He removed the mainmast, and rested it on supports about nine feet high, at the bow and stern respectively. Over the mast he spread two of the sails, fixing them down to the deck on both sides. The simple architecture of his winter home was finished in a twinkling. The hull of the launch was his house, and the sloping sails, high pitched over the mainmast, was a tolerable roof. “A stove,” writes Kennedy, “was set up in the body of the boat with the pipes running through the roof, and we were soon sitting by a comfortable fire, which, after our long exposure to the wet and cold, we stood very much in need of. There was a plentiful supply of blanket-bags in the depôt, by the aid of which we were soon in possession of as warm and comfortable bedding as we could desire. Out of the same material we were able to supply ourselves with some excellent clothing, using, in the absence of ordinary needles and thread, sail-needles and twine, which answered our purpose equally well. These and other preparations of a similar nature carried us through the first week of our dreary residence with a tolerable approach to comfort and contentment.” Deeply and bitterly did Kennedy reflect that the expedition which had cost Lady Franklin so much, had been organised for quite other purposes than affording its commander an opportunity of exhibiting his ingenuity as an amateur Crusoe. But the enforced idleness of this weary time was an accident of a kind to which all Arctic travellers were exposed. He was stopped in the execution of his duty by one of those unaccountable and incalculable movements of the ice which are known to take place with surprising rapidity all over the area of the Polar regions.

On the 21st September, Commander Kennedy records his resolution, as soon as the state of the ice will admit of travelling-parties being sent out, to commence a strict and thorough search for the “Prince Albert” in every direction in which she was likely to have been carried, and in the event of

this search proving unsuccessful, to set out in the spring on a journey to Cape Walker, the north-east point of Russell Island, off the north coast of Prince of Wales Land, with the view of following up the great object of the expedition—the one object which Kennedy never, amid all his adventures, failed to keep prominently in view—the search for Sir John Franklin. Under present circumstances, however, in the dead winter season, and with an equipment in shoes and clothing wholly inadequate, there was nothing to be done but to wait patiently, while the dreary days wore on. But a surprise was imminent. On the 17th October a shot was heard, the report coming apparently from the direction of Cape Seppings. On hurrying out of the launch, Kennedy beheld with delight a party of seven men, under Lieutenant Bellot, approaching, and dragging along with them the jolly-boat of the “Prince Albert.” “It was with emotions of inexpressible thankfulness and joy,” says Kennedy, “that we received the intelligence that the entire party were well, and that the ‘Prince Albert’ was safely moored in a good position off Batty Bay.” Bellot had previously made two attempts to reach Whaler Point and bring a supply of clothing, but was obliged on both occasions to abandon the attempt. The whole party set out on the 22d to return to the ship, where they arrived in safety before the close of the month.

At Batty Bay preparations were immediately commenced for spending the earlier months of winter, and only the earlier months; for Kennedy was resolved to send out searching parties at the earliest possible moment, and not to postpone operations till the spring had set in, as had hitherto been the usual practice. Accordingly, on the 5th January, Kennedy, Bellot, and three men set out from Batty Bay, with a dog sledge, to visit Fury Beach, and ascertain whether any of Sir John Franklin’s party had retreated upon that depôt since it was visited in 1849 by Lieutenant Robinson of the “Enterprise.” Travelling along the base of the lofty cliffs, which extend down the west shore of Regent Inlet from Batty Bay to Fury Beach, the sledge party made but slow progress, owing to the extreme roughness of the road, and to the circumstance that this was the darkest season of the year, the sun having set in November, not again to rise till February. Continuing to grope their way through the gloom and over the ever-recurring obstacles of the route, they came on the 7th upon one of the depôts formed along this coast by Sir John Ross during his famous and perilous voyage in the “Victory.” The depôt contained three cases of preserved vegetable soup in excellent condition, a small quantity of coal and wood, and some iron hoops. On the 8th Kennedy, Bellot, and John Smith, leaving two men behind with the sledge, started to walk to Fury Beach. Being unencumbered with baggage, they progressed rapidly, and soon arrived within sight of their destination. “It may be imagined,” writes Kennedy, “with what feelings, when we really had come upon it, we approached a spot round which so many

hopes and anxieties had so long centred. Every object distinguished by the moonlight in the distance became animated, to our imagination, into the forms of our long-absent countrymen, for had they been imprisoned anywhere in the Arctic seas, within a reasonable distance of Fury Beach, here we felt assured some of them at least would have been now. But alas for these fond hopes! How deeply, though perhaps unconsciously, cherished none of us probably suspected till, standing under the tattered covering of Somerset House, and gazing silently upon the solitude around us, we felt as we turned to look mournfully on each other's faces, that the last ray of hope, as to this cherished imagination, had fled from our hearts. . . . The spot on which we now stood had so long been associated in our minds with some clue to the discovery of the solution of the painful mystery which hung over the fate of Franklin, and had so long unconsciously, perhaps, coloured all our thoughts, that it was not without a pang, and a feeling as if the main purpose of our expedition had been defeated, that we found all our anticipations shattered at a blow by the scene which met our eyes. Thus my friend and I stood paralysed at the death-like solitude around us. No vestige of the visit of a human being was here since Lieutenant Robinson had examined the depôt in 1849. The stores, still in the most perfect preservation, were precisely in the well-arranged condition described in the clear report of that energetic officer." The whole neighbourhood was searched unavailingly for some record of a visit later than that of Robinson, and then the three men, wearied and disappointed, entered Somerset House. The framework of this mansion of rough timbers, raised by Sir John Ross, was still standing, though one end of it was nearly filled with snow, and the canvas roof had been blown to rags by the gales that howl all the year round over this inhospitable shore. The men soon lighted a fire, however, and after discussing a warm and satisfactory supper, and drowsily nodding for a few hours over the comforting fire, they arose and shook themselves at eleven P.M., and, starting on the return journey, arrived at the encampment of their companions at two o'clock on the following morning. The whole party then returned to the ship.

On the 13th February Kennedy, Bellot, and two men, started from Batty Bay, taking with them two cases of pemmican and six gallons of spirits of wine, on a dog sledge, with the view of forming an advance depôt on the route to Fury Beach, in preparation for the grand journey to be undertaken somewhat later in the spring. It was their intention to return to the ship the same evening. Shortly after mid-day they were caught in a hurricane—the gale being so thickly charged with snow, in crossing a bay, that the travellers lost sight of the land by which their homeward course should have been guided. After wandering about for some time, scarcely able to distinguish each other at the distance of a few paces, they were obliged to

come to the conclusion that they had lost themselves. Relying on the instinct of their dogs, they unharnessed two of them from the sledge, in the hope that they would act as guides; but the animals remained stationary, as if afraid to leave their companions. At last, however, the whole team of five dogs set off at great speed, taking the sledge with them, and leaving the travellers to their fate. They reached the ship without difficulty, it was afterwards discovered—their arrival with the empty sledge creating the utmost anxiety on board with respect to the fate of the party. Meantime Kennedy and his men continued stumbling about until again they reached land. The question now was how to steer for the vessel. "This was decided on at last," says Kennedy, "by each of the party pointing in turn in the direction in which he thought the vessel lay, and then taking the mean of the bearings. To prevent our separating in the drift (for some of the party had by this time got so benumbed with cold as to be unable to use their hands to clear their eyelids, and had thus become literally blind with the accumulation of snow on their eyes), it was agreed that at intervals we should call and answer to each other's names, and that those whose eyes had suffered least should take the others in tow." In this order the men proceeded, and, guided by a solitary star, were able to keep a true course until, before they were able to see the ship, they heard the wind whistling in her shrouds, and were thus guided to her position by the ear rather than by the eye. All of the men were severely frost-bitten, but by rubbing the affected parts over with cold snow and water, and thus restoring circulation before going below, they escaped with no worse consequences than a number of very ugly-looking scars.

Preparations for the "grand journey," the "leading feature" of the expedition, and indeed the principal object for which it was undertaken, had been carefully made during January and February; and now the day approached on which it was arranged a start should be made. The precise direction to be followed, being a matter dependent upon the discoveries that might be made, and the, as yet, unforeseen circumstances that might arise at the outset, could not as yet be definitively fixed. On one point, however, Kennedy was decided. He was resolved that his route should include Cape Walker, to which (as the point of departure of Sir John Franklin for the west and south) much interest attached.

All preparations being completed—stores arranged and packed on two Indian sledges, and advance depôts formed on the route to Fury Beach—Kennedy, Bellot, and five men started from Batty Bay on the 25th February, and proceeded south along the west shore of Regent Inlet. Fury Beach was reached on the 5th March. On the 7th a fatigue party, bringing additional stores from the ship, joined Kennedy at Somerset House. "We had helped ourselves very liberally from the old stores of the Fury," writes the

commander, "which we found not only in the best preservation, but much superior in quality, after thirty years' exposure to the weather, to some of our own stores, and those supplied to the other Arctic Expeditions. This high state of preservation I cannot help attributing in some measure to the strength and thickness of the tins in which the preserved meats, vegetables, and soups had been placed. The flour had all caked in solid lumps, which had to be re-ground and passed through a sieve before it was fit for the cook's hands. In other respects it was fresh and sweet as ever, and supplied us with a stock of excellent biscuit." On the 29th March the party resumed the journey, and were soon traversing country never before visited by civilised men.

As Kennedy proceeded south-west from Fury Beach towards Brentford Bay, the land gradually fell away into flats, and in some localities it was indicated only by a few black spots appearing through the surface of the snow. On the night of the 29th the party, fourteen in number, encamped after a journey of from sixteen to eighteen geographical miles, and having built two circular snow-houses, had a good night's rest. Next day found them again on foot, toiling on toward Cape Garry. The routine of each day's march is given by Commander Kennedy as follows: "At six o'clock generally (although from various circumstances this hour was not always strictly adhered to), all hands were roused by myself, and the preparations for the march began. Breakfast was the first operation, and then came the bundling up of the bedding, cooking utensils, etc., the lashing of the sledges, and the harnessing of the dogs, which altogether, on an average, occupied the next two hours. Then came the start, I leading the way, and selecting the best track for the sledges, and Mr Bellot, with the rest of the party, following in regular line with the four sledges. At the end of every hour five minutes were allowed for resting the men and breathing the dogs. The construction of the snow-house, and the preparations for the evening meal, and our repose for the night, concluded the labours of the day, which were seldom over before nine or ten at night." Adhering to this programme from day to day, Kennedy reached Cresswell Bay on the 1st April, and Brentford Bay on the 5th. On the evening of the latter the party encamped on the north side of Brown's Island, on the far side of which a dense column of vapour was seen rising as from a sheet of open water. On the 6th the fatigue party, eight in number, set off to return to the ship, and Kennedy and Bellot, with four men, spent the remainder of the day in the examination of the bay. The officers severally discovered passages leading west from Brentford Bay apparently into some wide sea. The commander ascended a high hill in the neighbourhood, whence he could plainly distinguish a sea stretching westward to an estimated distance of about thirty miles, with the channel through which he had already come so far, leading into it. Starting early on the following morn-

ing, and taking the most northerly of the different channels, Kennedy continued tracing it until, after travelling over twenty miles, he reached its western extremity. "From a high hill near to our encampment at this spot," writes the commander, "we observed a broad channel running N.N.E. and S.S.W., which was at first taken for a continuation of Brentford Bay, until its great extent convinced us that we had fallen upon a western sea or channel, and that the passage we had just gone through was in reality a *strait leading out of Prince Regent Island*. It appears on the map of our discoveries as *Bellot Strait*, a just tribute to the important services rendered to our expedition by Lieutenant Bellot. The island which forms its southern shore was named Levesque Island." The western sea, into which the channel opens, is now known as Franklin Sound.

Convinced that he had now reached the west side of North Somerset, and that he had demonstrated that land to be an island, Kennedy, believing that Franklin could not have sailed down the sound that now bears his name, struck due west across it, and reached its west side on the 10th. For a week after this date little progress was made owing to ever recurring and violent snowstorms. On the 19th the journey was resumed; but the mid-day sun was now so powerful, and the sufferings of the whole party from snow-blindness so acute, that Kennedy resolved thenceforth to travel by night instead of by day. Accordingly, towards evening, instead of erecting a snow-house, and encamping for the night, the travellers simply threw up a snow-wall to windward, and sitting down at its base around their spirit-lamp and "conjurer," each man with his pannikin in his hand, a refreshing meal of pemmican and warm tea was discussed. "This over," says Kennedy, "we set out upon our night march, feeling as fresh as we did in the morning. The darkness of midnight we found a shade deeper than the day of mid-winter; but sufficiently light to permit our seeing our way quite clearly." Kennedy continued journeying westward, until on the 21st April he had reached beyond longitude 100° W. He now felt certain that whatever passage Sir John Franklin might have taken in a south-west direction from Cape Walker, that passage must be to the north of his present position. Accordingly, at ten P.M., on the 21st, the party again started, but this time in a direction due north through Prince of Wales Land. On the 24th the party arrived at the head of Ommanney Bay, a deep indentation on the west coast of Prince of Wales Land. "As yet," writes the commander, "we had not come upon the channel laid down upon our map as leading from Cape Walker, which lay at this time considerably to the north and east of our position. Our remaining resources would not admit of any extended explorations further westward, and symptoms of scurvy were appearing among the men. I resolved, therefore, to turn eastward from this point, with the view of striking the channel laid down to the east of Cape Bunny,

and following it up to Cape Walker." Pursuing the eastward course resolved upon, Kennedy recrossed Prince of Wales Land, reached the western shore of Peel Sound, and thence pushed on northward. On the 4th May Cape Walker was reached, and the remainder of that day, and the whole of the next, was spent in a fruitless search for records or traces of the missing expedition.

"Wearied and dispirited beyond description at the fruitless result of our long and anxious labours," says Kennedy, "we returned to our encampment." There was nothing now to be done but to return to the ship at Batty Bay, which was accomplished by crossing the northern entrance of Peel Sound from Cape Walker to Cape Bunny, and rounding the north coast of North Somerset. Whaler Point was reached on the 15th, and here Kennedy remained for twelve days to recruit his men, all of whom had been suffering severely from scurvy. While resting here he made free use of the lime juice, cranberries, vegetables, and other antiscorbutics, which were still to be found in the depôt, and having by this means recruited the strength of his men, he started for Batty Bay, and arrived at the ship without casualty on the 30th May after an absence of ninety-seven days, during which he and his men had accomplished a journey of 1100 miles.

On the 6th August Commander Kennedy was able to extricate his ship from the ice in Batty Bay after a detention of 330 days, and make sail for the north, and on the morning of the 19th he joined the "North Star," Commander Pullen, off Cape Riley. After spending eighteen days in friendly communion with the officers of the "North Star," Kennedy perceived that there was nothing further for him to do in those seas, as the continued search for Franklin had been provided for by the great expedition under Sir Edward Belcher, the ships composing which had already arrived, and had passed away westward. He, therefore, without more delay bore up for England, and arrived safely in Aberdeen Harbour on the 7th October, after an absence from England of sixteen months.

CHAPTER VI.

CAPTAIN INGLEFIELD'S SUMMER SEARCH FOR SIR JOHN FRANKLIN—1852.

IN the summer of 1852 Captain E. A. Inglefield, of H. M. Navy, commanded an expedition in search of Sir John Franklin, which was pronounced by Sir Francis Beaufort to be "one of the most extraordinary voyages on record"—a voyage, the results of which, according to Sir Edward Parry, "have placed Commander Inglefield among the most distinguished of our Arctic navigators." The "*Isabel*," screw schooner, of 149 tons and thirty horse power, had been fitted out by Lady Franklin in the spring of 1852, and provisioned for five years, with the view of prosecuting the search for the lost "*Erebus*" and "*Terror*." The command was placed in the hands of Mr Donald Beatson, who, however, was reluctantly compelled, by unavoidable difficulties, to resign the commission. Lady Franklin then offered to present the well-appointed schooner to the Admiralty, on the sole condition that she should be sent on the mission for which she had been specially strengthened and stored. But the Admiralty having already despatched an efficient expedition to the north to examine Wellington Channel and the regions around Melville Island, thought it prudent to decline the offer. It was then proposed to Commander Inglefield that he should provide a crew and take out the schooner to join the Arctic squadron in Lancaster Sound, and after depositing with them the bulk of his five years' store of provisions, return to England; after which, as compensation for expenses incurred, the vessel and all that remained in her was to become his own property. Inglefield agreed to the proposal on the condition that he should be at liberty to prosecute the search "on any ground he might think fit, and in such a manner as he should deem most suitable to his own views." He accordingly became the sole proprietor of the schooner on the 22d June 1852, and took her down to Woolwich dockyard on the following day. On the 5th July, after having been visited by Lady Franklin and Miss Cracroft, the "*Isabel*" was towed down the river on her outward voyage to the remote north of Baffin's Bay.

The officers and men numbered eighteen in all, of whom the two ice-masters, Abernethy and Manson, had sailed for years in the Polar seas, either in Government or in whaling expeditions; while the surgeon, Dr Sutherland, will be remembered as one of the medical officers in the expedition of the "Lady Franklin" and the "Sophia," under the command of Captain Penny. Cape Farewell was passed on the 30th July. Running his ship into the little harbour of Fiskernes on the 7th August, Inglefield was most hospitably entertained by the Danish governor of the locality, and had an opportunity of judging of the beneficial influence which the Lutheran mission-stations that have been planted along the coast by the Danish Government, exercise among the Eskimos. After touching at Lievely (Disco), Inglefield dropped anchor off Uppernavik. Here he procured dogs and other necessities, and made the acquaintance of Mr Petersen, who had accompanied Penny during the previous year, and whose services as interpreter to successive expeditions have been invaluable to the commanders of both British and foreign expeditions. On the 18th the "Isabel" was abreast of the Devil's Thumb, and on the following day she steamed across Melville Bay. "Having succeeded in passing through the pack, and in reaching the open water," writes Inglefield, "we pushed eagerly on; while the sun bursting forth dispelled the mist, and gladdened our hearts amid the solitude of ice and snow. . . . Forty-one days only have elapsed since we tripped anchor from Peterhead, and here we are in Melville Bay, three days later only (as regards the period of the season) than the Penny expedition of last year, with apparently a far better season, and in a vessel unencumbered with a consort or with any orders." On the 21st Inglefield was well up with the ice of Cape York, into which he at once pushed, although he had to thump his way through it against the heavy pieces that were met with in the water-lanes. Whilst steaming northward amid the ice, Inglefield observed a bear swimming about, and wounded him with a bullet from a Minié rifle. The enraged animal afterwards attacked the small boat in which his enemy promptly pursued him, and might have been the cause of some serious mishap had not the captain pulled a Colt's revolver from his pocket and shot him through the brain. His fine coat became his captor's prize, and his carcass was divided among the famishing Eskimo dogs.

Cape Dudley Digges and the Crimson Cliffs were passed on the 21st, and Conical Island and the Petowak Glacier on the 22d. "The glacier of Petowak," writes Inglefield, "is a wonderful work of nature, extending as it does upwards of a mile into the sea, and four or five miles inland, with a smooth unbroken surface. It carries one's thoughts back to the age when this gigantic ice-formation was in its infancy, and when, during the summer months, it was possibly but a little purling stream, at the head of a deep bay." A number of natives were seen near the base of this glacier, desirous

apparently of having an interview with the white strangers. Inglefield landed and interviewed them. Nothing of European manufacture was found among them, nor did they appear to possess kayacks. They were clad in bear, fox, reindeer, and seal skins, and seemed to be in the most robust health. They appeared to live by hunting, not by fishing, and a number of them who had been engaged in trapping rotges, carried one or two of these small sea-birds in their hands. On the 23d the commander penetrated beyond Cape Atholl. "How I longed to survey this coast!" he exclaims. "The chart was so incorrect that I was compelled to trust to my wits, and every opportunity was embraced for getting observations and angles to fix its outline more exactly." Wolstenholme Sound was carefully examined, and further evidence was obtained, proving the falsehood of the mischievous story concocted by Adam Beck, and already referred to. On the 25th, Inglefield found himself at the distance of about fifteen miles east of Carey Islands. All the land to the northward of these islands was new, the commander here commenced a careful running survey. At the distance of twenty-one miles along the shore from Cape Parry, huts were observed on the shores of a small bay. The natives afterwards appeared, and Inglefield, landing, went with Dr Sutherland and Mr Abernethy, to communicate with them. They were clad with furs and skins, were as filthy as possible, and their summer tents were miserably dirty and small. No European articles were found among them, and no evidence to lead to the belief that these shores had been visited by any parties from the expedition under Sir John Franklin.

On the following day Inglefield discovered Murchison Strait—"a clear and unencumbered sea, with a distinct and unbroken horizon, which, beautifully defined by the rays of the rising sun, showed no sign of land, save one island." This new strait extending away in a north-east direction from Whale Sound, was very inviting to the discoverers. Inglefield was sorely tempted to enter and follow up his discovery; but the season was now far advanced, "and," writes the commander, "a sense of duty to our lost countrymen (which plainly pointed to the southward and westward), prevailed, and sailing away we manfully turned our backs on a fairer opportunity for research and discovery than often falls to the lot of man." The route to the north was now resumed, and on the 26th the "Isabel" had steamed up to within half-a-mile of Cape Alexander. "We were entering the Polar Sea," says Inglefield, "and wild thoughts of getting to the Pole—of finding our way to Behring Strait—and, most of all, of reaching Franklin and giving him help, rushed rapidly through my brain. A few hours and we should either be secure in our winter quarters, or else flying onward in the unfreezing Polar Basin." The circumstance that the sides of Cape Alexander were covered with bright green mosses and grasses, seemed to encourage the idea that the climate of the sea which was now being navigated for the first time,

was less severe than that of the entrance to Smith Sound. "On rounding Cape Alexander," continues Inglefield, "the full glory of being actually in the Polar Sea burst upon my thoughts, for then I beheld the open sea stretching through seven points of the compass, and apparently unencumbered with ice, though bounded on east and west by two distinct headlands, of which, the one on the western shore was named after His Royal Highness Prince Albert, as, by a happy coincidence, it was at twelve P.M. on his birthday, that the point was first observed." The singularly regular table-topped cliffs to the north of Cape Alexander were named the Crystal Palace Cliffs. To the south of Cape Alexander were snow-capped hills and cliffs; but to the north of it "an agreeable change," says the commander, "seemed to have been worked by some invisible agency—here the rocks appeared of thin natural black or reddish-brown colour, and the snow, which had clad with heavy flakes the more southern shore, had only partially dappled them in this higher latitude." The western shore of Smith's Sound, however, seemed clad with perpetual snows, and was fringed with a belt of ice twelve miles broad.

So long as the weather continued favourable, Inglefield continued to push on northwards. On the 27th, however, the wind drew round towards the north, and beating violently against the schooner, forbade any further advance. The Prince of Wales Mountains, on the western coast, were discovered and named, and the northernmost point of this shore was named Victoria Head. On the eastern shore the most northerly point was called Cape Frederick VII., while the bay immediately to the south of it was named after Lady Franklin. The most northerly position reached was 78° 28' 21" —a point about 140 miles farther north than had been reached by any earlier navigator of whom there are any records. Inglefield had for some days noticed that a strong northward-flowing current flowed along the east shore of Smith's Sound. The gale, which continued to blow from the north, meeting this current, raised such a heavy sea that the expedition was obliged to return to the mouth of the sound without delay.

Creeping down along the west coast amid ever-recurring perils, Inglefield arrived at Clarence Head on the 30th, and on the following day passed westward through Glacier Strait into Jones Sound. A cape on the north side of Glacier Strait was named Cape Tennyson, in honour of the Poet Laureate.

Continuing on a westward course, and passing Inglis Peak, the explorers discovered, to their surprise, that the north shore of Jones Sound turned away to the northward, while the south shore preserved a direction westerly, until lost in the distance. No land was visible to the west or north-west. In this unknown sea, which was loaded with heavy ice and obscured by fog, whose bold and forbidding coasts afforded neither anchorage, landing-

place, nor shelter of any kind, it was now deemed unsafe any longer to delay. "Accordingly," says Inglefield, "having obtained the long. of $84^{\circ} 10' W.$, in the lat. of $76^{\circ} 11' N.$, we bore up, and running over to the south shore before the gale, which had commenced to blow with some violence, we examined, in the intervals of fog, every rock with our glasses, naming certain headlands as we passed. . . . No trace of anything human could we observe; all was a mass of ice." Having reached the offing, Commander Inglefield resolved to run up Lancaster Sound to Beechey Island, and there leave the "Isabel's" surplus stores, provisions, and fuel, for the use of the ships of Sir Edward Belcher's squadron. By so doing, he would also be enabled to communicate his own discoveries to the squadron, and carry home to England the latest intelligence from the ground now being examined by Belcher's officers. Singularly fortunate in wind and weather, the commander of the "Isabel" carried his ship into Erebus and Terror Bay, Beechey Island, on the 7th September, and had the happiness to meet there the "North Star" (Commander Pullen)—the store ship attached to Sir Edward Belcher's expedition.

Commander Inglefield pressed upon Captain Pullen the acceptance of his spare stores and provisions, but the latter, who had been prohibited by his superior officer from in any way interfering with a private vessel, was obliged to decline the offer. On hospitable thoughts intent, Inglefield was thus compelled to accept hospitality instead of conferring it, and he and his officers dined with the captain of the "North Star," enjoying the rare delicacies and luxuries of soft bread, loon pie, beer, etc., and discussing the prospects and programme of the Arctic searching squadron, under the command of Sir Edward Belcher. After an evening pleasantly spent, Inglefield having taken the "North Star's" letter bags on board, the "Isabel" set sail eastward out of Erebus and Terror Bay on the homeward voyage to England, where, after an absence of exactly four months, she duly arrived. The chief result of the voyage was the discovery of about six hundred miles of new coast line, at and within the entrance to Smith's Sound, which, from the date of Inglefield's summer cruise in the "Isabel," has been regarded by all interested in Arctic discovery as affording a highly promising route to the regions still unknown in the extreme North.

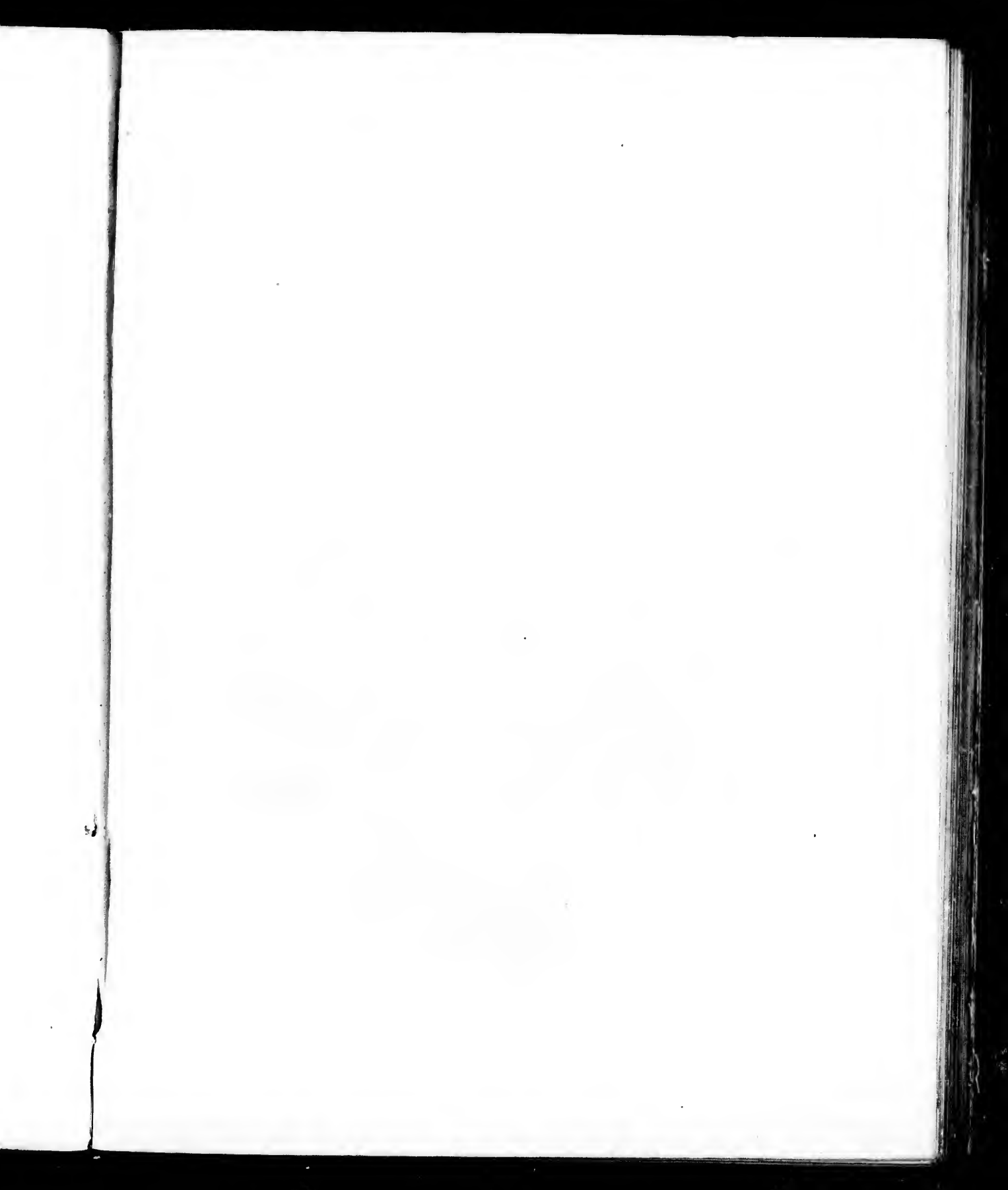
PART XI.

EXPEDITION UNDER SIR EDWARD BELCHER.

CHAPTER I.

THE GIFT OF PROPHECY—"A BOOK'S A BOOK," ETC.—VOYAGE OF THE
"RESOLUTE"—"INVESTIGATORS" RESCUED.

AFTER the return of Captain Austin's squadron in September 1851 (see p. 534), Her Majesty's Government decided upon re-equipping the Arctic vessels, with the view of further prosecuting the search for the "Erebus" and "Terror" in the regions to the north-west of Beechey Island. Accordingly the "Assistance" and "Resolute," with their respective steam-tenders the "Pioneer" and "Intrepid," were thoroughly repaired and refitted for the new voyage. The "North Star" was added to the Arctic squadron as depôt ship and basis of operations. The command of all the vessels to be engaged in the expedition was vested in Sir Edward Belcher. This distinguished officer was born in 1799, and entered the navy at the age of thirteen. In Captain Beechey's expedition to the Polar Sea in 1825-28 he held the rank of lieutenant, and was entrusted with the duties of assistant-surveyor. During this minor cruise, in which he was occupied almost exclusively in scientific as apart from strictly nautical employments, he appears to have acquired all the knowledge he ever had of Arctic navigation. He was surveyor in the "Etna," on the west coast of Africa, from 1832 to 1834; went round the world in the "Sulphur" in 1836-42; was knighted in 1843; commanded the surveying-ship "Samarang" in the Eastern Archipelago, 1842-47; and in 1852 he was appointed to the command of the "Assistance," and of the most perfectly appointed Arctic expedition that had, down to that date, ever set sail from England. He is the only commander, in the history of Arctic exploration, who abandoned every vessel of his squadron among the ice, and came home, "with the news of his own defeat," in a stranger ship. He is the only Arctic explorer who ever discovered a "bear's nest," but the "mares'





BRINGING HOME THE SEALS.

nests" of which he was the discoverer are not to be counted in units. "*It is folly* to talk of the Polar bear hybernating," writes Sherard Osborn (alluding, however, to the male animal only), "whatever bears may do on the American continent. There is only one Arctic navigator who ever saw a bear's nest!" Sir Edward Belcher is the "one Arctic navigator" against whom this shaft of sarcasm is levelled. The manner in which he controlled the operations of his four ships in the expedition of 1852-54 was the chief cause of the abandonment, by the British Government, of all further search for Franklin. "Desisting from the search for Franklin just as success was certain," says Osborn, "arose from official ignorance on the subject, and the alarm created by Sir E. Belcher's strange proceedings during the last expedition to Barrow Strait." To crown his achievements Sir Edward wrote a book, and thereby abundantly gratified the malevolence of his enemies. "*Les marins ecriront mal*," quotes Sir John Ross in a preface, which luminously illustrates the truth of the quotation; but no sailor, from Noah downwards, has ever even rivalled the literary style of Sir Edward Belcher. The work, which is entitled "*The Last of the Arctic Voyages*," was published in 1855, since which date to the present, the number of years that have elapsed is not greater than the number of Arctic expeditions that have been undertaken and successfully carried out. "The title of the work may appear open to objection," observes Sir Edward, with condescension and becoming modesty; "but, taking into account the dates of original orders, and those in force in April 1854, it will be apparent that the final command of the British Naval Expedition within the Arctic Seas was vested in me."

A charming modern form of fatalism pervades the work. The author is also constantly finding himself out-doing the cleverest things, and complacently tracing the course of his own ingenious mind through the successive steps by which it arrives at its object. Of his gift of prophecy many examples might be given. On one occasion, when beset, he foresaw and provided for a break-up of the ice when his ice-master saw no reason to expect such an event. "I noticed a suspicious dark streak on the distant floe, apparently, to my comprehension, a lane of water; but the ice-quarter-master, declaring it to be mere fog, I was relieved from anxiety, and as it indicated nothing which demanded further investigation, it passed unnoticed—but not forgotten! About ten the breeze freshened considerably, and before going below for the night I jocosely desired the officer of the watch to '*Call me, if the ice parts at the bow*, and take care that the "*Pioneer*" does not run foul of the ship.' Little did I dream of the immediate prospect of any such danger; but many similar random observations have been treasured up, and if burning for sorcery be still a legal sentence, I may become a victim! Hardly had I reconciled myself to my bed, when the

officer reported, '*the ice has broken off within a few yards of the bow, and is going off rapidly!*'" Another proof of his more than mortal foresight may be given. "'Coming events cast their shadows before,' was never more fully realised," he premises, with more gravity than grammar. "To-day I felt so perfectly satisfied that a sledge was due from Kellett (if he existed), that I fully intended, when the master reported noon, to desire him to send a person to look out on the hill. It escaped me, being then engaged on other matters; but my clerk coming in, reported, 'A dog-sledge nearly alongside, sir!' My reply, instigated by what was then passing in my mind, was very short, and without emotion, 'I know it,' which somewhat astonished him." Happy clerk! to have such a wise commander! Occasionally Sir Edward delivers himself, if not of a bull pure, at least of some monster of allied breed. He speaks of his state of mind in a trying moment, being "unmixed with any doubt—indeed, *quite the reverse*," which means that it was *very materially* mixed with doubt, though this is the opposite of what the gallant author meant to convey. The following is not surpassed by anything in the merriest, maddest page of "Rory O'More" or "Charles O'Malley." "I ascended the hill, where I had ordered a cairn to be built; possibly it was deemed too steep for younger blood; we built three, one" (of the cairns?) "was a house, the two others were constructed by myself—the last being on the *inaccessible* summit of True Star Bluff—and unattended. I must say I would not have *ordered it to be done by any but a volunteer*."

Sir Edward, who must have given his days and nights to "Tristram Shandy," was always very solicitous about his *nose*. Let us hear him play upon this organ. He has been maundering on about the low degree of cold experienced in January 1853, and how it affected himself. Then *breaks* he off, thus: "We have throughout been thinking, or rather *talking* of ourselves—we do happen to think more of the crew; but thanks to the unremitting attention of our medical men, and to the general care taken to prevent exposure, I should be disposed to assert, in my proper capacity of the commander, that no official report of frost-bite has yet reached our ears. To descend, perhaps, and allow that once one of my men 'took his captain by the nose,' under pretence that he thought his captain's nose was frost-bitten, and his warm hand could restore it, 'is not quite true.' But I totally and indignantly repel the very low insinuation, and believe that the blood from his heart flowed so rapidly to the end of his arm that it saved my nose by the application of the back of his hand, and I thank him; even if it was a deceit, I forgive him. We command here! no bed of roses, nevertheless—no absolute command is! Ask the fathers of families, and this is not a small one! To continue the matter of low temperatures, they made no impression here; the pains of forehead or lungs some might have experienced, but they were never mentioned in my presence. The only projection

about which I felt interested was *my nose*, and upon this point, not a very prominent feature, I felt a sort of monomania, something like going into action, that I must be wounded in a leg, and nowhere else. I never intended to be killed, *and so I told my surgeon when that idea was realised*, but I am constantly asking people to view my nose. But as I have so far wandered into self, and I know that certain professional men who interest themselves about me will expect to know, I will merely say that I expected certain wounds, cuts, frost-bites of youth, etc., to trouble me. I have suffered intensely, more than can be explained, but nothing to disqualify me, in any manner, for this important command, or the liabilities attached thereto. My feelings are my own. So long as I perform all my duties, who cares for them?"

Wit and wisdom of this quality, extending in all to six hundred and fifty pages, are overawing to even the most persevering readers. Indeed, it may safely be averred that "The Last of the Arctic Voyages" was never read in its entirety by any one of the author's admiring countrymen. We will not say that the work is frivolous, useless for any practical purpose whatever, ungrammatical, packed full of details meaning nothing and leading nowhere, pervaded by obstinacy, professional jealousy, superstition, intellectual incapacity, and measureless conceit; but we shall be careful not to give the reader much more of the book, lest he may think so. In our very brief chronicle of the Belcher Expedition, we shall refrain from making much use of the Belcher wisdom.

The supreme command of the vessels forming the Arctic expedition of 1852-54 was, as we have said, vested in Sir Edward Belcher. But as no purpose was to be gained by keeping all the four searching vessels on one course, it was arranged that the squadron should be divided into two branches, the first, consisting of the "Assistance" (Sir E. Belcher) and its steam-tender the "Pioneer" (Commander Sherard Osborn), to explore and examine Wellington Channel; and the second, consisting of the "Resolute" (Captain Kellett), and its tender the "Intrepid" (Commander Leopold M'Clintock), to pass west through Barrow Strait, visit Melville Island, and explore the then little known archipelago (Parry Islands), of which that island is the chief. All preparations having been completed, the four ships, together with the depot ship "North Star" (Commander Pullen), left Greenwich, and proceeded down the Thames on the 21st April 1854.

No incident of more than passing interest marked the outward voyage, which, like its history, as written by Belcher, was uncommonly dull and tedious. It was not till 1st August that the vessels arrived off Cape York. On the 3d the squadron was off the entrance to Jones Sound, and on the 11th the "Resolute" arrived at the rendezvous in Frebus and Terror Bay, between Beechey Island and the mainland of North Devon. When Captain

Kellett and Commander McClinton arrived in their vessels the "Resolute" and "Intrepid," they were surprised to find that the "Assistance" and "Pioneer" had not yet arrived. The depôt ship, the "North Star," however, was moored in the bay, and from this vessel Kellett, to save time, immediately commenced to transfer to his own ship the remainder of the required stores. On the 12th the "Assistance" arrived, and on the 14th the "Pioneer" joined company. As Beechey Island was known to be the point from which the two main branches of the expedition were to diverge, all hands were anxious to ascertain the exact routes to be pursued. These proved to be as follows: (1.) The "Assistance" and "Pioneer" to proceed up Wellington Channel; (2.) The "Resolute" and "Intrepid" to reach Melville Island; (3.) The "North Star" to remain at Beechey Island as a depôt, upon which the crews of any of the searching vessels might retreat in the event of any casualty.

After a complimentary and animated address had been delivered by Sir Edward to the crews assembled on the ice, the officers and men of the different ships bade each other farewell. At ten P.M. on the same day (the 14th August), the "Assistance" and "Pioneer" stood up for Wellington Channel, and disappeared; and on the following day the steamer "Intrepid," taking the "Resolute" in tow, bore away westward. On the 29th Captain Kellett came in sight of the peaks of Bathurst Island, and knew that half the distance to Melville Island was now made. Byam Martin Island was passed on the 31st, and on the afternoon of the 1st September Melville Island was distinctly seen from the crow's-nest. "There were few on board," says George McDougall, sailing-master of the "Resolute," "who did not eagerly ascend the rigging to catch a glimpse of the island, whose shores had only once before been approached in a ship." Continuing to push on along the south shore of the island, the vessels passed Point Ross on the 2d. The pack compelled Captain Kellett to sail close to the land in the narrow strip of open water extending between the shore on the north and the pack on the south. A score of telescopes were being constantly directed upon the shore of the famous island which Parry discovered in 1819, and in which he spent his first Arctic winter. This careful examination of the shores was not fruitless, for during the day (the 2d), a number of "dark objects" were seen moving along the beach. This discovery created intense excitement, for an idea had got abroad that these dark objects would yield fresh steaks, and every man on board now pined for a change from salt and preserved meats. Early on the following morning Lieutenant Meehan and Dr Domville, the surgeon of the "Resolute," went ashore with a party, on hospitable thoughts intent, but not quite of a kind to cheer the sable rangers on the beach. "Our delight may be imagined," exclaims McDougall, "when, at eight, the glorious news of the

death of a musk-ox was received on board. Never was seen such a commotion as that which ensued; every description of gun manufactured was brought into play; and shot, wads, flasks of powder and of brandy, were hurried into the boat that conveyed to the scene of slaughter. . . . Unfortunately for me," continues M'Dongall, who had inhaled the spirit of the sportsman with the air of his native Highlands, "the sun was shining, and as duty compelled me to obtain observations, I was obliged to forego the pleasure of making one of the party. I do not remember ever seeing the sun shine with less pleasure than on that day." No sooner had the hunting party left the ship than a large herd of musk-oxen were seen on the ridge of one of the nearest hills. No less than twelve of these were shot, and their carcasses brought on board with cheers, and then the "Resolutes" and "Intrepids," having greatly dared, dined.

Continuing the voyage round the south coast, Captain Kellett reached Winter Harbour on the 4th, but found it occupied by "six miles of solid floe." He had resolved to make the harbour his winter quarters, and was consequently disappointed in finding it impracticable. A suitable position for wintering was found in the bay between Dealy Island and the mainland, and here the vessels were securely moored in their ice docks on the 10th September. "All was now hurry and bustle on board, preparing depôts and travelling equipments for two autumn parties, who were to leave the last week in the month, if practicable. . . . As a beginning, the boom boat and deck load of casks were hoisted out, and landed on the beach on the east side of Dealy Island, a few feet above high-water mark; this made a considerable show, and the vessel appeared much larger than before. The topgallant-yards were of course sent down, and the masts housed, the jibs and square sails were well stowed, and secured for the winter; the driver and trysails were unbent, and the trysail-masts unshipped; these, with the studding-sail booms, eventually served for ridge poles for the housing stops. Housing-in was soon completed, and on the 22d travelling parties, led by Lieutenants Meham, Pim, and Hamilton, and the mates Mr Nares (afterwards commander of the great Polar Expedition of 1875-76), and De Bray (a volunteer from the French navy), and consisting of thirty-six men, with five sledges and a cart, fully equipped and provisioned for twenty-five days, left the ship to lay out depôts for spring travelling. On the 11th October a flag-staff was erected on the highest point of Dealy Island, upon which a flag was to be hoisted, as a signal to the ship, when any party should come in sight after a travelling excursion. This flag was first displayed on the morning of the 14th, and in the afternoon Lieutenant Meham and his men came into winter quarters after an absence of twenty-two days. He had proceeded round the coast westward as far as Liddon's Gulf, and had formed a depôt of provisions and stores at Cape Hoppner. Travelling homeward by the

coast he visited Winter Harbour, and there found the journal and record of proceedings which M'Clure of the "Investigator" had left there on his fruitless visit to Melville Island in the spring of the same year. These papers detailing the discovery of a North-West Passage, and describing the helpless condition of the "Investigator" in Mercy Bay, created great excitement on board the "Resolute" and "Intrepid." It was proposed at once to send a relief party from the "Resolute" to the Bay of Mercy, in the hope of finding the "Investigators" still there; but this proposal being decided to be impracticable, it was resolved to despatch a sledge as early in the spring as possible.

On the 18th October the first death occurred on board the "Resolute." Thomas Mobley, a marine, had been for some time suffering from latent disease of the heart. "On the 18th," says M'Dougall, "the poor fellow unconsciously went on deck without being properly clad for the change of temperature between the lower deck and that of the atmosphere. A few minutes afterwards he fell down dead. . . . The following day, a spot near the beach, on the eastern shore of Dealy Island, was selected for the burial-place, and parties were sent daily to dig the grave; but the frozen state of the ground rendered this no easy matter, and many days were occupied in getting sufficient depth beneath the surface. Even then we were compelled to rest satisfied with only two feet eight inches; and, to effect this, powder was obliged to be resorted to, in addition to pickaxes, shovels, and the usual implements for digging." The funeral took place on the 26th. On the 12th December, George Drover, captain of the fore-castle of the "Intrepid," who had been in ill health since the beginning of October, breathed his last. He was buried on the 19th, his grave being side by side with that of Mobley.

Little occurred to vary the monotony of life on shipboard during mid-winter. Early in March 1853 all preparations for sending away Lieutenant Bedford Pim and the relief party to Mercy Bay were completed. Pim and his party started from Dealy Island toward the close of the month. His surprising appearance in Mercy Bay on the 6th April, and the many happy results of his gallant mission of relief, have already been treated. On the 19th his party was seen returning to winter quarters. "About five P.M.," writes M'Dougall, "a party of men were despatched to assist in bringing in the sledges, and most of the officers walked out to meet Domville, who was recognised through a telescope somewhat in advance of the main body. As we grasped his hands (which, as well as his face, were as black as the ace of spades), his words, 'The *Investigator* is found, and M'Clure is close behind,' overpowered us with surprise, and the poor fellow was overwhelmed with a thousand questions ere time was allowed to answer one. Hurrying on with some of my brother officers, I had the pleasure of adding my welcome and congratulations to Captain

M'Clure and Mr Court (second master). The latter had been an old school-fellow and afterwards a messmate of mine in H.M.S. 'Ranger.' This was our first meeting after a lapse of eleven years. Poor fellow! a few words sufficed to inform us of the miserable state from which we had rescued them, and their hearts overflowed with gratitude towards those who (by the blessing of the Almighty), had been chosen as the instruments of His never-failing mercy. Our feelings on this occasion were those of heartfelt thankfulness that our labour had not been in vain, and each member of our little community must have felt his heart glow with honest pride to reflect that he formed one of the little band whose undertakings in the cause of humanity had been crowned with such signal success. About six P.M. we had the before-mentioned officers and seven men on board. Although eager to learn all the news, close questioning was very properly postponed until their appetites had been quite satisfied." Thus do the incidents of Arctic life—in which man constantly lives face to face with death, and in which there is a constant inter-dependence between fellow navigators for help, comfort, life itself—evolve and nurture the noblest feelings of which human nature is capable.

CHAPTER II.

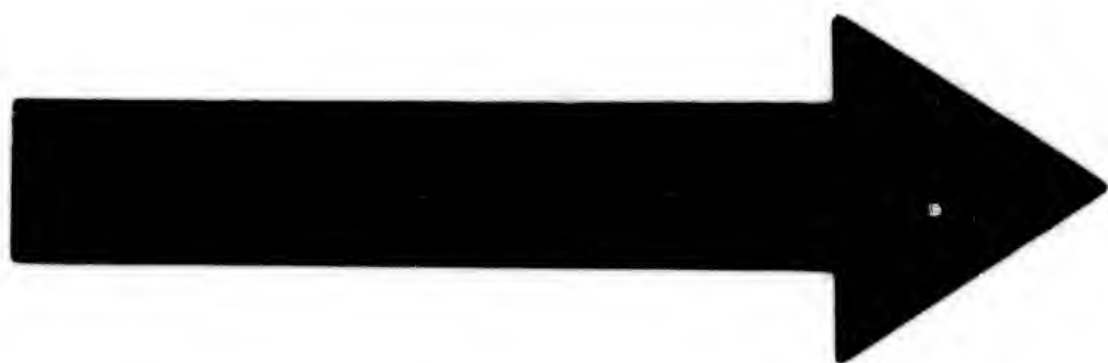
PRINCE PATRICK ISLAND—ADrift IN THE PACK—AN ARCTIC FEAST—AULD
LANG SYNE.

IN the early summer of 1853 the exploration of all the regions to the north and west of the winter quarters at Dealy Island was vigorously carried out, and the frequent arrival and departure of travelling parties kept the ships in a constant state of commotion, and provided abundant topics for excited discussion among the "Resolutes" and their new allies, the "Investigators." Captain Kellett, who had now many more mouths to feed than he had originally bargained for, resolved to detach a party of fourteen men, and send them to Beechey Island, to the abundantly-provisioned depôt ship, the "North Star." By this party, which set out on the 7th May, under Lieutenants Cresswell and Wynniatt, and Mr Roche, mate, he sent despatches to Sir Edward Belcher with the great news of the rescue of the "Investigators," and the discovery of the North-West Passage. Roche returned to Dealy Island with a dog-sledge within six weeks, the distance he had travelled within that time being not less than 600 miles. On the 18th M. de Bray, who had been commissioned a few days previously to remove a depôt from Point Nias to Point Fisher, returned very unexpectedly with his party. One of his men had suddenly died. "It appears," says McDougall, "they were near the termination of their day's work, and were pushing on to encamp on the land distant about three miles, when John Coombes (stoker to the 'Intrepid'), who a minute before had stepped out from the drag ropes, was heard to cry out, in a tone of anguish, 'Help! help!' The whole party ran to his assistance, but on reaching him they found life quite extinct." De Bray and his party had returned to Dealy Island to bury their unfortunate comrade.

During this season Commander McClintock ("Intrepid") and Lieutenants Meham and Hamilton ("Resolute") made extensive and remarkable excursions from winter quarters, and succeeded in thoroughly examining Melville Island and all the land that lay to the north and north-west of it. Meham started early in the season, with seven men and two summer sledges; went

south to Winter Harbour, and thence crossed over the land to Liddon Gulf, on the shores of which he found coal. Here, on the 16th April, the whole party, with the exception of the officer in advance and other two men, who were appointed to lead the sledges, were struck with snow-blindness. They were accordingly blindfolded, and, in staggering across the floe, under the guidance of the only men still retaining the use of their eyes, they pluckily persevered in dragging their heavy burdens. On their arrival at Cape Smyth (the limit of known land), their journey became one of discovery. At this point, however, the party rested for two days, to recruit the men, "whose legs were swollen to an alarming extent." Lieutenant Meeham employed these two days in scouring the country for game. His description of the musk-oxen of this quarter, and of their tactics under attack, is interesting: "During our stay I proceeded to the northward—overland—towards the land of Hardy Bay (on the south-west coast of the island). The land rises to an elevation of about 800 feet above the sea, and nearly all the hills are of remarkable table shape. Musk-oxen were here in very great numbers. On one plain I observed so many as seventy, grazing within a circuit of two miles. On my approach they divided into herds of about fifteen each, headed by two or three enormous bulls. Their manœuvres were so quick and regular that they were to be compared to squadrons of cavalry more than anything I could think of. One herd advanced several times at a gallop, within rifle shot, and formed in perfect line, with bulls in advance, showing a formidable front of horns. The last time they advanced at a gallop to about sixty yards, and formed in line, the bulls at the same time snorting and tearing up the snow. Immediately I fired they wheeled round, joined the main herd, and made off out of sight, *only waiting occasionally for the wounded one*," which succeeded in escaping. Before he returned to camp, however, Meeham brought down a deer, which, together with a fine bull shot by the men during his absence, enabled these Arctic pioneers to have "a good time."

The party pushed westward to Cape Russell, the south-west extremity of Melville Island, from which a line of hitherto unknown land extended away to the north-west. Crossing over the frozen sea in the direction of this unknown region, Meeham arrived at a considerable island (Eglinton), west of Melville Island, on the 2d May. Thence pushing still westward, he discovered extensive land, to which he gave the name of Prince Patrick Island, and on the shores of which he arrived on the 6th May. Travelling along the south and west coasts of this island to Cape Manning, the discoverer came upon several pieces of decayed wood, partly buried in the sandy soil, at a point ninety feet above sea-level. From the appearance and position of this wood, Meeham was "induced to believe it had grown in the country." The extreme south-west point of the island (lat. 77° 6' N., long.



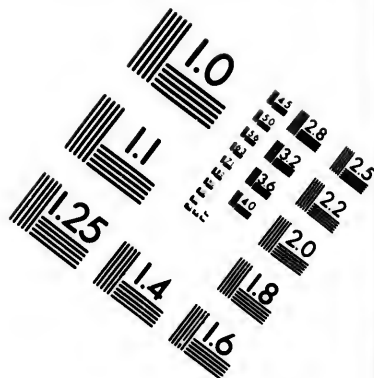
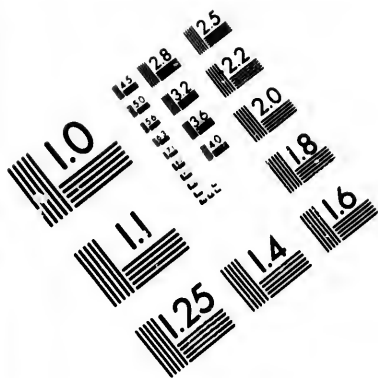
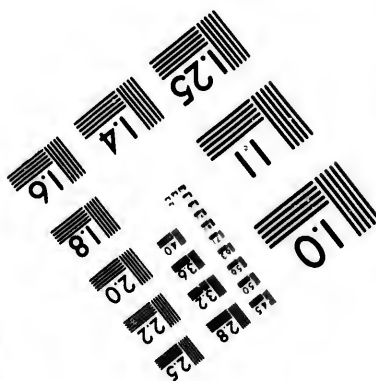
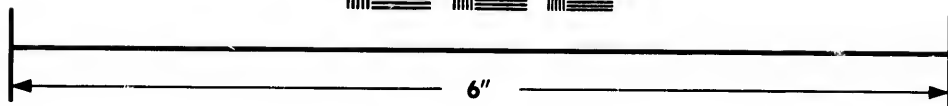
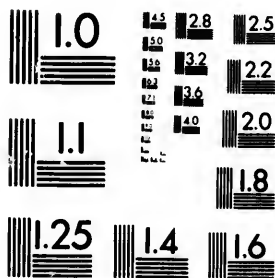


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120° 50' W.), was named Land's End. From this point no land to the westward was observed; and from the nature of the pack which Mechem terms "tremendous," it may be inferred, that if land does exist to the westward, it is at some considerable distance from Prince Patrick Island.

Provisions running short, the gallant lieutenant resolved to retrace his steps, and, to avoid the circuitous coast route, he decided upon striking boldly across the island in a southerly direction. After crossing a dreary plain, the party found themselves in a country broken up by winding ravines. "In one of these," says M'Dougall, "a tree protruding some ten feet from a bank was discovered: it proved to be four feet in circumference. In the neighbourhood, several others were seen, all of them, be it remarked, of the same description as that found on Cape Manning. A second tree measured four feet in the round, and thirty feet in length, and a third two feet ten inches round. Several pieces of these were sawn off as specimens and firewood. In appearance, Mr Dean, our carpenter, declares it resembles larch, but in weight it bore a stronger resemblance to *lignum vitae*, or iron-wood. . . . The position of this decayed forest was, by supposition, about 400 feet above the level of the sea." Soon afterwards Mechem, to his great disappointment, found cairns containing records left by Commander M'Clintock, who had in the meantime explored most of this district. There was nothing now to do but to march straight for Dealy Island, where the party arrived on the 6th July, after an absence of ninety-four days, during which they had explored 1163 miles; the daily rate of travelling being 12½ miles.

After handsomely acknowledging the able assistance of Mr Nares, and the admirable conduct of the men, Lieutenant Mechem concludes the report of his journey with the following remarks: "I beg to state that, besides the absence of traces (of Franklin's expedition) being a negative proof that the missing crews have not visited any part of the land discovered during this journey, I have further to add, that the character and appearance of the pack driven against the land, and in every direction to seaward, thoroughly convinces me of the impossibility of penetrating with ships to the southward and westward, against such tremendous impediments."

Before the beginning of August (1853), water had been making alongside the "Resolute," and Captain Kellett, having received the results of his sledge parties, and having become convinced that nothing further could be gained by searching in a *north-west* direction, resolved to set sail for Beechey Island as soon as the ice should break up. Early in August the ice outside Bridport Inlet, in which the "Resolute" and "Intrepid" were confined, was in motion; and on the 18th, a gale blowing from the land broke up the ice in all directions, and freed the ships. There was now a prospect of a splendid run eastward, for no ice was seen ahead. On the following day the pack was seen from the crow's-nest extending right across the ship's path. "Within twenty-

four hours," writes Osborn, "the ships were brought up by the pack of Byam Martin Island, and for many a day they lay under the extreme point of Melville Island, watching for an opening to dash across to Bathurst Land, knowing well that once under its lee northerly gales would inevitably make *land water* (an open passage running along the southern shores of the different islands), and enable them to accomplish another run for Beechey Island. Day after day passed; the drifting pack in Byam Martin Channel continued in a most unpromising state, whilst winter was fast advancing, with snow, darkness, and newly-formed ice. Happily this part of Melville Island, like every other part of the southern shores of that favoured land, was found to be abounding in game, especially musk-oxen. Such a godsend, under the circumstances, was eagerly seized by Captain Kellett, who naturally felt most anxious to save and carry the crew of the 'Investigator' in health and strength to England. All available guns and men were sent to secure fresh meat, and such was their success that about 10,000 lbs. weight of game was eventually secured, and, being soon frozen, was easily preserved for the coming winter. At one time the meat was festooned round the rigging of the 'Resolute' and 'Intrepid' until they resembled butchers' stalls far more than British discovery ships. At last, driven to risk anything rather than remain where they were for another winter, the vessels attempted to force a way through the pack, but on the 9th of September both the ships became permanently imbedded in the newly-formed ice, and a north-west gale forcing down the pack upon them, they became fairly beset, and obliged to go whither it and Providence listed. It was another disappointment to the gallant crew of the 'Investigator.' They met it with resignation, and a feeling of thankfulness that they were at any rate some 300 miles nearer home, and that in such well found ships they would assuredly be carried in safety through their fourth winter. Indeed, no pains were spared by the officers and crew of the 'Resolute' and 'Intrepid' to grant every comfort to their passengers, and to distract their thoughts from those corroding anxieties, which, perhaps more than all else, predispose to scurvy. For two months the perils encountered by the drifting ships were very great. Their safety at last appeared to be occasioned by the body of heavy ice formed by constant pressure against the unyielding ships, the strength of which set at defiance the rest of the surrounding pack. At one time, with northerly winds, they feared being set down to the southward; and if there had been a good outlet for the ice between Lieutenant Osborn's and Lieutenant Wynniatt's farthest points in 1851, it was within the bounds of probability that next season (1854) would have found the 'Resolute' and 'Intrepid' in some awkward position between Prince of Wales and Prince Albert Lands. This fear was put an end to when they found that the pack only drifted for a short time to the southward, as if to fill up tightly the

great space called Melville Sound, and then it and the ships drifted steadily away to the eastward, recovering in some measure the southing that had been made, until the pack, doubtless checked by the islands which lay across its path towards Barrow Strait, became stationary; and right glad was Captain Kellett to find that after the 12th of November his good ship was at rest, and had then reached a point about due east of Winter Harbour, in long. 101° W.—an admirable position for an early escape in the ensuing season." On the 20th September the top-gallant sails had been sent down, and the usual preparations for wintering commenced. October set in with strong breezes and a very heavy fall of snow. During this month snow pillars were erected at intervals between the vessels (which were about 400 yards apart), to guide the men passing from ship to ship in foggy weather. This range of pillars, many of which were cleverly sculptured by the sailors into the strangest specimens of grotesque statuary, did not always quite answer as a sufficient guide from ship to ship. On the last night of the year two men from the "Intrepid" came in on board the "Resolute," covered with drift, to inquire whether any one had seen their shipmate Hartnell. No one had seen the missing man, but a line of telegraph having been erected across the ice to the "Intrepid," Lieutenant Hamilton "wired" a message to the tender, inquiring whether Hartnell had come on board. This was the first occasion on which the telegraph was turned to practical use; and great was the satisfaction, in the interests of both science and humanity, when the clear, easily-read answer "Yes" was wired back to the "Resolute." It appears that Hartnell had left the "Intrepid" with the intention of crossing over to the companion ship, but after passing the first guide-post, or pillar rather, he lost sight of his own vessel, became confused, and was brought up "allstanding." He dared not move lest he should wander away in the wrong direction. What was he to do? He hit it at last. He knew he could not be more than fifty yards from the ship, so with great good sense he shouted at the top of his voice, "A man lost! a man lost!" After shouting himself hoarse, he sat down on the lee side of a snow pillar, and philosophically awaited the event. He soon saw blurred lights coming through the fog, and immediately after he was on his way back to his ship, in charge of a number of his messmates. He was called the "lost man" ever after.

At midnight on the 14th "poor Sainsbury," as he is always called by Armstrong, Osborn, and M'Dougall, died. He was buried, as has already been stated, on the 16th. The men were kept amused up to Christmas by theatricals, concerts, lectures, and classes for navigation, etc. Mr (now Captain) Nares read a paper on winds in general, descriptive of the cause and directions of land and sea breezes. "His description of the trade winds," writes M'Dougall, "was lucid and interesting, and must have con-

veyed no little amount of information to those of his hearers who could follow him." On Christmas Day the officers met the men of both ships in cordial companionship; and the last day of the year 1853 was also celebrated with a modest festival. It is appetising to glance at the list of toothsome good things that composed the bill of fare of the "Arctics" on this occasion. Kindly, garrulous McDougall supplies us with details of this feast, the fragrance of which, loosened from its imprisonment in the frozen atmosphere by some genial gale, floats down to us now, to stimulate our olfactories after all these years. "We all met at an excellent repast at four p.m.," says the master of the "Resolute." "First came ox-tail and hare soups, then preserved salmon; this was followed by a leg of venison, ditto of musk veal, roast ptarmigan, musk-beef pie, and ham, with vegetables, in the shape of mashed turnips, green peas, parsnips, and preserved potatoes. The second course was composed of a plum-pudding, mince pies (real!), and numerous tarts and tartlets, the whole decorated with miniature flags, made in England for the purpose. Cheese, of course, followed, and an ample dessert of almonds and raisins, of gingerbread nuts, wine biscuits, French olives, and, though last, not least, a noble plum-cake, which would have been excellent had it not been for the numerous geological specimens (!) creating a somewhat unpleasant surprise on coming in contact with the teeth. With the aid of beer, champagne, port, and sherry, to assist the flow of soul, the dinner passed off admirably. The celebrated Arctic band being in attendance, played popular and appropriate airs, after the removal of the cloth, when, with full hearts and glasses, we drank, 'Absent friends! God bless them!'"

Songs, sentiments, recitations, etc., were kept up on the lower deck till midnight, and then, at twelve, the slow, sonorous peal of the "Resolute's" great bell rung the old year out and the new year in. The band now struck up, as a parting strain, "Auld Lang Syne," that favourite all the world over at those sacred times when men recall faces from which the great ocean and the greater has separated them.

CHAPTER III.

MECHAM'S EXTRAORDINARY JOURNEY—INTELLIGENCE OF THE "ENTERPRISE"—
SIR EDWARD BELCHER'S MOVEMENTS—ABANDONMENT OF ALL SHIPS
ORDERED—THE LAST OF THE ARCTIC SQUADRON—THE COURT-MARTIAL—
THE "RESOLUTE" FOUND AND RESTORED.

EARLY in 1854 two men died—Hood, a marine, on the 2d January, and Wilkie, the ice-quartermaster of the "Intrepid," on the 2d of February. Death resulted in both cases from disease of the heart. Both had served within the Arctic seas under Sir James Ross and Captain Austin, so that this was their third Polar expedition, and both were remarkable for their strength and powers of endurance. McDougall thinks it probable that the laborious nature of Arctic travelling may have accelerated death in both cases. It is certain, at all events, that heart-disease is the cause of by far the greater numbers of deaths that take place on Arctic ships, although it has been proved that the number of casualties in these regions is not greater—is on an average less—than occurs in H.M. ships stationed in lower latitudes.

On the 1st February Captain Kellett ordered Lieutenant Hamilton to hold himself in readiness to conduct a travelling party to Beechey Island early in March; and on the 4th of that month the party, consisting of Hamilton, Roche, Mr Court, late of the "Investigator" abandoned during the summer of 1853, with nine men, nine dogs, and two runner sledges, set out on their journey. On the 3d April Lieutenant Mechem and Mr Krabbé left the ship, the former to visit the Princess Royal Islands in Prince of Wales Strait, the latter to travel to Mercy Bay and report upon the condition of the "Investigator." Krabbé's report on the abandoned ship has already been given, and it is only necessary now briefly to mention the main incidents and results of Mechem's journey.

This most energetic officer set out with Mr Krabbé on the 3d April, and reached Dealy Island on the 12th, from the depôt of which they provisioned their sledges. They then passed on to Winter Harbour, and thence shaped their course for Cape Russell, the north-east extremity of Banks Land, at the north entrance to Prince of Wales Strait. On the 25th they

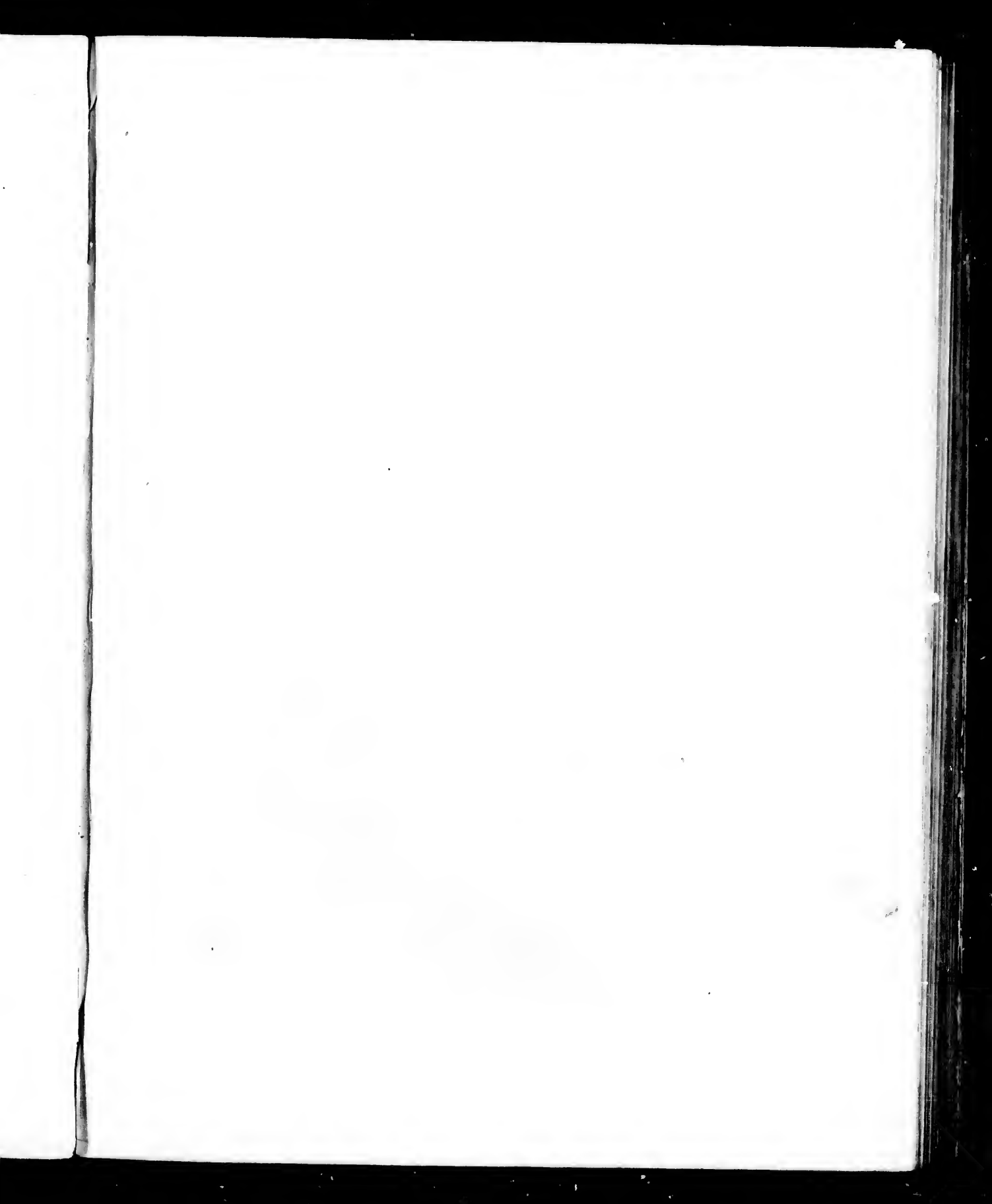
encamped off a low point at the entrance to an inlet, which they supposed to be Cape Russell, and on which they deposited eleven days' provisions. Here the two officers parted, Mr Krabbé going off in the direction of Mercy Bay. For three days Meham continued to explore the inlet; but on the 28th he became convinced it was not the strait he sought. He accordingly ordered half-rations for the party, turned back, took up his depôt, and travelling westward, reached Prince of Wales Strait in two journeys. Proceeding down the strait he arrived at the Princess Royal Islands, and at the cairn erected there he was surprised and delighted to find a document stating that H.M.S. "Enterprise" (Captain Collinson), the companion ship to the "Investigator," had passed up the narrow passage to Point Peel, had returned, and, after coasting along the west shore of the strait, had wintered in 1851-52 in lat. $71^{\circ} 35' N.$, long. $117^{\circ} 40' W.$ The record further stated that further information would be found on an islet about eighty miles farther west. On the 9th Meham reached the islet referred to, and digging around the cairn which he discovered there, he found the information of which he was in search. The records he dug up stated that parties from the "Enterprise" had visited Point Hearne on Melville Island, and had examined the north and south shores of Prince Albert Land, and that the vessel left the islet on the 27th August 1852 to explore a channel supposed to exist between that land and Wollaston. From this point Meham resolved to return at once to the "Resolute" with his intelligence. He arrived at the Princess Royal Islands on the 13th May, provisioned his sledge there, and deposited records. Proceeding north he also deposited records at Cape Russell, and thence set out across Melville Sound toward Dealy Island. For ten miles around Cape Russell last year's ice extended *unbroken*. Dealy Island was reached on the 27th, and here Meham found orders to proceed at once to Beechey Island. On the 12th June he arrived at the "North Star," where he received a kindly welcome from all hands. In concluding his letter of proceedings, Meham writes: "Allow me to bring before your notice the most excellent behaviour of the men. Circumstances have obliged us frequently to travel upon reduced rations, but throughout I have never heard a murmur; and they have evinced such zeal and spirits in the performance of their work, that in spite of the tedium connected with travelling they have voluntarily performed distances which, under ordinary circumstances, I would not have ordered." On this remarkable journey, over wide reaches of frozen ocean, Lieutenant Meham was away seventy days, during which he walked 1336 miles, the average rate being the extraordinarily high one of nineteen miles daily for ten weeks.

We unceremoniously left the "Resolute" slowly drifting eastward in the pack, and we now return to her. It will be remembered that Meham and Krabbé had left the ship on the 3d April. On the 10th of the same month

Lieutenant Haswell, Mr Paine, clerk in charge, Messrs Newton and Ford, and nineteen men, all late of the "Investigator," left the "Resolute" for Beechey Island with two sledges and fifteen days' provisions. On the following morning a second detachment, consisting of Lieutenant Pim, Dr Armstrong, Mr Kennedy, and seventeen men, left the ship for the same destination. Commander Richards, who had arrived on the 6th with a party from the "Assistance" (Sir Edward Belcher), and who had brought letters and papers for the "Resolutes," left with his men on the 13th, and was followed by Commander M'Clintock, who took with him despatches for Sir Edward Belcher. Captain M'Clure, with his assistant-surgeon, Mr Piers; his interpreter, Mr Mierching, and seventeen of the crew of the "Investigator," started for the "North Star" on foot on the 14th April. In due time these different detachments arrived at Beechey Island, and took up their quarters on board the depôt ship.

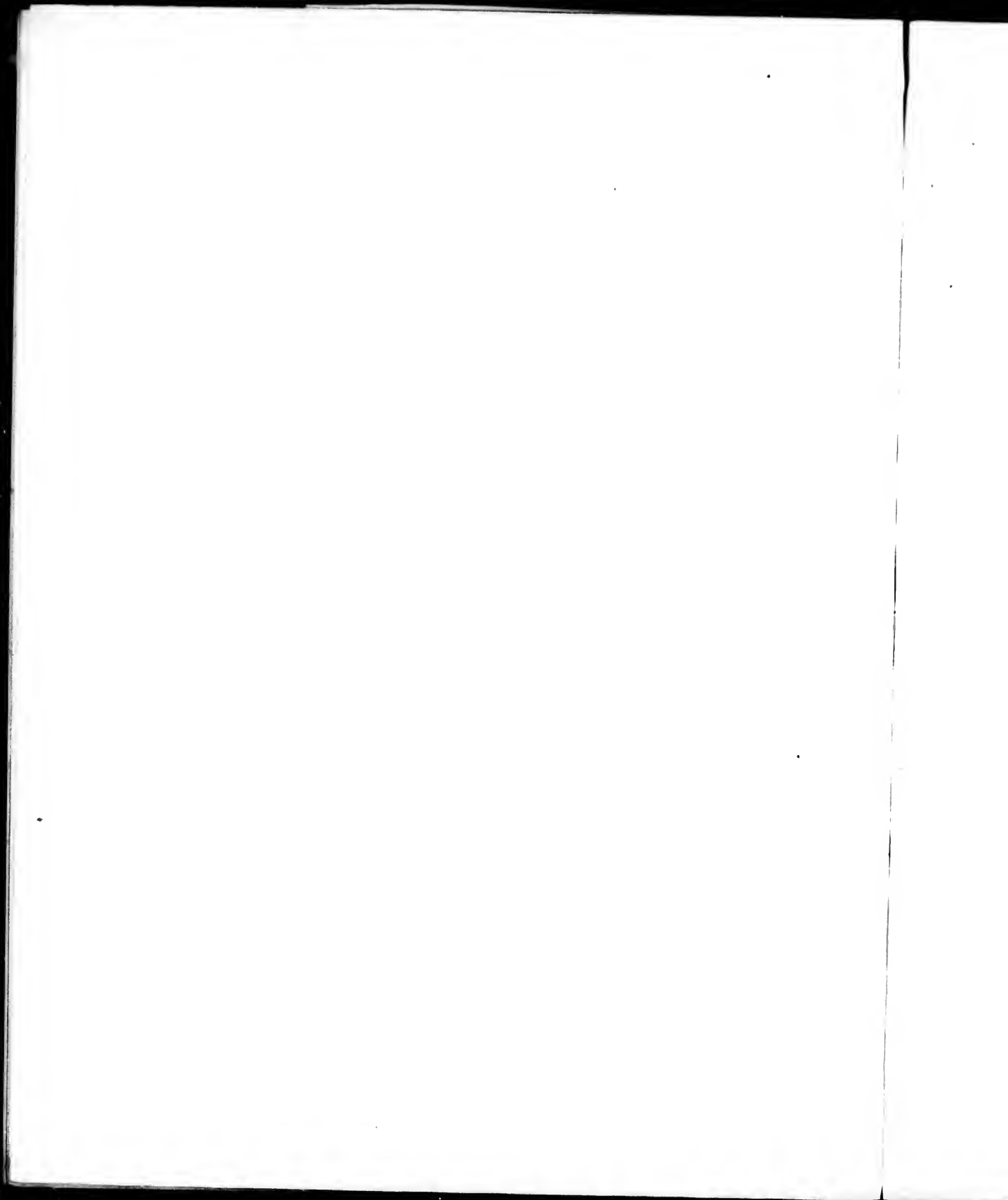
On the 28th April Commander M'Clintock, having visited the "Assistance," returned on board the "Resolute." It will be remembered that the last we saw of the "Assistance" and its tender, the "Pioneer," was when they bore away westward from Beechey Island toward Wellington Channel. Sir Edward Belcher succeeded in carrying his vessels up Wellington and Queen's Channels to Northumberland Sound (lat. $76^{\circ} 52' N.$), on the west side of Grinnell Peninsula. He succeeded in penetrating beyond the northern entrance to Queen's Channel, which he proved to open out upon the Polar Sea on the north, and between which and Jones Sound a wide strait (Belcher Channel), studded with islands, communicated. In the summer of 1853, before Captain Kellett had been able to extricate his ships from their winter quarters, Sir Edward left the northern entrance to Queen's Channel, and hurried back towards Beechey Island. In the following passage from his "Discovery of a North-West Passage," Captain Osborn endeavours to account for this precipitate movement. He says: "The return sledge parties of Commanders Richards and Osborn from Melville Island had told Captain Belcher of the position of the 'Investigator' and the accomplishment of a North-West Passage. To intercept the 'Resolute' or 'Intrepid' if they touched at Beechey Island, appeared to be the object of Sir Edward Belcher. No time was therefore to be lost in opening a communication with Beechey Island; and so important was this deemed, that farther search was abandoned, and one sledge party was left to secure a retreat as best it could, after a long and trying journey."

This statement will be best illustrated by glancing for a moment at the operations carried on in the extreme north of Queen's Channel by Belcher in the summer and autumn of 1853. In 1852 the leader of the expedition had succeeded in carrying the "Assistance" and "Pioneer" through Wellington and Queen's Channels, and securing them in winter quarters off the west coast





ESKIMO SNOW HUTS & AURORA EORTALIS



of Grinnell Land. As soon as sledging operations could be commenced in 1853, he set out to survey the coasts he had discovered, and to prosecute the search for the missing expedition. Passing round by the north coasts of Grinnell Land, he discovered Belcher Channel leading east into Jones Sound. On the night of the 5th June he received a number of "service letters, or official returns," from Commander Pullen, together with a report from Commander Richards, but no intelligence of Captain Kellett or his division. On the 22d Belcher received a number of despatches, which, coming originally from Commander Richards in Barrow Strait, gave full information of the finding of McClure's record at Winter Harbour, Melville Island, of the visit to the "Investigator" at Mery Bay on the 6th April, and of the arrival of McClure on board the "Resolute" on the 19th April 1853. On the 12th July Richards arrived on board the "Assistance" (which was still detained in winter quarters off the west coast of Grinnell Land), with letters and despatches from Captain Kellett to Sir Edward Belcher. Toward the close of July, Belcher succeeded in extricating the "Assistance" from the ice. On the 25th, when sailing along the south coast of Grinnell Land, a boat was seen approaching, and soon Commander Pullen was standing on the quarter-deck of the "Assistance." After a busy evening, spent in communicating information and receiving instructions, Pullen started to return on the following morning. "I directed him," writes Belcher, "to be prepared to leave Beechey Island on the 1st September, and proceed to England, taking on board the crew of the 'Investigator,' should they arrive by the 'Intrepid,' and to leave the latter vessel as depôt at Beechey Island." Belcher now attempted to sail down Wellington Channel, but was arrested on its east coast, and about fifty miles from its mouth.

On the 11th September Lieutenant Osborn set out from the "Assistance" with despatches for Beechey Island. He returned on the 22d, announcing three important events—the arrival (at Beechey Island) of H.M. steamer the "Phoenix" (Commander Inglefield); the total loss of the "Breadalbane" transport; and the melancholy death of Lieutenant Bellot, who had perished on duty. The gallant Frenchman had volunteered to join the store ship "Phoenix" (Commander Inglefield), sent out with stores to the "North Star," at Beechey Island. A number of despatches had been brought out from England by Inglefield, and these, together with a number of papers referring to the south-western branch of the expedition, had to be forwarded without delay to Sir Edward Belcher. Bellot undertook to perform the service, and started to travel by boat and sledge along the east coast of Wellington Channel north to Cape Osborn, in the neighbourhood of which the "Assistance" was at that time detained in the ice. The journey appears to have been successfully conducted until having reached the vicinity of Cape Grinnell, about half-way between Beechey Island and Cape Osborn,

Bellot seems to have fallen through some crack in the ice, and to have perished suddenly and silently. A sentence or two from Belcher's somewhat rambling, disconnected account of this melancholy event, is all that we can present to readers on this subject: "The fate of Bellot—admired by all, the untiring supporter of Kennedy, a volunteer again with Commander Inglefield, and the intrepid adventurer in this case to carry our despatches even up to Cape Hogarth—cut off, not by any immediate disaster common to his crew, nor even in their sight, but had slipped down between the hummocks and was no more seen! a most mysterious, incomprehensible death. . . . It appears from the very incoherent statements of the men who accompanied Lieutenant Bellot, that near Cape Grinnell the ice exhibited a heavy crack, opening rapidly, and they were engaged conveying the contents of the sledge to the shore by means of Halkett's boat, when, having secured all but the sledge, the ice drifted off, Lieutenant Bellot desiring them 'to let go the line.' Two men, William Johnson and David Hook, were then with Lieutenant Bellot on the detached piece of ice. Johnson gives a most incoherent tale—loses sight suddenly of Lieutenant Bellot, and supposes him to be drowned between the opening of the floe—sees his stick, and shouts out for him by name. . . . On the other hand, the evidence of the boatswain's mate differs widely: he was on shore, not included in the catastrophe, which might have affected the minds of the two blown off; he was therefore in a better position to see, to judge, and to report truly, and dates and facts confirm his evidence. By his account he watched for them (the two men) six hours; he then travels to Cape Bowden, for which I will allow six hours more, and then suddenly finds them advancing on land and almost within hail! Now it must be remembered that the misfortune occurred on the evening of the 18th August, about eight P.M. by Mons. Bellot's watch, and yet on the night of the 19th the party had reassembled, after a pretty fair land travel. . . . But what appears still more incomprehensible to my mind is, two of the most distressed of the party were left behind by their companions to die, starve, or for what purpose is not indicated, and these reach the "North Star" on the 21st, where their statement is taken."

The despatches brought from Beechey Island contained no further intelligence of the operations of the western division of the expedition. On the 13th October, however, Commander Pullen paid a second visit to the "Assistance," and in the course of discussion with this officer, Sir Edward Belcher came to the conclusion that in the spring of 1854 it would be his duty to order the abandonment not only of the "Investigator," but of the "Resolute," the "Intrepid," the "Assistance," and the "Pioneer" as well. Accordingly he wrote to Captain Kellett to that effect on the 1st February. In this somewhat extraordinary despatch, and in a semi-official letter which

accompanied it, the following passages occur: "We are not now left to our own feelings, our zeal, or our judgment, and we know not what may be the orders which will arrive in July or August; but I can *foresee* them, and it becomes my duty to meet them in the same spirit. Taking into consideration, therefore, that similar orders will be given respecting the next steamer, she cannot be retained beyond the 1st September. Whatever powers may be left to me to await your extrication, I must send home every soul who is useless here. . . . Having so far explained myself, I will not hamper you with any further instructions than, *meet me at Beechey Island, with the crews of all vessels, before the 26th of August.*" In the semi-official letter Belcher says: "I foresee their lordships' next instructions, and under this conviction have sent you orders to *abandon.*"

Commander Richards proceeded in the spring from the "Assistance" to the "Resolute," with these orders. Osborn states that Kellett and his officers "were all amazed when, in the following early spring, formal arrangements were made for the abandonment of all of H.M. ships within the Arctic regions in 1854. Totally ignorant of such a proceeding being the intention of the senior officer, the resources of the 'Resolute' and 'Intrepid' had been so carefully and judiciously husbanded, that with a reduced crew in each ship, they were still ready to meet the chance of not escaping in 1854, and this was the more creditable to Captains Kellett and M'Clintock, as they had had to victual the additional men and officers from the 'Investigator,' and had left an ample depôt of provisions and clothing in Melville Island, for the use of Collinson, should fate lead him there. . . . In the meantime Captain Richards, who was despatched in weather so severe as to endanger the lives of all his party, reached Captain Kellett with a 'confidential' letter from Sir Edward Belcher. That 'confidential' letter is of course now a public document, and a very remarkable one too. It contains this paragraph, which is here copied verbatim: 'Should Captain Collinson fortunately reach you, you will pursue the same course, and not under any consideration risk the detention of another season.' . . . Captain Kellett determined not to adopt any such course upon a 'confidential' letter, and immediately he despatched Captain M'Clintock to Sir Edward Belcher, to point out the perfect feasibility of saving his ships—to assure him of the provisions and stores, as well as the health of a sufficient number of officers and men, being such as would enable him to meet the possible contingency of another winter, rather than abandon H.M. ships, when they lay in the very best position for an escape, directly the ice broke up in Barrow Strait; and finally, to point to Sir Edward Belcher, that he was strongly against the desertion of so many fine ships. But the representations of Captain Kellett were unavailing. Captain Belcher sent Captain M'Clintock back with an order for the abandonment of the 'Resolute' and the 'Intrepid,' and the crew of

the 'Investigator,' who had lived through such trials and hardships for four winters, stared to see all hands gradually retreating upon Beechey Island, ready to return to England."

Reverting once more to the quarter-deck of the "Resolute," which we left for a time to follow the fortunes of Sir Edward Belcher in Wellington Channel, we find that it was on the 28th April that Commander M'Clintock returned from his fruitless mission to the "Assistance." "He brought decided orders," writes M'Dougall, "to abandon the ships." Two days after, Captain Kellett informed the assembled officers and men that it was his intention to proceed to Beechey Island with the whole crew, as soon as the various necessary arrangements were completed. These arrangements were proceeded with at once. It was quite possible that after being abandoned, the "Resolute" would require to be re-occupied either by its own or by some other crew, and in view of this contingency, everything was put away and secured; the boats were hoisted in, the booms stowed, cables coiled, the rudder taken on board, and every movable article either packed away below, or securely lashed on deck.

On Friday the 6th May, Messrs Roche, Nares, and Johnson, with seventeen men with two sledges and eight days' provisions, left for Beechey Island. Dr Dorville and M. de Bray, with nine men, went away on the 8th. "At length," writes M'Dougall, "the sun rose on the morning of the last day we were to spend on board our old ship, endeared to us all by many bygone associations. Without affecting any absurd sentimentality, it may easily be imagined we all experienced feelings of regret as the time approached when we were to abandon the staunch old craft to her fate and almost certain destruction in the ice. There were a thousand and one things we could have desired to save, such as souvenirs from those we loved and respected, had our weights (the weight of luggage allowed was forty-five pounds for officers) permitted; forty-five is, however, too low a figure to indulge in luxuries. With a sigh, therefore, we were obliged to set aside the ornamental, and choose something more useful, but less romantic, in the shape of shirts, flannels, drawers, etc. All was hurry and bustle in concluding the necessary arrangements. The pilot-jack (letter D) was hoisted at the fore-topmast head, and the red ensign and pendant displayed, that in the event of her being obliged to 'knock under' to her icy antagonist, she might sink beneath the wave as many a gallant predecessor had done, with colours flying. . . . Shortly after the men's dinner, the sledges were packed, averaging 215 lbs. per man. Whilst the carpenters were employed caulking down the gun-room, skylight, and after-companion, the only means of descending to the lower deck was by the main-hatchway, and only half of that was open. The captain dined with us in the darkened gun-room, and after supper at five P.M. the carpenter with his crew prepared to close the main-hatchway. At 6.15 P.M., Captain

Kellett inspected the lower deck, holds, etc., and after drinking a glass of wine to the old 'Resolute' and her crew, the lower deck was cleared for the last time, and the main-hatchway secured. At seven p.m. precisely the four sledges, commanded by Captain Kellett, Commander McClintock, Mr Roche (mate), and myself, moved on in the direction of Cape Cockburn—Roche, being the junior officer, leading, whilst the captain brought up the rear as in funeral order. We numbered in all forty-two souls, viz., eleven officers and thirty-one men. . . . After advancing about a quarter of a mile, the crews of the various sledges halted simultaneously, unharnessed, and gave three hearty cheers for the 'Resolute' and 'Intrepid;' but though the ice is a good conductor of sound, we heard no response." On the 28th the western division arrived at the "North Star."

Meantime the crews of the "Assistance" and "Pioneer" were on their way toward the same destination. Captain Belcher defends his action in thus ordering the abandonment of four vessels admirably appointed, amply supplied with stores, and the crews of which were still in fair health (they had only yet spent two winters among the ice), by the following train of reflections: "Our mission was not directed to the discovery of new lands, or of the North-West Passage. It was simply to search for traces of our missing countrymen on reasonable and reliable sources; not to push, for selfish ends, on lines of coast where no reasonable hope could exist or seemed to promise; nor, by a desire of making a show on paper of extended discovery, to undermine the constitutions of my men, who might yet be doomed to endure another winter in this trying desolate region." It has been already stated that in thus abandoning his ships when the search for Franklin (already completed along the shores of the continent of America, along both coasts of Baffin's Bay, along Lancaster Sound, and throughout all the regions to the north and west of Beechey Island) had only now to be prosecuted in the circumscribed region between Boothia Peninsula and King William's Land, was believed by the majority of Belcher's officers to have been a mistake. But the orders had now gone forth, and the result must be left with the Lords of the Admiralty. Early on the 25th August the officers and men of the "Assistance" and "Pioneer" were mustered in travelling order on the ice. "The decks," writes Belcher, "had been cleanly swept, the cabins put in order, and the ship fully inspected. . . . The colours, pendant, and jack, were so secured that they might be deemed 'nailed to the mast,' and the last tapping of the caulker's mallet at my companion-hatch found an echo on many a heart, as if we had encoffined some cherished object. Accompanied by Commander Richards, we silently passed over the side; no cheers, indeed no sounds, escaped; our hearts were too full! Turning our backs upon our ships, we pursued our cheerless route over the floe, leaving behind our home, and seeking, for aught we knew, merely the change to the

depôt at Beechey Island." On the 26th August the crews of the "Assistance," "Resolute," and "Investigator," were embarked together on board the "North Star."

At noon on the 26th "a steamer off the point" was announced, and there was a rush of all hands to see the stranger vessel. Two dark, shapeless masses were seen off Cape Riley, which afterwards turned out to be the transport ships "Phoenix" (Captain Inglefield), and "Talbot" (Captain Jenkins). Arrangements were now entered into for the equal distribution of the various crews between the "North Star," "Phoenix," and "Talbot." At one p.m. on the 27th August 1854, the little squadron slipped from the ice, and, in tow of the "Phoenix," proceeded to the eastward. On the 9th September Lively was visited, and after passing Cape Farewell a few days later, the "North Star" parted company from her consorts, and did not come up with them again until the arrival of the whole squadron in England in the first week of October.

On the 18th, 19th, and 20th October a court-martial was held on the officers in command of the abandoned ships. The case of the "Investigator" was first proceeded with. Captain M'Clure justified his leaving the ship on the ground that he had the written orders of his superior officer, Captain Kellett, for so doing. These written orders were produced, and the trial, which was merely formal, came to an end by the court declaring that Captain M'Clure and the officers and crew of the "Investigator" deserved the highest commendation for their exertions, and that each and all were fully acquitted. In restoring his sword to Captain M'Clure, Admiral Gordon, president of the court, addressed him in these terms: "The court are of opinion that your conduct throughout your arduous exertions has been most meritorious and praiseworthy."

Captain Henry Kellett was then tried for abandoning H.M.S. "Resolute." In this case the defence was the same as in the preceding. Captain Kellett pleaded the written orders of his superior, Sir E. Belcher, C.B., commanding him to abandon the "Resolute," and her steam tender, the "Intrepid." These orders having been produced, the court acquitted the captain, his officers, and crew; and in restoring Captain Kellett's sword, the president expressed "much satisfaction in returning a sword which the owner had worn with so much credit, satisfaction, and advantage to his country."

When Sir Edward Belcher was asked why he had abandoned the four ships of the Arctic squadron, he read a long defence, with selections from his special instructions from the Admiralty, and his interpretation of these. The reading of this defence being over, the court remained closed for an hour and a half, after which the following verdict was given: "The court is of opinion that, from the great confidence reposed in Captain Sir Edward Belcher by the Lords Commissioners of the Admiralty, and the ample discre-

tionary powers given to him, he was authorised, and did not act beyond his orders in abandoning H.M.S. 'Assistance,' and her tender, 'Pioneer;' or in directing the abandonment of H.M.S. 'Resolute,' and her tender, 'Intrepid,' although, if circumstances had permitted, it would have been advisable that he should have consulted with Captain Kellett previously; and the court doth adjudge the said Captain Sir Edward Belcher to be acquitted, and he is hereby acquitted accordingly." He was exonerated, however, under an implied rebuke, and the president, in returning him his sword, had no word of commendation for the acquitted officer. "The solemn silence," says Sherard Osborn, "with which the venerable president of the court-martial returned him his sword, with a bare acquittal, best conveyed the painful feelings which wrung the hearts of all professional men upon that occasion; and all felt that there was no hope of the mystery of Franklin's fate being cleared up in our time, except by some unexpected miracle."

It now only remains to say a few words respecting the abandoned vessels, and especially the strange fortunes that befell Captain Kellett's "Resolute." Of the "Investigator," we have heard the last in the report of Mr Krabbé, who visited her in Mercy Bay during the summer of 1854. Of the "Assistance" and the two steam vessels, the "Pioneer" and "Intrepid," nothing has been heard, the theory concerning them being that they were crushed in the ice. The "Resolute," however, was destined to revisit British waters.

On the 10th September 1855, a whaling barque, the "George Henry" (Captain James Buddington), was cruising in the pack off Cape Mercy, near the mouth of Cumberland Sound, in the south of Davis Strait, when a stranger ship came in sight on the north-east, and in latitude about 67°. Buddington, ascending the rigging, and examining her with his glass, pronounced her to be an abandoned vessel. She turned out to be H.M.S. "Resolute," that had drifted from the midst of the pack in which she was beset, a distance of eleven hundred miles, through Lancaster Sound, and down Baffin's Bay. Buddington, with eleven men, took possession of the vessel, and sailing southward, steered her into the United States harbour of New London. While detained in harbour, the British consul having informed the Home Government of the finding of the vessel, received instructions from England to the effect that Her Majesty abandoned all right to the vessel in favour of the gallant Captain Buddington, by whose skill and ceaseless exertion she had been brought into port. No sooner was the resolution of the British Government made known, than the Congress of the United States, in the handsomest and most graceful manner, voted the sum of 40,000 dollars for the purchase of the vessel from Buddington. The "Resolute" was then removed into one of the United States Navy yards, and thoroughly repaired and refitted for service. She was placed under the command of Captain Hartstein of the United States Navy, and on the 13th November 1855 she

left New York for England. She reached Spithead on the 12th December. A few days afterwards she was inspected by Her Majesty, Prince Albert, the Prince of Wales, the Princess Royal, and the Princess Alice. The royal party and suite were received at the gangway by Captain Hartstein, his officers, and a number of distinguished visitors. After these had been formally presented, the captain, addressing Her Majesty, said: "Allow me to welcome your Majesty on board the 'Resolute,' and, in obedience to the will of my countrymen and of the President of the United States, to restore her to you, not only as an evidence of a friendly feeling to your sovereignty, but as a token of love, admiration, and respect to your Majesty personally." This gallant address having been graciously received and acknowledged, Her Majesty went over the ship, in which she seemed deeply interested. The "Resolute" was afterwards taken to Portsmouth, and anchored abreast of the King's Stairs, in order to be formally handed over to the representatives of the British Admiralty. On Tuesday, 30th December, Captain George Seymour of the "Victory," accompanied by a party of officers and seamen, went on board the "Resolute," from the peak of which the American and British colours hung side by side. As the dockyard clock struck one, the flag-ship "Victory" hoisted the United States "stars and stripes" at her main, which she saluted with twenty-one guns. Whilst the salute was being fired, Captain Hartstein ordered the American colours to be hauled down on board the "Resolute," at whose peak the British ensign now floated alone, whilst at her main truck an English pendant was displayed. The salute being ended, and the change of colours effected, the American crew manned the rigging, and gave three hearty cheers in acknowledgment of the salute, and thus the old "Resolute" became again one of H.M. ships.

CHAPTER IV.

CAPTAIN COLLINSON'S VOYAGE IN THE "ENTERPRISE."

CAPTAIN COLLINSON, of whose "safety" Lieutenant Meeham, of the "Resolute," brought the welcome intelligence to Beechey Island, as we have seen in the last chapter, will be remembered as the senior officer in command of the Behring Strait Expedition of 1850-54, consisting of the "Enterprise" and "Investigator." The adventures of the "Investigators" we have already traced through all their varying fortunes until their rescue by Lieutenant Pim, their transference successively to the "Resolute" and the "North Star," and their arrival in England at the close of September 1854. But what of Captain Collinson and the "Enterprise?" It is important to know something of this voyage, for its termination marks the close of the "Franklin Search," so far as the British Government were concerned. Collinson, of all English naval officers engaged in the search for Franklin, was the last to abandon that search, and leave the Polar seas clear, if not of British ships, at least of British crews.

As we have already said (p. 540), the "Enterprise" and "Investigator" left the Thames, for Behring Strait, on the 10th January 1850. Early in February, however, the vessels parted company, and they continued sailing apart until they met in Magellan Strait on the 17th April. But these sister ships seem to have been ill-matched, for, after this long separation, they were only two days together when they again parted company, *never again to meet*. What became of the "Investigator," and how her captain discovered, though he was denied the triumph of navigating, a North-West Passage, we have already seen. And now a few sentences only about the voyage of the "Enterprise," by way of conclusion to the "Franklin Search," as conducted by Her Majesty's Government.

After parting company with the "Investigator," the "Enterprise" stretched away north-west across the Pacific, and after a long passage of sixty-six days, reached the Sandwich Islands. Thence, continuing on a

northward course, Collinson passed through Behring Strait, and coasting round the north-west angle of North America, arrived off Point Barrow on the 21st August. Here progress was barred on the east by the pack; but, with the view of reaching the Polar basin, Collinson bore away north, and reached lat. $73^{\circ} 23'$. At this point he was again stopped by ice. It was now the end of August, and without further delay, finding there was no hope of the ice breaking away that season, the captain returned to the south, and eventually reached Hong-Kong, where he wintered. In the spring of the following year he again steered for Behring Strait, passed through in July, and reached Point Tangent on the 31st of that month. Proceeding eastward along the north coast of America, the captain crossed the mouth of the Mackenzie River in midsummer, and reached Cape Bathurst on the 26th August, and Cape Parry the same afternoon. Up to this point Collinson had been following in the track of M'Clure. From Cape Parry land was seen away to the north, the same land that M'Clure had discovered. Collinson made for this land, saw Nelson Head, and soon found himself at the south entrance to a passage, which was no other than Prince of Wales Strait, in which the "Investigator" had passed the previous winter. Pushing into the channel Collinson came upon traces of the "Investigator," learned that M'Clure had wintered here, and that the opening communicated on the north with Melville Sound. He sailed on northward, and beheld the North-West Passage, in the discovery of which, however, M'Clure had anticipated him. From this point Collinson resolved to return down the strait, and sail round the south and west coast of Banks Land, until he should find a suitable harbour for the winter. This, it will be remembered, was precisely the course followed by his predecessor M'Clure. Following out his intention, Collinson sailed along the south coast, and then northward along the west coast of Banks Land. Arrived at Point Kellett, he learned, from records deposited there by M'Clure, that the "Investigator" had only left Prince of Wales Strait thirteen days before the "Enterprise" entered it.

Not finding a sufficiently sheltered bay in which to winter on the west or south coast of Banks Land, Collinson retraced his steps until he arrived at Walker Bay, on the east side of the south entrance to Prince of Wales Strait, and there he spent the winter of 1851-52. During the winter "two of our travelling parties," writes Collinson, "passed through the Prince of Wales Strait. One sledge followed the north coast of Albert Land, which I was desirous to examine, in order to judge whether a route in that direction was practicable for the ship. The other party *crossed over to Melville Island*; but having, from the rough condition of the ice, left the tent and sledge behind, they did not reach so far as Winter Harbour. They landed on Cape Providence twenty days after Captain M'Clure had left it, and saw his sledge tracks. . . . And thus, although we had passed within sixty

miles of the 'Investigator' and had fallen upon the traces of her exploring parties, we again missed the opportunity of communication."

Getting free from his winter quarters in Walker Bay on the 5th August, Collinson entered the deep inlet between what was known as Prince Albert Land on the north and Wollaston Land on the south. He was disappointed in finding this indentation closed all round by land. He then sailed south-east through Dolphin and Union Strait, "and," continues the captain, "after a hazardous navigation among rocks and shoals, embarrassed by the difficulty of not knowing how to steer during the darkness and the fogs, we reached Cambridge Bay on the 26th September, and were frozen in on the 30th." Cambridge Bay is an indentation on the north shore of Dease Strait.

On arriving in Cambridge Bay to spend the second winter in these regions, Collinson at once established friendly intercourse with the natives of the neighbourhood. These Eskimos had never been in communication with white men before, and were at first timid and diffident. As they belonged to a tribe differing in many respects from the natives of the extreme east and west, the following description of them by Captain Collinson will be read with interest: "They belong to the central tribe of Eskimos, wearing the same costume and speaking a similar dialect to the Igloodik and Boothia Isthmus people; and, unlike the Greenland and Behring Strait tribes, who perform almost all their migrations by sea, these people travel over the land and ice with sledges. The journey to Victoria Land is performed previously to the breaking up of the ice in the summer, and having no oomiaks, and but one or two kayacks, their communication with the continent is cut off until the straits are bridged over by the frost; they then assemble between Cape Colborne and the Finlayson Islands, which is the great crossing place for the reindeer, and after they have obtained as many as possible, pick up their *caches* of fish and venison, and return to the continent for the winter. They frequently visited us, bringing children of all ages, even upon the coldest days, but we only could induce them once to remain all night, when they enjoyed the dancing and singing upon the lower deck, and went to rest perfectly satisfied. Unfortunately, the following morning was the usual one for the weekly inspection of the men under arms; and after breakfast, when the ship's company began to take down their muskets and cutlasses, they became alarmed, and crept away before we were aware of it. Otherwise they were upon very good terms, becoming latterly expert in picking up whatever they could lay their hands upon, and occasioning the necessity of a vigilant look-out.

"In addition to their performing their annual migration on land instead of by water, they differ from the other tribes by inhabiting snow houses during the winter, and have therefore no fixed place of abode, all their

necessaries being carried upon sledges. The house is built in the course of two or three hours, and all trace of it disappears in the ensuing summer. Very few iron implements were found among them, the most warlike being a spear-shaped knife made of native copper, while their arrows are tipped with the same, or made of bone and flint. On one occasion they were induced to show their skill by shooting from the fore-castle at the mast-head vane, and struck it frequently. They seldom cook their food, the frost apparently acting as a substitute for fire. Biscuit and sugar the children latterly acquired a taste for, but salt appeared always an abomination.

"They do not use driftwood or grass for fuel, but content themselves with the stone lamp, fed by seals' blubber, which enables them to thaw the snow for a drink. Spirits and tobacco they have as yet no notion of; and, unlike their brethren on the east and west, are free from vermin on their persons. A distance of several years was always observed to intervene in the ages of the children of the same family, which must be occasioned, I presume, by the difficulty of supporting them. All the drudgery falls upon the women; even the boys would transfer their loads to their sisters. Bears' claws, deer's teeth, and bills of birds are hung about their coats; the mother frequently pointing with pride to these evidences of success in their children. The limited means of communication which we possessed prevented our ascertaining whether any form of religion existed. One man of the tribe lived by himself in a tent, and appeared to be regarded as the *angekok* (priest). The dresses, with exception of those of the young girls and children, who use bear-skin, were made almost entirely of reindeer skins, sewed together with sinew by copper needles. Some of the men were tall and well made, the distinguishing features being a broad face, square forehead, and flat nose, hair coarse and black, no whiskers, and but little on the upper lip and chin. The women are generally low of stature, and disfigured on the cheek by tattooing. Among those seen the preceding year were a few with aquiline noses and a Jewish cast of countenance, forming a curious contrast with the remainder of the tribe. The tribes appear to be separated from each other by a neutral ground, across which small parties venture in the summer for barter. The limit of these people westerly appears to be the Dolphin and Union Strait, beyond which the costume alters; the *oomiak* and the labret appear, showing an immediate connection with the Behring Strait tribe. They do not, however, extend all the way to Point Barrow, but terminate at Herschel Island, whence, in the summer, trading parties resort to Barter Island, where they meet not only the Point Barrow people, but also the Rat Indians, who descend from the Hudson's Bay Company's post, Fort Yucon, and barter muskets, powder, beads, and knives, for furs."

An attempt was made in the spring of 1853 to penetrate northward by

sledges to the farthest point reached by Sir James Ross in 1849. The exploring party were stopped at an islet in lat. $70^{\circ} 25' N.$, from which no land was seen to the northward, and where the ice became impracticable for sledges. Collinson and his crew remained imprisoned till 20th August, when the ice suddenly disappeared, passing away eastward, and leaving Dease Strait free. At this period Collinson would have endeavoured to force his way northward into Barrow Strait by Peel's Sound, "bnt," he writes, "it was found that, from some error at Woolwich, we were eighteen tons of coal short. I had, therefore, no alternative but to make the best of my way to a coast where driftwood should be found." He accordingly sailed south-west to the mouth of Coppermine River, whence he effected his escape westward through Dolphin and Union Strait. Thence he pushed west along the coast, past Cape Bathurst and Herschel Island, until he reached Camden Bay, in which the "Enterprise" spent the third winter in the ice. The winter passed without noteworthy incident. Toward the close of July the ice broke up, and Collinson was enabled to pursue his way westward. "On the 8th August," writes the captain, "we reached Point Barrow, and made all sail to the southward. On the 11th we fell in with five American whale-ships, and re-opened our communication with the civilised world after an interval of 1126 days." The "Enterprise" did not reach England till May 6th, 1855.

The principal results of this voyage were the discovery of Prince Albert Sound, and the demonstrating that the Arctic shores of the North American continent are navigable in ordinary years. The latter fact, first shown to be probable by the successful voyage of Captain Beechey round the north-west coasts of the Arctic Sea, the American whaling fleet have continued from year to year to turn to great advantage.

Thus terminates the last of the Arctic voyages undertaken by the British Government. We have now to narrate the story of the discovery of the fate of Franklin, as given in the successive expeditions of Dr John Rae and James Anderson of the Hudson's Bay Company, and of Captain McClintock of Her Majesty's Navy.

PART XII.

THE FATE OF FRANKLIN ASCERTAINED.

CHAPTER I.

DR RAE'S AUTOBIOGRAPHY—A HUNTING ADVENTURE—BOAT-BUILDING UNDER DIFFICULTIES—COAST OF WOLLASTON LAND EXPLORED—COAST OF VICTORIA LAND EXPLORED.

A FEW weeks after the return of Captain Belcher and his disappointed and discomfited officers and crews, all Europe and America were profoundly affected by the intelligence that the fate of Sir John Franklin's party had at last been ascertained. Englishmen had not been satisfied with the achievements of Sir Edward Belcher, who had abandoned the search for the missing expedition immediately after it had been clearly demonstrated that the "Erebus" and "Terror," or at least relics of these good ships, *would be found* within a certain well-defined and strictly circumscribed area to the west of Boothia Peninsula. The whole of the known Polar world between Baffin's Bay and Behring Strait had been searched, *except* this limited area, and it seemed unaccountable that the commander of four distinct crews, all amply provisioned, and each capable of undertaking the thorough examination of thousands of miles of coast line in a single season, should, at the moment when the course of events at last pointed out the one district now left unsearched, have ordered the total and the final abandonment of the enterprise which had employed the best efforts of the Navy for ten years, and which now seemed so near a happy attainment. For the abandonment of the Franklin search was indeed final. The expedition had been lost for nine years, and it was the opinion of many of those best qualified to judge, that no colony of Europeans, dependent on their own exertions exclusively, could support life for so long a time in a region so rigorous in climate and so barren in productions. It was understood, therefore, that the Lords Commissioners of the Admiralty had agreed to consider the further prosecution of the search as hopeless. Probably the outbreak of

the Crimean War in 1854 had something to do with their apparent unanimity on this point. However this may be, it was now evident to the friends and relatives of our missing countrymen, that in any future measures that might be undertaken with the view of clearing up the inscrutable and most painful mystery, the Government were not likely to take part. But just at this time, when many Englishmen were reluctantly making up their minds to rest content in ignorance of the fate of the great Arctic expedition of 1845, the most startling intelligence reached us—intelligence that reopened the wound in the national heart which time was beginning to heal. It suddenly became known, late in autumn 1854, that Dr John Rae, chief factor in the employment of the Hudson's Bay Company, and one of the most intrepid of British explorers, had discovered and brought home information and relics which were conclusive as to the unspeakably mournful fate of at least one-third of Franklin's officers and men.

This bold and successful explorer, certainly the most successful of all Arctic travellers engaged in the Franklin search—with perhaps the exception of McClintock, who only followed up the path which Rae pointed out, though he arrived at more important results than the original discoverer—has had a singularly adventurous, useful, and interesting career. With the exception of one modest volume, in which he records the results of his expedition from Repulse Bay across Rae Isthmus, and along the southern shores of Boothia Gulf (see p. 396), Dr Rae may be said to have published nothing. Yet there are few modern travellers whose boat and sledge achievements, apart from his famous expedition of 1853-54, in which he ascertained the fate of Franklin and his companions, and found many important relics of the party, are more worthy of public attention. Fortunately the present writer has been enabled to place before readers the first published narrative of the career and principal exploits of this explorer, from original notes, journals, etc., kindly supplied by Dr Rae himself for the purposes of the present work.

The Orkney Islands, a small group off the northern land's end of Scotland, has sent out a greater number of hardy and capable navigators to the Arctic seas than any other district of equal area in the British dominions. On one of these John Rae was born, at about the time when the great victory of Waterloo brought a long period of confusion and alarm to a close, and enabled men once more to turn their attention in security toward the pursuits of peace. Before the age of boyhood had passed, he was studying medicine at Edinburgh University; but in the meantime he had already received an education of another sort on the coasts and amid the barren moors and hills of the stormy Orkneys. "I there acquired as perfect a knowledge of boating," writes Rae, "as could be obtained by constant practice; because to my brothers and myself our boat was our chief plaything.

In it we used to put to sea in all weathers, the stormier the better, and we stayed out as long as it was possible to remain at sea in any small undecked craft. Our father had given us a beautiful, fast-sailing boat, of about eighteen feet, that could beat anything of her size in that part of the world. We got the boat and also her small tender for fishing, on condition that we kept them in good order; and this we did very effectually, as we took great pride in having every rope and all her four sails in perfect trim. We lived opposite the stormy 'Hoymouth,' and were exposed to constant gales from the west, which brought very heavy waves direct from the Atlantic; so we had abundant opportunities of learning boatmanship under the most trying of situations—fighting against heavy seas and strong currents running at from six to eight miles an hour. I mention this experience only because it stood me in good stead afterwards, in my Arctic work. I also learned to shoot as soon as I was old enough to lift a gun to my shoulder."

Rae passed as surgeon in Edinburgh in 1833, before he was twenty years of age, which seems to show that the splendid physical training of his youth interfered in no way with the due cultivation of his mind. In the same year (1833), he went out as surgeon on board one of the Hudson's Bay Company's ships. "On the way home," he continues, in his *naïve*, unassuming, down-right fashion, "we were stopped by an impenetrable barrier of ice in Hudson Strait. At that time the Company presented a *bonus* to every captain who brought his ship home to England, and, stimulated by the expectation of this gratuity, our chief officer exerted every effort to force a passage. All in vain, however. We were obliged to turn back. New ice was now forming all round us, and so much of it clung to the forepart of the vessel (it was about two feet thick on the forecastle), that the extra weight brought her down three feet by the head.

"We went to an island called Charlton, in James Bay—covered with snow when we reached it—and found some old houses, which we repaired for winter quarters. The ship was laid on shore under shelter of a point, and the cargo taken out and placed under a tent extemporised from the sails. We had scarcely any fresh meat with us, and little lime juice or vegetables; so it was not surprising that scurvy attacked the party. Of the seventeen persons attacked, two died before the spring, and some of the others were in a very dangerous condition, when, fortunately the spring sun cleared the snow off the ground, and we found abundance of cranberries (a famous anti-scorbutic). The sick men were taken out during the warm part of the day, and left to eat as many berries as they wished. These, with some soup, made at a later date from the bud of the vetch, restored the health of the invalids without almost any other anti-scorbutic; for the small quantity of fresh meat obtained did not amount to over a few days' rations per man. My first survey work was to examine the whole shore of our island in a bark canoe, as

soon as the ice cleared away a little. This work occupied us—I had two sailors with me—three days.

“Thinking from what I saw that I should like the wild sort of life to be found in the Hudson’s Bay Company’s service, I accepted the appointment of surgeon at Moose Factory, the former medical man being about to resign his situation. It was at this place, on the south-west shore of James Bay—the southern arm of Hudson’s Bay—that I learned all the different modes of hunting, fishing, sledge-hauling, snowshoe-walking, and camping out, both in winter and summer, spring and autumn, that were afterwards so useful to me in my Arctic expeditions.

“Some of my adventures on my hunting excursions were curious enough, and occasionally dangerous. One night I and a young friend were encamped on a low flat island some miles out to sea, at the mouth of the river. What I have dignified by the name of encampment was the small birch-built canoe turned up to windward, a bit of oil-cloth under us to keep us out of the mud, a couple of blankets as bedding, and a fold of the oil-cloth over us to keep off the rain. The night was a pitch-dark one, when a gale of wind came on from seaward, which brought the tide upon us. We quickly righted the canoe, and bundled our things into her. But where to go was the question! To attempt to reach the main shore, if we had even known exactly where it was, would have been futile, as we would have been filled in a moment among the rough waves roaring not far from us. On a neighbouring flat island, separated from that we were on by a very narrow channel not more than one hundred yards wide, there was a small ‘clump’ of willows six or seven feet high. To reach this clump, about a mile off, was our only chance of safety; and I gradually pushed the canoe as the tide rose higher and higher, across from our island, in the direction, as I thought, of this willow haven. It was so dark that I could not see the bow of our own canoe, but by narrowly watching the effect of the rising water, I kept a fairly good course. After about an hour of this work, all at once I could not touch bottom with my paddle, and felt the canoe was in a current running like a mill stream. This I knew was the channel between the two islands, but was I right for the willows which only occupied some fifty square yards? We paddled vigorously across, and I have had few more pleasurable sensations than when I felt—I could not see them—the bow of the canoe scrape against some branches, and we were safe. The canoe was pushed in some way among the bushes and fastened, stern to windward, under their lee. A snowstorm came on, and continued all night; a roaring sea was raging within fifteen yards of us; and my dear companion—now, alas, dead and gone—not being so habituated as myself to this work, shook so with cold that the tremor was communicated to our canoe, and his teeth chattered so as to be quite audible. The tide rose until only a foot and a half

of our willows remained above water ; and by the morning's light a number of inches of snow had fallen. The tide at last fell enough to allow me to walk about, and after making my friend as comfortable as I could, I commenced shooting snow geese which were crowding about the land just left exposed. Having killed a number I went back to the canoe, but could scarcely find my companion, the snow having fallen so thick as to cover him up. Fortunately a piece of wood had got entangled among the willows. This was cut up for a fire, and a cup of tea made us comfortable. All this time I may mention that I was very wet, having no waterproof coat on, but I had no impression of being particularly uncomfortable.

"It came on so bitterly cold, that for fear of injury to my companion I paddled some nine miles against a strong current, my friend being quite helpless, and although my wet clothes and moccasins froze hard, I suffered no bad effects. I could multiply such like events by the half dozen, but I merely mention this one to show one instance of the sort of training, if it may be so called, that I went through to educate me for Arctic service. In winter, snowshoe-walking and sledging were among my chief amusements, so, after a ten years' life at Moose Factory, I had learned a good many useful lessons as to the best manner of taking care of myself in cases of difficulty.

"Sir George Simpson had the kindness to offer me the command of the Arctic expedition of which I took charge in 1846. I had the choice whether to take a fine small schooner or small open boats; I chose the latter, because they could work between the ice and the shore, and in the event of a difficulty could be hauled upon the floe.

"The work to be done, namely, the joining of the surveys of Parry and Ross, had baffled Parry himself, as well as a second Government expedition under Lyon, and a third in the 'Terror,' under Back. I went and accomplished the work at an expense of about £3000, and wintered in a manner never before or since attempted except by myself and my gallant fellows. Hall the American did something of the same kind, but with this difference, that he was landed by a whaling ship close to Repulse Bay, and he had always within reach one or more whalers upon which he could have retreated if necessary. My nearest aid was six hundred or eight hundred miles off."

The expedition which Dr Rae here alludes to has already been described. It need only be added here that the amount of money spent by the British Government in the three expeditions of Parry, Lyon, and Back, all of which failed in carrying out the proposed survey, could not have been less than £100,000.

Having successfully concluded the expedition of 1846-47, and examined and surveyed the southern shores of Boothia Gulf, from Parry's farthest (Fury and Hecla Strait) on the east side, round to Ross's farthest (Victoria Harbour) on the west side, Rae returned to England in the autumn of 1847.

At that time Sir John Richardson was preparing to set out on an expedition along the shores of the Polar Sea, in search of his friend and former comrade, Franklin; "and," says Rae, "he asked me to accompany him. This offer was very complimentary, for Sir John had received hundreds of applications from men in almost all ranks and stations to be allowed to go with him as second. After due consideration, I accepted the offer, and went with the boats from the Mackenzie, along the coast to the Coppermine, near which the ice blocked the way, and we had to abandon the boats before we reached the river (see page 468). Again in 1849 (see page 480) I visited the Arctic Sea *via* the Coppermine, but the ice was so closely packed in the direction I was told to take, that we could make no headway; and on returning to the Coppermine, and attempting to ascend it, our boat, owing to the mismanagement of the steersman, was lost, and our excellent Eskimo interpreter drowned. After this I remained one winter in charge of the Mackenzie River district; and in 1850 was again employed on Arctic service."

In the spring of 1850, whilst Rae was the officer in charge of the large Mackenzie River district for the Hudson's Bay Company, he received a despatch from the Governor of the Company, Sir George Simpson, informing him that Her Majesty's Government had asked for the "loan of his services" to command a boat expedition, to follow up the search for Franklin. The intimation expressed high appreciation of Dr Rae's abilities as an explorer, and left him in every respect untrammelled. He was to select whatever route he thought most promising, and was to conduct the enterprise in every way as he thought best. "I had no other instructions of any kind," says Rae; "but I was placed in a most difficult position, because a boat voyage, under a naval officer (Commander Pullen), had already searched the Arctic shores from Point Barrow to the Mackenzie; and the same officer was this season (1850) to examine the coast eastward from the Mackenzie. The only line of route left, the examination of which was still unprovided for, was that lying eastward from the Coppermine, but we had no small boats such as were absolutely requisite for this route, and to build them at Fort Chipewyan, where Simpson's had been built, or even at Fort Simpson, would have prevented us getting to the coast earlier than 1852. Simpson has said in his very excellent narrative that there was no wood at the north-east end of Bear Lake fit to build boats of. Notwithstanding this, I determined to make the attempt.

"We went in the autumn of 1850, with two large boats, very scantily supplied with provisions, to Fort Confidence, and immediately commenced operations. After a careful search, a clump of moderately good trees was found, which the carpenter thought could be cut into planks suitable for boats. A sufficient number of these were cut down, and boated to the fort

in a wonderfully short space of time, for we had to hurry forward, as the winter might come on any day, and shut up navigation. A difficulty, however, occurred; our carpenter, a very good one, could build the large river boats very well, because he had models to go by, but he had never seen boats such as I required. I therefore had to draft them, so that the width, shape, etc., of every plank could be measured before being put on the frame-work. In this way two very fine little boats of about 22 feet keel and 7 feet beam were constructed under great difficulties; for, as will be evident, the wood had no time to season. But it will be seen by what follows, they did their work admirably. Another difficulty was the making of the sails. These, after I had cut them out, were sewn by some of my people, but roped chiefly by myself in all important parts; the rigging being all fitted and spliced with my own hands.

"We spent a very cold winter, frequently on reduced rations, for the Indians could not bring us as much food as we required, and the quantity we had brought with us was, as I have already said, very small; yet we had enough to keep us in good health, although with no vegetables of any kind, very little flour and tea, and *no rum*, which I have never used on Arctic service, believing its use to be most prejudicial."

Rae's search expedition of 1851 consisted of a rapid but effective sledge journey from Great Bear Lake to Wollaston Land in the spring, and a summer exploring excursion along the south and east coast of Victoria Land in boats. In order to maintain the continuity of our narrative, it will be necessary briefly to summarise the reports of these journeys, and to note their interesting results.

Sledge Expedition, 1851.—Dr Rae left Fort Confidence on the 25th April, arrived at Provision Station on Kendall River on the 27th, and thence made his actual start for the shore on the 30th, with two men and two sledges drawn by dogs. A fatigue party of three men and two dogs accompanied him to within ten miles of the coast, and he was thus enabled to take forward depôts of provisions for the return journey. On the 2d May he reached Richardson Bay, about five miles west of the mouth of the Coppermine. Having resolved to travel by night, to avoid the sun-glare, Rae started with his two companions at ten p.m. on the 2d. Travelling along over the ice in an east-north-east direction, and passing Point Lockyer and Cape Krusenstern, he crossed the frozen Dolphin and Union Strait, and arrived on Douglas Island at three a.m. on the 5th. Starting again the next evening, he walked across the narrow strait between Douglas Island and Wollaston Land. He was now on entirely new ground, and, turning eastward, he marched along, examining the shore, which was found in the main uninteresting, and affording no traces of having ever been visited by Europeans. "We built snow-huts every night when cold enough to require them,"

says Rae, "and all our bedding, for three persons, amounted to about 15 or 16 lbs., consisting of one blanket and a half, and three narrow strips of hairy deerskin to lie upon. The heat of our bodies did not thaw the snow." On the 7th the snow-hut was erected in lat. $68^{\circ} 31'$, long. $111^{\circ} 30' W.$, under a steep bank, surmounted by some whitish limestone and reddish-brown sandstone *in situ*. In all his explorations, Rae has always wonderful luck with the rifle, and at this spot he shot no less than ten hares during the interval between taking the observations for time and latitude. "These fine animals were very large and tame," he writes, "and several more might have been killed, as well as many partridges, had I thought it expedient to follow them."

Pushing on eastward, Rae discovered and named the Richardson Islands and Welbank Bay. As he travelled onward on the night of the 9th, the land continued low, and had an easterly trending. The thermometer showed a temperature of 22° below zero, as some protection against which the shelter of the snow-hut was more than usually acceptable. On this night one of the men was somewhat deeply frost-bitten in the face, and Rae found that taking a set of lunar distances was rather chilly work. "I have generally found, indeed," he remarks, alluding to the degree of cold experienced on the night of the 9th May, "that a temperature which in winter would be pleasant, is in the latter part of spring almost insupportably cold. The latitude of our position was $68^{\circ} 37' 48''$ by observation; longitude, by account, $110^{\circ} 2'.$ "

From this spot the farthest point of land bore east-south-east, but Rae did not think it necessary to advance farther eastward along this coast, because his survey and that of Dease and Simpson met at this point; and had he gone on farther east, he would have been going over ground already discovered and roughly surveyed. The object of Rae's search along the south coast of Wollaston Land was to seek for some strait that, leading northward, might afford a passage in the direction of the region in which it was believed by many the "Erebus" and "Terror" were to be found. No such strait was found eastward from the meridian of Douglas Island to long. $110^{\circ} 2'$, beyond which, in an easterly direction, the land had been examined by Dease and Simpson to Cambridge Bay. It would therefore be unavailing to travel on toward the east in search of a northward running strait. Besides, Rae had only a few more days to spare. His two boats were to be ready for him by the middle of June, and it was expected that he should start on his boat expedition not later than the middle of the month. His time was therefore strictly limited. "There were now," he says, "two courses open to me—the one, to strike overland to the north, in search of the sea-coast; the other, to return along the coast and travel westward, in hopes that some of the spaces of Wollaston Land, left blank in the charts, might prove to be the desired strait. I chose the latter of these courses." The journey westward to Douglas Island, where

the party arrived at eight A.M. on the 15th May, was favourable. Thence Rae proceeded west along the shore of Wollaston Land. Simpson's Bay and the Colville Hills were successively discovered and named, and on the morning of the 22d Cape Hamilton, a limestone cliff at least 170 feet high, was reached. "A couple of miles to seaward," says Rae, "there were thirteen Eskimo lodges, and we had an amicable interview with the poor harmless inhabitants, who were rather timid at first, but soon gained confidence. It was difficult to make them understand that no return was expected for some presents I made them. None of the women showed themselves, but all the men were well and cleanly dressed in deerskin. They were all very fat, having evidently abundance of seals' flesh and fat, large quantities of which were carefully deposited in sealskin bags under the snow. We purchased a quantity of this for our dogs, and some boots, shoes, and sealskins for our own use. After a most friendly interchange of signs and words, few of which could be understood on either side, we parted." Pullen Point and Lady Richardson Bay were discovered and named.

On the night of the 22d the coast which had hitherto had a north-west trend bent round toward the north-east. The day's journey ended on the shores of a small bay in lat. 70° , and long. $117^{\circ} 16'$. "The period I had allowed for our outward journey having now arrived," writes Rae, "I left our dogs and one of the men here; whilst with the other man I travelled half a day's journey farther. At 8.30 on the night of the 23d the night was beautiful; and as we started with no other encumbrance than a gun, telescope, and compass, we travelled fast over the hard snow and ice. After walking two miles to the north-west we turned a cape, which received the name of Baring (in honour of the First Lord of the Admiralty), beyond which the coast took a sudden bend to east by north for eight miles, and then became more northerly for six and a half miles, which was the furthest point reached. . . . Near the place from which I turned back the land was fully three hundred feet high, from which objects could be seen at a great distance; and some land fifteen or twenty miles off was observed, the most westerly point bearing N. 25° W. . . . It is difficult," continues Rae, "to determine whether the water dividing these two shores is a bay or a strait, but from the little information I could obtain from the Eskimos I suspect it to be the latter." Captain Collinson, in the "Enterprise," however, explored this "dividing water" in the summer of 1852, and found it a deep inlet surrounded by land. It now appears on the map as Prince Albert Sound.

On the 24th May Rae commenced his homeward journey, checking his bearings, distances, observations for latitude, etc., as he proceeded. He describes all the land from Cape Baring on the south side of the entrance to Prince Albert Sound to Cape Lady Franklin, opposite Douglas Island, as

being extremely barren, and destitute of herbage sufficient to tempt the deer migrating northward from the mainland to pause in their journey into the interior of Wollaston Land. On the 2d June he had reached Cape Hearne; on the 4th he encamped on Richardson Bay; and on the appointed day, the 10th June, he arrived at his starting-point, Provision Station, Kendall River, "having," he says, "been five days coming from the coast, during some of which we were fourteen hours on foot, and continually wading through ice-cold water or wet snow. . . . Our principal food," he continues, "was geese, partridges, and lemmings. The last being very fat and large, were very fine when roasted before the fire or between two stones. These little animals were migrating northward, and were so numerous that our dogs, as they trotted on, killed as many as supported them without any other food."

This sledge journey, extending to eleven hundred miles, including the distance from Fort Confidence to Kendall River, was the fastest on record—averaging twenty-three miles a day—or, not counting three days on which Rae and his men were compelled to keep inside their snow-hut owing to bad weather, twenty-four and a half miles a day.

Boat Expedition, 1851.—Exactly three days after Rae's return from travelling by sledge along the south shores of Wollaston Land, his boats from Fort Confidence, where they were built, were brought to the rendezvous, Provision Station, Kendall River, and everything being in readiness, the explorer and his party started on the boat expedition toward the south and east coasts of Victoria Land two days after, namely, on the 15th June 1851. While descending the Coppermine, which was much swollen, six deer and four musk-oxen were shot on the 23d and 24th, and the greater part of their flesh partially dried over a fire for future use. At the close of the month forty salmon and white fish were taken in a net at Bloody Fall in fifteen minutes, and at the mouth of the river they killed deer, fish, and geese in abundance. Throughout the entire voyage game were abundant, but as the party were plentifully supplied with provisions, Rae did not think it worth while to follow them. Going on the same principle, we shall not think it necessary to return to this subject again in the course of our necessarily brief notice of the boat expedition of 1851 to Victoria Land.

Coasting eastward from the mouth of the Coppermine along the north shore of America, through a narrow channel between the sea-ice and the beach, Rae rounded Cape Barrow on the 16th July, reached Cape Flinders on the 22d, and Cape Alexander on the 24th. The ice in Dease Strait between Victoria Land and the American mainland remained unbroken until the 27th, when Rae pushed his way across among the loose pieces to the Finlayson Islands, and thence to the mainland on the west side of Cambridge Bay. On the 1st August the party reached Cape Colborne,

the most easterly point on this coast examined by Dease and Simpson. All the coast of Victoria Land *east* from this point *was new*; and Rae entered upon the examination and survey of it with his usual zest. At Cape Colborne the shores of Victoria Land are high and steep, but toward the east they are considerably lower. Anderson, Parker, and Stromness Bays, and Macready and Kean Points were successively discovered and named. The coast was found to trend to the north-east. On the 3d August, after making a successful run of one hundred miles without stopping except to cook, the party reached lat. $69^{\circ} 12'$, long. $101^{\circ} 58'$. "On the 4th," says Rae, "the wind again set in from the north, increasing to a perfect gale; and although we could gain ground pretty fast by plying to windward, our slightly-built craft strained so much in the heavy seas that frequently washed over us—in fact, one of the boats had a plank split—that we lowered sails on gaining a partial shelter from the land, and after a tough pull of two miles, during which we were sometimes barely able to hold our ground, we entered a snug cove and secured our boats." Prince Albert Edward Bay was discovered on the 9th, but as there were no evidences that Eskimos had recently visited its shores, and no signs that Europeans had ever been on the coast, Rae pushed on northward without pausing to examine it and reached lat. $69^{\circ} 42'$. At this point north-easterly winds put a stop to all farther progress.

"On the 12th," writes Rae, "finding that there was little or no prospect of change in the wind, preparations were made for a foot journey of a week's duration to the northward. Leaving, therefore, directions that one of the boats should follow us along shore if the ice cleared away, I started a short time before noon, in company with three men; and as we trusted to killing both deer and geese on our way, we carried with us provisions for only four days. Hoping to avoid the sharp and rugged limestone *débris* with which the coast was lined, we at first kept some miles inland, but with trifling advantage, as the country was intersected with lakes, which obliged us to make long detours. Nor was the ground much more favourable for travelling than that nearer the beach, being, in fact, as bad as it could be, in proof of which I may mention that in two hours a pair of new moccasins, with thick, undressed buffalo-skin soles, and stout duffel socks, were completely worn out; and before the day's journey was half done, every step I took was marked with blood. We gained a direct distance of seventeen miles after a walk of twenty-four hours, and bivouacked near the shore. Although we had passed a good many fine pieces of driftwood some time before, here we had some difficulty in collecting enough to boil the kettle. Opposite our resting-place, and not far from shore, was an island some miles in extent, to which I gave the name of Halkett. Next morning, when we had travelled three miles northward, a large piece of wood was found, very opportunely, about breakfast-time. As the travelling continued as bad as ever, and as

the whole party were more or less footsore, I resolved to remain here, to obtain observations, during which time two of my men pushed on ten miles to the north, and the other went to kill deer." The results of the observations here were lat. $70^{\circ} 2'$, long. $101^{\circ} 24'$. In the evening the two men returned after their ten miles' walk northward. From their farthest point they could see to a distance northward of seven miles; and to this farthest land Rae gave the name of Pelly Point.

Here, then, Rae's discoveries in 1851 ended, and from this point the return journey commenced on the following morning, the 13th August. But it must have been with some little degree of complacency that, standing on the dreary, flat, and stony shore, he looked around upon coast and frozen strait that had never before been surveyed by civilised man—unless, perhaps, Franklin's crews, or a party belonging to his expedition, had wandered hither, after breaking out from their winter quarters at Beechey Island in 1845-46. His boat expedition along the American shore and the south and east coasts of Victoria Land, was the longest but one—that of Dease and Simpson—ever made in this region. "I discovered and named Victoria Channel, down which the Franklin ships were driven," writes Rae, "and reached, with my boats, coming from the south, a latitude higher than that in which the 'Erebus' and 'Terror' were abandoned. I knew that Victoria Strait was not a bay, because the flood-tide came from the north." On the 15th he took possession of his discoveries in the name of her Majesty. From this date onward the homeward journey was prosecuted prosperously.

On the 20th a piece of pine wood was found, resembling the butt-end of a small flag-staff. A piece of white rope was fastened to it, in the form of a loop, by two copper tacks. Both the rope and the tacks bore the Government mark, the broad arrow being stamped on the latter, and the former having a red worsted thread running through it. Half-a-mile farther on, a piece of oak, 3 feet 8 inches long, and the one-half of which was squared, was picked up. Rae regarded it as a boat's stanchion. Writing in 1851 respecting these pieces of wood, which, without doubt, had been worked with European tools, Rae says: "As there may be some difference of opinion regarding the direction from which those pieces of wood came, it may not be out of place to express here my own opinion on the subject. From the circumstance of the *flood-tide coming from the northward, along the east shore of Victoria Land*, there can be no doubt that there is a water-channel dividing Victoria Land from North Somerset, and through this channel, I believe, these pieces of wood have been carried, along with the immense quantities of ice that a long continuance of northerly and north-easterly winds, aided by the flood-tide, had driven southward." Subsequent discoveries proved that these fragments came from the lost Franklin ships. On the morning of the 24th the breeze that had been blowing from south

east by east gradually increased to a gale. Reef after reef was taken in, until the two small boats were scudding under the smallest canvas. A very heavy sea was running, which broke over, now and then, from stem to stern, and bent and twisted the slight-built but fine little craft in every direction. "At last," writes Rae, "the weather became so bad that I was reluctantly obliged to look out a harbour. This was dangerous work, as we had to run almost among the breakers before it was possible to see whether the place we made for would afford a shelter. But we were fortunate; and at 9.30 A.M., when eight miles north-east of Cape Peel, we were snugly moored in a small land-locked bay, the entrance into which was not twenty yards wide."

Point Ross was reached on the 23th, and from this there was an uninterrupted run to the mouth of the Coppermine. After five days of arduous labour, the boats were dragged up the swollen river. On the 5th and 6th the party ascended the Kendall, and on the afternoon of the 10th they arrived at Fort Confidence, at the eastern extremity of Great Bear Lake.

The results of the sledge and boat expedition conducted by Rae in 1851 were the discovery and survey of 725 miles of previously unknown coast-line of the shores of Wollaston and Victoria Lands. For his discoveries in this expedition, the Royal Geographical Society awarded their highest honour—the founder's gold medal—to Dr Rae.

After reaching Bear Lake, Rae started with his men to travel to Red River (now Winnipeg) Fort, one of the stations of the Hudson's Bay Company, near the northern frontier of Dakota, U.S. Referring to this feat, Rae says: "On our homeward journey from Bear Lake to Red River we made a forced march on snow-shoes of more than 1300 miles, chiefly to save the expense to Government of five or six months' wages for the men. From Red River I went to Minnesota, a distance of 450 miles, which was accomplished in ten days, at the rate of 50 miles a day—one day being spent under shelter from the weather. In fact, from starting on the 25th April 1851, on our sledge journey to the coast, till the spring of 1852, I and my party were continually on the move either over ice, in boats, or on snow-shoes." The entire distance travelled between the dates named was over 8000 miles.

CHAPTER II.

RAE'S LAST ARCTIC EXPEDITION—EXTRAORDINARY INTELLIGENCE—LIST OF
RELICS FOUND BY RAE—WINTER AT REPULSE BAY—CONCLUSION.

IN the summer of 1853 Dr Rae was appointed by the Hudson's Bay Company to the command of an expedition planned and proposed by himself, organised mainly for geographical purposes, and also, no doubt, for the purpose of forwarding the interests of the Company, the two objects being in a sense identical. We have already seen (p. 396) that Dr Rae was employed by the Company on a similar expedition in 1846-47. He was then asked to aid in completing the survey of the Arctic shores of British North America—the special duty marked out for him being to penetrate across the unknown land from Repulse Bay to the southernmost arm of Boothia Gulf; to survey the shores of that gulf northward, so as to connect his discoveries with those of Sir John Ross; and to ascertain, beyond doubt, whether any navigable passage led westward from the gulf into the Arctic Sea on the west of Boothia Peninsula. It may be remembered that he conducted this expedition with great capacity and spirit to a most satisfactory termination, and ascertained that no waterway led west from the gulf into the Arctic Sea to the south of the parallel of about 70° N., down to which point this coast had previously been surveyed by Sir John Ross. He was now called upon to continue the work thus auspiciously begun—his orders in 1853 being to complete the survey of the *west* coast of Boothia, as in 1846 they had been to survey the east coast of that great peninsula.

Dr Rae's genius is eminently practical, and he goes to his point without deviation or delay. His labours were again to commence (as in 1846) at Repulse Bay. He therefore sailed from the north of Hudson's Bay, north through Rowe's Welcome to Repulse Bay, which he reached on the 14th August 1853. The spot at which he landed was about seven miles east of his old winter quarters in 1846-47, but on the following day he sailed down to near the old familiar locality at the mouth of North Pole River. Mooring his boat here, he landed and pitched his tents. The weather was

dark and gloomy, "and," says Rae, "the surrounding country presented a most dreary aspect. Thick masses of ice clung to the shore, whilst immense drifts of snow filled each ravine and lined every steep bank that had southerly exposure. No Eskimos were to be seen, nor any recent traces of them. Appearances could not be less promising for wintering safely, yet I determined to remain until the 1st September, by which date some opinion could be formed as to the practicability of procuring sufficient food and fuel for our support during the winter; all the provisions on board at this time being equal to only three months' consumption. The weather fortunately improved, and not a moment was lost. Nets were set, hunters were sent out to procure venison, and the majority of the party was constantly employed collecting fuel. By the end of August a supply of the latter essential article (*Andromeda tetragona*) for fourteen weeks was laid up; thirteen deer and one musk-bull had been shot, and one hundred and thirty-six salmon caught." This was a fair business-like commencement towards accumulating food and fuel for the winter, and it may be remarked here that it seems to be a maxim with Dr Rae that a country should always feed its explorer. The entire absence of Eskimos from their customary haunts in the neighbourhood caused him considerable anxiety; not that he expected any aid from them, but because he could only interpret their absence as proof that the locality no longer yielded a plentiful supply of venison, owing most probably to the circumstance that the deer had ceased to pass this locality in their migrations to and from the north.

On the 1st September it was necessary to decide whether to stay here or return, and as the Doctor did not wish to conceal from his men the risk of being frozen in on this apparently desolate and barren shore, he called them together, informed them of the slender store of provisions on hand, and remarked on the unflattering prospect of obtaining sufficient supplies during the winter months. But the men knew Dr Rae. All of them volunteered to remain. "Our preparations for a nine months' winter," writes Rae, "were continued with unabated energy. The weather, generally speaking, was favourable, and our exertions were so successful, that by the end of the month we had a quantity of provisions and fuel collected adequate to our wants up to the period of the spring migrations of the deer. One hundred and nine deer, one musk-ox (including those killed in August), fifty-three brace of ptarmigan, and one seal, had been shot, and the nets produced fifty-four salmon. Of larger animals above enumerated, forty-nine deer and the musk-ox were shot by myself, twenty-one deer by Mistegan, the (Indian) deer-hunter, fourteen by another of the men, nine by William Ouligbuck (Eskimo interpreter), and sixteen by the remaining four men." From the above it appears that Rae's party consisted of seven persons besides himself.

During September and October the party lived in tents; but at the close of the latter month the cold became very severe, and the snow freezing hard, Rae was able to build snow houses, which afforded palatial accommodation and comfort compared with the tents. Few deer were shot during the winter, and fish were caught in inconsiderable quantities. On two occasions, on the 1st and the 27th February, a singular phenomenon was witnessed. Rae describes it as "that beautiful but rare appearance of the clouds near the sun, with three fringes of pink and green following the outline of the cloud." This splendid phenomenon was often seen during the spring, and was usually followed by a day or two of fine weather.

Having set up a carpenter's workshop built of snow, and constructed a number of sledges to be used in the spring journeys, Rae set out on the 14th March with three men, dragging sledges with provisions to be placed *en cache* in advance. The party pushed on as far as Cape Lady Pelly, on the west shore of the extreme south of Boothia Gulf. Here the provisions were deposited under a heap of huge stones, secure from all marauders except bears and men. From this point Rae returned, and arrived at Repulse Bay on the 24th, having walked altogether 170 miles in ten days. On the 31st March the great spring journey was commenced, Dr Rae taking with him four men, including the interpreter Ouligbuck, and an amount of provisions, which, taken together with the quantity deposited at Lady Pelly Bay, would be sufficient for sixty-five days. The object of the journey was to cross Boothia Peninsula from Pelly Bay to the Castor and Pollux River, discovered by Simpson, and thence to survey the west coast of Boothia northward to Bellot Strait, and thus connect Simpson's discoveries with those of Kennedy and his lieutenant, the gallant Bellot.

On the 6th April the party arrived at their dépôt on Cape Lady Pelly, from which they took up their provisions. On the 10th they reached Colville Bay, on the west shore of Committee Bay, and in latitude about 68° N. On the morning of the 17th Rae reached the shore of Pelly Bay, in making a troublesome but unavoidable detour across which three days were spent. Fresh footmarks of an Eskimo and the track of a sledge were observed on the 20th, and Rae sent his interpreter and one companion to look for natives. After an absence of eleven hours the men returned, bringing with them seventeen Eskimos (five of them women). "They would give us," says Rae, "no information on which any reliance could be placed, and none of them would consent to accompany us for a day or two, although I promised to reward them liberally. *Apparently there was a great objection to our travelling across the country in a westerly direction.*"* Finding it was their object to puzzle the interpreter and mislead us, I declined purchasing more than

* "I found that it was their favourite hunting ground for musk-oxen, deer, etc., and that the natives had caches of provisions in that direction."—Dr J. RAE.

a piece of seal from them, and sent them away." On the 21st the party started westward across the peninsula. They had not proceeded far, when they were met by a very intelligent Eskimo driving a dog-sledge laden with musk-ox beef. This man readily consented to accompany Rae two days' journey. He explained that the road by which he had come would be the best for the party. Shortly after this the party was joined by another Eskimo, who had heard of white men being in the neighbourhood, and was curious to see them. Here we must quote somewhat freely from Rae's brief narrative: "This man (the new-comer) was very communicative; and on putting to him the usual questions as to his having seen 'white men' before, or any ships or boats, he replied in the negative, but said that *a party of 'Kabloonans' (whites) had died of starvation a long distance to the west of where we then were, and beyond a large river.* He stated that he did not know the exact place, that he never had been there, and that he could not accompany us so far. The substance of the information then and subsequently obtained from various sources," continues Dr Rae, "was to the following effect:

"In the spring four winters past (1850), whilst some Eskimo families were killing seals near the north shore of a large island, named in Arrow-smith's charts, King William Land, forty white men were seen travelling in company southward over the ice, and dragging a boat and sledges with them. They were passing along the shore of the above named island. None of the party could speak the Eskimo language so well as to be understood; but by signs the natives were led to believe *the ship or ships had been crushed by ice*, and that they were then going to where they expected to find deer to shoot. From the appearance of the men (all of whom, with the exception of one officer, were hauling on the drag-ropes of the sledges, and were looking thin), they were then supposed to be getting short of provisions, and they purchased a small seal, or piece of seal, from the natives. The officer was described as being a tall, stout, middle-aged man. When their day's journey terminated, they pitched tents to rest in.

"At a later date the same season, but previous to the disruption of the ice, the corpses of some thirty persons and some graves were discovered *on the continent*, and five dead bodies on an island near it, about a long day's journey to the north-west of the mouth of a large stream, which can be no other than Back's Great Fish River, as its description and that of the low shore in the neighbourhood of Point Ogle and Montreal Island agree exactly with that of Sir George Back. Some of the bodies were in a tent or tents, others were under the boat, which had been turned over to form a shelter, and some lay scattered about in different directions. Of those seen on the island, it was supposed that one was that of an officer (chief), as he had a telescope strapped over his shoulders, and his double-barrelled gun

lay underneath him. *From the mutilated state of many of the bodies, and the contents of the kettles, it is evident that our wretched countrymen had been given to the last dread alternative—cannibalism—as a means of sustaining life. A few of the unfortunate men must have survived until the arrival of the wild-fowl (say until the end of May), as shots were heard, and fresh bones and feathers of geese were noticed near the scene of the sad event.*

"There appears to have been an abundant store of ammunition, as the gunpowder was emptied by the natives in a heap on the ground, out of the kegs or cases containing it, and a quantity of shot and ball was found below high-water mark, having probably been left on the ice close to the beach, before the spring thaw commenced. There must have been a number of telescopes, guns (some of them double-barrelled), watches, compasses, etc., all of which seem to have been broken up, as I saw pieces of these different articles with the natives; and I purchased as many as possible, *together with some silver spoons and forks*, an order of merit in the form of a star, and a small plate engraved 'Sir John Franklin, K.C.B.'"

The following is Dr Rae's list of the articles belonging to the officers of the "Erebus" and "Terror," which he purchased from the Eskimos of Boothia, in 1853-54, viz.: One silver fork—crest, an animal's head with wings extended above; three silver forks—crest, a bird with wings extended; one silver table-spoon—crest, with initials, "F. R. M. C." (Captain Crozier, "Terror"); one silver spoon and one fork—crest, bird with laurel branch in mouth, motto, *Spero meliora*; one silver table-spoon, one tea-spoon, and one dessert-fork—crest, a fish's head looking upwards, with laurel branches on each side; one silver table-fork—initials, "H. D. S. G." (Henry D. S. Goodsir, assistant-surgeon, "Erebus"); one silver table-fork—initials, "A. M'D." (Alexander McDonald, assistant-surgeon, "Terror"); one silver table-fork—initials, "G. A. M." (Gillies A. M'Bean, second master, "Terror"); one silver table-fork—initials, "J. T.;" one silver dessert-spoon—initials, "J. S. P." (John S. Peddie, surgeon, "Erebus"); one round silver plate, engraved "Sir John Franklin, K.C.B.;" and a star or order of merit, with motto, "*Nec aspera terrent*, G. R. III., MDCCCXV."

None of the Eskimos with whom Rae came in contact had ever seen the "white men," either before or after death, nor had they ever been at the place where the corpses were found, but had obtained their information from natives who had been there, and who had seen the troop of starving mariners travelling over the ice.

The foregoing narrative of the results of Dr Rae's interviews with the Eskimos of Boothia, is extracted from the published account of his expedition, which the explorer wrote to the Directors of the Hudson's Bay Company. This letter, dated from York Factory, Hudson's Bay, September 1st,

1854, on the day after his arrival from Repulse Bay, was necessarily hurried and imperfect. Further particulars afterwards suggested themselves, but have never yet been published. It is with great pleasure, therefore, that the present writer is enabled to present to the public the following notes, embracing fresh particulars in connection with this most interesting episode in Arctic Exploration. These valuable notes have, in the kindest manner, been supplied by Dr Rae for the present work. We give Dr Rae's communication, so courteously sent, in the form in which it has come to hand :

"When travelling westward on my spring journey, I met an Eskimo, to whom we put the usual question, 'Have you seen white men before?' He said, 'No, but he had heard of a number having died far to the west,' pointing in that direction. Noticing a gold cap-band round his head, I asked him where he obtained it, and he said it had been got where the dead white men were, but that he himself had never been there, that he did not know the place, and could not go so far, giving me the idea that it was a great way off. I bought the cap-band from him, and told him that if he or his companions had any other things, to bring them to our winter quarters at Repulse Bay, where they would receive good prices for them. Some further details were obtained on our way home, and the purchase of one or two additional articles was effected; but it was not until our arrival at Repulse Bay, that I could gain information as to the locality where our countrymen had perished—for I clearly made out that they must have all died some years before, or they must have reached the Hudson's Bay Company's trading posts, from which Indians were sent out with abundance of ammunition, and instructions, should they find any white men, to bring them to their forts. The accounts were that at least forty men (the Eskimos find much difficulty in counting any number above five, and even that puzzles them sometimes) were seen dragging a boat or boats on sledges southward, along the west shore of King William Land, and that they had then turned eastward towards the mouth of a large river, which by description could be no other than Back's Great Fish River.

"Later in the spring, when the natives were going to this river to fish, on the first breaking up of the ice, they found what I have described in my report read before the Geographical Society. The whole of this information was sifted over and over again from a number of Eskimos, through my excellent interpreter, whose correctness I was able to prove, by getting through him information from the natives which I found written in the narratives of Ross and Parry. The articles obtained had among them the crests and initials of fifteen of the officers of both ships. For this we were awarded the £10,000 offered by Government. The correctness of my information was five years afterwards wonderfully borne out by that gained by the "Fox" Expedition in 1859, but this information did not extend

to the knowledge of any of the crews having reached the mainland ('*noo-nah*'), as in my case.

"The finding of the large quantities of clothing on the north of King William Land, and the boat with two skeletons, guns, etc., by the 'Fox' expedition, on or near its west shore, indicates that the Eskimos had not been there, the reason being, no doubt, that the natives seldom or never travel overland, when they can travel on ice."

Dr Rae believed, from information obtained at the time, that the Eskimos did not find any of the Franklin ships. On being asked about ships, the natives always reverted to Ross's steamer, the "Victory," abandoned in Boothia Gulf in 1832, all about which he had heard in the course of his expedition in 1846-47. From this vessel the natives had clearly obtained the wood, of which they had enough for all necessary purposes at that time. "My chief reason," writes Rae, "for believing that none of the ships had been found was the fact that, in 1854, the Eskimos were so destitute of wood, that although they had plenty of sealskins to make their small hunting canoes, they had no wood for frames. Now, as 1846 was fourteen years after Ross's vessel was abandoned, and as 1854 was only four years by Eskimo account—actually six years—after the Franklin ships were abandoned, the probability is that had these ships, or even one of them, been found, the natives would have had at least as much wood in 1854 as they had in 1847. The testimony of the 'Fox' expedition of 1854 tends to support this idea, as no large wooden sledges were found, and no wood of a size larger than might have been got from the keel of a boat was seen. . . . I questioned the Repulse Bay Eskimos over and over again about whether any of the ships of the starved white men had been found, but they could tell me nothing, and always went back to the story of the 'Victory,' stating that it was the only vessel from which wood had been obtained. I still believe that this was the ship to which the Eskimos referred when speaking to McClintock in 1859, and that they concealed the locality of the wreck lest he should wish to go there. . . . I may add that the white men, when seen alive by the Eskimos, made the latter understand by signs and a word or two of Eskimo, that they were going to the mainland (*noo-nah*) to shoot deer (*took-took*). All the party except one man, whom the natives took to be a 'chief,' and who had a telescope strapped on his shoulder, were hauling the sledges and boat or boats, and they all looked very thin. The Eskimos also remarked that it was curious that sledges were seen with *the party* when travelling, but none were seen where the dead were, although the boat or boats remained. I pointed out to them that the white men having got close to the mouth of Great Fish River, would require their boat to go up it, but as they did not require the sledges any more, they might have burnt them for fuel. A look of intelligence immediately lit up their

faces, and they said that may have been so, for there had been fires. . . . They said also that feathers of geese had been seen, so they had probably shot some of these birds—an evidence that some of the party must have lived until about the beginning of June, the date at which the geese arrive so far north. I may again say, that the Eskimos gave me clearly to understand that the greater part of the dead men were found on the main shore (*noo-nah*), only four or five being found on an island (*kai-ik-te*). . . . What struck me at the time, as it does still, was the great mistake made by Franklin's party in attempting to save themselves by retreating to the Hudson's Bay territories. We should have thought that the fearful sufferings undergone by Franklin and his companions, Richardson and Back, on a former short journey through these barren grounds, would have deterred inexperienced men from attempting such a thing, when the well-known route to Fury Beach—certainly much more accessible than any of the Hudson's Bay Company's settlements, and by which the Rosses escaped in 1832-33—was open to them. The distance from their ships to Fury Beach was very little greater than that from where Ross's vessel was abandoned to the same place, and Franklin and his officers must have known that an immense stock of provisions still remained at the place where the 'Fury' was wrecked, and where, even so late as 1859, an immense stock of preserved vegetables, soups, tobacco, sugar, flour, etc., still remained (a much larger supply than could be found at many of the Hudson's Bay trading posts); besides, the people would have been in the direct road of searching parties or whalers. The distance to Fury Beach from where the ships were abandoned, roughly measured, is, as nearly as possible, the same as that between the ships and the true mouth of the Great Fish River, or about 210 geographical miles in a straight line. Had the retreat upon Fury Beach been resolved upon, the necessity for hauling heavy boats would have been avoided, for during the previous season (that of 1847), a small sledge party might have been despatched thither to ascertain whether the provisions and boats at the depôt were safe and available. The successful performance of such a journey should not have been difficult for an expedition consisting of 130 men who, in the record found in 1859 by McClintonck, were reported all well in the spring of 1847."

We have seen that Dr Rae met his intelligent Eskimo "with the gold cap-band round his head," and learned from him the first trustworthy intelligence respecting the fate of Franklin, on the 21st April 1854, while conducting his party across Boothia to the Castor and Pollux River of Dease and Simpson. The principal object of this journey, it may be necessary to remind our readers, was to complete the discovery and survey of the north coasts of America by exploring the shores between Dease and Simpson's farthest on the south (Castor and Pollux River), with Kennedy's farthest on the north (Bellot Strait). The extraordinary intelligence which Rae had

just received respecting the fate of at least one-third of the officers and crews of the "Erebus" and "Terror" had no influence in making the explorer abandon the object of his journey. He still pushed west across Boothia, and at night built his snow-house in lat. $68^{\circ} 29' N.$, long. $90^{\circ} 53' W.$ The snow-house was built on the frozen bed of a stream which falls into Pelly Bay from the west, in lat. $68^{\circ} 47'$, and which Rae afterwards named Becher River. On the following day (the 22d) the travellers marched west for seven or eight miles to Ellice Mountain, then north-east to the east extremity of Simpson Lake, where the camp was pitched. "Our Eskimo auxiliaries," says Rae, "were now anxious to return, being, or professing to be, in dread that the wolves or wolverines should find their *cache* of meat, and destroy it." The explorer therefore paid them liberally, and bade them a friendly farewell. The natives had advised him to follow the chain of lakes that ran in a north-westerly direction and then turned sharply to the southward, and thereafter to follow the stream that flowed westward from the lakes. He learned, however, that to follow this route would lead him too far south; he therefore struck across the land westward, and found himself among a series of hills and valleys in which traces of deer and musk-oxen were of frequent occurrence. At two A.M. on the 26th, after a most laborious walk of eighteen miles across difficult country, he built his snow-hut in lat. $68^{\circ} 25'$, long. $93^{\circ} 4'$. On the evening of the same day, Rae, leaving two men to follow at their leisure, set out with the remaining two men to reach the sea at the mouth of Castor and Pollux River. At eight on the morning of the 27th Rae reached the *sea-ice*, in lat. $68^{\circ} 32' N.$, long. $93^{\circ} 44' 48'' W.$, being $3' 38'' N.$, and about $13'$ E. of Simpson's position of the mouth of the Castor and Pollux River. "The weather," continues Rae, "was overcast with snow when we resumed our journey at 8.30 P.M. On the 27th we directed our course directly for the shore, which we reached after a sharp walk of an hour and a half. . . . After passing several heaps of stones, which had evidently formed Eskimo *caches*, I came to a collection larger than any I had yet seen, and clearly not intended for the protection of property of any kind. The stones, generally speaking, were small, and had been built in the form of a pillar, but the top had fallen down, as the Eskimos had previously given me to understand was the case. Calling my men to land, I sent one to trace what looked like the bed of a small river, immediately west of us, whilst I and the other man cleared away the pile of stones, in search of a document. Although the cairn contained no document, there could be no doubt in my own mind, or in that of my companion, that its construction was not that of the natives. My belief that we had arrived at the Castor and Pollux River was confirmed when the person who had been sent to trace the apparent stream-bed returned with the information that it was clearly a river. My latitude of the Castor and Pollux River is 68°

28° 37' N., agreeing within a quarter of a mile with that of Simpson,"—which (see p. 347) was 68° 28'.

Having reached Simpson's farthest, and even seen the pillar, or, as that explorer names it, the "monument," constructed "in commemoration" of his discoveries on this coast, Rae now prepared to carry out the main object of his expedition by travelling direct north along the Boothian shores to Bellot Strait, and thus connecting the discoveries of Simpson and Kennedy. After a fatiguing march of fifteen hours, during which a distance of thirty miles was traversed, he arrived at the snow-hut of the men that had been left behind. Thence a fresh start was made. An ample stock of provisions and fuel was placed on the two best sledges, and on a third sledge Rae himself dragged his instruments, books, bedding, etc. Among the chief of the Doctor's discoveries on this coast are Murchison River, Shepherd Bay, Bence Jones' Island, Cape Colville, Stanley Island, and Point de la Guiche. Westward from Stanley Island land was discovered at the distance of seven or eight miles, and was named Matheson Island. A more recent discoverer, however, finding that this bold land was really the eastern extremity of King William Island, changed the name to Matheson Mount.

On the 6th May the snow-hut was pitched on Point de la Guiche, in lat. 68° 57' 52", long. 94° 32' 58". One of the men, Mistegan, the Indian hunter, was sent forward six miles north along the coast, where, ascending an elevation, he could see five miles still farther. "The land," says Rae, "was still trending northward, whilst to the north-west, at a considerable distance—perhaps twelve or fourteen miles—there was an appearance of land, the channel between which and the point where he stood was full of rough ice. This land, if it was such, is probably part of Matty Island or King William Land, *which latter is also clearly an island.*" At this point Dr Rae, having been detained for a number of days by foggy and snowy weather, found the time at his disposal so limited that he could not complete the whole of the survey to Bellot Strait or Brentford Bay without great risk to his party, one of whom had been for many days badly frost-bitten, and had been left behind with a companion. The explorer therefore resolved to retrace his steps without further delay, and having taken possession of his discoveries in the usual manner, he set out on his return journey on the 6th May. On the 11th he reached the spot at which two of his men had been left, and on the same night started for Repulse Bay. Pelly Bay was reached at one A.M. on the 17th, and a snow-house built near the encampment of the 20th April. Traces of Eskimos were observed here, and after supper two men were sent out to follow them up. After eight hours' absence the men returned with ten or twelve native men, women, and children. "From these people," says Rae, "I bought a silver spoon and fork. The initials 'F. R. M. C.,' not engraved, but scratched with a sharp instrument on the spoon, puzzled me

much, as I knew not at the time the Christian names of the officers of Sir John Franklin's expedition." Committee Bay was reached on the 21st, and Repulse Bay on the 26th May 1854. Dr Rae found the three men whom he had left in charge here, living in abundance, and on the most friendly terms with the Eskimos, who had pitched their tents near them. "The natives had behaved in the most exemplary manner," writes Rae, "and many of them who were short of food had been supplied with venison from our stores, in compliance with my orders to that effect. It was from this time until August that I had opportunities of questioning the Eskimos regarding the information which I had already obtained, of the party of whites who had perished of starvation, and of eliciting the particulars connected with that sad event, the substance of which I have already stated."

Dr Rae had still half the original stock of pemmican on hand, together with a sufficiency of ammunition to provide supplies for another winter. The party besides was in excellent health, and he could have procured as many dogs for sledge travelling as would have been required in the event of his deciding to resume the survey of the Boothian coasts in the following year. There was little doubt that a second attempt, therefore, would be successful; "but," says Rae, "I now thought that I had a higher duty to attend to—that duty being to communicate, with as little loss of time as possible, the melancholy tidings which I had heard, and thereby save the risk of more valuable lives being jeopardised in a fruitless search in a direction in which there was not the slightest prospect of obtaining any information." He accordingly embarked with his party on the 4th, and arrived safely at York Factory on the 31st August.

CHAPTER III.

ANDERSON'S EXPEDITION—NO INTERPRETER TO BE HAD—RELICS FOUND ON
MONTREAL ISLAND—RETURN OF EXPEDITION.

At the time when the surprising intelligence of Rae's discoveries in Boothia reached us at the close of 1854, England had engaged in a great European conflict. Her troops had been sent to Turkey and the Crimea, and her entire naval force was on active service, either in the Black Sea, the Baltic, or in defence of our own shores and those of our colonies. Yet even at this stormy and eventful period, when the minds of men were thoroughly mastered by the peculiarly distressing details of the Crimean War, the intelligence that the fate of one-third part of the Franklin expedition had been conclusively ascertained, not only won the ear of the entire British people, but created a degree of excitement and painful solicitude which compelled the Government to take some step to follow up the inquiry to which an unmistakable clue had been furnished by Dr Rae. But what was Her Majesty's Government to do? Neither ships, officers, nor men could be spared when the honour and security of England demanded their presence in the north and in the east of Europe. In this difficulty English ministers had recourse again to the Hudson's Bay Company, whom they requested to organise an expedition to examine Back's Great Fish River in 1855, and endeavour to discover whether any of the Franklin party, who were known to be marching for that river with the object of ascending it and reaching some trading station of the Hudson's Bay Company, still survived. A boat expedition for this purpose was accordingly organised by the Company. If Sherard Osborn's statement be strictly correct, the command of this expedition was offered to Dr Rae, the most capable traveller and explorer in the Company's service, but was by that officer declined. It seems indeed a little strange that Rae, who was the first to find the clue to the fate of Franklin, should not have endeavoured to follow up that clue and completely solve the Franklin mystery *in the autumn of 1854*, instead of withdrawing at once from the field and returning to England. In fairness, however, to Dr Rae, it is neces-

sary to explain his declination of the offered command, and this explanation we are enabled to give, once for all, from original and private documents which the distinguished explorer has kindly placed at our disposal.

"On my return to England in 1854," says Dr Rae, "I was much blamed by people who knew nothing of the matter for not going in the summer or autumn of 1854 to the place indicated by the Eskimos as the locality where many, in all probability, the last, survivors, of the Franklin crews perished.

"This is easily explained. *It was after my return to winter quarters, in 1854, from our very long sledge journey, that I obtained sufficiently clear information from the natives of the position where the dead white men were found. That they were all dead, and had been so for at least four years, was made evident to me, because I offered immense rewards in guns, kettles, knives, saws, files, etc., and everything that Eskimos most value, if they could tell me of even one man, or the possibility of one man, being alive. But there were actual impossibilities in the way of my getting to the place in the summer or autumn of 1854. In the first place, it is impossible to travel overland when the thawing of the snow is going on. Every stream, however small, is a torrent, and if the banks are at all high, each side has a small precipice or wall of snow that there is no getting over. Apart from this difficulty there was the estuary, many miles wide, of the Great Fish River to cross, which could not have been done without a canoe or a boat, and no such means of conveyance was available. The same difficulty existed as to King William Land (an island). But even had there been a boat or canoe available, the autumn journey could not have been made without exposing my whole party (eight in number) to the almost absolute certainty of starvation. For, as I have already said, we had to depend upon our own guns for our food—shooting deer in their autumn southward migration. But if absent on a journey we could not do this. I the previous season with my own rifle had killed nearly half the game obtained, and as my best men would have had to accompany me on the suggested *autumn expedition*, all the good shots would have been with me, many miles from the passes which the deer frequent at the period of the autumn migration. Then the season was already so far advanced that we would not likely have got back to Repulse Bay until after the formation and setting fast of the sea-ice, so that we could not have pushed southward in our boats. Such were my chief reasons for coming home, but there was another. Four ships of Her Majesty's Navy were in the Arctic Sea searching for the lost expedition in every direction but the right one.*

"These ships had orders to remain out for years, a dépôt ship being sent out annually to be ready in the event of disasters to give aid. I felt that information of my discoveries should be conveyed to these ships as soon as possible, so that they might be recalled. I found them home before me—

the men at least—not the ships, for *they* were abandoned. They had remained out only two winters instead of three or four as was anticipated.”

It is evident, therefore, that Rae, after his return from Repulse Bay in 1854, could not have undertaken any further exploring that season with the slightest hope of success, while his return to England at the close of that year precluded him from accepting charge of a party in the following spring.

The command of the new expedition (1855) was vested in Mr James Anderson, chief factor for the Hudson's Bay Company, and a gentleman of courage and capacity. Mr Anderson arrived at Fort Resolution (Great Bear Lake) on the 20th June 1855, where he found three canoes ready for him. It had been necessary to hurry on the equipment of the expedition with unusual haste, in order to take full advantage of the open season; and in several particulars the preparations made were incomplete. The canoes were constructed of wood, with a covering of birch bark of inferior quality. The great object of the expedition was to explore the estuary of Great Fish River, and to learn everything that the Eskimos had to communicate; but *no Eskimo interpreter had been engaged for the enterprise*, none in fact being available within 2000 miles of Fort Resolution. How to communicate without a communicator was a little difficulty, not more serious, perhaps, than to perform “Hamlet” leaving out the Prince of Denmark; but still a difficulty. To the brave, however, all things are possible, more or less. Accordingly, toward the close of June, Anderson started with fifteen men, an Indian guide, and a contingent of three Yellow-Knife Indians, who were desirous of returning northward to their own lands, and were willing, for a consideration, to lend a helping hand at the portages by the way.

We cannot linger over the descent of the Great Fish River—a work of great difficulty even under the most favourable circumstances. On the 13th July the expedition reached Lake Franklin, near the mouth of Great Fish River, and within the area which Anderson was instructed to thoroughly search. At the outlet of the lake, three Eskimo lodges were discovered. From these an elderly man crossed over; but here on the very threshold of the district in which information of vital importance was expected to be found, Anderson found himself practically helpless. *He had no interpreter*, and could make nothing of the “elderly man.” Not to be completely and ignominiously beaten, however, Anderson, taking a number of men with him, went over to the Eskimo lodges. They saw only one man there, and a number of women and children. Large numbers of fresh-water herrings and salmon-trout were hung up to dry, as well as some deer's meat, so that it appeared the land was not altogether naked. “We soon perceived *articles belonging to a boat or vessel*,” writes Anderson in his original journal, “such as tent poles made out of ash oars and poles, copper, sheet-iron, and tin kettles and

boilers, a tin soup tureen, a letter clip with date 1843, and pieces of boards of elm, oak, white pine, and mahogany." There were also a broken hand-saw, chisel, etc. "Some of the boards were painted white," continues Anderson, "but nothing was found by which any person or vessel could be identified. Printed and manuscript books were shown to the Eskimos, and we made them understand by signs and words that we would pay handsomely for even a piece of paper: the women were very intelligent, and, I am certain, understood us perfectly; but they said they had none. They made us understand, by pressing the abdomen inwards, pointing to the mouth, and shaking their heads piteously, that these things *came from a kayak*, the people belonging to which had died of starvation. We could do nothing more, and were compelled to leave. The absence of an interpreter was a sad blow to us."

Proceeding down the falls which form the outlet of Lake Franklin, Anderson perceived a number of kayacks on the shore. Ho and his party landed on the opposite side, and soon two men crossed over to them. "They immediately began to tell us," says Anderson, "of white men who starved to death, etc." The *et cetera* here cannot stand for much, as what these Eskimos told, indeed the whole of the conversation, so to speak, was carried on by what Dr Richardson calls "expressive and unmistakable *pantomime*." On an island below the falls, the nippers of a pair of smith's tongs were picked up. "About five p.m.," says Anderson, "the rain began to pour down in such torrents, that I gave the word to encamp; but no fit place could be found till 7½ p.m., when we disembarked, thoroughly soaked, on an island near the mouth of the river. No fires could be made; so that pemmican and cold water was the order of the day. Some spirits should be allowed for emergencies of this description," exclaims the chief factor. "The men really require it; and I myself should have no objection at this moment to a glass of brandy and water;" and surely, under the circumstances, no good Christian could have any objection to his having it.

On the 1st August the party reached Montreal Island, the only island of considerable size in the estuary of Great Fish River, and the spot to which, as it had doubtless been visited by the retreating party from the "Erebus" and "Terror," and probably afforded a grave to some of them, Mr Anderson's attention was specially directed. The examination of the island was commenced on the following day, and Anderson's account—quoted from that gentleman's *private journal*, not from the bare "letter of proceedings" which he forwarded to the Hudson's Bay Company—is as follows: "After an early breakfast, all hands were sent off to explore the island. They were divided into two parties—one going to the right, the other to the left. After making the tour of the island, they were directed to spread themselves out and cross it. Mr Stewart and myself waited some time to hear if the signal (three

shots) of any discovery was made. When we were on the point of departure, we heard a signal, and proceeded rapidly towards the spot. Before we reached it we were met by two of the men (Reid and Bouché), who informed us that they had discovered the place where the boat was cut up, and confirmed it by showing pieces of plank, etc., and a chip covered partially with black paint, with the name 'Erebus' carved on it. We immediately proceeded to the spot. It is a high rocky ridge, on the north-east extremity of the island. On it were several Eskimo *caches*, and among them the spot where it was evident the boat had been cut up. It was strewed with shavings, butts of planks, evidently cut by unskilful hands; small pieces of rope with the Queen's mark; pieces of bunting, etc. Several of the men having come up, the whole of the *caches* were opened; in them, besides seal oil, a variety of blacksmiths' tools, a tomahawk, a chain-hook, a piece of a bar of unwrought iron, etc., were discovered; also a bundle of pieces of wood strung together for some purpose; they were of ash, and evidently portions of snow-shoes. On one of them I discovered the name of Mr Stanley carved, the surgeon of the 'Erebus.' Every mound was examined, to discover if it were a grave, and the search most zealously carried on till dusk. The only additional things found were some pieces of hoops, parts of instruments, a piece of cane, a piece of the leather of a backgammon board, etc., but not a scrap of paper, not a human bone. The other parties had discovered nothing. On their return ten deer were seen, and five of them shot, all five bucks. I had promised a reward of £2 to whoever found the first indisputable traces of the missing party, which will now be divided between Bouché and Reid."

The above account differs but slightly from the description of the day's proceedings given by Mr Anderson in his letter to the Hudson's Bay Company. In the original journal it is stated that on one of the chips of wood, "covered partially with black paint," the name "Erebus" was carved; in the latter, Anderson states that every chip was turned over, and on one of them was found the word "Terror" carved. There is an error here, unimportant in itself, certainly, but significant as indicating an inaccurate, if not a reprehensibly *uninterested* condition of mind.

On the following day all hands were employed in searching for graves. None were found. Two fat bucks were killed. On the 5th the party crossed over from Montreal Island to the western shore (that of Adelaide Peninsula). Here Anderson divided his men into two parties, one of which went south to examine the shore of Elliot Bay, the other going off in a northward direction. Both parties returned without discovering anything. On the 6th it was found impossible to proceed farther with the canoes, which were now "rickety" from the damage they had sustained, and Anderson set out to explore the remainder of Adelaide Peninsula on foot. Not a vestige

of the missing expedition was discovered. The land, however, which had previously been described as "most barren and forbidding," seems to have had what, to hungry men, must have been quite a cheerful aspect, for "about a hundred deer, mostly bucks, were seen in the course of the day;" also Eskimo ducks—whatever these may be—loons, laughing-geese, plover, snow-birds, and a few grouse.

On the 7th the search along the western mainland was resumed, five men being sent along the coast, while the remainder of the party swept the country inland. Nothing was seen except at Point Ogle, where a "small piece of cod-line and a strip of striped cotton were found." Late in the evening the men reassembled and devoured *raw* the greater part of a fat buck that had been killed. Next day Maconochie Island was explored, but not a vestige of anything found. Another fat buck was killed, but what became of it is not stated; for at the encampment that night all were "miserably wet," and had to crawl under their blankets "after a supper of rather ancient pemmican and cold water." It is here and there apparent in Anderson's narratives that he had no great stomach for this fight against discomfort and hardship, and yet the "fat bucks" that decorate his picturesque page are far from inconsiderable in number. But it is evident that at this point the beginning of the end of his discoveries in this quarter is near. On the 8th, after mentioning the "ancient pemmican," Anderson exclaims: "It was now evident that all that could be done with our means had been accomplished; and that, with our frail craft, any delay in returning would compromise the safety of the whole party. It may appear strange to any one unacquainted with this desolate region," he continues, "that not a vestige of the remains of so large a party as are said to have died here should have been discovered. I can safely say that the whole coast between Elliot Bay and Point Ogle, and the country for some distance inland, has been most carefully searched, as well as the whole of Montreal Island, by as keen-eyed and zealous a set of men as exists, still not a human bone has been discovered. My opinion is that a party of men suffering from starvation would have sought out the lowest and most sheltered spots to haul the boat up and encamp. If they died in such a spot, their bodies would have, doubtless, been torn to pieces and scattered about by wild animals, and their bones covered many feet with sand. There are many such spots all along the west coast and on Montreal Island. Any papers would, of course, have been soon destroyed in this climate. Leather-covered books would have been torn to pieces by wolves or foxes. Everything we can do has been done; and it is evident, from the wretched state of the canoes, that any delay in returning up the river will compromise the safety of the party."

The return journey was accordingly commenced forthwith, and on *the*

10th August, which is from ten to twenty days earlier than Back, Simpson, Rae, and other explorers, thought it necessary to commence their retreat to the rivers of the mainland, Anderson had already ascended the Great Fish River to Lake Franklin. Here the party renewed their intercourse with the Eskimos. Anderson displayed before these astonished natives the contents of his "trading-cases," and explained, by expressive and unmistakable pantomime, "that he was ready to exchange the entire stock for 'any book or papers' belonging to Europeans." "They understood us perfectly," says Anderson, "said they had no papers, and to satisfy us opened up the whole of their *caches*. . . . They made us comprehend that they had not seen the ships, but had heard from others that they were wrecked, and that the crews were all *dead from starvation*."

There does not appear to have been much chance of Anderson or his men dying of starvation. He states that no privation was experienced by his party from want of provisions. Indeed, he was able to bring home three "pieces"—each 90 lbs. weight—of pemmican untouched. Sir George Back had seen immense numbers of deer and musk-oxen on the lower course of Great Fish River; but Mr Anderson only saw a few scattered deer with their fawns, and a few herds of musk-oxen. "We got as many Canada geese as we wished by running them down," says Mr Anderson. "They were moulting, and were all ganders (!)."

After a journey of great difficulty, Mr Anderson and his party arrived at Fort Reliance, on Great Slave Lake, about the middle of September.

CHAPTER IV.

CAPTAIN M'CLINTOCK'S VOYAGE IN THE "FOX"—COST OF THE EXPEDITION—
A LONG WINTER-DRIFT—STEMMING THE SWELL—WHAT BELLOT STRAIT IS
LIKE—DEATH OF THE ENGINEER.

DURING the year 1856, after the discoveries of Rae and Anderson had become well known, and had been amply discussed, Lady Franklin, the noble-minded wife of the lost navigator, wrote to Lord Palmerston, then the head of the Government, and to the Lords Commissioners of the Admiralty, urging them to send out a final search expedition to that limited area, "in which," as Captain Allen Young has put it, "the lost ships must be, if above water, and through which the crews must have travelled when they left their ships." Lady Franklin's appeals were as eloquent and pathetic as her aim was magnanimous and her requests reasonable. She pleaded that "a careful search be made for any possible survivor; that the bones of the dead be sought for and gathered together; that their buried records be unearthed or recovered from the hands of the Eskimos; and, above all, that their last written words, so precious to their bereaved families and friends, be saved from destruction. A mission so sacred," she urged, "is worthy of a Government which has grudged and spared nothing for its heroic soldiers and sailors in other fields of warfare, and will surely be approved by our gracious Queen, who overlooks none of her loyal subjects suffering and dying for their country's honour. This final and exhaustive search," she states, "is all I seek in behalf of the first and only martyrs to Arctic discovery in modern times, and it is all I ever intend to ask." During the same year Sir Roderick Murchison drew up a memorial for presentation to Lord Palmerston. In this document, which was signed by all the most eminent geographers and Arctic explorers then in London, the veteran *savant* thus indicates the attitude which he and the other memorialists had taken up in reference to this question: "We can scarcely believe that the British Government, which, to its great credit, has made so many efforts in various directions to discover *even the route* pursued by Franklin, should cease to prosecute research, now that the locality has been clearly indicated where the vessels or their remains *must lie*—including, as we hope, records which will throw fresh light on Arctic geography, and dispel the obscurity in which the voyage and fate

of our countrymen are still involved." Even in 1856, eleven years after the expedition had left the British shores, there were many acute and eminent men in England and America, who still believed that a number of the younger men of the "Erebus" and "Terror" might still survive. It was felt that where an Eskimo could live an Englishman would not necessarily die; and it was known that on several occasions English and American officers, as well as men, would gladly have cast in their lot with the Eskimos and pursued the same sort of life, had they not been restrained by superior authority and a sense of duty to their country. A curious evidence of the lingering belief in the popular mind that the expedition had not proved fatal to all engaged in it is afforded by the fact that in 1856 a case brought up in the Scotch Courts, in which considerable property belonging to one of the officers of the expedition was claimed by right of succession, was dismissed on the ground that no proof existed of the decease of the officer in question, who was held to be still existent *in law*.

But notwithstanding Lady Franklin's moving letters—notwithstanding the appeal of Sir Roderick Murchison and his fellow memorialists, and the wide-spread feeling among the people, that, on the question of the lost expedition, the honour of the country had not been redeemed, Lord Palmerston remained obdurate. He had consulted the "highest authorities," and had been informed that further search was hopeless. Osborn states that "all propositions of a rational nature" always meet with opposition "from persons consulted by the Admiralty," and the opinion is borne out by many an instance of "official ignorance and near-sightedness." But hope was not abandoned at the door of the Admiralty. Lady Franklin and her friends were still capable of independent action. The wife of Franklin had already, chiefly at her own expense, fitted out three expeditions, the "Prince Albert" in 1850, and again in 1851; and the "Isabel" in 1852, and her private fortune was now sadly curtailed by the expenditure thus incurred. What available means still remained, this noble and true woman resolved to embark in a final search expedition. It need only be mentioned here that a number of interested friends materially assisted Lady Franklin in her enterprise. The Hon. Mrs Fairholme, the mother, we presume, of the second lieutenant of the "Erebus" (described by his brother officer, Fitzjames, as "a most agreeable and well-informed man"), contributed £150; Captain Allen Young, who appears in the subscription list as simply "a commander in the merchant service," subscribed £500; and Sir T. D. Acland, Bart., W. Coningham, M.P. (Fitzjames's friend), Miss Georgina Hornby (a relative of F. Hornby, mate of the "Terror"), Mr and Mrs Majendie, Sir Roderick Murchison, and W. L. Newall, Esq., each subscribed £100 to the equipment of the new expedition, the total cost of which was £8400.

The "Fox," a screw yacht of 177 tons burthen, the property of Sir Richard Sutton, Bart., who had made but one trip in her to Norway, was considered specially adapted for Arctic service, and was purchased by Lady Franklin for £2000. Captain McClintock was appointed to the command, and the terms in which he mentions his acceptance of the appointment clearly indicate the spirit in which the service was undertaken. "On the 18th April 1857," he writes, "Lady Franklin did me the honour to offer me the command of the proposed expedition: it was of course most cheerfully accepted. As a post of honour and of some difficulty, it possessed quite sufficient charms for a naval officer who had already served in three consecutive expeditions from 1848 to 1854. I was thoroughly conversant with all the details of this peculiar service, and I confess, moreover, that my whole heart was in the cause. How could I do otherwise than devote myself to save at least the record of faithful service, even unto death, of my brother officers and seamen? And, being one of those by whose united efforts not only the Franklin search, but the geography of Arctic America, has been brought so nearly to completion, I could not willingly resign to posterity the honour of filling up even the small remaining blank upon our maps. To leave these discoveries incomplete, more especially in a quarter through which the tidal stream actually demonstrates the existence of a channel—the only remaining hope of a practicable North-West Passage—would indeed be leaving strong inducement for future explorers to reap the rich reward of our long-continued exertions. . . . Many worthy old shipmates, my companions in the previous Arctic voyages, most readily volunteered their services, and they were as cheerfully accepted, for it was my anxious wish to gather around me well-tried men, who were aware of the duties expected of them, and accustomed to naval discipline. Hence, out of twenty-five souls composing our small company, seventeen had previously served in the Arctic search." McClintock's second in command was Lieutenant W. R. Hobson; and Captain Allen Young, besides subscribing the handsome sum already named, for the purposes of the expedition, gave his services as a volunteer, and accepted the subordinate post of sailing-master, though during the Crimean War he had been commander of the "Adelaide" steam troop-ship, of 3000 tons. Dr Walker was appointed surgeon to the expedition. Carl Petersen, who had sailed with Penny and Dr Kane as interpreter, was telegraphed for to Copenhagen, and joined the "Fox" in the same capacity.

The "Fox" was completely refitted, thoroughly strengthened, and provisioned for twenty-eight months. Of provisions and stores Government contributed 6682 lbs. of pemmican, all the arms, powder, shot, rockets, etc. All necessaries having been taken on board, and every preparation made, the "Fox" set sail from Aberdeen on the 1st July 1857.

After a very favourable run across the Atlantic, Cape Farewell came in

sight on the 12th, Fredericksaab on the 19th, and Fiskernaes on the 23d July. Setting sail early in the morning, McClintock reached Godthaab on the 24th. Adjoining this settlement is the Moravian mission station of New Herrnhut, where Hans Egede established himself in 1721 and recommenced the colonisation and evangelisation of Greenland, thus reopening the communication between this great island (?) and Europe, which, established by the early Scandinavian settlers long before the discovery of America by Columbus, had closed when the first colonies decayed and became extinct in the fourteenth century. Godhaven, or Lievely, in Disco, was reached on the 31st. "I do not know," says McClintock, "a more enticing spot in Greenland for a week's shooting, fishing, and yachting, than Disco Fiord; hares and ptarmigans may be found along the bases of the hills, ducks are most abundant upon the fiord, and delicious salmon-trout very plentiful in the rivers." Here ten Eskimo dogs were bought, and a young native named Christian, who volunteered his services as dog-driver, was taken on board for the voyage, was washed, cropped, and dressed in sailor's clothes, vastly to his own delight, and to the admiration of his countrymen. The Waigat, with its scenery at once grand and lovely, was entered on the 4th, and on the 7th the "Fox" was hove to off Uppernavik. Here the last letters for home were landed, and fourteen dogs were embarked.

And now commenced the actual difficulties of the navigation of Baffin Bay. "To the uninitiated," explains McClintock, "it may be as well to observe, that each winter the sea called Baffin Bay freezes over; in spring, this vast body of ice breaks up, and drifting southward in a mass—called the *main pack* or the *middle-ice*—obstructs the passage across from east to west. The 'North Passage' is made by sailing round the north end of this pack; the 'Middle Passage,' by pushing through it; and the 'Southern Passage,' by passing round its southern extreme; but seasons occur when none of these routes is practicable." On the night of the 7th the edge of the main pack or middle-ice was reached, about seventy miles west of Uppernavik. After running along its edge and carefully examining it, McClintock satisfied himself that he could not force a passage through it across Baffin Bay. He therefore steered for the north in the open water along the Greenland coast, and on the 12th August arrived in Melville Bay. To his great vexation he found that Melville Bay was packed with ice driven north by the southerly winds that had prevailed for some time. No movement having taken place for several days, McClintock determined to run back to the south-westward on the 16th. On the following day he steamed and sailed on again, threading his way among the floes. The winds had changed to the north-eastward, and the floes began to move off the land. If the "Fox" is to escape from her ice-trap, now is the time. The tide in its affairs seemed now

to have come, and unless it be taken advantage of promptly, there will be no chance of crossing the middle-ice this season, and the explorers will either have to winter in the drifting pack, as Back had done in the "Terror," De Haven and Griffin in the "Rescue" and "Advance," and Kellett in the "Resolute," or else put back to the Greenland coast and winter at Disco. In this critical moment the true spirit of the commander was displayed, and the bolder course was resolved upon. "McClintock was not the man," writes Captain Allen Young, "to turn back from his work, but would rather risk everything than leave a chance of our thus passing an inactive winter. The 'Fox' was therefore steered into a promising lead or lane of water, and all sail made to the breeze. We were in high spirits," continues the same writer, "and talked of getting into the west water on the morrow. But at night a dense fog came on, the wind shifted to the southward, and the flocs again began to close upon and around us. There was no help for us—we were beset, and it appeared hopelessly so, for the season was fast passing away, and the new ice beginning to form. On the 17th the wind increased, and the weather was dark and dreary. We struggled on for a few ship's lengths by the power of steam and canvas, and at night we unshipped the rudder and lifted the screw, in anticipation of a squeeze. During the three weeks following we lay in this position, endeavouring by every means to move the ship towards any visible pool or lane of water. Once only did our hopes revive. On September 7th the wind had again been from the north-westward, the ice had slackened, and we made a final and desperate attempt to reach some water seen to the northward of us. We were blasting with gunpowder, heaving, and warping through the whole day, but at night the flocs again closed. We had not now even a retreat. 'The tinker had come round,' as the seamen say, 'and soldered us in;' and from that time until the 17th of April 1858 we never moved, excepting at the mercy of the ice, and drifted by the winds and currents. We had lost all command over the ship, and were frozen in the moving pack."

The usual preparations for wintering in the pack were now commenced. With the view of providing as completely as possible against a catastrophe, provisions were got up upon deck, sledges and other travelling apparatus prepared, boats' crews told off, etc.; and, after these arrangements were completed, a school for reading, writing, and navigation was opened below, while during the day the sportsmen were busy shooting seals to be used as food for the dogs. The months of mid-winter passed uneventfully. On the 26th February the skylight, which had been covered with snow during the absence of the sun, was opened, and the daylight let in below. On the following day the first seal of the year (1858) was shot, and on the 2d March four more fat seals and a number of dovekies. "Toward the latter end of March," says Captain Allen Young, "the ice was getting very unquiet, and we had fre-

quent disruptions close to the ship. On the night of the 25th of March a wide fissure, which had been opening and closing during the previous fortnight, closed with such force as to pile up tons and tons of ice within forty yards of the ship, and shattered our old floe in a line with our dock. The nipping continued, and on the following night a huge block was hurled within thirty yards of us. Another such a night, and the little 'Fox' would have been knocked into lucifer matches, and we should have been turned out upon the floe."

The "Fox" had been slowly drifting, from about the latitude of Melville Bay, southward through Baffin Bay, during the whole winter, and on the 12th April the vessel was carried southward across the Arctic circle, and consequently out of the Arctic regions altogether. "However," exclaims the gallant captain, "we have not done with it yet. Directly the ice lets us go we will re-enter the frigid zone and 'try again,' with, I trust, better success." And the period when they were to be "let go" was soon to arrive. On the 17th a heavy storm came on, and a general break-up of the ice took place. The "Fox" was released from her winter dock, and blown into apparently open water. Now all was confusion around. The floes were driven crashing against each other, the ice-hampered ocean heaved, it seemed, in universal commotion, and the danger of the moment was intensified by the blinding snow-drift, through which the magnified and distorted forms of the tumbling floes were half revealed. The rudder was shipped, some canvas was shaken out upon the vessel, and the ship was steered on an eastward course. On the 20th the "Fox" was carried rapidly southward, past the position (off Cumberland Sound) in which the "Resolute" had been picked up, and down to lat. 64° N. "On the 25th April," writes Young, "a swell entered into the pack, and gradually increased, until the ice commenced churning up against the vessel, and dashing against her sides. These violent shocks continued throughout the morning, and really seemed as if they would destroy the ship. However, by the power of steam, we got the vessel's head towards the swell, and with a strong fair wind we commenced pushing out. After many narrow escapes from contact with the icebergs, we were by night in comparatively open water. We were free, and steered a course for the settlement of Holsteinborg, in Greenland, to recruit, and to prepare for another attempt. What a change on the following morning! Not a piece of ice could be seen, save a few distant bergs. We once more had our little vessel dancing under us upon the waters, innumerable seabirds flew around us, and the very sea, in contrast to its late frozen surface, appeared alive with seals and whales. All nature seemed alive, and we felt as if we had risen from the dead. In the evening the snow-covered peaks of Sukkertoppen were seen, and on the 28th April we moored in Holsteinborg harbour. Our anchors had not been down, nor had our feet

touched the land, since the 3d of August. Ice-bound, imprisoned, we had drifted upwards of 1200 (geographical) miles. Need it be added, how thankful we were to that kind Providence who had watched over us, and under Him, to our gallant captain, to whose unremitting attentions to our comforts and safety we owed our health and deliverance. . . . We arrived hungry and unshaven, our faces begrimed with oil-smoke, our clothes in tatters. The good women of Holsteinborg worked and washed for us, repaired our sadly-disreputable wardrobes, danced for us, sang to us, and parted from us with tears and a few little presents by way of *souvenirs*, as if we could ever forget them. We wrote a few hasty letters, hoping that they would reach home in the autumn, and sailed once more upon our voyage."

After visiting Godhaven, and taking another Eskimo lad on board there, M'Clintock set sail through the Waigat, and pushed on toward the north. Uppernavik was reached on the 31st May, and left on the 4th June. On June 6th the "Fox" was in Melville Bay, struggling along toward the north, between the main pack on the west and the ice still attached to the land on the east. Cape York was reached on the 26th June, and, after passing Cape Dudley Digges, the captain set sail westward across Baffin Bay towards Lancaster Sound, but did not arrive off Cape Horsburgh till July 12th. Unable to penetrate Lancaster Sound, which was packed with ice, M'Clintock crossed its entrance, and, with the view of awaiting the turn of events, ran down to Pond's Inlet. Here he had frequent and free communication, by means of his three Eskimos, with two natives, who stated that they had no knowledge whatever of either the missing ships of Franklin's expedition or of the abandoned vessels of Belcher's squadron. On August 6th steam was got up, and the "Fox" stood away to the north for Lancaster Sound once more. Cape Hurd was passed on the 10th, and next day M'Clintock anchored off Cape Eiley, close to Beechey Island. "We crossed to the house at Beechey," says Young, "and there landed a handsome tombstone (sent out by Lady Franklin), in memory of Sir John Franklin and his companions. It was placed close to the monument erected by their shipmates to the memory of poor Bellot and those who had died in the previous searching expeditions. On the 16th August M'Clintock set sail westward from Erebus and Terror Bay, and crossed the southern entrance of Wellington Channel. On the evening of the 17th he sailed down Peel Sound without interruption for twenty-five miles, but was then brought up by unbroken ice, extending from shore to shore. There was little hope that this ice would break up during the few days of summer yet to come, "so," says M'Clintock, "I immediately turned about for Bellot Strait, as affording a better prospect of a passage into the western sea." Accordingly, the ship was steered north out of Peel Sound, east along the north coast of North Somerset Island, and then south along the western coast of Regent Inlet toward Bellot Strait.

"We found Regent Inlet clear," writes Young, "excepting a few streams of loose ice, through which we sailed easily. We passed Elwin and Batty Bays, and everything, as an old quartermaster expressed it, looked '*werry prosperous!*' . . . On the 20th we passed close to Fury Beach, where the 'Fury' was lost in 1825; but the pace was too good to stop to visit this most interesting spot. We came on with a fair wind and clear water to the latitude of Bellot Strait. Our excitement now became intense. The existence of the strait had been disputed, and upon it depended all our hopes. Running into Brentford Bay, we thought we saw ice streaming out, as if through some channel from the westward, but as yet we could see no opening; and being unable to get farther that night, we anchored in a little nook discovered on the north side of the bay. A look-out was set upon the highest hill, to watch the movements of the ice; and on the next day we made our first attempt to sail through. We started with a strong western tide, and under both steam and canvas, and after proceeding about three miles, were delighted to find that a passage really existed; but we had not got half-way through when, the tide changing, a furious current came from the westward, bringing down upon us such masses of ice that we were carried helplessly away, and were nearly dashed upon huge pieces of grounded ice and reefs of rocks, over which the floes were running. This current ran at least seven knots an hour, and was more like a bore in the Hoogley than an ordinary tide." The "Fox" had never yet been in such a dangerous drift. Her commander, however, undismayed by the racing floes, the grounded masses, and the wild rocks of the shore, past which he was swept at the rate of six miles an hour, and at a distance of less than 200 yards, succeeded in extricating her from the ice, which, rushing eastward, was hurled about by the whirlpools and eddies of the tide until eventually it was carried out into Brentford Bay. That night the "Fox" was steered into the anchorage she had left in the morning, a little nook on the north side of the eastern entrance of the strait, and which was afterwards named Dépôt Bay. Here a large stock of provisions and a record of the proceedings of the expedition were landed, in anticipation of being able to penetrate through the passage into the western sea.

It is interesting to know what Bellot Strait is like. "Its appearance," writes McClintock, "is precisely that of a Greenland fiord. It is about twenty miles long, and scarcely a mile wide in the narrowest part; and there, within a quarter of a mile of the north shore, the depth was ascertained to be 400 feet. Its granitic shores are bold and lofty, with a very respectable sprinkling of vegetation for lat. 72°. Some of the hill ranges rise to about 1500 or 1600 feet above the sea. The low land eastward of Dépôt Bay is composed of limestone, destitute alike of fossils and vegetation. The granite commences upon the west shore of Dépôt Bay, and is at once bold

and rugged. . . . The strait runs very nearly east and west, but its eastern entrance is well marked by Long Island. When half-way through, both seas—Regent Inlet on the east, and Franklin Strait on the west—are visible." After the attempt to push through the strait on the 20th, the passage continued for days choked with ice, which surged backwards and forwards with the tides. On the 25th, however, a change of wind having taken place, M'Clintock prepared to make another dash at the strait. Starting from Depôt Bay, he entered the passage, but soon found he had not his sorrows to seek. At one point where the tide was strongest, and the depth only from six to ten fathoms, the ship "hardly moved over the ground, although going six and a half knots through the water." This delay was a sad interruption, and when the darkness came down, an anchorage was sought at midnight in a small indentation of the north shore, rather more than half-way through. "At early dawn," says the commander, "we again proceeded west, but for three miles only. The pack again stopped us, and we could perceive that the western sea was covered with ice." The eastern sea, however, was free, and while waiting in expectation of the disruption of the ice in the strait, M'Clintock sailed eastward into Regent Inlet, and then southward along the coast of Boothia to a point about forty miles distant. Here he deposited a supply of provisions, to be used in the event of his travelling down this coast to communicate with the natives of Port Elizabeth during the autumn or spring. Depôt Bay was again reached on the evening of the 29th.

Another attempt to push through the strait into the western sea was made on the 6th September. M'Clintock steamed through the clear waters, and made fast to the ice that still stretched across the western outlet. The western ice he found to consist of extensive, "stout" fields, held firmly together by the numerous islets and rocks that rose through them. The captain ascended Cape Bird—on the north side of the west entrance to the strait—and reconnoitred the ice to the westward. Perceiving that he could advance no farther in the "Fox" this season, he determined to return to Depôt Bay on the 11th. Captain Allen Young "was sent to an island eight miles to the south-west to look around; and on ascending the land he was astonished to see water as far as the visible horizon to the southward in Victoria Strait. While sitting down taking some angles with the sextant, he luckily turned round just in time to see a large bear crawling up the rocks to give him a pat on the head. He seized his rifle and shot him through the body, but the beast struggled down and died in the water out of reach, and thus a good depôt of beef was lost." Lieutenant Hobson, M'Clintock's second in command, was also employed on a little commission at this time. He was sent away with seven men and two dog-sledges, to carry provision depôts as far as possible to the southward. On the 12th the "Fox" and all hands, except Lieutenant Hobson, were safe in Depôt Bay—the anchor

being dropped, however, just within the bay instead of at its head. The new anchorage, which was found much more convenient than the old, was named Port Kennedy, in honour of the discoverer of Bellot Strait. Winter now came on apace, and in preparation for it the ship was cleared out, dismasted, and buried in snow, the stores were landed, and magnetic observatories, built of snow and ice, were erected.

Meantime Captain M'Clintock had matured the plan of his spring search excursions. "Of late," he writes, "we have been preparing provisions and equipments for our travelling parties. My scheme of sledge search comprehends three separate routes, and parties of four men (each). To each party a dog-sledge and driver will be attached. Hobson, Young, and I will lead them. My journey will be to the Great Fish River, examining the shores of King William Land in going and returning. Petersen will be with me. Hobson will explore the western coast of Boothia, as far as the Magnetic Pole, this autumn, I hope, and from Gateshead Island westward next spring. Young will trace the shore of Prince of Wales Land from Lieutenant Browne's farthest, if possible, and also examine between Four River Point (on the west coast of North Somerset) and Cape Bird. Our probable absence will be sixty or seventy days, commencing from about the 20th March. In this way I trust we shall complete the Franklin search and the geographical discovery of Arctic America, both left unfinished by the former expeditions; and in so doing we can hardly fail to obtain some trace, some relic, or it may be important records, of those whose mysterious fate it is the great object of our labours to discover." Lieutenant Hobson and Captain Young had conducted several preliminary excursions during the autumn, but the above programme was not to be entered upon seriously until the spring of 1859. Before the close of the year the little company in the "Fox" were mustered for the second time since leaving England to listen to the burial service, and to follow the remains of a comrade to the grave. On the 3d December 1857 Scott, the engine-driver, who had received serious injuries from a fall down the hatchway, died. He was buried on the following day in a square opening cut in the drifting floe of Baffin Bay. The next death was that of Mr Brand, the chief engineer. On the 6th November Mr Brand was in excellent health, and he and Hobson sat together for a while in the evening. "Mr Brand," says M'Clintock, "turned the conversation upon our position and employments last year; he called to remembrance poor Robert Scott, then in sound health, and the fact that, on the preceding day twelvemonth, he had carried our 'Guy Fawkes' round the ship. 'Poor fellow!' he added, mournfully, 'no one knows whose turn it may be to go next.' He finished his evening pipe, and shut his cabin door shortly after nine o'clock. This morning (7th November), at seven o'clock, his servant found him lying upon the deck a corpse,

having been several hours dead. Apoplexy appears to have been the cause." Brand was buried on the 10th November in a grave dug on shore near the ship. There was now neither engineer nor engine-driver on board the "Fox," and only two stokers, who knew nothing whatever about the machinery. The entire strength of the officers and crew, including the interpreter and the two Greenland dog-drivers, was now twenty-four.

On the 14th November the sun disappeared for the winter. Christmas was celebrated in the usual hearty fashion. The captain and officers were invited by the men to walk round the lower deck and inspect the preparations that had been made for the celebration of the occasion. The snow-white deal tables of the men were loaded with all the luxuries of the season—and the locality. Venison, beer, and a fresh supply of clay pipes, were among the most telling features of the festive board. "The variety and abundance of the eatables, tastefully laid out, was such as might well support the delusion which all seemed desirous of imposing upon themselves—that they were in a land of plenty; in fact, *all but* at home." The captain and officers contributed a large cheese and some preserves, and candles were substituted for the ordinary smoky lamps. With so many comforts, and with much good-humour and mirth, the evening was a great success, though at the moment the men were singing, dancing, and reciting on the lower deck, a "fierce north-wester howled loudly through the rigging, the snow-drift rustled swiftly past, no star appeared through the oppressive gloom, and the thermometer varied between 76° and 80° below the freezing-point." The 1st January 1859 was a *Saturday night* as well as a *New Year's Day*, and "sweethearts and wives," the famous toast on the last night of the week, was drunk by the men with more than usual feeling. On January 26th the sun reappeared, and by the middle of February the three travelling parties, under M'Clintock, Hobson, and Young, were ready to set out on their preliminary winter journeys.

CHAPTER V.

PRELIMINARY SPRING JOURNEYS—ROUTINE ON THE MARCH—IMPORTANT
DISCOVERIES.

On the 17th February Captain McClinton and his small party set out from winter quarters on the preliminary journey southward along the west coast of Boothia to the neighbourhood of the Magnetic Pole. He proceeded overland by the route along Long Lake to the south of Bellot Strait, and, after a march of nineteen or twenty geographical miles, he reached the coast of the "western sea" (Franklin Strait), and there built his snow-hut for the night. Next day the cold was intense, the thermometer indicating 48° below zero. On the third day most of the dogs walked lame, owing to the severity of the cold and the consequent hardness of the snow. The men of course walked, so that the dogs had only the provisions and clothing to drag; but even then it was found necessary to put part of the provisions *en cache*, and to be content with a journey of fifteen to eighteen miles daily. For a number of days the cold continued extremely severe, the mercury of the artificial horizon, the freezing point of which was -39°, remained frozen, and the rum, which was at first thick like treacle, required latterly to be thawed before it could be used. Every day the party pushed on until dusk, then built their snow-hut. The equipment consisted of a very small brown holland tent (generally used to cover the snow-hut by way of roof), a Mackintosh floor-cloth and felt robes; besides this, each man had a bag of double blanketing and a pair of fur boots to sleep in. Of all Arctic explorers, McClinton did more than any other to perfect the details of sledge travelling. His daily routine, which was as follows, is therefore specially interesting: "I led the way," he writes; "Petersen (the interpreter) and Thomson followed, conducting their sledges, and in this manner we trudged on for eight or ten hours without halting, except when necessary to disentangle the dog harness. When we halted for the night, Thomson and I usually sawed out the blocks of compact snow, and carried them to Petersen, who acted as the master mason in building the snow-hut. The hour and a half or two hours usually employed in erecting the edifice was the most disagreeable

part of the day's labour, for, in addition to being already well tired and desiring repose, we became thoroughly chilled whilst standing about. When the hut was finished, the dogs were fed, and here the great difficulty was to ensure the weaker ones their full share in the scramble for supper; then commenced the operation of unpacking the sledge and carrying into our hut everything necessary for ourselves, such as provision and sleeping gear, as well as all boots, fur-mittens, and even the sledge dog-harness, to prevent the dogs from eating them during our sleeping hours. The door was now blocked up with snow, the cooking lamp lighted, foot gear changed, diary written up, watches wound, sleeping-bags wriggled into, pipes lighted, and the merits of the various dogs discussed, until supper was ready; the supper swallowed, the upper robe or coverlet was pulled over, and then to sleep. Next morning came breakfast, a struggle to get into frozen moccasins, after which the sledges were packed and another day's march commenced. In these little huts we usually slept warm enough, although latterly, when our blankets and clothes became loaded with ice, we felt the cold severely. When our low doorway was carefully blocked up with snow, and the cooking lamp alight, the temperature quickly rose, so that the walls became glazed, and our bedding thawed; but the cooking over, or the doorway partially opened, it as quickly fell again, so that it was impossible to sleep, or even to hold one's pannikin of tea, without putting our mitts on, so intense was the cold."

On the 22d the party could not march, owing to the violence and severity of the gale that blew from the east; but on that day a bear was shot; the disappointment of the storm-stayed men was tempered by hot, fresh steaks, while the dogs enjoyed an unwonted and ample meal of unfrozen meat. The general geological character of the shores of the west coast of Boothia was found to be granite until midway between Bellot Strait and the Magnetic Pole, when limestone cropped up, forming a low, straight shore, upon which the sledge went more easily than over the deeply-indented and rough coast to the north.

On the 1st of March M'Clintock, having arrived in the neighbourhood of the Magnetic Pole, called a halt. He was beginning to fear his journey was to prove a failure. He had come all the way from Bellot Strait hither for the purpose of communicating with the natives of this district, and gaining information which might enable him conclusively to finish the search in the summer. And now, with provisions much exhausted, and with six out of the fifteen dogs quite knocked up and useless, he could only advance one march farther. It was clear that if natives did not appear on the following day, at furthest, he must commence his return journey. It was therefore with some anxiety that he looked ahead for natives. "But we had done nothing more than look *ahead*," he writes. "When we halted, and turned

round, great indeed was my surprise and joy to see four men walking after us." M'Clintock and the interpreter Petersen now buckled on their revolvers, and advanced to meet the Eskimos. The latter halted, tethered their dogs, laid down their weapons, and calmly received the Englishman and the Dane. Petersen at once addressed them, and they told him they had been out on a seal hunt, and were returning home. "We proposed to join them," says M'Clintock, "and all were soon in motion again; but another hour brought sunset, and we learned that their snow village of eight huts was still a long way off, so we hired them, at the rate of a needle for each Eskimo, to build us a hut, which they completed in an hour. It was 8 feet in diameter and $5\frac{1}{2}$ feet high. In it we all passed the night. Perhaps the records of architecture do not furnish another instance of a dwelling-house so cheaply constructed."

The explorer informed the natives, through his interpreter, that he was anxious to barter with them, and it was only with the greatest caution that he eventually guided the conversation to the subject of supreme interest—the loss, or supposed loss, of the "Erebus" and "Terror." He observed a naval button upon one of their dresses, and asking where it had been obtained, the Eskimos informed him that "it came from some white people who were starved upon an island where there are salmon (that is, an island in a river), and that the iron of which their knives were made came from the same place." None of these men had seen the white men, but one of them said he had been to the island referred to for wood and iron. Another had been to Repulse Bay, and remembered having seen seven of Dr Rae's party. These men had nothing to eat, but accepted a small quantity of bear's blubber and some water from M'Clintock. They were not provided with any clothing besides the double fur dresses they wore. They slept in their clothes, in a sitting posture, and leaning their heads forward on their breasts. Next morning M'Clintock accompanied them ten miles toward their encampment. At this point, however, he stopped, declining to accompany them any farther. A halt was therefore called, and a snow-house built. "This done," says M'Clintock, "we displayed to them our articles for barter—knives, files, needles, scissors, beads, etc.—expressed our desire to trade with them, and promised to purchase everything which belonged to the starved white men, if they would come to us on the morrow. . . . Next morning the entire village population arrived, amounting to forty-five souls, from aged people to infants in arms, and bartering commenced very briskly. First of all we purchased all the relics of the lost expedition, consisting of six silver spoons and forks; a silver medal, the property of Mr A. Macdonald, assistant-surgeon; part of a gold chain; several buttons; and knives made of the iron and wood of the wreck; also bows and arrows constructed of materials obtained from the same source. Having secured these, we pur-

chased a few frozen salmon, some seals' blubber, and venison, but could not prevail upon them to part with more than one of their fine dogs. . . . None of these people had seen the whites. One man said he had seen their bones upon the island where they died, but some were buried. Petersen also understood him to say that the boat was crushed by the ice. Almost all of them had part of the plunder."

Among this tribe of Eskimos all the old people remembered the visit of the "Victory" to the south-west shores of Boothia Gulf, and an old man named Ooblooria, who had been employed by Sir James Ross as guide, inquired respecting the welfare of that explorer, and used his Eskimo name of "Agglugga." McClintock inquired after the man who had been supplied with a wooden leg by Sir John Ross's carpenter, and the silence that suddenly fell upon the natives—who do not like to allude in any way to their dead—was sufficient sign that this worthy was no longer in the land of the living.

On the following morning, the 4th March, a number of natives again came to McClintock's encampment. The commander bought a spear 6½ feet long from a man who told Petersen distinctly *that a ship having three masts had been crushed by the ice out in the sea to the west of King William Island.* He was not one of those who were witnesses of the catastrophe. The ship sank, *so nothing was obtained by the natives from her*; all that they had got, he said, came from the island in the river. The spear staff seemed to have been part of the gunwale of a light boat. This information, corroborating in such a remarkable manner the account obtained on the same peninsula by Dr Rae, accounted for the disappearance of one of the vessels; but what of the other? As yet no proof that either of the ships had been broken up by the natives had been obtained. McClintock says, that among these natives of Boothia "scarcely a scrap of wood was seen *which had not come from the lost expedition.*" But very little wood was seen at all. Indeed, these Eskimos seemed to be singularly destitute of this article. One of their sledges was made of two stout pieces of wood, which might have been a boat's keel; the other sledges, however, "were wretched little affairs, consisting of two frozen rolls of seal-skin coated with ice, and attached to each other by bones, which served as cross-bars." These people, therefore, could not have had access to either of the ships, or they would have been provided with large and strong sledges.

"We now returned to the ship with all the speed we could command," resumes McClintock, "but stormy weather occasioned two days' delay, so that we did not arrive on board till the 14th March. Though considerably reduced in flesh, I and my companions were in excellent health, and blessed with insatiable appetites. On washing our faces, which had become perfectly black from the soot of our blubber lamp, sundry scars, relics of

frost-bites, appeared ; and the tips of our fingers had become as callous as if seared with hot iron. In this journey of twenty-five days we travelled 360 geographical miles (420 English), and completed the discovery of the coast-line of continental America, thereby adding about 120 miles to our charts." Thus was the entire coast-line of Arctic North America at last discovered, and this triumph, like the discovery of the North-West Passage and of the Magnetic Pole, as well as the nearest approach to the North Pole yet made, is to be scored to the credit of British officers.

As soon as he reached the ship M'Clintock assembled his crew and told them of his success, pointing out that one of the ships of the Franklin expedition was still unaccounted for, and that therefore all the projected search excursions must be carried out as rigorously as had been at first intended.

On the 3d March Captain Young had returned from his journey to Prince of Wales Land, where he had deposited a store of provisions on the shore, at about seventy miles' distance south-west from the ship. On the 18th of the same month the gallant captain was sent away from the ship's quarters in Port Kennedy to Fury Beach, to obtain a supply of sugar from the stores left there by Parry in 1825. In ten days he returned with 1200 lbs. of sugar. His labours had been very severe ; one sledge broke down, and all the sugar had to be piled on the other. The consequence was that the load had to be worked back to the ship piecemeal "by a sort of fox and goose chase." There was still (and we must remember this was in the spring of 1859) an immense stock of preserved vegetables and soups still remaining at Fury Beach, and Young brought back with him two specimen tins of "carrots plain" and "carrots and gravy," which were still good, though they had lain on the shore for thirty-four years. All small casks and packages were covered with snow, but of the larger casks, which appeared above the drift, Young counted thirty-four of flour, five of split peas, five of tobacco, and four of sugar. A few tons of coal remained, and there were two boats.

With the beginning of April the time came for the departure of M'Clintock, Hobson, and Young on the extended searching journeys, which were to be the great feature of this expedition, and the splendid success of which have conferred lasting fame on the name of Sir Leopold M'Clintock. "The travelling parties," says Captain Young, "were each to consist of four men drawing one sledge, and six dogs with a second sledge, besides the officer in charge and the dog-driver. By the aid of depôts already carried out, and from the extreme care with which Captain M'Clintock had prepared the travelling equipment, and had reduced every ounce of unnecessary weight, we expected to be able to be absent from the ship, and without any other resource, for from seventy to eighty days, or, if necessary, even longer."

CHAPTER VI.

THE GREAT JOURNEY COMMENCED—MORE RELICS OBTAINED—RELICS AT POINT
BOOTH—DOG-SLEDGE DRIVING—SKELETON DISCOVERED—SHIPS' RECORD
FOUND—THE MYSTERY SOLVED AT LAST.

CAPTAIN M'CLINTOCK and Lieutenant Hobson set out on their journeys from Port Kennedy at the east entrance to Bellot Strait in search of the relics of the Franklin expedition, supposed to be still lying above ground on the shores of King William Island, or on the neighbouring coasts, on the 2d April 1859. Each of the leaders had a sledge drawn by four men, besides a dog-sledge and dog-driver, and it was arranged that, for a considerable part of the way, the two parties should pursue the same route and travel together. On the first night they encamped on Long Lake; they reached the western sea on the second day, and on the third, hoisting their tents, outspread like sails, on the sledges, and thus making the most of a favourable breeze, they advanced some miles beyond Arcedeckne Island, a few miles south of the western entrance to Bellot Strait. On the 15th April they had got over the rough granite shore, and had entered on the smoother limestone tract, in lat. $71^{\circ} 7' N.$, and which continues in almost a straight line southward for sixty to seventy miles. From this point, depôts of provisions for consumption on the return journey were made at suitable intervals. Down to this date the temperature was excessively severe, sometimes as low as 30° below zero (62° below freezing-point), and often accompanied with cutting north winds. The sun was bright, and the snow-glare strong; and although all wore coloured spectacles, much suffering was felt from inflammation of the eyes. The faces of the whole party were blistered, their lips and hands cracked—never were men more disfigured by the combined effects of bitterly cold winds and bright sun. Frost-bites in the face and hands, however, were too common to be regarded otherwise than as the mere accidents of travel in this region.

No inhabitants were met with until the 20th April, when the parties had travelled down the west coast of Boothia as far as $70^{\circ} 30' N.$; but on that

date, two families, the same people whom McClintock had interviewed at Cape Victoria on his preliminary spring journey, came forward from the ice on which they were engaged hunting seals, to meet the explorers. Their huts, which were built on the ice, were circular, and a single entrance, forked so as to form two "lobbies," afforded access to the two dwellings in which these families, numbering in all twelve individuals, lived. McClintock examined the interior of these structures. Light was admitted by a slab of ice let into the roof. "A snow bank or bench, two feet high, and occupying half the area of each hut, was covered with reindeer skins, and formed the family place of repose. An angular snow-bench served as the kitchen table, and immediately beside it sat the lady of the establishment, attending the stone lamp which stood thereon, and the stone cooking vessel suspended over it. The lamp was a shallow open vessel, the fuel seal-oil, and the wick dried moss. Her 'tinder-box' was a little sealskin bag of soft dry moss, and with a lump of iron pyrites and a broken file, she struck fire upon it. I purchased the file," continues McClintock, "because it was marked with the Government broad arrow. We saw two large snow shovels made of mahogany board, some long spear handles, a bow of English wood, two preserved meat tins, and a deal case, which might have once contained a large telescope or a barometer. . . . I also purchased a knife, which had some indistinct markings on it, such as ships' cutlasses or swords usually have. The man (from whom the knife was purchased) told us it had been picked up on the shore near where a ship lay stranded, that it was about the length of his arm, but his countryman who picked it up broke it into lengths to make knives. After much anxious inquiry, we learned that *two ships* had been seen by the natives of King William Island; *one of them* was seen to sink in deep water, and nothing was obtained from her—a circumstance at which they expressed much regret—but *the other* was forced on shore by the ice, where they suppose she still remains, but much broken. From this ship they have obtained most of their wood, etc." The body of a man was found on board the stranded ship—"a very large man, who had long teeth." The ships had both been destroyed in the fall of the year—August or September—and all the white people, taking a boat or boats with them, had gone away to the "large river" (Great Fish River), and their bones were found in the island (Montreal Island) in the following winter.

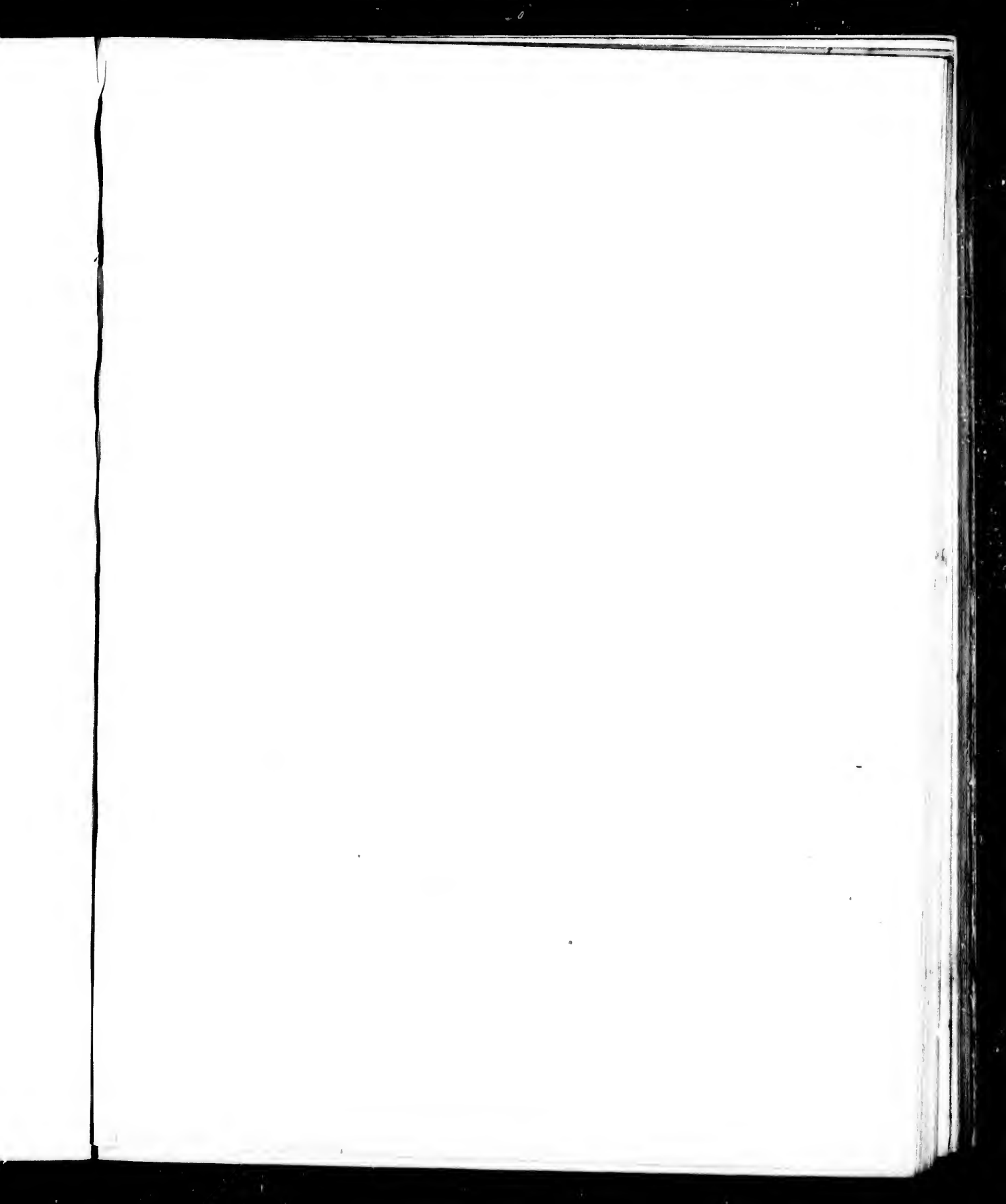
Having purchased two dogs and some seal's blubber from these people, McClintock and Hobson continued their journey southward along the coast. On the 28th April they reached Cape Victoria, on the south-west coast of Boothia Felix. Here the two travelling companies parted. The information respecting the *second ship* was of the utmost importance, and Lieutenant Hobson and his party were now detached to go in search of it. Hobson was at this time unwell, complaining of stiffness and pains in the legs, the cause

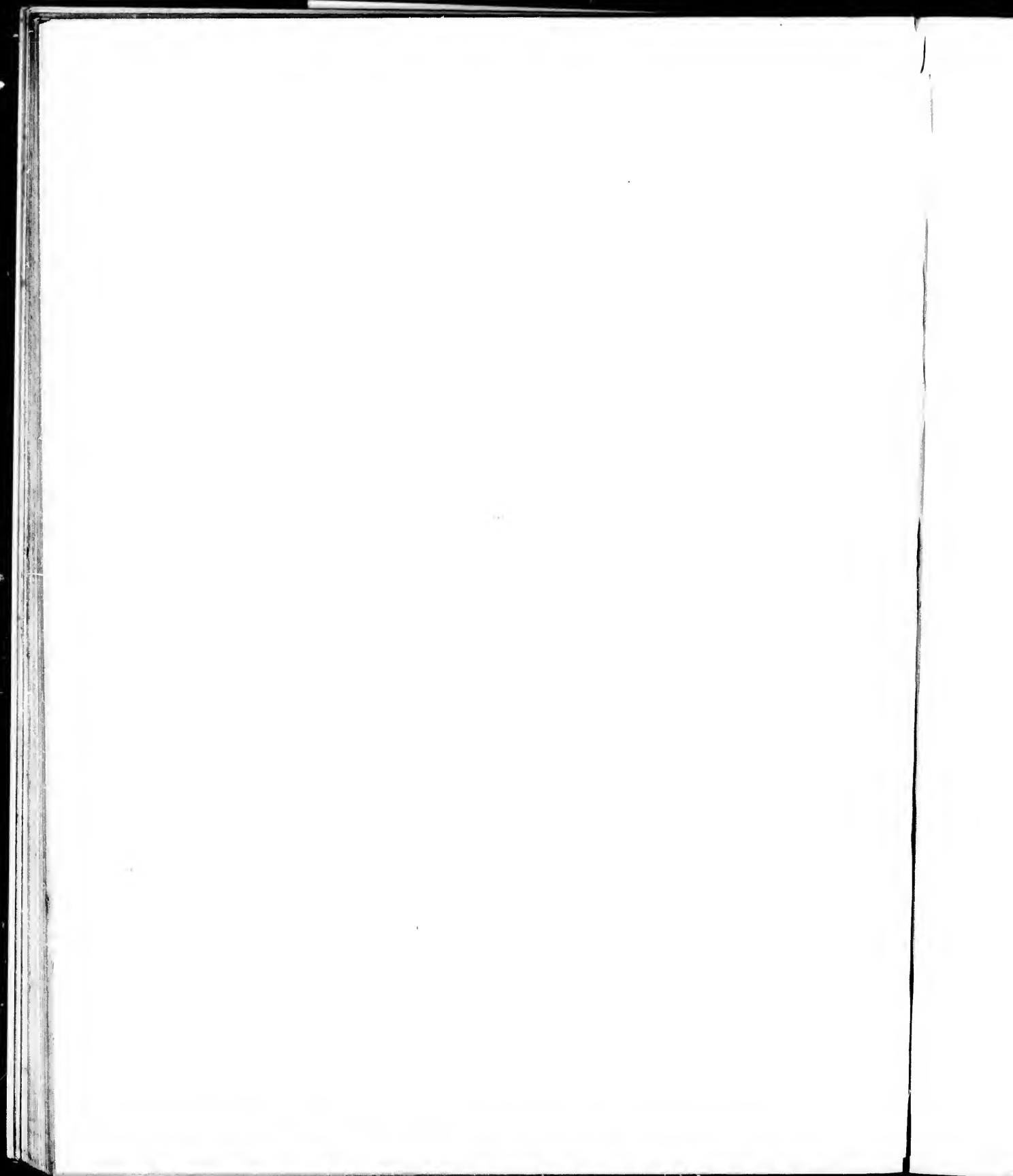
of which was at the time unknown. This officer was instructed to search the west coast of King William Island for the stranded ship and for records, and to act upon such information as he might obtain. In the event of failure to make any discoveries on the shores of the island, he was directed to cross over Victoria Strait and complete the discovery and examination of Victoria Land northward from Collinson's farthest point, which was only a few miles farther north than the point Rae had reached in 1851. In accordance with this arrangement Hobson parted with M'Clintock, and took his way across the frozen Ross's Strait direct for Cape Felix, the most northern point of King William Island; while the captain, taking a more southerly route, also crossed to King William Island, and after a severe three days' march encamped on it near the entrance of Port Parry, which is directly opposite Cape Victoria, the point of departure. M'Clintock's generosity in thus resigning to Hobson the search of the tract of coast which must of necessity yield relics and records, if such were to be found at all, while he himself elected to examine the unpromising *east* coast of King William Island, *en route* for Great Fish River, deserves to be noted as an act of great kindness on the famous captain's part towards a junior officer.

After a day spent in drying their clothes and sleeping bags, and repairing their travelling gear, M'Clintock and his men started on the 2d May to explore the east coast of King William Island. On the 4th they crossed over to Matty Island, between King William Island and Boothia Peninsula, in the expectation of meeting Eskimos, none having been seen since the departure of Hobson. Off the south-west point of Matty Island M'Clintock came upon a deserted village of nearly twenty snow-huts, in and around all of which he found "shavings or chips of different kinds of woods from the lost expedition." The huts appeared to have been abandoned for only a fortnight or three weeks. How came the shavings and chips of the different woods there? Were the natives skilled in the use of the plane? Another suggestive point is to be noted here. M'Clintock states that "the runners or sides of some old sledges left here were very ingeniously formed out of *pointed rolls* of sealskin about three and a half feet long, and flattened so as to be two or three inches wide and five inches high. The sealskins appeared to have been well soaked and then rolled up, flattened into the required form, and allowed to freeze." In freezing, these rolls of sealskin would no doubt become as hard as board. But why not use the *actual board*, seeing that they had "different kinds of woods from the lost expedition?"

M'Clintock then crossed over to a small islet at the south extremity of Matty Island, where he found more deserted snow-huts and more chips, but no inhabitants. Recrossing from Matty Island to King William Island on the 7th May, the captain marched southward in the evening to avoid the snow-glare, and at midnight arrived at an inhabited snow-village. "Here,"

writes the captain, "we found ten or twelve huts and thirty or forty natives of King William Island; I do not think any of them had ever seen white people alive before, but they evidently knew us to be friends. We halted at a little distance, and pitched our tent, the better to secure small articles from being stolen whilst we bartered with them. I purchased from them six pieces of silver plate, bearing the crests or initials of Franklin, Crozier, Fairholme, and M'Donald; they also sold us bows and arrows of English woods, uniform and other buttons, and offered us a heavy sledge made of two short stout pieces of curved wood, which no mere boat could have furnished them with, but this of course we could not take away; the silver spoons and forks were readily sold for four needles each. They were most obliging and peaceably disposed, but could not resist the temptation to steal, and were importunate to barter everything they possessed; there was not a trace of fear, every countenance was lighted up with joy; even the children were not shy, nor backward either, in crowding about us, and poking in everywhere. One man got hold of our saw, and tried to retain it, holding it behind his back, and presenting his knife in exchange; we might have had some trouble in getting it from him, had not one of my men mistaken his object in presenting the knife towards me, and run out of the tent with a gun in his hand—the saw was instantly returned, and these poor people seemed to think they never could do enough to convince us of their friendliness; they repeatedly tapped me gently on the breast, repeating the words 'Kammik toomee' (We are friends). Having obtained all the relics they possessed, I purchased some seal's flesh blubber, frozen venison, dried and frozen salmon, and sold some of my puppies. They told us it was five days' journey to the wreck—one day up the inlet still in sight, and four days overland; this would carry them to the western coast of King William Land; they added that but little now remained of the wreck which was accessible, their countrymen having carried almost everything away. In answer to an inquiry, they said she was without masts; the question gave rise to some laughter amongst them, and they spoke to each other about *fire*, from which Petersen thought they had burnt the masts through close to the deck in order to get them down. There had been *many books*, they said, but all have long ago been destroyed by the weather; the ship was forced on shore in the fall of the year by the ice. She had not been visited during this past winter, and an old woman and a boy were shown to us who were the last to visit the wreck; they said they had been at it during the preceding winter (1857-58). Petersen questioned the woman closely, and she seemed anxious to give all the information in her power. She said many of the white men *dropped by the way as they went to the Great River*; that some were buried and some were not; they did not themselves witness this, but discovered their bodies during the winter following. We could not arrive at any approximation to the numbers of the







SLEDGE PARTY ENCAMPING FOR THE NIGHT

white men nor of the years elapsed since they were lost." The natives further assured the interpreter that M'Clintock's party would find natives on the south shore of King William Island (three days' journey southward), and also on Montreal Island, in the estuary of Great Fish River.

Having obtained all the information these people had to communicate, and having acquired a number of priceless relics, M'Clintock did not waste another minute at this village; but after a stay of only two hours in all, resumed his march southward along the shore. "It was quite a relief to get away from these good-humoured, noisy thieves; and rather difficult, too, as some of them accompanied us for miles. They had abundance of food, were well clothed, and are a finer race than those who inhabit North Greenland or Pond Inlet. The men had their hair cropped short, with the exception of one long, straggling lock hanging down on each side of the face. Like the Boothians, the women had lines tattooed upon their cheeks and chins." Having got rid of the last of the stragglers, M'Clintock pushed on, discovering and naming Latrobe Bay, and arriving at the extreme east point of King William Island. This point—Mount Matheson, a flat-topped hill—was crossed; and on the 10th May a single snow-hut was reached off Point Booth. Here again M'Clintock made a number of suggestive and interesting, but somewhat puzzling discoveries. "I was quite astonished," he says, "at the number of poles and various articles of wood lying about it, also at the huge pile of walrus' and reindeer's flesh, seal's blubber, and skins of various sorts. We had abundance of leisure to examine these exterior articles before the inmates would venture out; they were evidently much alarmed by our sudden appearance. A remarkably fine old dog was tied at the entrance—the line being made fast within the long passage—and although he wagged his tail, and received us as old acquaintances, we did not like to attempt an entrance. At length an old man and an old woman appeared; they trembled with fear, and could not, or would not, say anything except 'Kammik toomee:' we tried every means of allaying their fears, but their wits seemed paralysed, and we could get no information. We asked where they got the wood? They purchased it from their countrymen. Did they know the Great River? Yes, but it was a long way off. Were there natives there now? Yes. They even denied all knowledge of white people having died upon their shores. A fine young man came out of the hut, but we could learn nothing of him; they said they had nothing to barter, except what we saw, although we tempted them by displaying our store of knives and needles. . . . The principal articles which caught my attention here were eight or ten fir poles, varying in length from five to ten feet, and up to two and a half inches in diameter (these were converted into spear handles and tent poles), a kayak paddle constructed out of the blades of two ash oars, and two large snow shovels, four feet long, made of

thin plank, painted white or pale yellow; these might have been the bottom boards of a boat. There were many smaller articles of wood."

It was evident that nothing was to be made of these timorous and taciturn villagers without stopping a day or two with them, and gaining their confidence by kind and generous treatment. But there was no time to throw away in cultivating the goodwill of people who perhaps had nothing to tell, so, making the old lady happy with the present of a needle, M'Clintock pushed on. Leaving King William Island behind him, he set out due south from Point Booth over the frozen strait, crossed Point Ogle (the extremity of a peninsula of the mainland of America), and encamped the same evening upon the frozen estuary of the Great Fish River. Detained in the tent during the 13th by a furious gale, the captain resumed his march over the ice on the 14th, on the evening of which he pitched his tent "two miles from some small islands that lie off the north end of Montreal Island."

He was now in the centre of the district in which it was expected great discoveries were to be made. The exploration of Montreal Island and the neighbouring islets was proceeded with on the 15th May; but the only traces or relics of Europeans were "a piece of preserved meat tin, two pieces of iron hoop, some scraps of copper, and an iron hook-bolt." These probably were part of the plunder obtained from the boat. The 16th was a day of severe cold and thick snow; but on the 17th the search was resumed by M'Clintock, Petersen, and Thomson, who set off with the dog-sledge round the south shores of Montreal Island. No cairn was seen, and on examining a heap of stones that seemed to have been arranged according to method, nothing was discovered but blubber. It was an Eskimo *cache*. No natives were met with; indeed, none had been seen since the party had left Point Booth. The search was completely unavailing—not even a grave was seen. The examination of the shore of Elliot Bay was equally without any satisfactory result. Barrow Inlet, to the west of Point Ogle Peninsula, was also thoroughly examined, but no relics found. From this barren and unprofitable region M'Clintock was glad to commence his return journey, the first stage of which was from Point Richardson, on the American mainland, and a few miles west from Barrow Inlet, due north to the nearest point of the coast of King William Island. The retreat was commenced on the 19th May. Hampton, one of M'Clintock's party, had for some time been ill, and was unable to drag. The captain therefore made over the dog-sledge to the sick man. M'Clintock's experience in dog-sledge driving is something that he has much reason to be thankful for. The following account of his trials as a "whip" in the icy regions round King William Island is amusing: "I shall not easily forget the trial my patience underwent during the six weeks that I drove that dog-sledge. The leader of my team, named 'Omar Pasha,' was very willing, but very lame; little 'Rose' was coquettish,

and fonder of being caressed than whipped—from some cause or other she ceased growing when only a few months old, she was therefore far too small for heavy work; 'Darky' and 'Missy' were mere pups; and last of all came the two wretched starvelings, reared in the winter, 'Foxy' and 'Dolly.' Each dog had its own harness, formed of strips of canvas, and was attached to the sledge by a single trace twelve feet long. None of them had ever been yoked before, and the amount of cunning and perversity they displayed to avoid both the whip and the work, was quite astonishing. They bit through their traces, and hid away under the sledge, or leaped over one another's backs, so as to get into the middle of the team out of the way of my whip, until the traces became plaited up, and the dogs were almost knotted together; the consequence was I had to halt every few minutes, pull off my mitts, and, at the risk of frozen fingers, disentangle the lines. I persevered, however, and, without breaking any of their bones, succeeded in getting a surprising amount of work out of them. Hobson drove his own dog-sledge likewise, and as long as we were together we helped each other out of difficulties, and they were frequently occurring, for, apart from those I have above mentioned, directly a dog-sledge is stopped by a hummock, or sticks fast in deep snow, the dogs, instead of exerting themselves, lie down, looking perfectly delighted at the circumstance, and the driver has to extricate the sledge with a hearty one-two-three haul! and apply a little gentle persuasion to set his canine team in motion again."

The shore of King William Island was reached at a point a short distance west of the Peffer River on the morning of the 24th, and from this point westward a careful examination of the coast was conducted by M'Clintock. The explorers were now upon the shore along which the retreating party from the sunk or stranded "Erebus" and "Terror" *must have marched*. It was now therefore necessary to proceed with the greatest caution, and examine every object that came into view. M'Clintock's sledges were dragged along the comparatively smooth sea-ice close along the beach, but the captain himself and Petersen walked along the shore, making the very best possible use of their eyes. Nor was their vigilance unrewarded. "Shortly after midnight of the 25th May," writes M'Clintock, "when slowly walking along a gravel ridge near the beach, which the winds kept partially bare of snow, I came upon a human skeleton, partly exposed, with here and there a few fragments of clothing appearing through the snow. The skeleton—now perfectly bleached—was lying upon its face, the limbs and smaller bones either dis-severed or gnawed away by small animals."

"A most careful examination of the spot," continues M'Clintock. "was of course made, the snow removed, and every scrap of clothing gathered up. A pocket-book afforded strong grounds for hope that some information might be subsequently obtained respecting the unfortunate owner and the

calamitous march of the lost crews, but at the time it was frozen hard. The substance of that which we gleaned upon the spot may thus be summed up: This victim was a young man, slightly built, and perhaps above the common height; the dress appeared to be that of a steward or officer's servant, the loose bow-knot in which his neck-handkerchief was tied not being used by seamen or officers. In every particular the dress confirmed our conjectures as to his rank or office in the late expedition,—the blue jacket with slashed sleeves and braided edging, and the pilot-cloth great-coat with plain covered buttons. We found also a clothes-brush near, and a horn pocket-comb. This poor man seems to have selected the bare ridge top, as affording the least tiresome walking, and to have fallen upon his face in the position in which we found him. It was a melancholy truth that the old woman spoke when she said, 'They fell down and died as they walked along.' Of this skeleton only a portion of the skull appeared above the snow, and it so strongly resembled a bleached rounded stone that the man I called from the sledge, mistaking it for one, rested his shovel upon it, but started back with horror when the hollow sound revealed to him its true nature. Were it not for their shroud of snow, it is more than probable that our anxious search would have brought to light many another skeleton, and have still further confirmed the old woman's brief story—unsurpassed in graphic simplicity."

Captain M'Clintock did not think the Eskimos had discovered this skeleton, or they would have carried off the brush and comb. Superstition, he states, prevents them from disturbing their own dead, but would not keep them from appropriating the property of the white man if in any way useful to them. To an Eskimo a fork is a wholly superfluous, not to say mysterious, article, yet we have seen that a great number of them had been picked up by the natives, and were carefully preserved by them for eleven years. The fact that the articles were of metal (silver), but not their usefulness, accounts for their having been so long preserved. A piece of flannel, marked "F. D. V., 1845," which had no doubt formed part of the garments of Des Vœux, mate in the "Erebus," was obtained from the Repulse Bay Eskimos by Dr Rae in 1847.

Having completed his examination of the locality in which the skeleton was found without finding other relics besides those already mentioned, M'Clintock moved on a few miles westward, and arrived at Cape Herschel. The summit of the cape is crowned by a cairn erected by Simpson. M'Clintock believes that some record must have been left here by the retreating crews of the "Erebus" and "Terror," as the cairn, a conspicuous object, and made ready to hand, must have struck them as being the most suitable place on this line of coast in which to deposit their papers. If any manuscripts were left here, however, they had evidently been discovered by the natives,

and destroyed, thrown away, or carried off; for, though the somewhat dismantled erection was thoroughly examined, no relic was found. Probably the key to the story of this dumb, half-demolished cairn, may be found in the following suggestive remark by M'Clintock: "Doubtless the natives when they ascertained that famine and fatigue had caused many of the white men 'to fall down and die' upon their fearful march, and heard, as they might have done, of its fatal termination upon the mainland, lost no time in following up their traces, examining every spot where they halted, every mark they put up, or stone displaced."

Leaving Cape Herschel behind him, M'Clintock pressed on westward over this shore, hitherto untrodden by Europeans, except by Franklin's parties, until, having advanced twelve miles, he came to a small cairn that had been erected by Hobson, who, travelling round King William Island by the south-west and south, had passed the spot near which Franklin's ships had been beset, and had discovered the cairn in which the mariners had enclosed the famous record that told of the fate of their ships, and of their gallant commander. For such a record many thousands of miles of bleak coast had been explored during the preceding ten years, many a weary march, many a perilous voyage undertaken. No scrap of paper left by the lost expedition had been found till now; and this, the first record, was also the last. But it was enough. In its few brief sentences was wrapped up the secret of the tragic fate of the Franklin expedition.

Weather-stained, frayed with rust, and ragged from damp and contact with the tin case in which it was enclosed, the very appearance of this paper was eloquent. It is no elaborate document, detailing a mournful history, but only an ordinary ship's paper, with a few remarks in manuscript. It is usual to supply discovery ships with printed forms, in which intimations of discovery, accident, or distress may be entered. Such forms, with their blanks filled up, are enclosed in bottles, and thrown overboard, as messages from the sea, or deposited by travellers in cairns, with the view of affording intelligence not otherwise communicable to the finders, and to the world. British Admiralty papers of this kind contain an intimation, in the languages of the chief commercial nations, to the effect, that "Whoever finds this paper is requested to forward it to the Secretary of the Admiralty, London, with a note of the time and place at which it was found; or, if more convenient, to deliver it for that purpose to the British consul at the nearest port." It is on one of these Government papers, deposited at Victory Point, on the west coast of King William Island, that the officers of the Franklin expedition made their last communication, and which, after an interval of eleven years, was found beside a tumbled cairn by Lieutenant Hobson. Upon this paper the printed intimation was as is given above. The filled-up spaces and manuscript notes are as follow:

"H.M. SHIPS 'EREBUS' AND 'TERROR'."

"28th of May 1847. { Wintered in the ice in
lat. 70° 5' N., long. 98° 23' W.

"Having wintered in 1846-7 at Beechey Island, in lat. 74° 43' 28" N., long. 91° 39' 15" W., after having ascended Wellington Channel to lat. 77°, and returned by the west side of Cornwallis Island.

"Sir John Franklin commanding the expedition.

"All well.

"Party, consisting of 2 officers and 6 men, left the ships on Monday, 24th May 1847.

"GM. GORE, Lieut.

"CHAS. F. DES VŒUX, Mate."

Round the margin of the Government form are written the following notes:

"April 25th, 1848.—H.M. ships 'Erebus' and 'Terror' were deserted on the 22d April, 5 leagues N.N.W. of this, having been beset since 12th September 1846. The officers and crews, consisting of 105 souls, under the command of F. R. M. Crozier, landed here, in lat. 69° 37' 42" N., long. 98° 41' W. Sir John Franklin died on the 11th June 1847; and the total loss by deaths in the expedition has been, to this date, 9 officers and 15 men.

(Signed)

"F. R. M. CROZIER,

"Captain and Senior Officer.

"And start on to-morrow, 26th, for
Back's Fish River.

(Signed)

"JAMES FITZJAMES,

"Captain, H.M.S. 'Erebus'."

"This paper was found by Lt. Irving under the cairn supposed to have been built by Sir James Ross in 1831, 4 miles to the northward, where it had been desposited by the late Commander Gore in June 1847. Sir James Ross's pillar has not, however, been found; and the paper has been transferred to this position, which is that in which Sir James Ross's pillar was erected."

So then the ten years' mystery is solved at last. Franklin, who was last seen in Baffin Bay on the 26th July 1845, sailed west through Lancaster Sound, Barrow Strait, up Wellington Channel to 77° N., and back again to the mouth of the channel during the few weeks of his first summer, thus making one of the most extraordinarily successful voyages on record. He wintered at Beechey Island in 1845-46 (not in 1846-47 as stated in the record), and then sought a passage southward toward the American coast. Caught in the pack on the 12th September 1846, he passed the winter of 1846-47 in lat. 70° 5', long. 98° 23', about fifteen miles north-west of Cape Felix, the northernmost point of King William Island. A party of two officers and six men left the ice-bound ships in the spring (May 24th) of 1847, but in what direction or for what purpose is not known. The officers and crews of the two ships were "all well" on the 28th May 1847; but a fortnight after-

wards, on the 11th June, Sir John was no more. During the winter of 1847-48, the "Erebus" and "Terror," having drifted about thirty miles from the position in which they were beset, still remained imprisoned in the ice. On the 22d April 1848, the vessels were "deserted," and the officers and crews, 105 souls in all, retreated upon Victory Point, on the west coast of King William Island, under the command of Captain Crozier of the "Terror," the senior officer. Nine officers and fifteen men had died before the 25th April 1848, and as no casualty is recorded, it is to be presumed that these men died of scurvy. It should be noted that the deaths among the officers were much more numerous in proportion to their numbers than among the men. On the 26th April the officers and crews started for Great Fish River, and the probability is that all of them perished, either on the way to the river, on its island and the coasts of its estuary, or on its lower course, before the close of the autumn of 1848.

In this record, all of which was written by Captain Fitzjames, except the signature, with the note below it, by Crozier, we shall look in vain for words of weakness or complaint. There is no lamentation, no despair. "So sad a tale," writes Mr. Clintock, "was never told in fewer words. There is something deeply touching in their extreme simplicity, and they show in the strongest manner that both the leaders of this retreating party were actuated by the loftiest sense of duty, and met with calmness and decision the fearful alternative of a last bold struggle for life, rather than perish without effort on board their ships." "We shall start to-morrow," said they. But whither?

CHAPTER VII.

BOAT WITH SKELETONS FOUND—RELICS IN THE BOAT—THE RETURN JOURNEY.

FROM the point on which Hobson had built his cairn and deposited his record, McClintock marched on westward round the south-west angle of King William Island, then north-east along its western shore. The coast is low and uninteresting, even forbidding in appearance—a mere series of limestone ridges, almost destitute both of animal and vegetable life. Nor was the prospect westward over the frozen Victoria Strait more encouraging. The strait presented a “rugged surface of crushed-up pack, including much heavy ice.” Having rounded Cape Crozier, the westernmost point of King William Island, McClintock came upon a large boat that had belonged to the Franklin expedition, and which contained *two human skeletons*. Hobson had already discovered the boat, and had left a note in it for the captain; but he had not been able to find any record, journal, pocket-book, or memorandum of any description either in or near it. The boat and its contents, however, will be best described by McClintock, who carefully examined them. “A vast quantity of tattered clothing was lying in her, and this we first examined. Not a single article bore the name of its former owner. The boat was cleared out and carefully swept that nothing might escape us. The snow was then removed from about her, but nothing whatever was found. She measured 28 feet long, and 7 feet 3 inches wide; she was built with a view to lightness and light draught of water, and evidently equipped with the utmost care for the ascent of the Great Fish River; she had neither oars nor rudder, paddles supplying their place; and as a large remnant of light canvas, commonly known as No. 8, was found, and also a small block for reeving a sheet through, I suppose she had been provided with a sail. A sloping canvas roof or rain-awning had also formed part of her equipment. She was fitted with a weather-cloth nine inches high, battened down all round the gunwale, and supported by twenty-four iron stanchions, so placed as to serve likewise for rowing thowls. There was a deep-sea sounding line, fifty fathoms long, near her, as well as an ice-grapple; this line must have been intended

for river work as a track-line. She had been originally 'carvel' built; but for the purpose of reducing weight, very thin fir planks had been substituted for her seven upper strakes, and put on 'clinker' fashion. . . . The weight of the boat alone was about 700 or 800 lbs. only, but she was mounted upon a sledge of unusual weight and strength. It was constructed of two oak planks, 23 feet 4 inches in length, 8 inches in width, and with an average thickness of $2\frac{1}{2}$ inches. These planks formed the sides or runners of the sledge; they were connected by five cross-bars of oak, each 4 feet long, and 4 inches by $3\frac{1}{2}$ inches thick, and bolted down to the runners; the underneath parts of the latter were shod with iron. Upon the cross-bars five saddles or supporting chocks for the boat were lashed, and the drag-ropes by which the crew moved this massive sledge and the weights upon it, consisted of $2\frac{3}{4}$ -inch whale-line. I have calculated the weight of this sledge to be 650 lbs.; it could not have been less, and may have been considerably more. The total weight of boat and sledge may be taken at 1400 lbs., which amounts to a heavy load for seven strong healthy men. One hundred yards from her, upon the land side, lay the stump of a fir tree, 12 feet long, and 16 inches in diameter at 3 feet above the roots. Although the ice had used it roughly during its drift to this shore, and rubbed off every vestige of bark, yet the wood was perfectly sound. It may have been, and probably has been, lying there for twenty or thirty years, and during such a period would suffer less decay in this region of frost than in one-sixth of the time at home. Within two yards of it I noticed a few scanty tufts of grass.

"But all these were after-observations; there was in the boat that which transfixed us with awe, viz., portions of two human skeletons! One was that of a slight young person; the other of a large, strongly-made, middle-aged man. The former was found in the bow of the boat, but in too much disturbed a state to enable Hobson to judge whether the sufferer had died there; large and powerful animals, probably wolves, had destroyed much of this skeleton, which may have been that of an officer. Near it we found the fragment of a pair of worked slippers, of which I give the pattern, as they may possibly be identified. The lines were white, with a black margin; the spaces white, red, and yellow. They had originally been eleven inches long, lined with calfskin with the hair left on, and the edges bound with red silk ribbon. Besides these slippers there were a pair of small strong shooting half-boots. The other skeleton was in a somewhat more perfect state; it lay across the boat, under the after-thwart, and was enveloped with cloths and furs. This would seem to have been the survivor of the two men whose remains were lying in the boat. Close beside it were found five watches; and there were two double-barrelled guns—one barrel in each loaded and cocked—standing muzzle upwards against the boat's side. It may be imagined with what deep interest these sad relics were scrutinised, and how

anxiously every fragment of clothing was turned over in search of pockets and pocket-books, journals, or even names. Five or six small books were found, all of them scriptural or devotional works, except the 'Vicar of Wakefield.' One little book, 'Christian Melodies,' bore an inscription upon the title-page from the donor to G. G. (Graham Gore?). Another small book, 'A Manual of Private Devotion,' by C. J. Blomfield, D.D., bore on its title-page, 'G. Back, to Graham Gore. May, 1845.' A small Bible contained numerous marginal notes, and whole passages underlined. Besides these books, the covers of a New Testament and Church of England Prayer-book were found.

"Amongst an amazing quantity of clothing there were seven or eight pairs of boots of various kinds—cloth winter boots, sea boots, heavy ankle boots, and strong shoes. I noted that there were silk handkerchiefs—black, white, and figured—towels, soap, sponge, tooth-brush, and hair-combs; Mackintosh gun-cover, marked outside with paint A 12, and lined with black cloth. Besides these articles we found twine, nails, saws, files, bristles, wax-ends, sail-makers' palms, powder, bullets, shot, cartridges, wads, leather cartridge-case, knives—clasp and dinner ones, needle and thread cases, slow-match, several bayonet scabbards, cut down into knife sheaths, two rolls of sheet-lead, and, in short, a quantity of articles of one description and another truly astonishing in variety, and such as, for the most part, modern sledge-travellers in these regions would consider a mere accumulation of dead weight, of little use, and very likely to break down the strength of the sledge crews. The only provisions we could find were tea and chocolate; of the former very little remained, but there were nearly 40 lbs. of the latter. These articles alone could never support life in such a climate, and we found neither biscuit nor meat of any kind. A portion of tobacco, and an empty pemmican tin, capable of containing 22 lbs. weight, were discovered. The tin was marked with an E; it had probably belonged to the 'Erebus.' None of the fuel originally brought from the ships remained in or about the boat, but there was no lack of it, for a drift tree was lying on the beach close at hand, and had the party been in need of fuel, they would have used the paddles and bottom boards of the boat. In the after-part of the boat we found eleven large spoons, eleven forks, and four tea-spoons, all of silver. Of these twenty-six pieces of plate, eight bore Sir John Franklin's crest; the remainder had the crests or initials of nine different officers, with the exception of a single fork, which was not marked; of these nine officers, five belonged to the 'Erebus'—Gore, Le Vesconte, Fairholme, Couch, and Goodsir. Three others belonged to the 'Terror'—Crozier (a teaspoon only), Hornby, and Thomas. I do not know to whom the three articles with an owl engraved on them belonged, nor who was the owner of the unmarked fork, but of the owners of those we can identify, the majority belonged to the 'Erebus.' One

of the watches bore the crest of Mr Couch of the 'Erebus,' and as the pemmican tin also came from that ship, I am inclined to think the boat did also. One of the pocket chronometers found in the boat was marked, 'Parkinson and Frodsham 980,' the other, 'Arnold 2020;' these had been supplied one to each ship. Sir John Franklin's plate perhaps was issued to the men for their use, as the only means of saving it; and it seems probable that the officers generally did the same, as not a single iron spoon, such as sailors always use, has been found. Of the many men, probably twenty or thirty, who were attached to this boat, it seems most strange that the remains of only two individuals were found, nor were there any graves upon the neighbouring flat land; indeed, bearing in mind the season at which these poor fellows left their ships, it should be remembered that the soil was then frozen hard as rock, and the labour of *quarrying* a grave very great indeed."

McClintock was surprised to find that the boat-sledge was directed to the north-east, in a line for the next point of land to which he himself was travelling, namely, toward Victory Point. This discovery set the captain upon a suggestive line of reflection. The position of the abandoned boat was 50 miles from Point Victory, 65 miles from the position of the ships, 70 miles from the spot on which the skeleton of the steward was found, and 150 miles from Montreal Island. "A little reflection," writes the captain, "led me to satisfy my own mind, at least, that this boat was *returning to the ships*. In no other way can I account for two men having been left in her than by supposing the party were unable to drag the boat farther, and that these two men, not being able to keep pace with their shipmates, were therefore left by them, supplied with such provisions as could be spared, to last them until the return of the others with a fresh stock. Whether it was the intention of this boat party to await the result of another season in the ships, or to follow the track of the main body to the Great Fish River, is now a matter of conjecture. It seems more than probable that they fully intended to revisit the boat, not only on account of the two men left in charge of it, but also to obtain the chocolate, the five watches, and many other small articles which otherwise would scarcely have been left in her." McClintock believes that the same reasons which may account for the return of the boat party from the main body of the men who had started for Great Fish River under Captain Crozier may also explain why they did not come back to the boat; and that in both cases they over-estimated their strength, and under-estimated the distances they had to travel. It will never be ascertained whether any of the men belonging to the return party ever reached the ships; but it is evident they did not return to the boat, or more skeletons would have been found on the spot. From Erebus Bay, on the shore of which the boat was discovered, McClintock travelled on northward along the coast-line, carefully

searching for remains of the stranded ship mentioned by the natives, but finding none.

The captain and his party arrived at Point Victory on the 2d June, and found there a note from Hobson, stating that he had found no trace of a wreck anywhere on the coast, that he had seen no natives, but had picked up a duplicate of the record found on Point Victory. In the duplicate, as well as in the original record, the same curious mistake as to the date of the wintering of the expedition at Beechey Island is made. M'Clintock can only account for the error of filling in the year 1846-47 instead of 1845-46, by supposing that little importance was attached to these documents by Fitzjames, who was probably more interested at the time with the grand triumph of the expedition, the discovery of the North-West Passage, than with the details which he was chronicling.

At Point Victory M'Clintock discovered a vast quantity and variety of things strewed about the cairn beside which the record was found. "Amongst these," he writes, "were four heavy sets of boat's cooking stoves, pickaxes, shovels, iron hoops, old canvas, a large single block, about four feet of a copper lightning conductor, long pieces of hollow brass curtain rods, a small case of selected medicines containing about twenty-four phials, the contents in a wonderful state of preservation; a dip circle by Robinson, with two needles, bar magnets, and light horizontal needle, all complete, the whole weighing only 9 lbs.; and even a small sextant engraved with the name of 'Frederick Hornby' lying beside the cairn without its case. The coloured eye-shades of the sextant had been taken out, otherwise it was perfect; the moveable screws and such parts as come in contact with the observer's hand were neatly covered with thin leather to prevent frost-bite in severe weather. The clothing left by the retreating crews of the 'Erebus' and 'Terror' formed a huge heap four feet high; every article was searched, but the pockets were empty, and not one of all these articles was marked—indeed sailors' warm clothing seldom is. Two canteens, the property of marines, were found, one marked '88 C°. Wm. Hedges,' and the other '89 C°. Wm. Heather.' A small pannikin, made out of a 2-lb. preserved meat tin, had scratched on it 'W. Mark.' These abandoned superfluities afford the saddest and most convincing proof that here—on this spot—our doomed and scurvy-stricken countrymen calmly prepared themselves to struggle manfully for life."

The coast-line between Point Victory and Cape Felix had been carefully examined by Hobson. Two cairns and many relics were discovered, and the more interesting among the latter were brought away. M'Clintock did not therefore consider it necessary to re-examine this tract of beach. The survey of this part of the coast, however, convinced him, as it had also convinced Hobson, that "no part of the coast (of King William Land) between Cape Felix and Cape Crozier has been visited by Eskimos since the fatal march of

the lost crews in April 1848; no cairn disturbed; none of the numerous articles strewed about them, nor the scanty driftwood we noticed at long intervals—although invaluable to the natives—had been touched. From this very significant fact it is quite certain that they had not been discovered by the Eskimos, whose knowledge of the white men falling down and dying as they walked along must be limited to the shore-line *southward and eastward of Cape Crozier*, and where of course no traces were permitted to remain for us to find. It is not probable that such fearful mortality could have overtaken them so early in their march as within eighty miles by sledge route from the abandoned ships—such being the distance of the latter from Cape Crozier; nor is it probable that we could have passed the wreck had she existed there." The captain's belief is that the ships drifted south from the position in which they were abandoned, and that they were not wrecked until, carried by the flood-tide from the north, they had been swept southward past Cape Crozier into Simpson Strait, and that thus the vessels actually made the North-West Passage. It was therefore "off the *south-west* coast of King William Island that the abandoned ships were destroyed."

So far as McClintock was concerned, the search for traces of the Franklin expedition had now successfully terminated, and it only remained for the commander to make the best of his way back to Belot Strait, and wait a favourable opportunity of making sail for England. He accordingly proceeded north from Point Victory, crossed overland from Walls Bay to the eastern shore, and traversed the east coast of the island to the south of Cape Sabine. On this side of the island there was a good deal of vegetation, and animals frequented the coast in considerable numbers. The contrast between these habitable shores and those of the west side of the island was very striking. "Nothing can exceed the gloom and desolation of the western coast of King William Island," says McClintock. "Hobson and myself had some considerable experience of it; his sojourn there exceeded a month. Its climate seems different from that of the eastern coast; it is more exposed to north-west winds, and the air was almost constantly loaded with chilling fogs," blown over the land no doubt by the prevailing winds from McClintock Channel, which seems to be constantly filled with very heavy pack. Early in June Captain McClintock again crossed over James Ross Strait, and once more found himself on the straight limestone coast of Boothia Peninsula. As he proceeded northwards he searched carefully for Sir James Ross's cairn at the Magnetic Pole, but could find no trace of it. Like the cairn raised by the same explorer on Point Victory, King William Island, it had been destroyed by the natives. A note left for McClintock at one of the depôts informed him that Hobson, who was six days in advance on the captain's party, had become seriously ill, and was unable to walk. His men

had placed him on the sledge, and were hastening "home" to have him put as soon as possible under the doctor's care.

The captain reached the western entrance of Bellet Strait on the 18th June. The summer thaw had now covered the ice with such a depth of water that it was found impossible to proceed. The men therefore hauled the sledges up off the flooded ice, and commenced a march of sixteen or seventeen miles overland for the ship. "The poor dogs," writes M'Clintock, "were so tired and sore-footed, that we could not induce them to follow us—they remained about the sledges. After a fatiguing scramble across the hills, and through the snow valleys," continues the captain, "we were refreshed with a sight of our poor, dear, lonely little 'Fox,' and arrived on board for a late breakfast on the 19th June, after an absence of seventy-eight days."

CHAPTER VIII.

DEATH OF BLACKWELL—CAPTAIN ALLEN YOUNG'S JOURNEY—LIEUTENANT HOBSON'S JOURNEY—RELEASE AND HOMEWARD VOYAGE—LIST OF PRINCIPAL RELICS FOUND.

As soon as Captain M'Clintock arrived at his winter quarters on the morning of the 19th June, he eagerly inquired about Lieutenant Hobson. That intrepid officer had been brought home on the 14th so weak from scurvy, from which he had been suffering at the commencement of his journey, that he could not walk or even stand without assistance, and had at once been put to bed and subjected to rigorous treatment by Dr Walker. M'Clintock found him rapidly mending in health, and in excellent spirits. The record he had found on the beach at Victory Point was to him a living fountain of health. And then everybody was kind to him. The Greenlander, Christian, had shot a number of ducks, and on these succulent water-fowl, backed up with preserved potatoes, milk, strong ale, lime-juice, and whale-fish hide, the gallant lieutenant was in the fair way of soon becoming himself again.

Among the crew, however, one death had taken place during the absence of the captain—that of Thomas Blackwell, ship's steward. Poor Blackwell had the charge of the ship's spirits, and the burden seemed to weigh upon him. He accordingly endeavoured to diminish it as rapidly as possible by consumption. The natural result followed. He became careless in all his habits, cherished a dislike to preserved meats, and never took any, nor any preserved potatoes, unless he was watched and compelled to use them. He would not, except on compulsion, put on clean clothes, and at last he had to be forcibly taken on deck in order to have change of air. All that was manly having apparently died out of him, he appears to have sunk at last, almost in neglect. "He went on deck as usual," says M'Clintock, "and when found there, was quite dead." The event, however, had been expected for some time, and was regarded as merely one of the incidents to be expected under the conditions.

But the prevailing sentiment on board the "Fox" after the return of M'Clintock was that of satisfaction and great content. The feeling of the



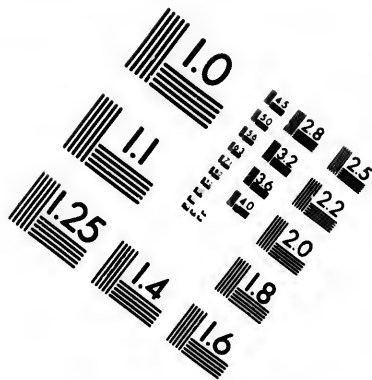
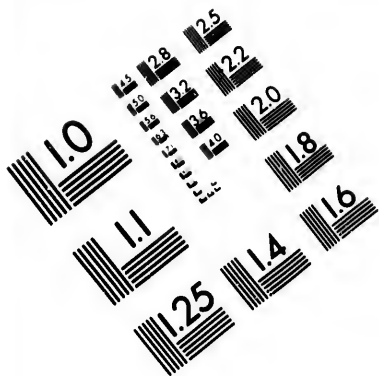
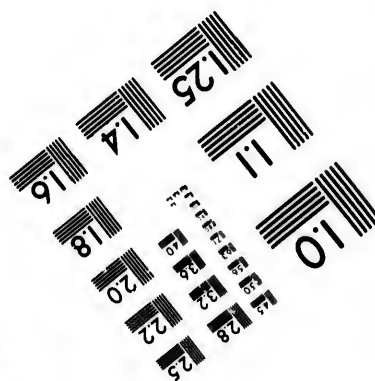
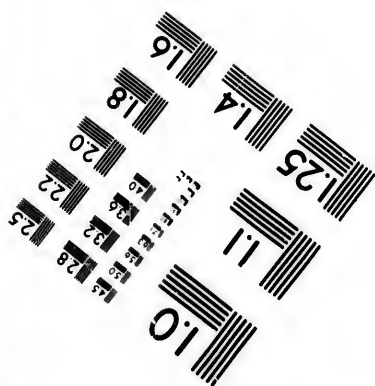
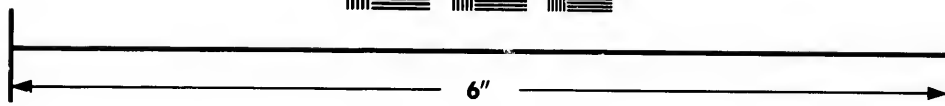
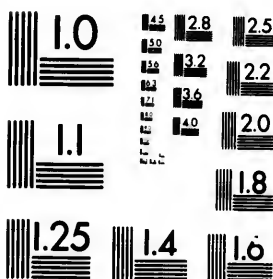


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officers and men—for in this little yacht all seemed to live on equal terms—is well expressed by Captain Allen Young. "We had been prepared," he writes, "by the report brought from the Eskimos in February to find that all hopes of survivors were at an end, and that the expedition had met with some fatal and overwhelming casualty; but we were scarcely prepared to know, nor could we even have realised the manner in which they spent their last days upon earth, so fearful a sojourn must it have been. Beset and surrounded with wastes of snow and ice, they passed two more terrible winters drifting slowly to the southward at the rate of one mile in the month, hoping each summer that the ice would open, and determined not to abandon their ships until every hope was gone. In nineteen months they had only moved some eighteen miles, their provisions daily lessening, and their strength fast failing. They had at last left their ships for the Fish River at least two months before the river could break up and allow them to proceed, and in the then imperfect knowledge of ice travelling they could not have carried with them more than forty days' provisions. Exhausted with scurvy and starvation, 'they dropped as they walked along,' and those few who reached Montreal Island must all have perished there; and but for their having travelled over the frozen sea we should have found the remains of these gallant men as they fell by the way, and but for the land being covered deeply with snow, more relics of those who had struggled to the beach to die would have been seen. They all perished, and, in dying in the cause of their country, their dearest consolation must have been to feel that Englishmen would not rest until they had followed up their footsteps, and had given to the world what they could not then give—the grand result of their dreadful voyage—their *discovery of the North-West Passage*. They had sailed down Peel and Victoria Straits, now appropriately named Franklin Straits, and the poor human skeletons lying upon the shores of the waters in which Dease and Simpson had sailed from the westward, bore melancholy evidence of their success."

Having witnessed with limitless gratification the satisfaction of his officers and crew with the results of the discoveries made by himself and Hobson—results that had brought the doubts and griefs of more than ten years to an end—McClintock now chiefly concerned himself about Captain Allen Young, who for some time had been absent with an exploring party. Young had set out on the 7th April with a sledge party of four men, and a second sledge, drawn by six dogs, under the management of one of the Greenlanders, with the view of exploring and examining Franklin Strait (first named Peel Strait) and Prince of Wales Island. His journey was of the dimmallest description. He was afflicted with almost incessant gales, and his progress thereby much retarded. But nothing would stop him; for, finding that a channel existed between Prince of Wales Land and Victoria Land, whereby his field for discovery and search would be lengthened, he sent

back one sledge, the tent, and four men, to the ship, in order that he might thus be able to afford out of his stores as much provision for himself and one companion as might serve them and their dogs for forty days. Young's companion was George Hobday, "a fine young man-of-war's man, and also a man of few words." For many days Young and the silent, loyal Hobday trudged on together, sleeping at night in such snow-lodges as they could build. "They journeyed when the storms abated, pushing on—without regard to day or night on these occasions—as long as their strength permitted. "Once," says M'Clintock, "when quite worn out with fatigue, they slept an unbroken sleep of many hours, their snow-hut so buried in the drift as to be unusually warm and snug, and the storm without, supplying an appropriate lullaby; and so a day slipped by unnoticed. It would have been a marvel had they retained their reckoning during these forty dreary, dismal periods—those days without nights. Young, however, was too good a traveller to be much put out by having lost a day. He tested and corrected his calendar by comparing his observed lunar distance with that given in the 'Nautical Almanac.'" After forty days of constant exposure and fatigue, however, Young, whose health had materially suffered, was compelled to return to the ship for medical aid. He arrived on the 7th June, procured restoratives, and having somewhat recovered, went away again on the 10th to complete his department of the search. His zeal was inexhaustible, and his spirit unbroken by the hardships he endured; and though Dr Walker lodged a protest against his again leaving the ship, on the ground that from illness he was unequal to the task of resuming the search, he re-equipped his two sledge parties, and went away to the westward once more.

His journey, a report of which he submitted to Captain M'Clintock, comprised in all seventy-eight days of sledge travelling under the most trying circumstances. Its incidents and results are thus summarised by M'Clintock: "Leaving the ship on 7th April, he crossed Sir J. Franklin Strait to Prince of Wales Land, and thence traced its shore to the south and west. On reaching its southern termination, Cape Swinburne—so named in honour of Rear-Admiral Swinburne, a much esteemed friend of Sir J. Franklin, and one of the earliest supporters of this final expedition—he describes the land as extremely low, and deeply covered with snow, the heavy grounded hummocks which fringed its monotonous coast alone indicating the line of demarcation betwixt land and sea. To the north-east of this terminal cape the sea was covered with level floe formed in the fall of last year, whilst all to the north-westward of the same cape was pack, consisting of heavy ice-masses, formed perhaps years ago in far distant and wider seas.

"Young attempted to cross the channel (M'Clintock Channel) which he discovered between Prince of Wales Island and Victoria Land, but, from the

rough nature of the ice, found it quite impracticable with the means and time remaining at his disposal. He expresses his firm conviction that this channel is so constantly choked up with unusually heavy ice as to be quite unnavigable; it is, in fact, a *continuous ice-stream* from the north-west. His opinion coincides with my own, and with those of Captains Ommanney and Osborn, when these officers explored the north-western shores of Prince of Wales Land in 1851; and also with the opinion formed by Captain R. Collinson, C.B., when that officer discovered Gateshead Island, which lies near its southern shore, and at the north-east extreme of Victoria Land. Fearing that his provisions might run short, he sent back one sledge with four men, and continued his march with only one man and the dogs for forty days! They were obliged to build a snow-hut each night to sleep in, as the tent was sent back with the men; but latterly, when the weather became more mild, they preferred sleeping on the sledge, as the construction of a snow-hut usually occupied them for two hours. Young completed the exploration of this coast beyond the point marked upon the charts as Osborn's farthest, up nearly to lat. 73° N., but no cairn was found. He, however, recognised the remarkably shaped conical hills noticed by Osborn when, at his farthest in 1851, he struck off-shore to the westward.

"The coast-line throughout was extremely low; and in the thick, disagreeable weather which he almost constantly experienced, it was often a matter of great difficulty to prevent straying inland from it. He commenced his return on 11th May, and reached the ship on 7th June, in wretched health and depressed in spirits. Directly his health was partially re-established, and in spite of the doctor's remonstrances, he again set out on the 10th with his party of men and the dogs to complete the exploration of both shores of Sir John Franklin Strait, between the position of the 'Fox' and the points reached by Sir James Ross in 1849, and of Lieutenant Browne in 1851. This he accomplished without finding any trace of the lost expedition, and the parties were again on board by 28th June. The ice travelled over in this last journey was almost all formed last autumn."

Of Lieutenant Hobson's journey, the principal results—the discovery of the famous record, and of an immense number of relics on the north-west shores of King William Island—have been already referred to. He was absent from the ship seventy-four days in all, during the greater part of which time he suffered acutely from scurvy. Before he was ten days away from the ship he was suffering severe pains in the limbs, and began to walk lame, and towards the close of the journey he was compelled to allow himself to be dragged on the sledge. When he arrived at the ship he could neither walk nor stand. His illness does not seem to have been caused by insufficient or unwholesome food. He ate the best pemmican—the most nutritious sort of food known—varied at intervals by newly-killed game.

"How strongly this bears upon the last sad march of the lost crews," exclaims McClintock. "In spite of this fresh meat, scurvy advanced with rapid strides. And here," continues the commander, "let me observe, that amongst all the relics of the ill-fated expedition, *no preserved meat or vegetable tins were found*, either about the cairns or along the line of retreat. The inference is as plain as it is painful!"

After leaving Captain McClintock at Cape Victoria, on the south-west coast of Boothia, Hobson found no difficulty in crossing James Ross Strait. The ice, he says, appeared to be of but one year's growth. As he advanced farther west, however, and came within the region reached or affected by the stupendous pack which slowly but perpetually travels down McClintock Channel from the fearful frozen ocean beyond the Parry Islands, the character of the ice underwent a surprising change. Immediately off the beach at Cape Felix the pressure was severe, but the ice itself was not remarkably heavy, as "the shoalness of the coast keeps the line of pressure at a considerable distance from the beach;" but to the northward of King William Island, where Franklin's ships were first beset, the ice was "very rough and crushed up into large masses." In fact this very rough ice to the northward of the island was simply the impracticable pack from McClintock Channel, which is originally formed far to the west of Melville and Prince Patrick Islands. It is described by Commander Mechem as consisting of floes, with mounds of blue ice upon it, of from five to twenty feet in height.

Upon the desolate western shores of King William Island Hobson spent thirty-one days. He first came upon traces of the Franklin expedition after having passed westward round Cape Felix. "He found a large cairn, and close beside it three small tents, with blankets, old clothes, and other vestiges of a shooting or magnetic station; but although the cairn was dug under, and a trench dug all round it to a distance of ten feet, no record was discovered. A sheet of white paper, folded up, was found in the cairn, but even under the microscope no trace of writing appears. Two broken bottles (corked) lay amongst the loose stones which had fallen off the cairn, and these may perhaps have contained records. The most interesting of the relics, including a small English ensign, and the iron heads of two boarding-pikes, were brought away. The tents lay prostrate, and without tent-poles; it seems highly probable that the pikes had been used for that purpose, and were subsequently burned for fuel. Two miles farther to the south-west a small cairn was found, but neither record nor relics; and about three miles north of Point Victory a third cairn was examined, but only a broken pickaxe and empty canister found." The finding of the ships' record and the boat has already been described.

On their return to the ship after their respective journeys, both Hobson

and Young were seriously ill. By the skill and resources of Dr Walker, however, they rapidly improved, and soon Captain McClintock is able to state that all on board are "indulging in an enormous consumption of eatables, such as only those can do who have been much reduced by long-continued fatigue and exposure to cold." The fare now included "venison, ducks, beer, and lemon-juice, daily; preserved apples and cranberries three times a week; and pickled whale-skin—a famous anti-scorbutic—*ad libitum* for all who liked it." Meantime the weather, which had been wet, windy, and miserable, now set in fair; the carpenter's hammer resounded all over the little yacht; and as the sailors plied their work, their cheery voices had an unwonted and animating effect. By the 9th July the ship had been cleaned, the provisions taken on board, the tanks filled with fresh water, and all the usual preparations made to take advantage of the first break-up of the ice to escape from Port Kennedy. On the 6th August steam was got up, and Captain McClintock himself, assisted by the two stokers, worked the engines. On the 8th the ice was much broken up in Brentford Bay, and a good deal of open water with a water-sky beyond was seen off Cape Garry. On the 9th, under the influence of a south-west wind, the ice cleared off, and McClintock steamed out of Port Kennedy, and along the land toward Cape Garry. After a few days' detention in Cresswell Bay, Fury Beach was passed on the 17th; and on the 21st, the "Fox," having passed through Lancaster Sound and entered Baffin Bay, was "out of sight of land." On the 28th August the vessel was safely anchored in Lively Harbour, and the officers engaged in reading letters from home. Cape Farewell was passed on the 10th September, and on the 20th the "Fox" arrived in the English Channel.

The extent of new coast-line explored by Captain McClintock, Captain Allen Young, and Lieutenant Hobson, amounted in all to 800 geographical miles. "In the Franklin search," writes McClintock, "more than 40,000 miles have been sledged, including 8000 miles of coast-line minutely examined by parties varying from five to eleven persons, remaining absent from their ships for periods ranging up to one hundred and five days, and dragging along with them provisions for five, six, or seven weeks. Sledge parties travelled in every month, excepting only the dark ones of December and January, in temperatures not unfrequently 40° below zero (of Fahrenheit), and occasionally even 10° or 15° colder still. It was found that men employed on long sledge journeys lost on the average about 12 lbs. weight; and where they would drag a moderately laden sledge thirteen miles a day, an equal number of dogs would drag half the same load for twenty-seven miles. The work of a single expedition of two ships (Kellett's and my own) with ninety officers and men, at a wintering station, amounted to 1282 statute miles sledged in autumn, and 7352 miles in spring, by eleven

parties; in this manner 1800 miles of coast-line were explored. These great results are astonishing; and yet the system of sledge exploration is capable of still further development; already it has brought even the North Pole of the earth within our reach! What laurels, what world-wide renown will be his, who first accomplishes this crowning feat of geographical discovery!"

The following is a list of the principal relics of the Franklin expedition brought to England in the "Fox," and deposited in the Museum of the United Service Institution:

"Relics brought from the boat found in lat. 69° 8' 43" N., long. 99° 24' 42" W., upon the West Coast of King William Island, May 30, 1859.

"Two double-barrelled guns, one barrel in each is loaded. Found standing up against the sides in the after-part of the boat.

"A small Prayer-book; cover of a small book of 'Family Prayers;' 'Christian Melodies,' an inscription within the cover to 'G. G.' (Graham Gore?); 'Vicar of Wakefield;' a small Bible, interlined in many places, and with numerous references written in the margin; a New Testament in the French language.

"Two table-knives, with white handles, one is marked 'W.R.' (ward-room); a gimlet; an awl; two iron stanchions, 9 inches long, for supporting a weather cloth, which was round the boat.

"26 pieces of silver plate—11 spoons, 11 forks, and 4 teaspoons; 3 pieces of thin elm-board (tingles) for repairing the boat, and measuring 11 inches by 6 inches, and 3-10ths inch thick.

"Piece of canvas: Bristles for shoemaker's use, bullets, short clay pipe, roll of waxed twine, a wooden button, small piece of a port-fire, two charges of shot tied up in the finger of a kid glove, fragment of a seaman's blue serge frock. Covers of a small Testament and Prayer-book, part of a grass cigar-case, fragment of a silk handkerchief, thread-case, piece scented soap, three shot charges in kid glove fingers, a belted bullet, a piece of silk pocket-handkerchief. Two pairs of goggles, made of stout leather, and wire gauze instead of glass; a sailmaker's palm, two small brass pocket compasses, a snooding line rolled up on a piece of leather, a needle and thread case, a bayonet scabbard altered into a sheath for a knife, tin water bottle for the pocket, two shot pouches (full of shot).

"Three spring hooks of sword belts, a gold-lace band, a piece of thin gold twist or cord, a pair of leather goggles with crape instead of glass; a small green crape veil.

"Two small packets of blank cartridge in green paper, part of a cherry-stick pipe stem, piece of a port-fire, a few copper nails, a leather boot-lace, a seaman's clasp-knife, two small glass stoppered bottles (full), three glasses of spectacles, part of a broken pair of silver spectacles, German-silver pencil-case, a pair of silver (?) forceps, such as a naturalist might use for holding or seizing small insects, etc.; a small pair of scissors rolled up in blank paper, and to which adheres a printed Government paper, such as an officer's warrant or appointment; a spring hook of a sword belt, a brass charger for holding two charges of shot.

"A small bead purse, piece of red sealing-wax, stopper of a pocket flask, German-silver top and ring, brass matchbox, one of the glasses of a telescope, a small tin cylinder, probably

made to hold lucifer matches; a linen bag of percussion caps of three sizes, a very large and old-fashioned kind, stamped 'Smith's patent;' a cap with a flange similar to the present musket caps used by Government, but smaller; and ordinary sporting caps of the smallest size.

"Five watches.

"A pair of blue glass spectacles or goggles with steel frame, and wire gauze encircling the glasses, in a tin case.

"A pemmican tin, painted lead colour, and marked 'E' (Erebus) in black. From its size it must have contained 20 lbs. or 22 lbs.

"Two yellow glass beads, a glass seal with symbol of Freemasonry.

"A 4-inch block, strapped, with copper hook and thimble, probably for the boat's sheet."

"Relics found about Ross's Cairn, on Point Victory, May and June 1859, brought away.

"A 6-inch dip circle by Robinson, marked 'I 22.' A case of medicines, consisting of 25 small bottles, canister of pills, ointment, plaster, oiled silk, etc. A 2-foot rule, two joints of the cleaning rod of a gun, and two small copper spindles, probably for dog-vanes of boats. The circular brass plate broken out of a wooden gun-case, and engraved 'C. H. Osmer, R.N.' The field glass and German-silver top of a 2-foot telescope, a coffee canister, a piece of a brass curtain-rod. The record tin, on which the record dated 25th of April 1848. A 6-inch double frame sextant, on which the owner's name is engraved, 'Frederick Hornby, R.N.'"

PART XIII.

ARCTIC EXPEDITIONS FROM FOREIGN SHORES.

CHAPTER I.

AMERICAN EXPEDITIONS—KANE'S VOYAGE TO SMITH SOUND, 1853-55—ENTRANCE
TO SMITH SOUND—A STORM—ARCTIC FLORA—WINTER QUARTERS REACHED.

THE first exploring expedition sent out into the Arctic seas from the United States was that under Lieutenant de Haven (see p. 535), in the "Advance" and "Rescue," which were bought, equipped, and provisioned by Mr Henry Grinnell, of New York. As we have already seen, this was strictly a Franklin search expedition, and as such it has already been dealt with as one of the volunteer expeditions sent out to seek for the lost squadron in 1850-51. The Smith Sound expedition, commanded by Dr Kane, also in a sense belongs to the series of the Franklin voyages, and might fairly enough have been discussed, like the others of that series, in the section of our work which deals with "The Franklin Search—1850-54." There are reasons, however, for regarding it rather as an important naval enterprise, undertaken with the objects of exploration and discovery generally, than as a voyage to the Arctic seas in search of Sir John Franklin. It was conducted in a region in which there was no hope of finding the lost explorer—it was continued after Dr Rao had ascertained that the fate of Franklin must be revealed on the shores of King William Land and the estuary of the Great Fish River; and the aims and achievements of its commander show that geographical discovery was a principal, if it was not the paramount and inspiring, spring of action animating the entire enterprise. It has therefore been considered convenient to treat the famous voyage of Kane as one of the group of American expeditions undertaken for the general purposes of exploration in the Arctic seas.

Captain Penney in 1851 spoke of Dr Elisha Kent Kane as a "highly intelligent medical officer of the American [De Haven's] expedition." The intelligence of the young doctor had commended itself to many besides the

sagacious whaling captain. On his return with De Haven, Kane was employed, under the orders of the United States Navy Department, to arrange and elaborate the scientific and other results of the voyage; and in the month of December 1852, about fourteen months after his return, he "had the honour of receiving special orders from the Secretary of the Navy to 'conduct an expedition to the Arctic seas in search of Sir John Franklin.'" To the expenses of the undertaking Mr Henry Grinnell, Mr George Peabody, and the chief scientific institutions of America, were the chief contributors.

The "Advance," in which he had formerly sailed in the De Haven expedition, was placed at Dr Kane's disposal for the cruise by Mr Grinnell. His crew consisted of seventeen officers and men, including Messrs Brooks and Morton, who had previously sailed with him, and Isaac J. Hayes, a medical student from Philadelphia; and his equipment consisted of five boats, a quantity of rough boards, to serve for housing over the vessel in winter, some tents of India-rubber and canvas, and a number of sledges. It is important in connection with the fearful sufferings afterwards undergone from scurvy, to note what provisions had been considered suitable for the voyage. "Our store of provisions," writes Dr Kane, "was chosen with little regard to luxury. We took with us some 2000 lbs. of well-made pemmican, a parcel of Borden's meat-biscuit, some packages of an exsiccated (dried) potato, some pickled cabbage, and a liberal quantity of American dried fruits and vegetables. Besides these we had the salt beef and pork of the navy ration, hard biscuit and flour. A very moderate supply of liquors, with the ordinary *et ceteras* of an Arctic cruiser, made up the diet list. I hoped to procure some fresh provisions in addition before reaching the upper coast of Greenland; and I carried some barrels of malt, with a compact apparatus for brewing." Kane may well say his store of provisions "was chosen with little regard to luxury;" he might have added, "or health." The "Advance" left New York on the 30th May 1853, never to return.

St John's, Newfoundland, was reached on the 17th June, and here Dr Kane was able to purchase a fresh stock of beef, "which, after removing the bones and tendons," he explains, "we compressed into rolls, by wrapping it closely with twine, and hung up in the rigging." As he must have used salt or pickle in the process, however, this investment of "fresh beef" was merely adding to his salted store of that article. At Fiskernaes he engaged an Eskimo hunter for the service of the expedition, one Hans Christian, who was "fat, good-natured, and, except under the excitement of the hunt, as stolid and unimpressionable as one of our own Indians."

Dr Kane reached the south entrance to Melville Bay on the 17th July. "I did not deem it advisable," he writes, "to attempt the usual passage

along the fast floes of the land, but stood directly to the northward and westward, until I met the middle pack. Here we headed nearly direct for Cape York, and succeeded in crossing the bay without injury in ten days after first encountering the ice. On the 7th of August we reached the headland of Sir Thomas Smith Sound, and passed the highest point obtained by my predecessor, Captain Inglefield, R.N. . . . Now I felt sure, from the known openness of the season of 1852, and the probable mildness of the following winter, that we could scarcely hope to make use of the land-ice for tracking, or to avail ourselves of leads along its margin by canvas. And this opinion was confirmed by the broken and rotten appearance of the floes during our coastwise drift at the Duck Islands. I therefore deserted the inside track of the whalers, and stood to the westward, until we made the first streams of the middle pack; and then, skirting the pack to the northward, headed in slowly for the middle portion of the bay above Sabine Islands. My object was to double, as it were, the loose and drifting ice that had stood in my way, and, reaching Cape York, as nearly as might be, trust for the remainder of my passage to warping and tracking by the heavy floes. We succeeded, not without some laborious boring and serious risks of entanglement among the broken icefields. But we managed, in every instance, to combat this last form of difficulty by attaching our vessel to large icebergs, which enabled us to hold our own, however swiftly the surface floes were pressing by us to the south. Four days of this scarcely varied yet exciting navigation brought us to the extended fields of the pack, and a fortunate north-wester opened a passage for us through them. We are now in the North Water."

Cape Alexander and Cape Isabella were in sight on the 6th August, and the appearance of the coast was cheerless and oppressive. Dr Kane's description of it from the entrance of Smith Sound is exceedingly graphic. He says: "As we look far off to the west, the snow comes down with heavy uniformity to the water's edge, and the patches of land seem as rare as the summer's snow on the hills about Sukkertoppen and Fiskernaes. On the right we have an array of cliffs, whose frowning grandeur might dignify the entrance to the proudest of southern seas. I should say they would average from four to five hundred yards in height, with some of their precipices eight hundred feet at a single steep. They have been until now the Arctic pillars of Hercules; and they looked down on us as if they challenged our right to pass. Even the sailors are impressed, as we move under their dark shadow. One of the officers said to our look-out, that the gulls and eider that dot the water about us were as enlivening as the white sails of the Mediterranean. 'Yes, sir,' he rejoined, with sincere gravity—'yes, sir, in proportion to their size!'

"August 7, Sunday.—We have left Cape Alexander to the south; and

Littleton Island is before us, hiding Cape Hatherton, the latest of Captain Inglefield's positively-determined headlands. We are fairly inside of Smith Sound. On our left is a capacious bay; and deep in its north-eastern recesses we can see a glacier issuing from a fiord.

"We knew this bay familiarly afterward, as the residence of a body of Eskimos with whom we had many associations; but we little dreamt then that it would bear the name of a gallant friend, who found there the first traces of our escape. A small cluster of rocks, hidden at times by the sea, gave evidence of the violent tidal action about them.

"As we neared the west end of Littleton Island, after breakfast this morning, I ascended to the crow's-nest, and saw to my sorrow the ominous blink of ice ahead. The wind has been freshening for a couple of days from the northward, and if it continues it will bring down the flocks on us.

"My mind has been made up from the first that we are to force our way to the north as far as the elements will let us; and I feel the importance therefore of securing a place of retreat, that in case of disaster we may not be altogether at large. Besides, we have now reached one of the points, at which, if any one is to follow us, he might look for some trace to guide him."

Upon Littleton Island Dr Kane deposited his metallic lifeboat, and such of his provisions and stores as it was not probable he should be in immediate need of for some time to come. The boat, with her cargo, was buried, and covered with a mixture of sand and water, which immediately froze into a solid mass. "Our stores deposited," says Kane, "it was our next office to erect a beacon, and entrust to it our tidings. We chose for this purpose the western cape of Littleton Island, as more conspicuous than Cape Hatherton—built our cairn, wedged a staff into the crevices of the rocks, and spreading the American flag, hailed its folds with three cheers as they expanded in the cold midnight breeze. These important duties performed—the more lightly, let me say, for this little flicker of enthusiasm—we rejoined the brig early in the morning of the 7th, and forced on again toward the north, beating against wind and tide."

It was Dr Kane's design to carry his ship as far to the north as possible, and afterwards to send out sledge parties along the shores, with the view of discovering new lands, and advancing his country's flag to a point nearer 90° north than had ever yet been reached. He was still, however (on the 7th August), too far to the south to think of going into harbour, and as the ice-blink had been seen from Flagstaff Point on Littleton Island, he made up his mind to push on to the north, and attempt to bore through the ice. He first closed with this dreaded enemy of the Arctic explorer off the west side of Littleton Island on August 8th. In lat. 78° 45' he found the ice hugging the western shore, and extending completely across the channel in a drifting mass. For a time the contest between man and floating pack was main-

tained with equal honours; but a dense fog coming on, Dr Kane, to avoid being forced on the Greenland coast, was obliged to retreat into a "beautiful land-locked cove," which was afterwards named Refuge Harbour.

For several days the "Advance" was confined in this cove, and for a considerable number of days after, her progress along the east shore of the sound was exceedingly slow. On August 13th Kane was tempted by a change of weather to push out from Refuge Harbour, and try his fortune once more in the ice. The struggle, early begun, lasted all day, and in the evening the "Advance" had only made three-quarters of a mile of northing. On August 15th and 16th the brig remained under the shelter of an island, which protected her from the gale which had sprung up on the 14th, but was now dying out. The gale wore round to the southward on the 17th, but three heavy hawsers having been carried out to the rocks of the sheltering islet, the "Advance" continued to hold on. On the morning of the 20th a perfect hurricane was raging. "We had seen it coming," writes Kane, "and were ready with three good hawsers out ahead, and all things snug on board. Still it came on heavier and heavier, and the ice began to drive more wildly than I thought I had ever seen it. I had just turned in to warm and dry myself during a momentary lull, and was stretching myself out in my bunk, when I heard the sharp twanging snap of a cord. Our six-inch hawser had parted, and we were swinging by the two others; the gale roaring like a lion to the southward. Half a minute more, and 'twang, twang!' came a second report. I knew it was the whale-line by the shrillness of the ring. Our noble ten-inch manilla still held on. I was hurrying my last sock into its sealskin boot, when M'Gary came waddling down the companion-ladders: 'Captain Kane, she won't hold much longer; it's blowing the devil himself, and I am afraid to surge.'

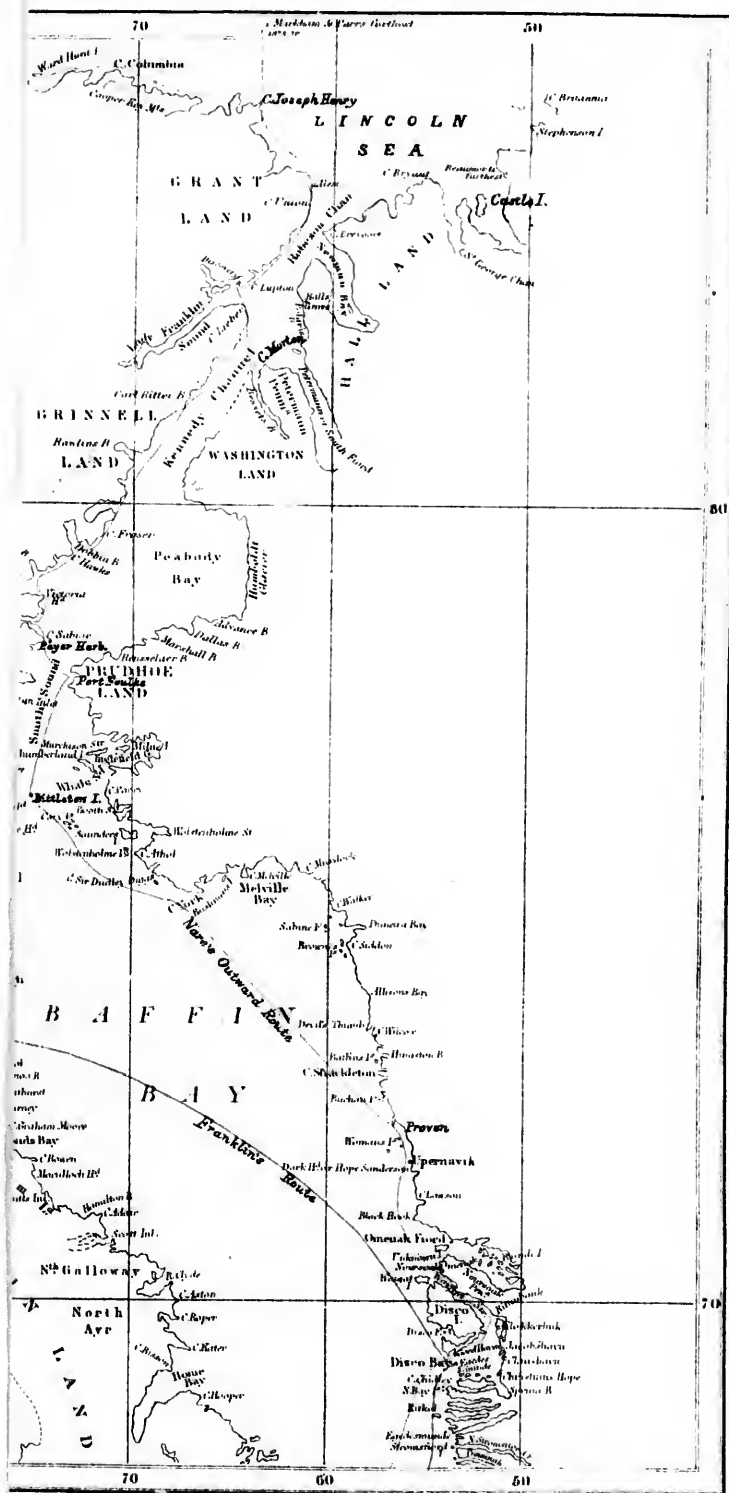
"The manilla cable was proving its excellence when I reached the deck; and the crew, as they gathered round me, were loud in its praises. We could hear its deep Æolian chant, swelling through all the rattle of the running-gear and moaning of the shrouds. It was the death-song! The strands gave way, with the noise of a shotted gun; and, in the smoke that followed their recoil, we were dragged out by the wild ice, at its mercy. We steadied and did some petty warping, and got the brig a good bed in the rushing drift; but it all came to nothing. We then tried to beat back through the narrow ice-clogged water-way that was driving, a quarter of a mile wide, between the shore and the pack. It cost us two hours of hard labour, I thought skilfully bestowed; but at the end of that time we were at least four miles off, opposite the great valley in the centre of Bedevilled Reach. Ahead of us, farther to the north, we could see the strait growing still narrower, and the heavy ice-tables grinding up, and clogging it between the shore-cliffs on one side and the ledge on the other. There was but one thing

left for us—to keep in some sort the command of the helm, by going freely where we must otherwise be driven. We allowed her to scud under a reefed fore-topsail; all hands watching the enemy, as we closed, in silence. At seven in the morning we were close upon the piling masses. We dropped our heaviest anchor with the desperate hope of winding the brig, but there was no withstanding the ice-torrent that followed us. We had only time to fasten a spar as a buoy to the chain, and let her slip. So went our best bower!

“Down we went upon the gale again, helplessly scraping along a lee of ice seldom less than thirty feet thick; one floe, measured by a line as we tried to fasten to it, more than forty. I had seen such ice only once before, and never in such rapid motion. One upturned mass rose above our gunwale, snashing in our bulwarks, and depositing half a ton of ice in a lump upon our decks. Our stanch little brig bore herself through all this wild adventure as if she had a charmed life. But a new enemy came in sight ahead. Directly in our way, just beyond the line of floe-ice against which we were alternately sliding and thumping, was a group of bergs. We had no power to avoid them; and the only question was, whether we were to be dashed in pieces against them, or whether they might not offer us some providential nook of refuge from the storm. But, as we neared them, we perceived that they were at some distance from the floe-edge, and separated from it by an interval of open water. Our hopes rose as the gale drove us toward this passage, and into it; and we were ready to exult, when, from some unexplained cause—probably an eddy of the wind against the lofty ice-walls—we lost our headway. Almost at the same moment we saw that the bergs were not at rest, that with a momentum of their own they were bearing down upon the other ice, and that it must be our fate to be crushed between the two.

“Just then a broad scone-piece or low water-washed berg came driving up from the southward. The thought flashed upon me of one of our escapes in Melville Bay; and as the scone moved rapidly close alongside us, M'Gary managed to plant an anchor on its slope, and hold on to it by a whale-line. It was an anxious moment. Our noble tow-horse, whiter than the pale horse that seemed to be pursuing us, hauled us bravely on; the spray dashing over his windward flanks, and his forehead ploughing up the lesser ice, as if in scorn. The bergs encroached upon us as we advanced: our channel narrowed to a width of perhaps forty feet: we braced the yards to clear the impending ice-walls.

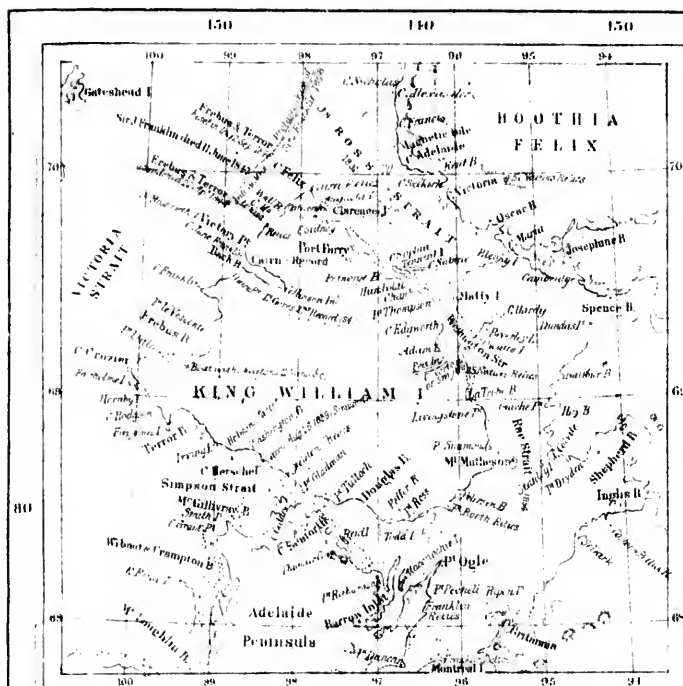
“ . . . We passed clear, but it was a close shave—so close that our port-quarter boat would have been crushed if we had not taken it in from the davits—and found ourselves under the lee of a berg, in a comparatively open lead. Never did heart-tried men acknowledge with more gratitude their merciful deliverance from a wretched death. . . .”



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ROUTE MAP OF THE FRANKLIN EXPEDITION

("EREBUS & TERROR") 1845

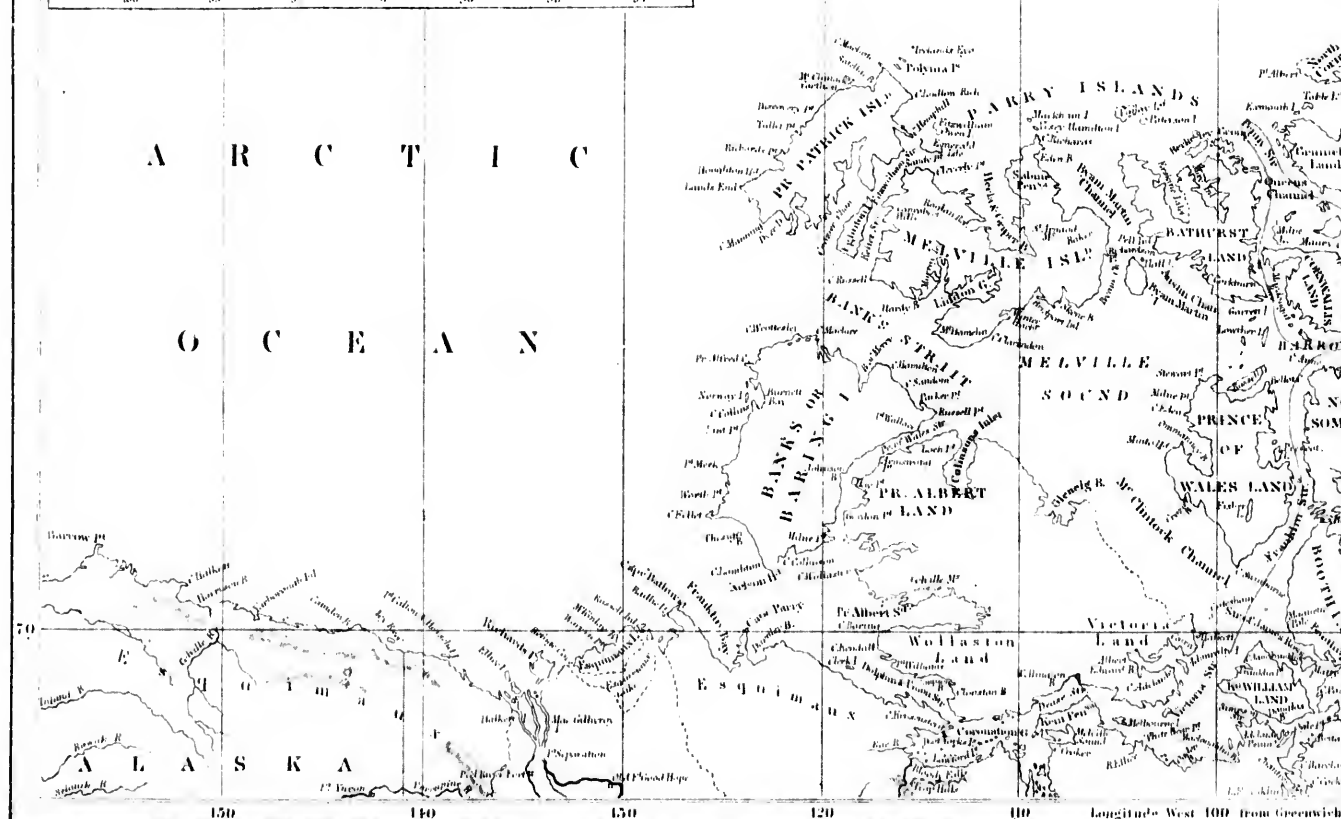
& OF THE

LATEST ENGLISH EXPEDITION

("ALERT & DISCOVERY") 1875-76.

Franklin's supposed Route in Blue

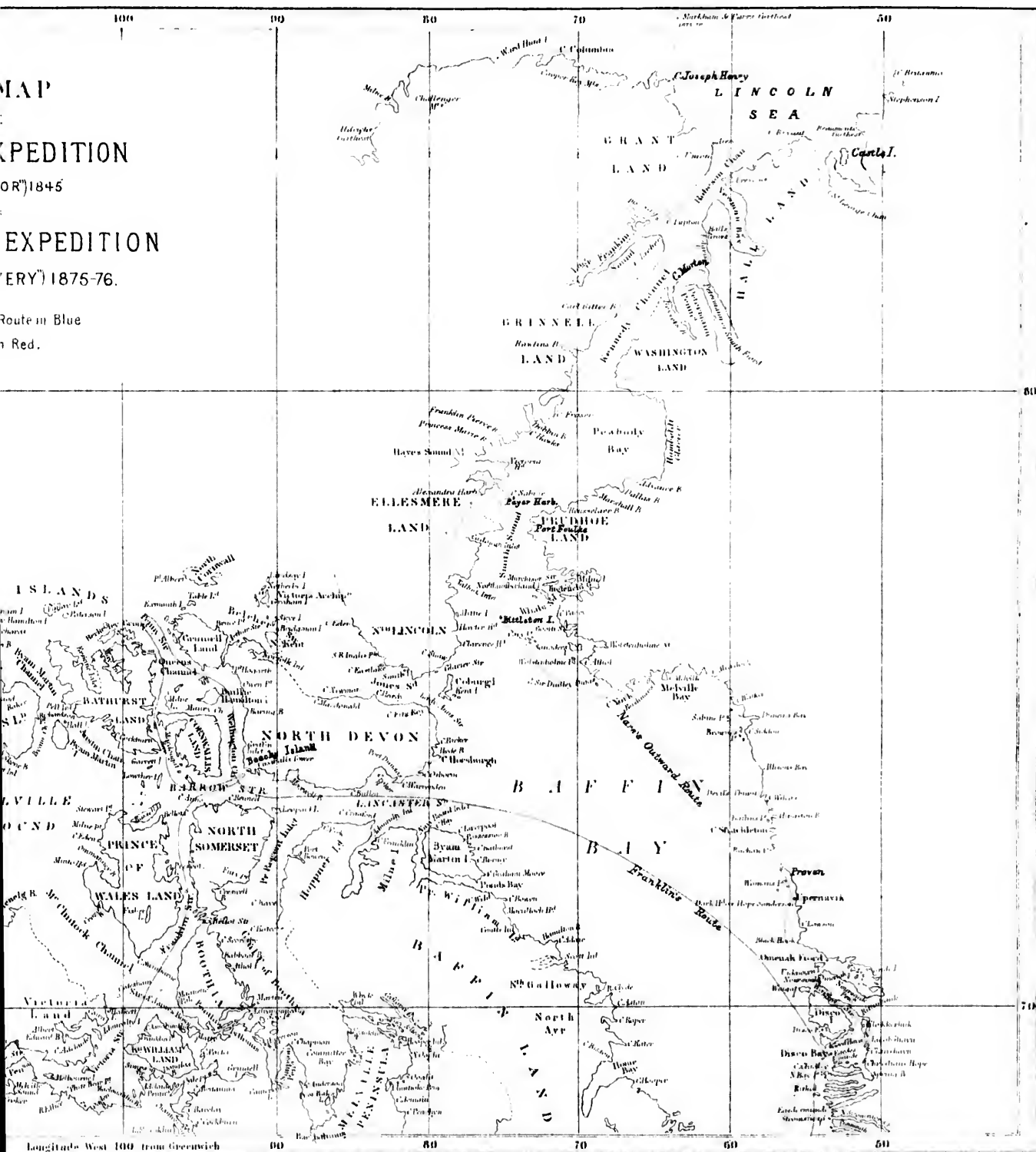
Nares' Route in Red.



MAP
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Route in Blue
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The storm abated on the 22d; and on the following day, sending his men with a tracking-rope on to the ice-belt that seemed soldered down upon the beach, Kane had his brig dragged slowly along in a northerly direction. On the 23d lat. $78^{\circ} 41'$ N. was reached, and Kane exclaims, "We are farther north, therefore, than any of our predecessors, except Parry on his Spitzbergen foot-tramp." It may be recollected that Captain Inglefield penetrated Smith Sound only to about lat. $78^{\circ} 28'$ N.; so that Kane had already pushed his ship farther through Smith Sound, by about thirteen miles, than any previous navigator. Progress at this period was exceedingly tedious, and Dr Kane has leisure to interest himself in the peculiar but scanty flora of the district in which he found himself. "We have collected thus far," he says, "no less than twenty-two species of flowering plants on the shores of this bay. Scanty as this starved flora may seem to the botanists of more favoured zones, it was not without surprise and interest that I recognised among its thoroughly Arctic types many plants which had been considered as indigenous only to more southern latitudes." The botany, however, of the Arctic regions is interesting mainly to those who have made this science a special and enthusiastic study; and in the expedition of 1875-76, so few new species have been discovered that this special department of Arctic investigation will be pursued only by the few.

On the 24th the crew of the "Advance" kept dragging, or rather tracking her onward. For some time the course pursued had been to the east, toward the head of a deep indentation, which promised shelter in the event a further progress northward being impossible. "We are now almost at the bottom of this indentation," writes Kane, on the 24th August. "Opposite us on the shore is a remarkable terrace, which rises in a succession of steps, until it is lost in the low rocks of the back country. The ice around us is broken but heavy, and so compacted that we can barely penetrate it. It has snowed hard since ten P.M. of yesterday, and the sledge fills up the interstices of the floes. Nothing but a strong south wind can give us further progress to the north." On the following day he writes, "I do not like being caught by winter before attaining a higher northern latitude than this, but it appears almost inevitable. . . . We are sufficiently surrounded by ice to make our chances of escape next year uncertain."

About this time one of the most singular incidents that ever took place under similar circumstances occurred to disturb the equanimity of Dr Kane. Of the seventeen men who made up his officers and crew, ten had belonged to the United States Navy, and were attached to Kane's command by order from the Navy Department; the others were shipped for the cruise by Dr Kane himself. "All of them were volunteers" also, it seems; and it is very clear that every one of these free and independent volunteers—who were either drafted to the expedition by Navy Department order, or taken on

by Dr Kane at a salary—thought himself quite as good as his neighbour. It is not surprising, therefore, that toward the close of August, after labouring incessantly among snow and ice, and making so little progress, these gentlemen should freely express their opinions upon the situation generally. “My officers and crew,” writes Kane, “are staunch and firm men; but the depressing influences of want of rest, the rapid advance of winter, and, above all, our slow progress, make them sympathise but little with this continued effort to force a way to the north. One of them, an excellent member of the party, volunteered an expression of opinion this morning in favour of returning to the south and giving up the attempt to winter. It is unjust for a commander to measure his subordinates in such exigencies by his own standard. The interest which they feel in an undertaking is of a different nature from his own. With him there are always personal motives, apart from official duty, to stimulate effort. He receives, if successful, too large a share of the credit, and he justly bears all the odium of failure. An apprehension—I hope a charitable one—of this fact leads me to consider the opinions of my officers with much respect. I called them together at once, in a formal council, and listened to their views in full. With but one exception, Mr Henry Brooks, they were convinced that a further progress to the north was impossible, and were in favour of returning southward to winter. Not being able conscientiously to take the same view, I explained to them the importance of securing a position which might expedite our sledge journeys in the future; and, after assuring them that such a position could only be attained by continuing our efforts, announced my intention of warping toward the northern headland of the bay. ‘Once there, I shall be able to determine from actual inspection the best point for setting out on the operations of the spring; and at the nearest possible shelter to that point I will put the brig into winter harbour.’ My comrades received this decision in a manner that was most gratifying, and entered zealously upon the hard and cheerless duty it involved.” Thus the complaints of this little floating democracy were soothed by one well-directed appeal; but it is surely uncommon for a leader to solicit the opinion of his officers on a question of vital importance, so far as the enterprise in hand is concerned, and, having received that opinion, to give his casting vote in favour of a minority of one.

During the next day or two the brig grounded at every ebb-tide. On the night of the 26th “she heeled over so abruptly,” says the commander, “that we were all tumbled out of our berths. At the same time the cabin stove, with a full charge of glowing anthracite, was thrown down. The deck blazed smartly for a while; but by sacrificing Mr Sontag’s heavy pilot-cloth coat to the public good, I choked it down till water could be sent down to extinguish it. It was fortunate we had water near at hand, for *the powder* was not far off.” It soon became evident that the “Advance” was not

likely to get any farther ahead this season. Dr Kane, however, was most anxious to proceed along this east coast, to inspect the indentations, and decide where to spend the coming winter. He therefore selected a crew of seven men, provisioned a boat, and set off at once. The boat was named the "Forlorn Hope," a neat and appropriate name conferred for the occasion. Surely it was too early, the exploration having only just commenced, to talk of "forlorn hopes." But American explorers are nothing if not poetical. They are beings of astounding sensibility, of superhuman refinement, and are always ready with their poetries at a time when a mere unrefined person would naturally suppose they should be thinking of matters more serious, urgent, and natural.

At the end of twenty-four hours it was found impossible to proceed farther with the boat. In front and on the left were the pack; on the right the impracticable ice-belt, with a wall-like face ten feet in height. The boat was hauled up upon this table of land-ice, secured and stowed away on the lee side of a hummock. The travellers pushed forward over the ice, which was occasionally rent into huge gorges, across which the sledge was passed with great difficulty. The character of the travelling had nothing new or surprising to readers of the present work. It is enough to state that after an absence of five days from the ship, Kane and his "Forlorn Hopes" had only advanced forty miles. They now decided to leave the sledge with stores behind, and proceed on for a few days on foot. On the 4th September the travellers walked twenty-four miles. On the 5th, Mary Minturn River was discovered and named. In the morning Kane forded this great river, which falls into an expansive bay. Crossing over to the north-eastern headland of the bay, Kane's party named this headland Chimney Rock, from its suggestive appearance. Dr Kane, however, showed his taste, and his weakness for high art, by naming it Cape William Makepeace Thackeray. Does not the great novelist acknowledge the compliment in his "Book of Snobs?"

Having aired his reading by hanging the name of a distinguished author upon this great chimney-stack of a cliff, Kane pushed on eleven miles farther, to another headland, and then prepared to return toward the brig. But first, standing as he now did upon the most northerly point of his adventurous journey, Cape George Russell, he surveyed the strange scene around. "I shall never forget the sight," he writes, "when, after a hard day's walk, I looked out from an altitude of 1100 feet, upon an expanse extending beyond the eightieth parallel of latitude. Far off on my left was the western shore of the sound, losing itself in distance toward the north. To my right, a rolling primary country led on to a low dusky, wall-like ridge, which I afterward recognised as the Great Glacier of Humboldt; and still beyond this, reaching northward from the north-north-east, was the land which now bears

the name of Washington : its most projecting headland, Cape Andrew Jackson, bore fourteen degrees by sextant from the farthest hill, Cape John Barrow, on the opposite side. The great area between was a solid sea of ice. Close along its shore, almost looking down upon it from the crest of our lofty station, we could see the long lines of hummocks dividing the floes like the trenches of a beleaguered city. Farther out, a stream of icebergs, increasing in numbers as they receded, showed an almost impenetrable barrier ; since I could not doubt that among their recesses the ice was so crushed as to be impassable by the sledge. Nevertheless, beyond these again, the ice seemed less obstructed. Distance is very deceptive upon the ice, subduing its salient features, and reducing even lofty bergs to the appearance of a smooth and attractive plain. But, aided by my Fraunhofer telescope, I could see that traversable areas were still attainable. Slowly, and almost with a sigh, I laid the glass down and made up my mind for a winter search. I had seen no place combining so many of the requisites of a good winter harbour as the bay in which we left the 'Advance.' Near its south-western corner the wide streams and the water-courses on the shore promised the earliest chances of liberation in the coming summer. It was secure against the moving ice : lofty headlands walled it in beautifully to seaward, enclosing an anchorage with a moderate depth of water ; yet it was open to the meridian sunlight, and guarded from winds, eddies, and drift. The space enclosed was only occupied by a few rocky islets and our brig. We soon came in sight of her on our return march, as she lay at anchor in its southern sweep, with her masts cutting sharply against the white glacier ; and, hurrying on through a gale, were taken on board without accident. My comrades gathered anxiously around me, waiting for the news. I told them in few words of the results of our journey, and why I had determined upon remaining, and gave at once the order to warp in between the islands. We found seven-fathom soundings and a perfect shelter from the outside ice ; and thus laid our little brig in the harbour, which we were fated never to leave together,—a long resting-place to her indeed, for the same ice is around her still."

CHAPTER II.

EXTREME COLD—A TERRIBLE MARCH—FATAL RESULTS—SPRING JOURNEY—RESOURCES OF THE POLAR WORLD—ONE TOO MANY—THE "OPEN POLAR SEA"—EXTRAORDINARY BEAR-FIGHT—CANDID CONFESSION.

WINTER quarters having been properly established in Rensselaer Harbour—the name given by Dr Kane to the inlet into which the "Advance" had been warped—the laying out of provision depôts to facilitate the examination of the neighbouring coasts in spring was next proceeded with. In carrying out these depôts, which occupied the explorers till the 20th November, when the disappearance of the sun brought these operations to an end, the distances traversed and re-traversed amounted in all to 800 miles.

The incidents of the first winter at Rensselaer Harbour were few, and not unusually interesting. The cold of the winter was most intense. "On the 5th February," says Kane, "our thermometers began to show unexampled temperature. They ranged from 60° to 75° below zero, and one very reliable instrument stood upon the taffrail of our brig at -65°. The reduced mean of our best spirit-standards gave -67°, or 99° below the freezing-point of water. At these temperatures chloric ether became solid, and carefully prepared chloroform exhibited a granulated pellicle on its surface. Spirit of naphtha froze at -54°, and oil of sassafras at -59°. . . . The exhalations from the surface of the body invested the exposed or partially-clad parts with a wreath of vapour. The air had a perceptible pungency upon inspiration; but I could not perceive the painful sensation which has been spoken of by some Siberian travellers. When breathed for any length of time, it imparted a sensation of dryness to the air-passages. I noticed that, as it were involuntarily, we all breathed guardedly with compressed lips." It may be noted here that Captain Nares, who wintered in 82° 24' N., a higher latitude than any vessels had ever before attained, and about 250 miles north of Rensselaer Harbour, experienced no severer temperature than 72° below zero, or 104° below freezing-point.

The sun reappeared on the 21st February, and the month of March again brought round the long Arctic day. The cold during this month is

fearful, but it is necessary now to do something in preparation for an extended journey northward. According to an advanced corps of the strongest men, under Mr Brooks, the first officer, is sent away to place a relief cargo of provisions at ten days' journey from the brig. Eleven days pass, and Kane and his companions in the brig are at work in the ship preparing for the spring journey, when at midnight they are startled by the sound of footsteps above. In a minute, Sontag, the astronomer, Olsen, the sailing-master, and Petersen, the interpreter, all of whom had belonged to the advanced corps that had set out on the 19th, came down into the cabin. "Their manner startled me," says Kane, "even more than their unexpected appearance on board. They were swollen and haggard, and hardly able to speak. Their story was a fearful one. They had left their companions in the ice, risking their own lives to bring us the news: Brooks, Baker, Wilson, and Pierre, were all lying frozen and disabled. Where? They could not tell: somewhere in among the hummocks to the north and east; it was drifting heavily round them when they parted. Irish Tom had stayed by to feed and care for the others; but the chances were sorely against them. It was in vain to question them further. They had evidently travelled a great distance, for they were sinking with fatigue and hunger, and could hardly be rallied enough to tell us the direction in which they had come. My first impulse was to move on the instant with an unencumbered party: a rescue, to be effective or even hopeful, could not be too prompt. What pressed on my mind most was, where the sufferers were to be looked for among the drifts. Olsen seemed to have his faculties rather more at command than his associates, and I thought that he might assist us as a guide; but he was sinking with exhaustion, and if he went with us we must carry him. There was not a moment to be lost. While some were still busy with the new-comers and getting ready a hasty meal, others were rigging out the 'Little Willie' sledge with a buffalo-cover, a small tent, and a package of pemmican; and, as soon as we could hurry through our arrangements, Olsen was strapped on in a fur bag, his legs wrapped in dog-skins and cider-down, and we were off upon the ice. Our party consisted of nine men and myself. We carried only the clothes on our backs. The thermometer stood at -46° , 78° below the freezing-point. A well-known peculiar tower of ice, called by the men the 'Pinnacly Berg,' served as our first landmark: other icebergs of colossal size, which stretched in long beaded lines across the bay, helped to guide us afterward; and it was not until we had travelled for sixteen hours that we began to lose our way. We knew that our lost companions must be somewhere in the area before us, within a radius of forty miles. Mr Olsen, who had been for fifty hours without rest, fell asleep as soon as we began to move, and awoke now with unequivocal signs of mental disturbance. It became evident that he had lost

the bearing of the icebergs, which in form and colour endlessly repeated themselves; and the uniformity of the vast field of snow utterly forbade the hope of local landmarks. Pushing ahead of the party, and clambering over some rugged ice-piles, I came to a long level floe, which I thought might probably have attracted the eyes of weary men in circumstances like our own. It was a light conjecture; but it was enough to turn the scale, for there was no other to balance it. I gave orders to abandon the sledge, and disperse in search of footmarks. We raised our tent, placed our pemmican in *cache*, except a small allowance for each man to carry on his person; and poor Olsen, now just able to keep his legs, was liberated from his bag. The thermometer had fallen by this time to $-49^{\circ} 3'$, and the wind was setting in sharply from the north-west. It was out of the question to halt: it required brisk exercise to keep us from freezing. I could not even melt ice for water; and, at these temperatures, any resort to snow for the purpose of allaying thirst was followed by bloody lips and tongue: it burnt like caustic.

"It was indispensable, then, that we should move on, looking out for traces as we went. Yet when the men were ordered to spread themselves, so as to multiply the chances, though they all obeyed heartily, some painful impress of solitary danger, or perhaps it may have been the varying configuration of the ice-field, kept them closing up continually into a single group. The strange manner in which some of us were affected I now attribute as much to shattered nerves as to the direct influence of the cold. Men like McGary and Bonsall, who had stood out our severest marches, were seized with trembling fits and short breath; and in spite of all my efforts to keep up an example of sound bearing, I fainted twice on the snow. We had been nearly eighteen hours out, without water or food, when a new hope cheered us. I think it was Hans, our Eskimo hunter, who thought he saw a broad sledge-track. The drift had nearly effaced it, and we were some of us doubtful at first whether it was not one of those accidental rifts which the gales make in the surface snow. But as we traced it on to the deep snow among the hummocks, we were led to footsteps; and following these with religious care, we at last came in sight of a small American flag fluttering from a hummock, and lower down a little masonic banner hanging from a tent-pole hardly above the drift. It was the camp of our disabled comrades. We reached it after an unbroken march of twenty-one hours.

"The little tent was nearly covered. I was not among the first to come up; but when I reached the tent-curtain the men were standing in silent file on each side of it. With more kindness and delicacy of feeling than is often supposed to belong to sailors, but which is almost characteristic, they intimated their wish that I should go in alone. As I crawled in, and coming

upon the darkness heard before me the burst of welcome gladness that came from the four poor fellows stretched on their backs, and then for the first time the cheer outside, my weakness and my gratitude together almost overcame me. 'They had expected me; they were sure I would come!'

"We were now fifteen souls; the thermometer 75° below the freezing-point; and our sole accommodation a tent barely able to contain eight persons; more than half our party were obliged to keep from freezing by walking outside while the others slept. We could not halt long. Each of us took a turn of two hours' sleep, and we prepared for our homeward march. We took with us nothing but the tent, furs to protect the rescued party, and food for a journey of fifty hours. Everything else was abandoned. Two large buffalo-bags, each made of four skins, were doubled up, so as to form a sort of sack, lined on each side by fur, closed at the bottom but opened at the top. This was laid on the sledge; the tent, smoothly folded, serving as a floor. The sick, with their limbs sewed up carefully in reindeer-skins, were placed upon the bed of buffalo robes, in a half-reclining posture; other skins and blanket-bags were thrown above them; and the whole litter was lashed together so as to allow but a single opening opposite the mouth for breathing. This necessary work cost us a great deal of time and effort. It was completed at last, however; all hands stood round; and after repeating a short prayer, we set out on our retreat."

How the retreat to the brig was accomplished no man in it has ever been able distinctly to tell. For the first six hours the party advanced at the rate of a mile an hour. They were still nine miles from the half-way station, where Kane had left the tent on the previous day, when the energies of the men began to fail. The fatal lethargy which is induced by long exposure to extreme cold, and which begets the desire to lie down at once and abandon one's self to the sleep of death, seemed about to overpower the whole party. They begged to be allowed to lie down a little and sleep, and in spite of all the exertions of their leader, who "wrestled, boxed, ran, argued, jeered, and reprimanded" in vain, a halt had to be called, and the tent was pitched. Leaving the party in charge of McGary, with instructions to bring on the men after allowing them four hours' sleep, Dr Kane started off with one companion—William Godfrey—with the view of reaching the half-way tent and preparing a refreshment of water and pemmican.

The distance to the tent was nine miles; but neither Kane nor Godfrey could tell how long they took to get over this distance. "We were neither of us in our right senses," says the leader, "and retained a very confused recollection of what preceded our arrival at the tent." They remember a bear, however, or think they remember him. He walked leisurely before them to the tent, tearing up a fur coat that he fell in with, and rolling it up into a ball. Godfrey declared that he saw the animal playing in the same

rude fashion with the tent; but on arriving they only found the tent overturned. They raised it with difficulty, crawled into their reindeer sleeping-bags, and slept deeply for three hours. Awaking, they were able, before the rest of the party arrived, to cook soup, which was enjoyed by all. Those that were lame were now repacked in their fur robes and replaced on the sledges, and the entire party set out for the brig. But the march across the upraised hummocks was a desperate one. The strength of the travellers again failed them, they lost their self-command, and could not refrain from eating snow. The usual results followed. Their mouths swelled, and several of them became speechless. "Our halts multiplied," writes Kane, "and we fell half-sleeping on the snow. I could not prevent it. Strange to say, it refreshed us. I ventured upon the experiment myself, making Riley wake me at the end of three minutes; and I felt so much benefited by it that I timed the men in the same way. They sat on the runners of the sledge, fell asleep instantly, and were forced to wakefulness when their three minutes were out. By eight in the evening we emerged from the floes. The sight of the Pinnacly Berg revived us. Brandy, an invaluable resource in emergency, had already been served out in tablespoonful doses. We now took a longer rest, and a last but stouter dram, and reached the brig at one P.M., we believe without a halt. I say *we believe*; and here perhaps is the most decided proof of our sufferings: we were quite delirious, and had ceased to entertain a sane apprehension of the circumstances about us. We moved on like men in a dream. Our footmarks seen afterward showed that we had steered a bee-line for the brig. It must have been by a sort of instinct, for it left no impress on the memory. Bonsall was sent staggering ahead, and reached the brig, God knows how, for he had fallen repeatedly at the track-lines; but he delivered with punctilious accuracy the messages I had sent by him to Dr Hayes. I thought myself the soundest of all, for I went through all the formula of sanity, and can recall the muttering delirium of my comrades when we got back into the cabin of our brig. Yet I have been told since of some speeches and some orders too of mine, which I should have remembered for their absurdity if my mind had retained its balance. Petersen and Whipple came out to meet us about two miles from the brig. They brought my dog-team, with the restoratives I had sent for by Bonsall. I do not remember their coming. Dr Hayes entered with judicious energy upon the treatment called for, administering morphine freely, after the usual frictions. He reported none of our brain-symptoms as serious, referring them properly to the class of those indications of exhausted power which yield to generous diet and rest."

This unfortunate journey resulted in the death of two of the men, Jefferson Baker and Peter Schubert, and two others suffered amputation of parts of the foot. The party had been out seventy-two hours, and had travelled be-

tween eighty and ninety miles. The mean temperature during the journey was 73° below freezing-point.

Life at Rensselaer Harbour was varied by a visit of Eskimos on the morning of the 7th April. Their chief, Metek, was nearly a head taller than Dr Kane, and was powerful and well built in an unusual degree. The natives were healthy, well dressed, armed with knives and lances, and were in possession of a large number of fine dogs. Kane bought all the walrus-meat they had to spare, together with four of their dogs (for needles, beads, and cask-staves), and entered into a treaty with them, in terms of which they solemnly promised to return in a few days with more fresh meat, and to lend their dogs and sledges to be used by the explorers on the journeys of discovery they were about to make. From his intercourse with the Eskimos, however, Kane was not destined to derive much benefit for some time to come.

On the 27th April Dr Kane set out with seven men on a sledge journey along the east shore of Smith Sound. This journey was to be the crowning expedition of the campaign. Its results accorded so well with surveys subsequently made as to define the outline of this line of coast with what this explorer calls "great certainty." From Cape Alexander, the westernmost cape of Greenland, the shore runs nearly north and south; at Refuge Inlet it bends away east. This northern face of Greenland is broken by two large bays. Its aspect is imposing, abutting upon the water-line in headlands from 800 to 1400 feet high, and one range of precipice presenting an unbroken wall 45 miles in length. From lat. $79^{\circ} 12'$ north to about $80^{\circ} 12'$ the coast of Greenland is covered by the Great Glacier of Humboldt. This glacier forms an insuperable obstacle to exploration in this direction. "It is continuous," says Kane, "with the *mer de glace* (ice-sea) of interior Greenland, and is the largest true glacier known to exist. Its face is from 300 to 500 feet in height. . . . It was in full sight—the mighty crystal bridge which connects the two continents of America and Greenland. I say continents, for Greenland, however insulated it may ultimately prove to be, is in mass strictly continental. Its least possible axis, measured from Cape Farewell to the line of this glacier, in the neighbourhood of the 80th parallel, gives a length of more than 1200 miles. . . . Imagine now the centre of such a continent, occupied through nearly its whole extent by a deep unbroken sea of ice, that gathers perennial increase from the water-shed of vast snow-covered mountains, and all the precipitations of the atmosphere upon its own frozen surface. Imagine this moving onward like a great glacial river, seeking outlets at every ford and valley, rolling icy cataracts into the Atlantic and Greenland seas; and having at last reached the northern limit of the land that has borne it up, pouring out a mighty frozen torrent into unknown Arctic space. . . . Here was a plastic, moving, semi-solid mass, obliterating life, swal-

lowing rocks and islands, and ploughing its way with irresistible march through the crust of an investing sea."

Kane and his party had not succeeded in approaching the glacier till the 4th May. "This progress, however," writes Kane, "was dearly earned. As early as the 3d of May the winter's scurvy reappeared painfully among our party. As we struggled through the snow along the Greenland coast we sank up to our middle, and the dogs, floundering about, were so buried as to preclude any attempts at hauling. This excessive snow-deposit seemed to be due to the precipitation of cold condensing wind suddenly wafted from the neighbouring glacier; for at Rensselaer Harbour we had only four inches of general snow depth. It obliged us to unload our sledges again, and carry their cargo, a labour which resulted in dropsical swellings with painful prostration. Here three of the party were taken with snow-blindness, and George Stephenson had to be condemned as unfit for travel altogether, on account of chest symptoms accompanying his scorbutic troubles. On the 4th Thomas Hickey also gave in, although not quite disabled for labour at the track-lines. Perhaps we would still have got on, but, to crown all, we found that the bears had effected an entrance into our pemmican casks, and destroyed our chances of reinforcing our provisions at the several *caches*. This great calamity was certainly inevitable, for it is simple justice to the officers under whose charge the provision depôts were constructed, to say that no means in their power could have prevented the result. The pemmican was covered with blocks of stone which it had required the labour of three men to adjust; but the extraordinary strength of the bear had enabled him to force aside the heaviest rocks, and his pawing had broken the iron casks which held our pemmican literally into chips. Our alcohol cask, which it had cost me a separate and special journey in the late fall to deposit, was so completely destroyed that we could not find a stave of it."

When struggling onward, Dr Kane was seized with a sudden pain, and fainted off Cape Kent, in latitude about 79° N. His limbs became rigid, and symptoms of lockjaw supervened. He was strapped on a sledge, and for some time the march was continued as usual. On the 4th one of his feet was frozen, and on the 5th he became delirious, and fainted every time he was taken from the tent to the sledge. These, with a thousand other melancholy particulars, he afterwards learned from the medical report of Dr Hayes, and from conversation with his comrades. Scurvy, with symptoms like his own, had already broken out among his men, and Morton, the strongest man of the party, was now beginning to give way. These men, however, though themselves scarcely able to walk, carried their leader by forced marches back to the brig, where they arrived on the 14th May. For a week, activity was suspended in Rensselaer Harbour, and the discovery brig "Advance"

was practically nothing better than an hospital ship. As Kane and his companions began to recover, the objects of the voyage were resumed.

It was resolved to send out a small party to cross the frozen sound, and examine its west shore to the north and east of Cape Sabine of Captain Inglefield. Dr Hayes was selected for this enterprise, and with him was associated William Godfrey. Hayes was furnished with a team of dogs, and on the 20th May he set out from Rensselaer Harbour. He started away with his dog-sledge and driver in a northward direction, and though he travelled only fifteen miles on the 20th, he made fifty miles, on comparatively smooth ice, on the 21st. On the 27th he reached the opposite (west) side of the bay. On the 26th, however, Godfrey broke down, and for some days previously Hayes himself had been snow-blind. The dogs were now in bad working trim. Their rude harness, consisting of a single trace of walrus or sealskin, passing from their chests over their haunches to the sledge, had so frequently been broken or cut for the purpose of disentangling the animals, that it had become almost unserviceable. "It was only after appropriating an undue share of his sealskin breeches that the leader of the party (Hayes) succeeded in patching up his dog-lines." This curious expedient served the purpose, however, and on the 27th Hayes found himself on the west coast, in lat. $79^{\circ} 45' N.$, long. $69^{\circ} 12' W.$, and with Capes Fraser and Leidy in front of him. The cliffs of this part of the western shore of Smith Strait were of mingled limestone and sandstone. To the north they exceed 2000 feet in height, while to the southward they diminish to about 1200 feet. The ice-foot or strip of land-ice varied from 50 to 150 feet in width, and stood out against the dark *débris* thrown down by the cliffs in a clean, naked shelf of dazzling white. "The course of the party to the westward along the land-ice was interrupted by a large indentation which they had seen and charted while approaching the coast." This indentation is now well known as Dobbin Bay. After identifying the position of Cape Sabine, Hayes commenced his return across the ice to winter quarters, which he reached, without serious casualty, on the 1st June. "This journey," says Kane, "connected the northern coast with the survey of my predecessor; but it disclosed no channel or any form of exit from this bay. It convinced me, however, that such a channel must exist; for this great curve could be no *cul-de-sac*. Even were my observations since my first fall journey of September 1853 not decisive on this head, the general movement of the icebergs, the character of the tides, and the equally sure analogies of physical geography, would point unmistakably to such a conclusion. To verify it, I at once commenced the organisation of a double party. This, which is called in my report the North-East Party, was to be assisted by dogs, but was to be subsisted as far as the Great Glacier by provisions carried by a foot party in advance."

On the arrival of Dr Hayes on board the "Advance," he could report only five persons out of the seventeen officers and men as "sound" or "well." These "sound" men were Olsen, McGary, Tom Hickey, Hans Christian (the Eskimo hunter of Fiskernaes), and George Riley. Hans the hunter had proved himself a most valuable member of this small community. Early in the season he had shot two deer, and as the season advanced he continued to provide the ship with a seal every day, together with ptarmigan, ducks, and other game. Seals abounded in Rensselaer Harbour; and Kane learned to prefer the flesh to that of the reindeer. Writing on the 30th May of the resources of Rensselaer Harbour, of the hunting exploits of Hans, and of the possibility of Europeans supporting life from year to year within the Arctic circle, Dr Kane says: "Seal of the Hispid variety, the Netsik of the Eskimo and Danes, grow still more numerous on the level floes, lying cautiously in the sun beside their atluks. By means of the Eskimo stratagem of a white screen pushed forward on a sledge until the concealed hunter comes within range, Hans has shot four of them. We have more fresh meat than we can eat. For the past three weeks we have been living on ptarmigan, rabbits, two reindeer, and seal. They are fast curing our scurvy. With all these resources, coming to our relief so suddenly too, how can my thoughts turn despairingly to poor Franklin and his crew? Can they have survived? No man can answer with certainty; but no man without presumption can answer in the negative. If, four months ago—surrounded by darkness and bowed down by disease—I had been asked the question, I would have turned toward the black hills and the frozen sea, and responded in sympathy with them, 'No.' But with the return of light a savage people come down upon us, destitute of any but the rudest appliances of the chase, who were fattening on the most wholesome diet of the region, only forty miles from our anchorage, while I was denouncing its scarcity. For Franklin, everything depends upon locality: but, from what I can see of Arctic exploration thus far, it would be hard to find a circle of fifty miles' diameter entirely destitute of animal resources. The most solid winter-ice is open here and there in pools and patches, worn by currents and tides. Such were the open spaces that Parry found in Wellington Channel; such are the stream-holes (stromhols) of the Greenland coast, the polynia of the Russians; and such we have ourselves found in the most rigorous cold of all. To these spots the seal, walrus, and the early birds crowd in numbers. One which kept open, as we find from the Eskimos, at Littleton Island, only forty miles from us, sustained three families last winter until the opening of the north water. Now, if we have been entirely supported for the past three weeks by the hunting of a single man—seal-meat alone being plentiful enough to subsist us till we turn homeward—certainly a party of tolerably skilful hunters might lay up an abundant stock for the winter. As it is, we are

making *caches* of meat under the snow, to prevent its spoiling on our hands, in the very spot which a few days ago I described as a Sahara. And, indeed, it was so for nine whole months, when this flood of animal life burst upon us like fountains of water and pastures and date-trees in a southern desert.

"I have undergone one change in opinion. It is of the ability of Europeans or Americans to inure themselves to an ultra-Arctic climate. God forbid, indeed, that civilised man should be exposed for successive years to this blighting darkness! But around the Arctic circle, even as high as 72°, where cold—and cold only—is to be encountered, men may be acclimatised, for there is light enough for out-door labour."

But, notwithstanding the circumstance that this small crew of seventeen men were so amply provided with fresh meat, the fact remains, that after spending only one winter in this favoured spot, twelve out of the seventeen were affected with the wasting disease of scurvy, and that among the men selected to form the "north-east party," for the examination of the shores of Washington Land to the north of the Great Glacier of Humboldt, it was necessary to employ several who were thus affected. The orders of this exploring party were to carry their sledge forward as far as the Great Glacier, and fill up with provisions from the *cache* deposited there. Hans was to join them here, and while M'Gary, with three men, were then to attempt to scale and survey the glacier, Morton and Hans were to push on to the north, "*across the bay*, with the dog-sledge, and advance along the more distant coast." Morton seems to have enjoyed the full confidence of his commander, though he has not been fortunate enough to secure in equal measure the esteem of subsequent navigators. The north-east party left the brig on the 4th June, leaving behind "a parcel of sick." Still there was much hope for the sick. Early in June the sun shone out bravely, and the temperature felt "like a home summer." Hans, the ever faithful, brought in a seal daily, as well as ptarmigan and hare occasionally. The snow-birds twittered round the housing on the upper deck of the brig, while on shore the *Andromeda*, dwarf willows, lichens, and other moss-like plants covered the rocks and ravines with green. Kane is able to go out for the first time on the 9th June, and was much surprised to find that the thaw, which had been reported as progressing famously, was still backward, and that the season would certainly be a late one. He found that the ice-foot had not materially changed either in breadth or level, and that the floe showed less change than the Lancaster Sound ice does, even in early May. "All this," says Kane, "warns me to prepare for the contingency of not escaping. It is a momentous warning. We have no coal for a second winter here; our stock of provisions is utterly exhausted; and our sick need change, as essential to their recovery." Hans went off on the 10th to join the north-east party.

On the 27th M'Gary and his three companions who were sent to examine

the Great Glacier returned to the ship all more or less snow-blind. They reached the glacier on the 15th, after twelve days' travel. They were provided with alpenstocks, "foot-clampers," and other apparatus for climbing ice; but they reported that any attempt to scale the huge icy mass would have been madness. They brought back, however, a continued series of valuable observations for the authentication of Dr Kane's survey. Their results corresponded with those arrived at by their leader and by Mr Sontag, "and," says Kane, "I may be satisfied now with our projection of the Greenland coast." The party had a singularly exciting bear adventure. On one occasion, having camped on the ice, they were all asleep in their tent when, shortly after midnight, McGary either heard or felt a scratching of the snow close to his head. "It waked him just enough to allow him to recognise a huge animal actively engaged in reconnoitring the circuit of the tent. His startled outcry aroused his companion inmates, but without in any degree disturbing the unwelcome visitor—specially unwelcome at that time and place, for all the guns had been left on the sledge, a little distance off, and there was not so much as a walking-pole inside. There was, of course, something of natural confusion in the little council of war. The first impulse was to make a rush for the arms; but this was soon decided to be very doubtfully practicable, if at all; for the bear, having satisfied himself with his observations of the exterior, now presented himself at the tent-opening. Sundry volleys of lucifer matches and some impromptu torches of newspaper were fired without alarming him, and, after a little while, he planted himself at the doorway and began making his supper upon the carcass of a seal which had been shot the day before. Tom Hickey was the first to bethink him of the military device of a sortie from the postern, and, cutting a hole with his knife, crawled out at the rear of the tent. Here he extricated a boat-hook, that formed one of the supporters of the ridge-pole, and made it the instrument of a right valourous attack. A blow well administered on the nose caused the animal to retreat for the moment a few paces beyond the sledge, and Tom, calculating his distance nicely, sprang forward, seized a rifle, and fell back in safety upon his comrades. In a few seconds more, Mr Bonsall had sent a ball through and through the body of his enemy. I was assured that after this adventure the party adhered to the custom I had enjoined, of keeping at all times a watch and fire-arms inside the camping-tent."

To the Polar bear Kane not inaptly applies the name "tiger of the ice." The wonderful strength of this animal had enabled it to destroy the most advanced and the largest *cache* of provisions that had been carried out northward by the people of the "Advance." The *cache* was completely wrecked. "Not a morsel of pemmican remained, except in the iron cases, which, being round, with conical ends, defied both claws and teeth." Iron-bound cases

were dashed into fragments, and a tin can of liquor was torn up and twisted entirely out of shape. "The claws of the beast," says Kane, "had perforated the metal, and torn it up as with a cold chisel."

On the 10th July Morton and Hans came staggering towards the brig with their team of exhausted and dispirited dogs. Morton had reached the Great Glacier, with the rest of the party, on the 15th June; on the following day Hans arrived with the dogs, and on the 17th the two men started with their sledge on a northward route, parallel to the glacier, and at the distance of about six miles from it. After a journey of twenty-eight miles, they camped on ice seven feet five inches thick. Next day they reached the middle of Peabody Bay, which extends in front of the glacier. They now reached high, glassy, blue hummocks, and bergs "looking in all respects like the face of the Great Glacier." On the 20th Morton, still following the route to the north, was arrested by "wide seams in the ice, bergs, and much broken ice." He therefore turned round and went back to his last camp, from which he went away westward toward the west coast of the strait. From this point on to its close, Morton's narrative has been the subject of a great deal of discussion, and not a little ridicule. On June 21st they stood to the north along the west coast. "The ice was weak and rotten, and the dogs began to tremble. Proceeding at a brisk rate, they had got upon unsafe ice before they were aware of it. Their course was at the time nearly up the middle of the channel; but, as soon as possible, they turned, and, by a backward circuit, reached the shore. The dogs, as their fashion is, at first lay down and refused to proceed, trembling violently. The only way to induce the terrified, obstinate brutes to get on, was for Hans to go to a white-looking spot where the ice was thicker, the soft stuff looking dark; then, calling the dogs coaxingly by name, they would crawl to him on their bellies. So they retreated from place to place, until they reached the firm ice they had quitted. A half-mile brought them to comparatively safe ice, a mile more to good ice again. In the midst of this danger they had, during the liftings of the fog, sighted open water, and they now saw it plainly. There was no wind stirring and its face was perfectly smooth. It was two miles farther up the channel than the firm ice to which they had retreated. Hans could hardly believe it. But for the birds that were seen in great numbers, Morton says he would not have believed it himself."

Morton, in the course of his wanderings on the ice, had seen a cape, with a vacancy between it and the west land. This headland was afterwards named Cape Andrew Jackson. The open water which Morton sighted, but which Hans could hardly believe in, swept southward in horse-shoe form, between this Cape Andrew Jackson on the east, round to Cape Barrow on the opposite side of Smith Strait. In the words of Morton, "one end of the ice lapped into the west side a considerable distance up the channel; the

other (end of the ice) covered the cape (Jackson) for about a mile and a half." We must now quote from Morton's report, which is exceedingly curious and surprising: "That night they succeeded in climbing on to the level by the floe pieces, and walked around the turn of the cape for some distance, leaving their dogs behind. They found a good ice-foot, very wide, which extended as far as the cape. They saw a good many birds on the water, both eider-ducks and dovekies, and the rocks on shore were full of sea-swallows. There was no ice. A fog coming on, they turned back to where the dogs had been left. They started again at 11.30 A.M. of the 21st. On reaching the land-ice they unloaded, and threw each package of provision from the floe up to the ice-foot, which was eight or nine feet above them. Morton then climbed up with the aid of the sledge, which they converted into a ladder for the occasion. He then pulled the dogs up by the lines fastened round their bodies, Hans lending a helping hand and then climbing up himself. They then drew up the sledge. The water was very deep, a stone the size of Morton's head taking twenty-eight seconds (!) to reach the bottom, which was seen very clearly. As they had noticed the night before, the ice-foot lost its good character on reaching the cape, becoming a mere narrow ledge hugging the cliffs, and looking as if it might crumble off altogether into the water at any moment. Morton was greatly afraid there would be no land-ice there at all when they came back. Hans and he thought they might pass on by climbing along the face of the crag; in fact, they tried a path about fifty feet high, but it grew so narrow that they saw they could not get the dogs past with their sledge-load of provisions. He therefore thought it safest to leave some food, that they might not starve on the return in case the ice-foot should disappear. He accordingly *cached* enough provision to last them back, with four days' dog-meat. At the pitch of the cape the ice-ledge was hardly three feet wide; and they were obliged to unloose the dogs and drive them forward alone. Hans and he then tilted the sledge up, and succeeded in carrying it past the narrowest place. The ice-foot was firm under their tread, though it crumbled on the verge. The tide was running very fast. The pieces of heaviest draught floated by nearly as fast as the ordinary walk of a man, and the surface pieces passed them much faster, at least four knots. On their examination the night before, the tide was from the north, running southward, carrying very little ice. The ice, which was now moving so fast to northward, seemed to be the broken land-ice around the cape, and the loose edge of the south ice. The thermometer in the water gave $+36^{\circ}$, seven degrees above the freezing-point of sea-water at Rensselaer Harbour. They now yoked in the dogs, and set forward over the worst sort of mashed ice for three-quarters of a mile. After passing the cape, they looked ahead, and saw nothing but open water. The land to the westward seemed to overlap the land on which they stood, a

long distance ahead : all the space between was open water. After turning the cape—that which is marked on the chart as Cape Andrew Jackson—they found a good smooth ice-foot in the entering curve of a bay, since named after the great financier of the American Revolution, Robert Morris. It was glassy ice, and the dogs ran on it full speed. Here the sledge made at least six miles an hour. It was the best day's travel they made on the journey. After passing four bluffs at the bottom and sides of the bay, the land grew lower; and presently a long low country opened on the land-ice, a wide plain between large headlands, with rolling hills through it. A flock of brent geese were coming down the valley of this low land, and ducks were seen in crowds upon the open water. When they saw the geese first, they were apparently coming from the eastward; they made a curve out to seaward, and then, turning, flew far ahead over the plain, until they were lost to view, showing that their destination was inland. The general line of flight of the flock was to the north-east. Eiders and dovekies were also seen; and tern were very numerous, hundreds of them squealing and screeching in flocks. They were so tame that they came within a few yards of the party. Flying high overhead, their notes echoing from the rocks, were large white birds, which they took for burgomasters. Ivory gulls and mollemokes were seen farther on. They did not lose sight of the birds after this, as far as they went. The ivory gulls flew very high, but the mollemokes alit, and fed on the water, flying over it well out to sea, as we had seen them do in Baffin Bay. Separate from these flew a dingy bird unknown to Morton. Never had they seen the birds so numerous: the water was actually black with dovekies, and the rocks crowded. The part of the channel they were now coasting was narrower, but as they proceeded it seemed to widen again. There was some ice arrested by a bend of the channel on the eastern shore; and, on reaching a low gravel point, they saw that a projection of land shut them in just ahead to the north. Upon this ice numerous seals were basking, both the netsik and ussuk. To the left of this, toward the West Land, the great channel (Kennedy Channel) of open water continued. There was broken ice floating in it, but with passages fifteen miles in width, and perfectly clear. The end of the point—'Gravel Point,' as Morton called it—was covered with hummocks and broken ice for about two miles from the water. This ice was worn and full of gravel. Six miles inland, the point was flanked by mountains. A little higher up, they noticed that the pieces of ice in the middle of the channel were moving up, while the lumps near shore were floating down. The channel was completely broken up, and there would have been no difficulty in a frigate standing anywhere. The little brig, or 'a fleet of her like,' could have beat easily to the northward."

This was certainly doing great work! On went the two discoverers to still stranger wonders. A strong gale blew from the north for three days,

yet no ice came down from the northward during all this time. Morton and Hans encamped on the 22d on a ledge of rock, after a day's journey of forty-eight miles in a straight line. Eider-ducks abounded, and Hans firing into the flocks, brought down two birds with one shot. Stopped by broken ice on the 23d, they tied their dogs to the sledge, "and went ahead to see how things looked. They found the land-ice growing worse and worse, until at last it ceased, and the water broke directly against the steep cliffs." On the night of the 23d they set out on foot again, carrying with them eight pounds of pemmican and two of bread, besides the artificial horizon, sextant and compass, a rifle, and the boat-hook. They now beheld a she-bear and her cub, and they were able to attack at once and with all confidence. And why? Because exactly at the moment when they were required, five of the dogs, which Morton fancied he had tied securely to the sledge, now came up opportunely, and the battle began at once. This bear-fight is one of the best stories of the kind in the whole range of Arctic literature. It is too long to quote in full, especially as to some readers the fine graphic effect of the narrative may seem due to the exercise rather of an active imagination than a retentive memory. Unfortunately this great contest had no witnesses. Hans being an Eskimo, and not knowing much of English, does not count. It is not wished or intended here to impeach the veracity of Morton, but we suspect the story is too good, too *apropos* in the incidents that lead to and surround it, to be a quite unvarnished tale. The following is the conclusion of this famous story: "The men were then only half-a-mile behind, and running at full speed they soon came up to where the dogs were holding her at bay. The fight was now a desperate one. The mother never went more than two yards ahead, constantly looking at the cub. When the dogs came near her she would sit upon her haunches and take the little one between her hind legs, fighting the dogs with her paws, and roaring so that she could have been heard a mile off. 'Never,' said Morton, 'was an animal more distressed.' She would stretch her neck and snap at the nearest dog with her shining teeth, whirling her paws like the arms of a windmill. If she missed her aim, not daring to pursue one dog lest the others should harm the cub, she would give a great roar of baffled rage, and go on pawing and snapping and facing the ring, grinning at them with her mouth stretched wide. When the men came up, the little one was perhaps rested, for it was able to turn round with her dam, no matter how quick she moved, so as to keep always in front of her belly. The five dogs were all the time frisking about her actively, tormenting her like so many gad-flies; indeed, they made it difficult to draw a bead on at her without killing them. But Hans, lying on his elbow, took a quiet aim, and shot her through the head. She dropped and rolled over dead without moving a muscle. The dogs sprang toward her at once, but the cub jumped upon her body and reared up, for the first time growling hoarsely.

They seemed quite afraid of the little creature, she fought so actively and made so much noise; and, while tearing mouthfuls of hair from the dead mother, they would spring aside the minute the cub turned toward them. The men drove the dogs off for a time, but were obliged to shoot the cub at last, as she would not quit the body. Hans fired into her head. It did not reach the brain, though it knocked her down; but she was still able to climb on her mother's body and try to defend it still, 'her mouth bleeding like a gutter-spout.' They were obliged to despatch her with stones."

Resuming the march, Morton walked on to Cape Constitution, the furthest point attained on this journey. As he advanced the strip of land-ice on which he travelled "broke more and more, until about a mile from the cape it terminated altogether, *the waves breaking with a cross sea against the cape.* . . . He tried to pass round the cape. It was in vain; there was no ice-foot; and, trying his best to ascend the cliffs, he could get up but a few hundred feet. Here he fastened to his walking-pole the Grinnell flag of the *Antarctic*—a well-cherished little relic, which," says Kane, "had now followed me on two Polar voyages. . . . It was now its strange destiny to float over the highest northern land, not only of America, but of our globe. Side by side with this were our masonic emblems of the compass and the square. He (Morton) let them fly for an hour and a half from the black cliff over the dark rock-shadowed waters, which rolled up and broke in white caps at its base." Finding it impossible to make his way round Cape Constitution, and "see how things looked" in the direction of the Pole, Morton turned back, *rejoined Hans*, who had not accompanied him on the last day's journey, and with him commenced the return journey to the ship on the 25th. His journal contains the following entry under date the 26th June: "As far as I could see, the open passages were fifteen miles or more wide, with sometimes mashed ice separating them. But it is all small ice, and I think it either drives out to the open space to the north, or rots and sinks, as I could see none ahead to the far north." It is unnecessary to point out here, first, that no person was with Morton when he saw, or thought he saw, the waves breaking in white caps against the base of Cape Constitution; and, second, that ice, being lighter than water, does not sink in it. Further discussion of Morton's discoveries we prefer to postpone until it is necessary, in our narrative, to reascend Smith Strait with a later explorer. It is a little amusing, however, to note with what unquestioning confidence Dr Kane accepts Morton's statements: "Landing on the cape," he says (Cape Jackson), "and continuing their exploration, new phenomena broke upon them. They were on the shores of a channel so open that a frigate, or a fleet of frigates, might have sailed up it. The ice, already broken and decayed, formed a sort of horse-shoe-shaped beach, against which the waves broke in surf. As they travelled north this channel expanded into an ice-

less area, 'for four or five small pieces'—lumps—were all that could be seen over the entire surface of its white-capped waters. Viewed from the cliffs, and taking thirty-six miles as the mean radius open to reliable survey, this sea had a justly-estimated extent of more than 4000 square miles. Animal life, which had so long been a stranger to us to the south, now burst upon them. At Rensselaer Harbour, except the netsik seal or a rarely-encountered Harelda, we had no life available for the hunt. But here the brent goose (*Anas bernicla*), the eider, and the king duck, were so crowded together that our Eskimo killed two at a shot with a single rifle-ball."

"It is another remarkable fact," continues Kane, "that, as they continued their journey, the land-ice and snow, which had served as a sort of pathway for their dogs, crumbled and melted, and at last ceased altogether, so that, during the final stages of their progress, the sledge was rendered useless, and Morton found himself at last toiling over rocks, and along the beach of a sea which, like the familiar waters of the south, dashed in waves at his feet. . . . As Morton, leaving Hans and his dogs, passed between Sir John Franklin Island and the narrow beach-line, the coast became more wall-like, and the dark masses of porphyritic rock abutted into the sea. With growing difficulty, he managed to climb from rock to rock, in hopes of doubling the promontory, and sighting the coasts beyond, but the water kept encroaching more and more on his track. It must have been an imposing sight as he stood at this termination of his journey, looking out upon the great waste of waters before him. Not a 'speck of ice,' to use his own words, could be seen. There, from a height of 480 feet, which commanded a horizon of almost forty miles, his ears were gladdened with the novel music of dashing waves; and a surf, breaking in among the rocks at his feet, stayed his farther progress." Dr Kane proceeds to state that the theory of the existence of an open Polar sea, or, at the least, an open Polar basin, has been maintained by many explorers, from the days of Barentz to our own; and he instances the names of Baron Wrangell, Captain Penny, and Captain Inglefield, as each having discovered "open seas" in quarters in which subsequent explorers found only the "pack." "All these illusory discoveries," he states, "were no doubt chronicled with perfect integrity; and it may seem to others, as, since I have left the field, it sometimes does to myself, that my own, though on a larger scale, may one day pass within the same category." The prophecy has already been fulfilled, for the "open Polar sea" of Kane and Hayes has, in the light of subsequent investigation, disappeared from modern geography.

CHAPTER III.

THE SECOND WINTER—DARKNESS AHEAD—RETURN OF HAYES—BROUGHT BACK
TO LIFE.

IN the beginning of July 1854, Kane came reluctantly to the conclusion that there never was, and, he trusted, never would be, a party worse prepared to encounter a second Arctic winter. "We have neither health, fuel, nor provisions," he writes. Yet there was, on the one hand, little hope of his being able to extricate his ship from the ice of Rensselaer Harbour; and, on the other, he was resolved not to abandon his ship. His men were diseased, and a number of them disabled from having recently had portions of their frost-bitten limbs amputated; and he felt that in abandoning his brig, he would never be able to convey these men over the ice to Beechey Island—then the rendezvous of a number of English discovery ships—or to the nearest Greenland settlement. In this dilemma he resolved to make an attempt to reach Beechey Island in an open boat, and ask for the succour which he knew the ships of Sir E. Belcher's squadron were so well able, and would be so willing, to afford him. He had no suitable boat for the voyage; there was only the old unlucky "Forlorn Hope" to fall back upon. This whale-boat he had refitted and mended up, and taking with him the only five men of the expedition still in health—McGary, Morton, Riley, Hans, and Hickey—he left the "Advance," dragging the boat on a sledge across the floes, on the 12th July. The gallant attempt was frustrated, however, by the solid pack extending across the mouth of Smith Sound, and across which it was found impossible to drag the boat. After experiencing great suffering and many hairbreadth 'scapes, Kane, finding it impossible to advance, gave the order to return to the brig, which was reached on the 6th August.

In Kane's journal for the 18th and 20th August, the following passages occur: "Reduced our allowance of wood to six pounds a meal. This, among eighteen mouths, is one-third of a pound of fuel for each. It allows us coffee twice a day, and soup once. Our fare, besides this, is cold pork boiled in quantity, and eaten as required. This sort of thing works badly; but I must save coal for other emergencies. I see 'darkness ahead.' I inspected the

ice again to-day. Bad! bad!—I must look another winter in the face. I do not shrink from the thought; but, while we have a chance ahead, it is my first duty to have all things in readiness to meet it. It is *horrible*—yes that is the word—to look forward to another year of disease and darkness to be met without fresh food and without fuel. I should meet it with a more tempered sadness if I had no comrades to think for and protect.

"August 20, Sunday.—Rest for all hands. The daily prayer is no longer 'Lord, accept our gratitude, and bless our undertaking,' but 'Lord, accept our gratitude, and restore us to our homes.' The ice shows no change: after a boat and foot journey around the entire south-eastern curve of the bay, no signs!"

On the 28th August nine of the men, including Petersen and Dr Hayes, left the ship, with the commander's permission, with the view of endeavouring to reach the nearest of the Greenland settlements. One of these returned after a few days; and now Kane, and the remaining half of his crew, began to prepare to face the coming winter by themselves. A single apartment was bulkheaded off amidships as a dormitory and dwelling-room for the entire party, and a moss lining made to enclose it, like a wall. A similar casing was placed over the deck, and a small tunneled entry, like the approach to an Eskimo hut, constructed. "We adopted," says Kane, "as nearly as we could, the habits of the natives; burning lamps for heat, dressing in fox-skin clothing, and relying for our daily supplies on the success of organised hunting parties."

From this point onwards the second American expedition ceases to be an organisation for the purposes of Arctic discovery or exploration, and its history becomes a narrative of adventure, unconnected for the most part with any science, except the science of living under difficulties, which does not yet seem to be recognised at our universities. Our notices, therefore, of Kane's experiences during his second winter in Rensselaer Harbour must be brief indeed.

During the autumn of 1854 the people in the "Advance" suffered much at once from illness and from want. It is difficult to conceive how they could have preserved themselves alive but for the alliance they contracted with the Eskimos of Anoatok, a settlement, or, at least, a temporary haunt of the natives, at the distance of seventy-five miles from Rensselaer Harbour. The chief terms of this alliance were, that the natives should cease to steal from the ship; that they should bring the white men fresh meat, and sell them dogs. On the part of the people of the "Advance," it was contracted that they should assist the natives on their hunting excursions with their rifles, and should keep them supplied with needles, knives, wood, etc. Communication with Anoatok could only be kept up by Kane by sledge journeys; and, from the length and difficulty of the route, and the severity

of the weather, these were only undertaken on occasions of dire necessity. The chronic state of affairs at the winter quarters during the winter of 1854-55 may be gathered from the following entry, under date October 5th, in Dr Kane's journal: "We are nearly out of fresh meat again, one rabbit and three ducks being our sum total. We have been on short allowance for several days. What vegetables we have—the dried apples and peaches, and pickled cabbage—have lost much of their anti-scorbutic virtue by constant use. Our spices are all gone. Except four small bottles of horseradish, our *carte* is comprised in three words—bread, beef, pork. I must be off after these Eskimos. They certainly have meat; and wherever they have gone, we can follow. Once upon their trail, our hungry instincts will not risk being baffled. I will stay only long enough to complete my latest root-beer brewage. Its basis is the big crawling willow, the miniature giant of our Arctic forests, of which we laid in a stock some weeks ago. It is quite pleasantly bitter; and I hope to get it fermenting in the deck-house, without extra fuel, by heat from below."

Kane was quite unprovided with fuel for a second winter, and with the advent of October he was obliged to commence cutting into the brig, and using the wood for the stoves. It had become evident by this time that the "Advance" would never float again, and that she must be abandoned in the summer of 1855. Some small quantities of fuel were also obtained from the fat of the walrus, seals, and bears, which were occasionally shot. The greatest economy in the use of firing, of whatever kind, had to be observed. Kane had the midnight watch, from eight P.M. till two A.M., which must have been a comfortless and dismal spell. The hours before the night-watch were spent below in the one apartment used by all the men. Here everything was closed tight. "I muffle myself in my furs," says Kane, "and write; or, if the cold denies me that pleasure, I read, or at least think. Thank Heaven, even an Arctic temperature leaves the mind unchilled. But in truth, though our hourly observations in the air range between -46° and -30° , we seldom register less than $+36^{\circ}$ below." But even in this climate there were elements that rendered existence tolerable. "The intense beauty of the Arctic firmament," says Kane, "can hardly be imagined. It looked close above our heads, with its stars magnified in glory, and the very planets twinkling so much as to baffle the observations of our astronomer. I am afraid to speak of some of these night-scenes. I have trodden the deck and the floes, when the life of earth seemed suspended—its movements, its sounds, its colouring, its companionships; and as I looked on the radiant hemisphere circling above me, as if rendering worship to the unseen Centre of Light, I have ejaculated in humility of spirit, 'Lord, what is man, that Thou art mindful of him?' And then I have thought of the kindly world we have left, with its revolving sunshine and shadow, and the other stars that gladden

it in their changes, and the hearts that warmed to us there, till I lost myself in memories of those who are no more; and they bore me back to the stars again."

On the forenoon of the 7th December Kane was asleep after the fatigue of an extra night-watch—for the whole of his crew except two were down with scurvy, and incapable of taking their turn of duty—when a voice from the deck, calling out "Eskimo sledges!" awoke him. Going on deck he beheld five sledges, with teams of six dogs each, racing rapidly to the brig. They were driven by natives, most of them strangers to Kane, and their object was to bring Petersen and Bonsall—two of the party who had gone away from the ship on the 28th August—back to the brig. The sufferings of this party, which were varied and severe, must not detain us. The main body of the party were languishing at a settlement 200 miles distant—"divided in their counsels, their energies broken, and their provisions nearly gone." Kane resolved to despatch the Eskimo escort with such supplies as his miserably imperfect stores allowed, to succour and bring up the remainder of the party. At three o'clock on the morning of the 12th December Kane was again roused with the cry of "Eskimos again!" "I dressed hastily," writes the doctor, "and groping my way over the pile of boxes that leads up from the hold into the darkness above, made out a group of human figures, masked by the hooded jumpers of the natives. They stopped at the gangway, and as I was about to challenge, one of them sprang forward and grasped my hand. It was Dr Hayes. A few words dictated by suffering, certainly not by any anxiety as to his reception, and at his bidding the whole party came upon deck. Poor fellows! I could only grasp their hands and give them a brother's welcome. The thermometer was at minus 50°; they were covered with rime and snow, and were fainting with hunger. It was necessary to use caution in taking them below, for after an exposure of such fearful intensity and duration as they had gone through, the warmth of the cabin would have prostrated them completely. They had journeyed 350 miles, and their last run from the bay near Etah, some 70 miles in a right line, was through the hummocks at this appalling temperature. One by one they all came in and were housed. Poor fellows! as they threw open their Eskimo garments by the stove, how they relished the scanty luxuries which we had to offer them! The coffee and the meat-biscuit soup, and the molasses and the wheat bread, even the salt pork which our scurvy forbade the rest of us to touch,—how they relished it all! For more than two months they had lived on frozen seal and walrus-meat. They are almost all of them in danger of collapse, but I have no apprehension of life unless from tetanus. Stephenson is prostrate with pericarditis. I resigned my own bunk to Dr Hayes, who is much prostrated: he will probably lose two of his toes, perhaps a third. The rest have no special injury. I cannot crowd the details

of their journey into my diary. I have noted some of them from Dr Hayes' words, but he has promised me a written report, and I wait for it. It was providential that they did not stop for Petersen's return, or rely on the engagements which his Eskimo attendants had made to them as well as to us. The sledges that carried our relief of provisions passed through the Etah settlement empty, on some furtive project, we know not what.

"*December 13, Wednesday.*—The Eskimos who accompanied the returning party are nearly all of them well-known friends. They were engaged from different settlements, but, as they neared the brig, volunteers added themselves to the escort, till they numbered six drivers and as many as forty-two dogs. Whatever may have been their motive, their conduct to our poor friends was certainly full of humanity. They drove at flying speed; every hut gave its welcome as they halted; the women were ready, without invitation, to dry and chafe their worn-out guests."

Scurvy and starvation, starvation and scurvy, are the themes which absorbed the attention of Kane and his comrades during the spring of 1855. Of such trials we have had enough in these pages, and as they are now all happily over, we shall not further concern ourselves with them. The moral of the dismal tale, however, is such as the projectors of future Arctic expeditions dare not overlook. Never send a ship to the Polar regions insufficiently provided with preserved meats and vegetables, plenty of fuel, and abundance of lime-juice and other anti-scorbutics.

From the commencement of the autumn of 1854 Kane had been slowly but carefully preparing for making his escape from Rensselaer Harbour, and at the beginning of May 1855 these preparations were complete. The entire ship's company left the dismantled brig on the 20th, and commenced their sledge and boat journey toward the nearest Greenland settlement. Hans, who had fallen in love with a damsel at Etah, left the expedition and took up house on the shores of Murchison Sound. On the 18th July Kane bade farewell to Etah, where he and his party had been hospitably entertained by the Eskimos, and proceeded southward along the coast of Greenland. Of the thousand and one thrilling adventures of this voyage we cannot afford to take notice. Crossing the ice of Melville Bay late in July, he arrived off the Devil's Thumb on the 1st August. "And now," writes Kane, "with the apparent certainty of reaching our home, came that nervous apprehension which follows upon hope long deferred. I could not trust myself to take the outside passage, but timidly sought the quiet water channels running deep into the archipelago, which forms a sort of labyrinth along the coast. . . . Two days after this (3d August 1855), a mist had settled down upon the islands which embayed us, and when it lifted we found ourselves rowing, in lazy time, under the shadow of Karkamoot. Just then a familiar sound came to us over the water. We had often listened to the screeching of the

gulls or the bark of the fox, and mistaken it for the 'Huk' of the Eskimos; but this had about it an inflection not to be mistaken, for it died away in the familiar cadence of a 'halloo.' 'Listen, Petersen! oars, men!' 'What is it?'—and he listened quietly at first, and then, trembling, said in a half whisper, 'Dannemarkers!' I remember this, the first tone of Christian voice which had greeted our return to the world. How we all stood up and peered into the distant nooks; and how the cry came to us again, just as, having seen nothing, we were doubting whether the whole was not a dream; and then how, with long sweeps, the white ash cracking under the spring of the rowers, we stood for the capo that the sound proceeded from, and how nervously we scanned the green spots which our experience, grown now into instinct, told us would be the likely camping-ground of wayfarers. By-and-by—for we must have been pulling a good half-hour—the single mast of a small shallop showed itself, and Petersen, who had been very quiet and grave, burst out into an incoherent fit of crying, only relieved by broken exclamations of mingled Danish and English. 'Tis the Uppernavik oil-boat! The "Fraulein Flaischer!" Carlie Mossyn, the assistant-cooper, must be on his road to Kingatok for blubber. The "Mariane" (the one annual ship) has come, and Carlie Mossyn——' and here he did it all over again, gulping down his words and wringing his hands. It was Carlie Mossyn sure enough. The quiet routine of a Danish settlement is the same year after year, and Petersen had hit upon the exact state of things. The 'Mariane' was at Proven, and Carlie Mossyn had come up in the 'Fraulein Flaischer' to get the year's supply of blubber from Kingatok. Here we first got our cloudy vague idea of what had passed in the big world during our absence. The friction of its fierce rotation had not much disturbed this little outpost of civilisation, and we thought it a sort of blunder as he told us that France and England were leagued with the Mussulman against the Greek Church. He was a good Lutheran, this assistant-cooper, and all news with him had a theological complexion. 'What of America? eh, Petersen?'—and we all looked, waiting for him to interpret the answer. 'America?' said Carlie; 'we don't know much of that country here, for they have no whalers on the coast; but a steamer and a barque passed up a fortnight ago, and have gone out into the ice to seek your party.' How gently all the lore of this man oozed out of him; he seemed an oracle, as, with hot-tingling fingers pressed against the gunwale of the boat, we listened to his words. 'Sebastopol ain't taken.' Where and what was Sebastopol? But 'Sir John Franklin?' There we were at home again,—our own delusive little speciality rose uppermost. Franklin's party, or traces of the dead which represented it, had been found nearly a thousand miles to the south of where we had been searching for them. He knew it, for the priest (Pastor Kraag) had a German newspaper which told all about it. And so we 'out oars' again,

and rowed into the fogs. Another sleeping-halt has passed, and we have all washed clean at the fresh-water basins, and furbished up our ragged furs and woollens. Kasarsoak, the snow top of Sanderson's Hope, shows itself above the mists, and we hear the yelling of the dogs. Petersen had been foreman of the settlement, and he calls my attention, with a sort of pride, to the tolling of the workmen's bell. It is six o'clock. We are nearing the end of our trials. Can it be a dream?— We hugged the land by the big harbour, turned the corner by the old brew-house, and, in the midst of a crowd of children, hauled our boats for the last time upon the rocks. For eighty-four days we had lived in the open air. Our habits were hard and weather-worn. We could not remain within the four walls of a house without a distressing sense of suffocation. But we drank coffee that night before many a hospitable threshold, and listened again and again to the hymn of welcome, which, sung by many voices, greeted our deliverance."

CHAPTER IV.

HAYES' EXPEDITION—GLACIER FORMATION—THE "OPEN POLAR SEA"—
RESULTS SO-CALLED.

DR ISAAC J. HAYES, who acted as surgeon in the "Advance," in Dr Kane's celebrated expedition, distinguished himself at Rensselaer Harbour not more for his professional skill and efficiency, than for his intrepidity and enthusiasm as an Arctic explorer. His connection with this expedition was formed in a manner that marks the ardent temperament of the man. While yet a student of medicine, and five months before the date of the starting of the expedition, he volunteered to join it as medical officer. "The offer could not be accepted at the time, and it was not until the 18th of May," says Hayes, "that I received notice that there was a probability of its acceptance. It was not until the afternoon of the 29th that I obtained my appointment. In a few hours I had purchased and sent aboard my outfit. *Next morning (30th May) the 'Advance' was headed for Greenland.*"

It will be remembered that in the autumn of 1854 a party of eight persons, being a portion of the officers and crew of the "Advance," left Rensselaer Harbour with the view of travelling south to Uppernavik, in North Greenland—the nearest outpost of civilisation. The attempt proved abortive; and, as we have seen, the party, of which Hayes was one, were obliged to return to the brig. The wild life experienced by these travellers as they journeyed along the desolate shores of Greenland was singularly eventful. They spent the two months of October and November in Booth Sound, lat. 77°, all that time upon the verge of starvation, unable to advance or retreat. For these two months they had no other fuel than their small cedar boat, the smoke of which was unendurable in their wretched hut, which, coney-like, they had constructed in the cleft of a rock. The sun disappeared in October, and the only light available was the illumination derived from an inch and a half of taper daily. At first they were assisted by the Eskimos, who, however, falling into deep distress themselves, soon became anxious to get rid of their visitors, and, with this object, threatened the men and endeavoured to separate them from each other, and from their guns and

ammunition. In 1860 Dr Hayes published a most interesting account of the adventures of the party, under the title of "*An Arctic Boat Journey.*" The work was received with favour by the American public, and did much to forward the movement which Hayes had some time previously inaugurated for the organisation of a third American Arctic expedition, to follow up the discoveries of Dr Kane in Smith Sound. The truth of the statement made by Morton, to the effect that north of Cape Constitution there surged an "open Polar sea," was questioned by Dr Henry Rink, at that time perhaps the most trustworthy authority on all Arctic matters, and, with the view of arriving at the facts of the case, a number of the principal scientific institutions of America contributed handsomely to the outfit of another expedition under Hayes.

On the 6th July 1860, Hayes set sail from Boston, with a crew of fourteen officers and men, in the "*United States*" schooner, 133 tons burthen. The object of the expedition was to explore and survey the east and west shores of Smith Sound, the extreme north coasts of Greenland on the east, and the shores of Grinnell Land—which Hayes himself had discovered and named in the Kane expedition—on the west. The equipment of the expedition was not completed till the coast of Greenland was reached. At Proven and Uppernavik, a handsome team of Eskimo dogs was purchased, and three native hunters, an interpreter, and two Danish sailors, taken on board.

After a provoking detention on the coasts of Greenland, Hayes was lucky enough to make the passage of Melville Bay in fifty-five hours. At Cape York he picked up Hans Christian, the Eskimo hunter, and his old shipmate in the "*Advance.*" Hans was a most important addition to the crew of the schooner, and was likely to afford aid and information, especially in the sledge journeys. He entertained very decided opinions on the subject of the "open Polar seas," though these opinions were unfavourable to the theory set up by Morton and supported by Hayes. He was convinced that what Morton saw from Cape Constitution was not an open sea, but merely a channel cut by the strong current during the warm days of midsummer.

The "*United States*" entered Smith Sound on the 27th August, but was blown out of it again. Subsequently, two similar attempts were made with the same result. Eventually, however, the storm lulled, and the schooner, creeping up past Cape Alexander, found shelter in a small bay, afterwards named Port Foulke, about ten miles north-east of Cape Alexander, and twenty miles as the crow flies—ninety miles by the coast-line—south of Kane's old winter quarters in Rensselaer Harbour. From Port Foulke Hayes endeavoured to force a passage across the sound to the shores of Grinnell Land, which he wished to explore without delay. In this attempt, however, he was frustrated; and as the new ice of the coming winter now coated the sea, he resolved to winter in the little harbour which he had discovered and named. The schooner was now unloaded and converted into

a winter dwelling-house, and the Greenlanders were told off as a regular hunting force.

Dr Hayes' preparations for facing the Polar night were unusually complete, and some of them were original and ingenious. He roofed-in the upper deck, so as to form a roomy house, $6\frac{1}{2}$ feet high at the sides, and 8 feet high in the centre. Tarred paper, liberally applied to every chink and seam, excluded wind and weather very effectually. The hold, after being thoroughly cleaned, floored, and white-washed, was used by the crew at once as kitchen and bedroom. In the centre of it was the cooking-stove, from which a savoury steam perpetually arose, for the neighbourhood of Port Foulke was rich in reindeer, rabbits, and Arctic foxes; and the Greenland hunters were industrious and skilful. A lofty snow embankment, a famous rampart against the storm, was reared around the schooner; and a superb staircase, constructed of slabs of ice, gave access from the upper deck to the smooth floe that extended around. Over this smooth floe it was Hayes' favourite amusement to exercise his fine team of native dogs. Dog-driving is, according to Hayes, the very hardest kind of hard work. The driver must ply his whip mercilessly and incessantly. Indecision, forgetfulness, or "softness" of any kind, on the part of the driver, is at once detected by the dogs, and the result is insubordination, ending in open mutiny, not unmixed with contempt. And not only to make them go, but to prevent their going where they are not wanted, exercises the driver's utmost powers. "If they see a fox crossing the ice," writes Hayes, "or come upon a bear-track, or 'wind' a seal, or sight a bird, away they dash over snow-drifts and hummocks, pricking up their short ears and curling up their long bushy tails for a wild, wolfish race after the game. If the whip-lash goes out with a fierce snap, the ears and the tails drop, and they go on about their proper business; but woe be unto you if they get the control. I have seen my own driver sorely put to his mettle, and not until he had brought a yell of pain from almost every dog in the team did he conquer their obstinacy. They were running after a fox, and were taking us toward what appeared to be unsafe ice. The wind was blowing hard, and the lash was sometimes driven back into the driver's face; hence the difficulty. The whip, however, finally brought them to reason; and in full view of the game, and within a few yards of the treacherous ice, they came first down into a limping trot, and then stopped, most unwillingly. Of course, this made them very cross, and a general fight, fierce and angry, now followed, which was not quieted until the driver had sailed in among them and knocked them to right and left with his hard hickory whip-stock."

During the winter of 1860-61 Hayes deeply studied the nature and formation of the glaciers and icebergs that surrounded Port Foulke; and as he has had abundant opportunities during his three Arctic voyages to

thoroughly examine these in the localities in which they are produced in higher perfection than in any other quarter of the globe—the valleys and shores of Greenland; and, further, as he has carried on his inquiries in the light of the more strictly scientific investigations on the same subject by Professors Tyndall and Huxley, his claims to be heard on this interesting topic are probably higher than those of any other inquirer who has actually seen with his own eyes what he describes and tries to account for. After explaining that Greenland seems to be one immense reservoir of ice, he states that it has become what it is, in obedience to the law of *circulation*, which acts within the Arctic circle with as much regularity and certainty as in the temperate and torrid zones. In obedience to this law, the watery vapours thrown off by evaporation circulate through the air as clouds, and, falling as rain or snow, return again to the sea. “We have seen that the great sea of ice,” writes Hayes, “which covers Greenland, and makes it the Land of Desolation that it is, is formed from snow-flakes. That formation takes place only in certain conditions of temperature, which of course vary with the degrees of latitude. The formation of glaciers has been for a long time a fruitful source of speculation among men of science. Into these we will not enter at any length, for my purpose is rather to give the results of personal observation and incidents of adventure, than to recite either the facts or reflections of others. Yet a few words of discussion may not be here out of place. Every reader is aware that in the upper regions of the atmosphere the moisture which is precipitated on the mountain-top assumes the form of snow, while down at the mountain’s base it is rain. In descending a mountain nothing is more common than to pass from one condition to the other—first a storm of dry snow, then moist snow, then water. In Greenland the snow falls dry. The mountains are lofty, and it never rains upon them at all. A fresh layer of snow is laid on every year. Should this continue uninterruptedly, of course the mountains would rise to an indefinite extent. Enormous quantities break loose, and roll down the mountain sides in avalanches; but this is but a small amount in comparison with the deposit. The glaciers are the means of drainage of these great snow-fields. These snow-fields are turned to ice by a very simple process, and the ice flows to the sea. The surface snow on the mountain is white, dry, and light. Deeper down it is hard; still deeper it is clear transparent ice. The clear ice which forms such grand and beautiful arches of blue and green in the glaciers, as seen along the Greenland coast, was once powdery snow upon the loftiest mountains, probably in the very interior of the continent. The transformation is an interesting process, and the movement of the ice itself from the mountain to the sea is one of the strange mysteries of nature. With respect to the former, Professor Tyndall has stated the case so clearly that I cannot refrain from quoting the following passage from his excellent work, entitled

'The Glaciers of the Alps:' 'Could our vision penetrate into the body of the glacier, we should find that the change from white to blue essentially consists in the gradual expulsion of the air which was originally entangled in the meshes of the fallen snow. Whiteness always results from the intimate and irregular mixture of air and a transparent solid. A crushed diamond would resemble snow. If we pound the more transparent rock-salt into powder, we have a substance as white as the whitest culinary salt; and the colourless glass vessel which holds the salt would also, if pounded, give a powder as white as the salt itself. It is a law of light that, in passing from one substance to another possessing a different power of refraction, a portion of it is always reflected. Hence, when light falls upon a transparent solid mixed with air, at each passage of light from the air to the solid, and from the solid to the air, a portion of it is reflected; and in the case of a powder, this reflection occurs so frequently that the passage of the light is practically cut off. Thus, from the mixture of two perfectly transparent substances we obtain an opaque one; from the intimate mixture of air and water we obtain foam. Clouds owe their opacity to the same principle; and the condensed steam of a locomotive casts a shadow upon the fields adjacent to the line, because the sunlight is wasted in echoes at the innumerable limiting surfaces of water and air. The snow which falls upon high mountain eminences has often a temperature far below the freezing-point of water. Such snow is *dry*, and if it always continued so, the formation of a glacier from it would be impossible. The first action of the summer's sun is to raise the temperature of the superficial snow to 32° , and afterwards to melt it. The water thus formed percolates through the colder mass underneath; and this I take to be the first active agency in expelling the air entangled in the snow. But as the liquid trickles over the surfaces of granules colder than itself, it is partially deposited in a solid form on the surfaces, thus augmenting the size of the granules, and cementing them together. When the mass thus formed is examined, the air within it is found as *round bubbles*. Now it is manifest that the air caught in the irregular interstices of the snow can have no tendency to assume this form so long as the snow remains solid; but the process to which I have referred—the saturation of the lower portions of the snow by the water produced by the melting of the superficial portions—enables the air to form itself into globules, and to give the ice of the *névé* its peculiar character. Thus we see that, though the sun cannot get directly at the deeper portions of the snow, by liquefying the upper layer he charges it with heat, and makes it a messenger to the cold subjacent mass. The frost of the succeeding winter may, I think, or may not, according to circumstances, penetrate through this layer, and solidify the water which it still retains in its interstices. If the winter set in with clear frosty weather, the penetration will probably take

place ; but if heavy snow occur at the commencement of winter, thus throwing a protective covering over the *névé*, freezing to any great depth may be prevented. Mr Huxley's idea seems to be quite within the range of possibility, that water-cells may be transmitted from the origin of the glacier to its end, retaining their contents always liquid.' "

The small crew of the "United States" had plenty of agreeable occupation on hand during the winter at Port Foulke. Their ship was a comfortable house, their table was spread daily with abundance of fresh meat, they were furnished with books for amusement and study ; they had the dogs to train, the routes for the spring sledge parties to make out, and the journeys to prepare for. The little settlement of natives near the port afforded inexhaustible matter for reflection and amusement. Then the neighbourhood abounded in game. Hayes reports that during the winter over two hundred reindeer were shot, together with a considerable number of seal and walrus, and (in the summer) an immense number of ducks and little auks. Two or three terrific bear-fights brightened the annals of the first winter ; and displays of aurora frequently lit up the Arctic night with broad-blazing unearthly fires. Perhaps the most splendid, most impressive, auroral display occurred on the night of the 6th January 1861, and Dr Hayes' description of it will at once convey a vivid idea of this singular phenomenon to readers of lower latitudes, and serve as a favourable example of the doctor's graphic—*Telegraphic*—literary style : "It was early in the morning of the 6th of January. The darkness was so profound as to be oppressive. Suddenly, from the rear of the black cloud which obscured the horizon, flashed a bright ray ; but before one could say 'Behold !' the 'jaws of darkness did devour it up.' Presently an arch of many colours fixed itself across the sky, like a bridge for the armies of the Unseen, and the aurora gradually developed. The space within the arch was filled by the black cloud, but its borders brightened steadily, though the rays discharged from it were exceedingly capricious—now glaring like a vast conflagration, now beaming like the glow of a summer morn. More and more intense grew the light, until from irregular bursts it matured into an almost uniform sheet of radiance. Towards the end of the display its character changed. The heavenly dome was all aflame. Lurid fires flung their awful portents across it, before which the stars grew pale, and seemed to recede farther and farther from the earth. The gentle Andromeda seemed to fly from the scene of warfare ; even Perseus, with his brilliant sword and Medusa shield, drew back apace ; the Pole Star vanished from the night ; and the Great Bear, trusty sentinel of the north, for once abandoned his watch, and followed the fugitive. The colour of the light was chiefly red, but every hue had its turn, and sometimes two or three were mingled ; blue and yellow streamers shot across the terrible glare, or, starting side by side from the wide expanse of the radiant arch, melted into each other, and flung

a strange shade of emerald over the illuminated landscape. Again this green subdues and overcomes the red; then azure and orange blend in rapid flight; subtle rays of violet pierce through 'a broad flush of yellow,' and the combined streams issue in innumerable tongues of white flame, which mount towards the zenith. Surely it is impossible to gaze upon a scene so various, so unearthly, so wonderful, without a silent recognition of the wisdom and power of the great Final Cause! The emotional side of our nature comes in to strengthen and exalt our reason; our faith quickens; our convictions acquire a new life; our hearts, however cold before, are compelled to pour their passionate raptures into the grateful yet exultant strain, *Te Deum Laudamus*,—'We praise Thee, O God: we acknowledge Thee to be the Lord!' The weird forms of countless icebergs, singly and in clusters, loomed above the sea, and around their summits the strange gleam shone as the fires of Vesuvius over the doomed temples of Campania. Upon the mountain-tops, along the white surface of the frozen waters, upon the lofty cliffs, the light glowed, and grew dim, and glowed again, as if the air were filled with charnel meteors, pulsating with wild inconstancy over some vast illimitable city of the dead. Silent was the scene, yet it practised a strange deception upon the senses, for the swift flashes seemed followed by unearthly noises, which fell upon the ear like

'The tread
Of phantoms dread,
With banner, and spear, and flame!'

The sun, which had shone on Port Foulke for the last time about the 15th October, reappeared on the 18th February; and with the return of day Hayes applied himself to the welcome task of preparing for the expeditions of the spring. After a preliminary expedition in March to Rensselaer Harbour, in the course of which no discovery was made, Dr Hayes made up his party for the great spring journey. On the 4th April he started with twelve men in two sledges—the "Hope" and the "Perseverance"—drawn, the one by eight, the other by six native dogs. He carried with him provisions for seven persons, who should form his advance party, for five months; and for the six persons who were to form the fatigue or supporting party, for six weeks. He also took with him a metallic lifeboat, in which it was his intention to navigate the open Polar sea—when he should come to it. The attempt to drag the lifeboat over the ice to the supposed open water in Kennedy Channel was found impractical. He therefore left it at Cairn Point on the 6th, and pushed on across the sound with his two dog-sledges, and a third sledge dragged by the men, with the view of establishing a dépôt at some convenient spot on the shores of Grinnell Land. The passage of the sound, which was covered with lofty hummocks pressed up in the wildest

confusion, was found to be impossible for the whole party and their sledges; and Hayes sent all his men back to the ship, with the exception of three—Knorr, Jansen, and Macdonald. With these men, who had volunteered to continue the journey with him, and taking with him also his fourteen dogs, Hayes marched, scrambled, tumbled, on his way over the rugged ice to the west shore of the sound, which he reached on the 11th May. From the point—Cape Hawks—at which he landed, he travelled northward along the coast, past Cape Napoleon to Cape Frazer. He was now on the west shore of Kennedy Channel. No land was visible to the eastward; the channel itself was frozen, but away to the north-east a “water-sky” was discernible. On the 15th he left Jansen—who had broken down with the fatigue of this terrible march—and Macdonald behind, and pushed on with Knorr. On the 18th May he reached his highest latitude, $81^{\circ} 35'$, where his progress was checked by rotten ice. Here he climbed to the summit of a rugged cliff about 800 feet high, and was rewarded for his labours and sufferings by a glorious prospect. The “water-sky” was still seen to the north. No land was visible, except the coast on which he stood. Further progress was impossible without a boat, and there was nothing now to do but return to winter quarters, and try to break the schooner out of her sheath of winter ice. Before returning he marked the limit of his discoveries by a trophy and a memorandum. He had brought with him a number of flags, and these he suspended on a line run across between two tall rocks. He also built a cairn, in which he enclosed the following record:

“This point, the most northern land that has ever been reached, was visited by the undersigned, May 18th, 19th, 1861, accompanied by George F. Knorr, travelling with a dog-sledge. We arrived here after a toilsome march of forty-six days from my winter harbour, near Cape Alexander, at the mouth of Smith Sound. My observations place us in lat. $81^{\circ} 35'$, long. $70^{\circ} 30' W$. Our further progress was stopped by rotten ice and cracks. Kennedy Channel appears to expand into the Polar basin; and, satisfied that it is navigable at least during the months of July, August, and September, I go hence to my winter harbour, to make another trial to get through Smith Sound with my vessel, after the ice breaks up this summer.

I. J. HAYES.

“May 19th, 1861.”

“I quitted the place,” writes Hayes, “with reluctance. It possessed a fascination for me, and it was with no ordinary sensations that I contemplated my situation, with one solitary companion, in that hitherto untrodden desert; while my nearness to the earth’s axis, the consciousness of standing upon land far beyond the limits of previous observation, the reflections which crossed my mind respecting the vast ocean which lay spread out before me, the thought that those ice-girdled waters might lash the shores of distant islands where dwell human beings of an unknown race, were circumstances calculated to invest the very air with mystery, to deepen the curiosity, and

to strengthen the resolution to persevere in my determination to sail upon this sea and to explore its farthest limits. And as I recalled the struggles which had been made to reach this sea—through the ice and across the ice—by generations of brave men, it seemed as if the spirits of these old worthies came to encourage me, as their experience had already guided me; and I felt that I had within my grasp 'the great and notable thing' which had inspired the zeal of sturdy Frobisher, and that I had achieved the hope of matchless Parry."

The point at which Hayes' advance was stopped he named Cape Lieber. At its base a wide and extensive inlet led westward into Grinnell Land, and this inlet he named Lady Franklin Bay. Far to the north he descried a lofty headland, the remotest land seen on this coast down to that date, and this mountain he named Cape Union. A prominent mountain between Cape Union and Lady Franklin Bay he named Mount Parry.

He now commenced his return march, and reached Port Foulke on the 3d June. His journey had lasted two months, and during that time he had travelled 1300 miles. On his arrival at the harbour he discovered that the schooner's fore-timbers had been seriously injured, and that the vessel, ill suited from the commencement for Arctic navigation, would never be able to stand the strain and pressure of the ice in Smith Sound. The expedition was at an end; there was nothing further to be done but to return to Boston as soon as the schooner could be extricated from the ice. The summer of 1861 was an early and a favourable one. The thaw proceeded rapidly in May, and before the middle of July the swell of the open water reached the vessel. Canvas was spread on the 14th, and the "United States" glided from the comfortable winter quarters of Port Foulke. She arrived safely in Boston harbour on the 23d October 1861.

The results of the expedition, as stated by Dr Hayes, were as follows: "(1.) I have brought my party through without sickness, and have thus shown that the Arctic winter of itself breeds neither scurvy nor discontent. (2.) I have shown that men may subsist themselves in Smith Sound independent of support from home. (3.) That a self-sustaining colony may be established at Port Foulke, and be made the basis of an extended exploration. (4.) That the exploration of this entire region is practicable from Port Foulke; having from that starting-point pushed my discoveries much beyond those of my predecessors, without any second party in the field to co-operate with me, and under the most adverse circumstances. (5.) That, with a reasonable degree of certainty, it is shown that, with a strong vessel, Smith Sound may be navigated, and the open sea reached beyond it. (6.) I have shown that the open sea exists."

CHAPTER V.

CAPTAIN C. F. HALL'S VOYAGE IN THE "POLARIS"—LIFE AMONG THE ESKIMOS
—THE AURORA ROARING—THE "OPEN POLAR SEA" CLOSED—DEATH OF
HALL—DRIFTING—RESCUED—CONCLUSION.

AMONG all the heroes of Arctic discovery there is no one more interesting, for a variety of reasons, than Charles Francis Hall. He was, in a sense, the most successful Arctic explorer of his day, his career was adventurous and in every way singular, and the temperament, the *nature* of the man, remains an unexplained puzzle to this day. He believed, and he stated that he believed—which the conventional prudent man would not have done—that "he had been *called* to try and do the work" of unravelling the Franklin mystery, and this "call" affected his mind, as to some extent their "call" has affected the minds of much greater men, and placed him, in a sense, beyond the pale of ordinary mortals. He was a Cincinnati man, and we first hear of him as an apprentice to a blacksmith. But he was not destined to spend his life in turning the wind. In America success in the military, legal, clerical, and literary professions is within the grasp of every man, whatever his training may have been, who has strength enough to realise his aim; and there is nothing surprising in the circumstance that the blacksmith's apprentice became in a few years the editor of the Cincinnati *Daily Penny Press*. Arctic discovery, however, had been the dream of his youth, although prior to setting sail on his first voyage to the Polar world he had never even *seen* the sea. The loss of the Franklin expedition appears to have affected him profoundly. He seems to have believed that all the English search expeditions were conducted upon an erroneous plan. English explorers had examined coasts; Hall proposed to examine Eskimos. The true means by which to ascertain the fate of the lost squadron, as they suggested themselves to his mind, was to proceed to some point in the neighbourhood of which the vessels were known to have been finally beset in the ice, and there to settle down among the Eskimos, to live among them as they themselves lived, to learn their language, gain their confidence and affection, and acquaint himself with their traditions. "My object," he explains, "is to acquire personal knowledge of the language and

life of the Eskimos, with a view thereafter to visit the lands of King William, Boothia, and Victoria; then endeavour, by personal investigation, to determine more satisfactorily the fate of the one hundred and five companions of Sir John Franklin, now known to have been living on the 25th day of April 1849." McClinton's success he considered as only partial, and his account unsatisfactory. "He had obtained a few facts," said Hall, "but still left the matter very mysterious." That it could have been otherwise was almost impossible by such a hurried and cursory examination of the ground as he made in spring, when the land is clothed in its winter dress. Nor could he obtain much knowledge of the truth by a few casual interviews with detached parties of Eskimos, through an interpreter who, he himself says, "did not well understand them." "No!" continues Hall, with an outbreak that somewhat disconcerts us, "neither McClinton nor any other civilised person has yet been able to ascertain the facts. But, though no *civilised* persons knew the truth, it was clear to me that the Eskimos were aware of it, only it required peculiar tact and much time to induce them to make it known. Moreover, I felt convinced that survivors might yet be found; and again I said to myself: Since England has abandoned the field, let *me*, an humble citizen of the United States, try to give to the Stars and Stripes the glory of still continuing it, and perchance succeed in accomplishing the work." So far, then, for the position which Hall took up in 1860 with respect to the work of Arctic discovery.

Funds having been provided by subscription, the principal contributor being Henry Grinnell, Esq., of New York, the patron of De Haven, Kane, and Hayes, Hall set sail in the barque "George Henry" for Frobisher Bay, with a crew of thirty officers and men, including an interpreter. His object was to sail up Frobisher *Strait*, as this inlet had been erroneously named, and thence to proceed to the locality of the Franklin disaster by Fox Channel, Fury and Hecla Strait, Gulf of Boothia, and Boothia Peninsula. "On the peninsula of Boothia and King William Land," he writes, "I intend to spend the next three years, devoting myself mainly to the object of continuing and completing the history of the Franklin expedition." It may be added here that Hall found it impossible to carry out his programme. His expedition, of which he gives an account in his curious but valuable book, "Life among the Esquimaux," was practically fruitless in discovery, although he demonstrated that what had hitherto been known as Frobisher Strait was really a bay. Whilst sojourning in this country he studied the Eskimo language, and lived in the huts of the natives as one of themselves, ate the same food, wore the same dress; in fact, became a naturalised Eskimo. He returned to the States in the autumn of 1862, and employed himself for nearly two years in writing his "Life among the Esquimaux," and in preparing for a second Arctic expedition.

The work named, which concerns itself more with what may be called the social life of the Eskimos than with discovery or exploration, it is out of our province to deal with here. It abounds, however, in striking, peculiar passages, the perusal of which enables us in some sort to comprehend the writer. The following description of the aurora, seen in Frobisher Bay, seems to have sprung from a mind readily impressible, and quick and ample in conception, but not overweighted with what is generally called "judgment." His italics, etc., are his own :

"I had gone on deck several times to look at the beauteous scene, and at nine o'clock was below in my cabin, going to bed, when the captain hailed me with the words, '*Come above, Hall, at once!* THE WORLD IS ON FIRE!'

"I knew his meaning, and, quick as thought, I redressed myself, scrambled over several sleeping Innuits close to my berth, and rushed to the companion stairs. In another moment I reached the deck, and as the cabin door swung open, a dazzling, overpowering light, as if the world was really a-blaze under the agency of some gorgeously-coloured fires, burst upon my startled senses! How can I describe it? Again I say, *no mortal hand can truthfully do so*. Let me, however, in feeble, broken words, put down my thoughts at the time, and try to give some faint idea of what I saw.

"My first thought was, 'Among the gods there is none like unto Thee, O Lord; neither are there any works like unto *Thy works!*' Then I tried to picture the scene before me. Piles of golden light and rainbow light, scattered along the azure vault, extended from behind the western horizon to the zenith; thence down to the eastern, within a belt of space 20° in width, were the fountains of *beams*, like fire-threads, that shot with the rapidity of lightning hither and thither, upward and athwart the great pathway indicated. No sun, no moon, yet the heavens were a glorious sight, flooded with light. Even ordinary print could have been easily read on deck.

"*Flooded* with rivers of light. Yes, flooded with light; and such light! Light all but inconceivable. The golden hues predominated; but, in rapid succession, *prismatic colours leaped forth*.

"We *looked*, we SAW, and TREMBLED; for, even as we gazed, the whole belt of aurora began to be alive with flashes. Then each pile or bank of light became myriads; some now dropping down the great pathway or belt, others springing up, others leaping with lightning flash from one side, while more as quickly passed into the vacated space; some, twisting themselves into folds, entwining with others like enormous serpents, and all these movements as quick as the eye could follow. It seemed as if there was a struggle with these heavenly lights to reach and occupy the dome above our heads. Then the whole arch above became *crowded*. Down, down it came; nearer and nearer it approached us. Sheets of golden flame, coruscating while leaping from the auroral belt, seemed as if met in their course by some

mighty agency that turned them into the colours of the rainbow, each of the seven primary, 3° in width, sheeted out to 21°; the prismatic bows at right angles with the belt.

"While the auroral fires seemed to be descending upon us, one of our number could not help exclaiming :

"'Hark! hark! such a display! almost as if a warfare was going on among the beauteous lights above—so palpable—so near—seems impossible without noise.'

"But no noise accompanied this wondrous display. All was silence.

"After we had again descended into our cabin, so strong was the impression of awe left upon us that the captain said to me :

"'Well, during the last eleven years I have spent mostly in these northern regions, I never have seen anything of the aurora to approach the glorious vivid display just witnessed. And, to tell you *the truth*, Friend Hall, *I do not care to see the like ever again.*'"

On the 30th June 1864 Hall sailed in the barque "Monticello," on his second Arctic enterprise. In reference to this voyage, the writer, in his preface to the work already named, says : "To make himself competent for this more interesting and important research (for the remains of the Franklin expedition), the author patiently acquired the language and familiarised himself with the habits of the Eskimos ; and he now returns to their country, able to speak with them, to live among them, and to support his life in the same manner that they do theirs, to migrate with them from place to place, and to traverse and patiently explore all the region in which it is reasonable to suppose Franklin's crew travelled and perished. . . . The author enters upon this undertaking with lively hopes of success. He will not, like most previous explorers, set his foot on shore for a few days or weeks, or, like others, journey among men whose language is unintelligible ; but he will again live for two or three years among the Eskimos, and gain their confidence, with the advantage of understanding the language, and of making all his wishes known to them."

His destination was Repulse Bay, where Rae had first found his clue to the fate of Franklin. Here Hall heard from the natives that one of Franklin's vessels had actually accomplished the North-West Passage, with five of the crew on board ; and that in the spring of 1849 this vessel was found by the natives beset in the ice, near O'Reilly Island, off the American mainland, and far to the south of the west angle of King William Island. This story was not so improbable as the other narratives to which the Eskimos treated their white brother. Hall was credulous, and his belief in the blameless Eskimo was inexhaustible and inexcusable. At length, however, during the season of 1867-68, he seems to have become convinced that the tales he had heard, respecting the survival of members of the Franklin expedition, were

mere inventions, fabricated by the astute natives, with the view of soothing and flattering him. With this discovery, the dream of his youth died away, and he again returned to America. His sanguine, enthusiastic nature, however, raised friends around him on his arrival, and when he declared it to be his intention to set out on a voyage for the discovery of the North Pole, he found himself surrounded by supporters. Mr Robeson, secretary of the American Navy Department, became his firm ally, and Congress voted him 50,000 dollars, to defray the expenses of the proposed North Pole expedition. His qualifications for a position of responsibility were not great. "He had no advantages from education," says Captain A. H. Markham (late of the "Alert" discovery ship), "and was unacquainted with nautical astronomy. He was thus in no sense a seaman, but rather an enthusiastic leader depending on others to navigate his vessel and to render his discoveries useful. He possessed, however, one great advantage. His two previous expeditions had thoroughly acclimatised him, and given him a complete knowledge of Eskimo life. The men who accompanied him were also badly chosen. Buddington was an old whaling captain, without any interest in the undertaking; and Tyson (Captain George E. Tyson, who joined as assistant navigator) was a man of the same stamp. Chester, the mate, was a good seaman and excellent harpooner, but one who had merely shipped from the inducement of high pay. Dr Bessels, a former student of Heidelberg, who had served in one of the German Arctic expeditions, and in the Prussian army during the invasion of France, was the only man of scientific attainments in the ship, and the only man, besides Hall, who felt any enthusiasm for the objects of the voyage. . . . Altogether it was an ill-assorted company, without zeal for discovery, without discipline or control, and in which every man considered himself as good as his neighbour. Hall and Bessels were the only two among them who really desired to reach the Pole."

For the purposes of the new expedition, the Navy Department handed over to Captain Hall what Mr Clements Markham describes as "a wooden river gunboat, of 387 tons, called the 'Periwinkle,' which was re-christened the 'Polaris,'" and the ship and crew having been provided, and the equipment being proceeded with satisfactorily, the next step was to give Hall a great public reception, and "orate" over him and his great enterprise. Hall was accordingly invited to attend a meeting of the Geographical Society of New York, a thoroughly respectable and valuable—invaluable—body. The explorer, whose reception by the Society (June 26, 1871) was of the most interesting description, laid his plans before the assembled thousands, amid salvos of applause. Mr Henry Grinnell then presented Captain Hall with the flag which Wilkes had carried to the Antarctic regions in 1838, and which had since been carried successively to the North Polar regions by De Haven, Kane, and Hayes, saying, as he presented the emblem, "Now, sir, I

give it to you! Take it to the North Pole, and bring it back in a year from next October!" To this spirited speech, Hall replied with equal spirit: "Sir, I believe this flag will float over a New World, in which the North Pole star is the crowning jewel!" The band then struck up "The Star-Spangled Banner," and—Hall set sail from New London on the 3d July.

Morton, the discoverer of the tract of free water, which he misnamed the Open Polar Sea, sailed with Hall as second mate; Captain Tyson, already mentioned, joined at Godhaven; and Hans, who had made himself so useful in the expeditions of Kane and Hayes, was taken on board (with his wife and several children) at Uppernavik.

For speed as well as success in his main purpose (that of attaining the highest possible north latitude), no explorer has to this day been so successful as Captain Hall. He reached Uppernavik on the 18th August, resumed his northward voyage on the 21st, passed Rensselaer Harbour on the 27th, reached lat. $81^{\circ} 35'$ N. on the 28th, and entered Kane's "open Polar sea" (which turned out to be only an open reach of Smith Strait), passed through Kennedy Channel, discovered, named, and sailed across Hall Basin and Robeson Channel, and on the 30th August found himself in lat. $82^{\circ} 16'$ N. No vessel had ever penetrated farther north on this route than just within the entrance of Smith Sound; Hall sailed through the sound and up the strait a distance of 250 miles. In doing so he carried his ship nearer to the North Pole than had ever been done previously on any route. Clements Markham, who sailed in the "Assistance" with Captain Ommanney in 1850-51, says that "the 'Polaris' had attained this high latitude without a check or obstacle of any kind;" and his kinsman, Captain A. H. Markham, who has so brilliantly distinguished himself in the latest and greatest of English Arctic expeditions, is equally candid in admitting the remarkable success of Captain Hall. He says: "The most striking fact connected with the voyage is that the 'Polaris,' in August 1871, went from Cape Shackleton to her extreme northern point up Smith Sound in $82^{\circ} 16'$ N., in *five days*, and even then she was stopped merely by loose floes through which a powerful vessel like the 'Arctic' could easily have forced a passage. I was indeed informed," continues Captain Markham, "that the 'Polaris' was stopped by a very insignificant stream of ice, which, in addition to its offering no real obstruction, had a clear lead through into open water, with a magnificent water-sky as far as could be seen to the northward. Hall was most reluctant to turn back, but being no sailor, and having no experience in ice-navigation, he thought he had no alternative but to follow the advice of his sailing-master, Captain Buddington. This old whaling skipper, fearing that if they persevered they might be unable to retrace their steps, advised a retrograde movement, and thus ended all further attempts to reach the North Pole."

It must now be stated that at an early stage of her progress, dissension,

even open discord, prevailed on board the "Polaris." Hall, who was by no means a born leader of men, was not strong enough in spirit and determination to stamp out the incipient insubordination which he noted in both officers and men. Having reached his farthest point north, he was desirous of pressing onward into the unknown and open (though not the *Polar*) sea. Tyson and Chester were also anxious to advance, but Buddington's influence prevailed, and the "Polaris" was allowed to drift southwards, until, in lat. $81^{\circ} 38'$, she was able (September 3d) to get into winter quarters in a sort of harbour formed by a small grounded iceberg on the east side of the strait, and which was named Thank God Bay.

While preparations were being made for wintering, Captain Hall, accompanied by his first mate, Chester, and by the two Eskimos, Hans and Joo (the latter an intelligent native from Northumberland Inlet), started away northward on a sledge journey. The party proceeded north to lat. 82° , discovering and naming Newman Bay—the northern entrance to which appears on the charts as Cape Brevoort. On October 24th, the party returned to the ship. Captain Hall, who had been much chilled on the sledge journey, was incautious enough on reaching the "Polaris" to go below at once and drink hot coffee, without having previously divested himself of his furs, and allowed his system to become toned up to the high temperature of the warm cabin. Three hours afterwards he became seriously ill—in a fortnight he was dead.

Captain Tyson, to whom fell the task of writing the narrative of the voyage of the "Polaris," thus describes the death and burial of the commander: "Last evening (7th November) the captain himself thought he was better, and would soon be around again. But it seems he took worse in the night. Captain Buddington came and told me he 'thought Captain Hall was dying.' I got up immediately, and went to the cabin and looked at him. He was quite unconscious—knew nothing. He lay on his face, and was breathing very heavily; his face was hid in the pillow. It was about half-past three o'clock in the morning that he died. Assisted in preparing the grave, which is nearly half-a-mile from the ship, inland; but the ground was so frozen that it was necessarily very shallow—even with picks it was scarcely possible to break it up. . . . At half-past eleven this morning, November 11, we placed all that was mortal of our late commander in the frozen ground. Even at that hour of the day it was almost dark, so that I had to hold a lantern for Mr Bryan to read the prayers. I believe all the ship's company were present, unless, perhaps, the steward and cook. It was a gloomy day, and well befitting the event. The place also is rugged and desolate in the extreme. Away off, as far as the dim light enables us to see, we are bound in by huge masses of slate rock, which stand like a barricade, guarding the barren land of the interior; between these rugged hills lies the

snow-covered plain ; behind us the frozen waters of Polaris Bay, the shore strewn with great ice-blocks. The little hut which they call an observatory bears aloft, upon a tall flag-staff, the only cheering object in sight; and that is sad enough to-day, for the stars and stripes droop at half-mast. As we went to the grave this morning, the coffin hauled on a sledge, over which was spread, instead of a pall, the American flag, we walked in procession. I walked on, with my lantern, a little in advance ; then came the captain and officers, the engineer, Dr Bessels, and Meyers ; and then the crew hauling the body by a rope attached to the sledge, one of the men on the right holding another lantern. Nearly all are dressed in skins ; and, were there other eyes to see us, we should look like anything but a funeral *cortège*. The Eskimos followed the crew. There is a weird sort of light in the air, partly boreal or electric, through which the stars shone brightly at eleven A.M., while (we were) on our way to the grave."

It was Dr Bessels' opinion that Captain Hall's death was caused by apoplexy, materially assisted by his own want of caution when returning very cold from the sledge journey. Bessels, Chester, and others, all believed that, had he lived, the expedition would have been a complete success. His premature death, due apparently to mere accident, taking place in the hour of his triumph, and cutting off all possibility of further triumphs, otherwise probable, has, like the fate of Bellot, awakened the regretful regard of men of all nations. An ascetic in his habits, he was an enthusiast in his aspirations — a dreamer of dreams, devoured by "the last infirmity of noble minds." To him who was already "good," it was only noble to be *great*. And a certain greatness he attained. He rests at the foot of the wild crags,—surrounded by the snow-covered peaks and uplands, the solitudes of which he was the first to throw open to the gaze of civilised men. His merits as a single-minded man and a famous explorer, have been gracefully acknowledged by the leaders of the English expedition of 1875-76, who, hoisting the American flag, placed a brass tablet, bearing the following inscription, with all due solemnities at the foot of his grave: "Sacred to the Memory of Captain C. F. Hall, of the U.S. Ship 'Polaris,' who sacrificed his Life in the advancement of Science, on the 8th November 1871. This Tablet has been erected by the British Polar Expedition of 1875, who, following in his footsteps, have profited by his experience."

The scientific and other results of the sojourn of Captain Hall's expedition in Thank God Bay have been best summarised by Captain Markham, who, from ample information given to him personally by Captain Buddington, Dr Bessels, Mr Chester, and other officers belonging to the expedition, is probably the best authority on this subject. He says: "The winter quarters of the 'Polaris,' in 81° 38', are the most northern position in which civilised man has ever wintered ; and all details respecting the temperature and the

amount of animal life are consequently most interesting. The lowest temperature registered was -48° Fahr., with very little wind blowing at the time. The prevailing winds were from the north-east. The fall of snow during the two winters passed by the 'Polaris' up Smith Sound was remarkably small, the heaviest snow-storm occurring in the month of June, and that was not of any extraordinary amount. In the latitude of their winter quarters musk-oxen were met with, and twenty-six were shot. Foxes and lemmings were also seen, but other animals were comparatively scarce, and only one bear was seen during the whole year. Narwhal and walrus were not seen to the north of 79° , but seals were obtained up to the extreme point in $82^{\circ} 16'$. They were of three kinds, namely, the common Greenland seal, the ground seal, and the fetid seal. The bladder or hooded seal was not met with. On the western side it was stated by the Etah Eskimos, that Ellesmere Land abounded with musk-oxen; and, judging from the configuration of Grinnell Land, the same abundance of animal life is to be found there also. The birds all disappeared during the winter, though ptarmigan and a species of snipe made their appearance early in the spring; and in the summer all the genera found in other parts of the Arctic regions were abundant. With the exception of a salmon seen in a fresh-water lake not far from the beach, no fish were met with. The contents of the stomachs of the seals they caught were found to consist of shrimps and other small shell-fish. Dr Bessels used the dredge on several occasions, but owing to the ice, he could seldom do so at a greater depth than eighteen or twenty fathoms, the results being generally unimportant, and with the exception of a few shrimps and other *crustacea*, nothing of interest was obtained. No less than fifteen species of plants, five of which were grasses, were collected by the doctor at their highest latitude, on which the musk-oxen must subsist. He gave me four specimens of the *flora* of 82° N. Mr Chester presented me with a fossil from the Silurian limestone of that high latitude. Dr Bessels made a fair collection of insects, principally flies and beetles, two or three butterflies and mosquitos; and birds of seventeen different kinds were shot in 82° , including two sabine gulls and an Iceland snipe." It is necessary to add to this well-informed passage that musk-oxen were numerous, even considerably to the north of the winter quarters, that rabbits and lemmings abounded, and that Eskimo stone-circles were found, proving that at one time this district was once inhabited by this people, who, however, have now for the most part removed southward to the settlements near the entrance to Smith Sound.

After the death of Hall, the command of the expedition devolved upon Captain Buddington. This "old whaling skipper" seems to have been an altogether unaccountable personage. He at once abolished the Sunday service, thus playing directly into the hand of his disorderly, undisciplined

crow, for it is well known that Sunday service at sea has a beneficial effect upon the men all the world over. Further, he organised exploring expeditions, and then recalled them for reasons unexplained. In this way the spring summer passed without any valuable result. The expedition, regarded as an organisation for the advancement of geographical science, was now at an end, and but for the most singular fortunes of its members, it would cease here to have further interest for us.

The "Polaris" was freed from the ice in June 1872; and on the 12th August the homeward voyage was commenced. Shortly afterwards she was caught in the ice, and drifted out into Baffin Bay. On the 15th October the ship was severely nipped. Captain Buddington—a "phantasm captain," it is to be feared—was seized with panic, and shouted, "Throw everything on the ice." On the word, as was to be expected, the wildest confusion arose. Stores, provisions, bundles—one of them enveloping a couple of Hans's children—were thrown pell-mell upon the ice. Captain Tyson tells us that he and some of the men got on the floe, and endeavoured to calm the crowd of people who were already on the ice. "Suddenly," says Markham, "the ship broke out, and flew before the wind at the rate of ten or eleven knots, leaving nineteen hands on the floe—men, women, and children—with the boats and provisions." Tyson, one of the castaways, writes: "We did not know who was on the ice, or who was on the ship, but I knew some of the children were on the ice, because almost the last thing I had pulled away from the crushing keel of the ship were some musk-ox skins; they were lying across a wide crack in the ice, and as I pulled them toward me to save them I saw that there were two or three of Hans's children rolled up in one of the skins. A slight motion of the ice, and in a moment more they would either have been in the water, and drowned in the darkness, or crushed between the ice. Morning showed the castaways that their floe was over a mile in diameter. Among the unfortunates were two Eskimo women and five children, including Charlie Polaris, Hans's baby, born on board the ship in Polaris Bay (lat. 82° N.), probably a more northern birthplace than that of any human being living.

At the close of October it was found that the quantity of provisions for the support of these people on the floe comprised 11½ bags of bread, 630 lbs. of pemmican, 14 small hams, and some cans of meat and soups, with a small quantity of chocolate and sugar. Another month, and the store of provisions being fearfully diminished, the dogs that had shared the fate of the castaways were killed and eaten. Meantime their floe was drifting southward from day to day. On the 29th December a seal was caught, and eagerly devoured. On the 9th January the floe, now much smaller in dimensions, had floated southward to about the middle of Davis Strait. In February seals were frequently caught. On the 11th March the floe broke,

and the wretched people found themselves on a piece of ice not more than a hundred yards in length, by seventy in breadth. From this unsafe raft of ice Captain Tyson succeeded in transferring his companions to the main pack. From the 15th October 1872 to the 30th April 1873, Tyson and his eighteen companions continued to drift southward on the pack through Baffin Bay, and during all this time their sufferings from hunger and cold were extreme. On the morning of the 30th April, the watch on the look-out descried a steamer coming through the fog, and immediately roused his companions. "On hearing the outcry," says Tyson, "I sprang up as if endued with new life, ordered all the guns to be fired, and set up a loud, simultaneous shout. . . . In a few minutes the steamer was alongside of our piece of ice." The vessel proved to be the "Tigress," of Conception Bay, Newfoundland, on which the castaways were conveyed to St John's, whence they embarked for Washington, where all arrived safely on the 5th June.

Meantime the "Polaris," with fourteen men on board, including Buddington, Bessels, Chester, and Morton, after being severely nipped on the 15th October 1872, had been driven northward to the east shore of Smith Sound, and was safely moored off Life Boat Cove, in lat. $78^{\circ} 23'$. Unloading the boat, these fourteen men built a house on shore, and passed the winter, during which they were plentifully supplied with fresh meat by the Eskimos of the neighbourhood. From the timbers of the "Polaris" they constructed two boats, in which they set sail for the south on the 3d June. On the 23d they reached Melville Bay, where they were picked up by the "Ravenscraig" (whaler) of Dundee.

Here let us fancy ourselves transported for a moment to the deck of the "Arctic," a whaling steam-ship, belonging to Dundee. The "Arctic" is off the entrance to Admiralty Inlet, near the mouth of Lancaster Sound. Commander A. H. Markham of the Royal Navy is at present on board of her, nominally serving as second mate. He has undertaken a whaling cruise in Baffin Bay, "for the purpose of gaining experience in Arctic navigation, of witnessing the methods of handling steam-vessels in the ice, and of collecting information respecting the ice in Baffin Bay, which might prove useful," should the Arctic expedition proposed to be sent out from England at that time (1873) be favourably considered by Government. He had just gone down to bed on the night of July 6th when the engines of the "Arctic" were suddenly stopped, and he heard the captain hailing. "Suddenly I caught the sound of the words 'Polaris' and 'survivors,'" writes Captain Markham, "which caused me to jump speedily out of bed; but before I could dress, a messenger had been sent down to tell me that a portion of the crew of the 'Polaris' had been picked up by the 'Ravenscraig,' and that our captain had gone on board. Hastily dressing, I lost no time in following him, and

on the quarter-deck of the 'Ravensraig' was introduced to Captain Buddington and Dr Bessels of the ill-fated exploring ship. The news that we heard at Lievely, relative to a part of the crew of the 'Polaris' having been picked up off the coast of Labrador, was now corroborated, eighteen of them having been drifted off on a floe; and the remaining fourteen having passed the winter of 1872-73 near their ship, to the northward of Cape Alexander, in the entrance of Smith Sound. The vessel herself was run on shore. On the 4th of June the party of fourteen left for the south in a couple of boats of their own construction, flat-bottomed scows made from the bulwarks and other timber, and were picked up by the 'Ravensraig,' twenty-five miles south-east of Cape York, on the 23d, having by that time only two or three days' fuel left, but in other respects they were well supplied. During the boat-voyage they encountered no special dangers or hardships. The greatest inconvenience they experienced was the want of tobacco. They consoled themselves by smoking tea, which they say was a very fair substitute. As Captain Adams was anxious to take some of the crew of the 'Polaris' on board the 'Arctic,' it was eventually arranged that Dr Bessels, Mr Chester the first mate, Mr Schumann the engineer, and four men, should come with us, the others remaining on board the 'Ravensraig.' It was six A.M. before all arrangements were concluded, and we bade farewell to the 'Ravensraig,' which vessel proceeded up the sound, whilst we steamed out to the middle ice. The expedition of the 'Polaris,' under the command of Charles Francis Hall, will always be remarkable for having proved the navigability of the strait leading from Smith Sound to the north. At present the 'Polaris' has reached a higher northern latitude than any other ship on record."

In the course of the homeward voyage to Dundee many conversations respecting the result of the "Polaris" expedition and the discoveries made by her captain and officers took place between Dr Bessels and Captain Markham, who was eager, in the interests of naval science and in the anticipation of sailing in the same waters, to learn every scrap of intelligence respecting Smith Strait. It appears that the officers of the "Polaris" saw, or thought they saw, land to the north and west, which they estimated to extend as far north as 84°. Captain Nares carefully searched for this land, in all conditions of the atmosphere, in 1876, but saw none, and does not believe in the existence of any. Dr Bessels mentioned the curious fact that while the south coast of Greenland is gradually subsiding, the north coast is rising. As proof of this, Dr Bessels brought away a sea-water shrimp, which he had taken out of a fresh-water pond, thirty-eight feet above sea-level; and he picked up some marine shells at an elevation of 1200 feet above the sea. A mussel-shell was found at the height of 1600 feet, in lat. 81° 45'. The most interesting discovery, and one which Captain Nares had abundant opportunity of verifying, was that the tidal waves from the north

and south meet at Cape Frazer (Grinnell Land), and that consequently there is constant wave-motion, and presumably constant open water, in Smith Strait.

"As regards the work of previous American expeditions in Smith Sound," writes Markham, "I was informed that all the coast-line laid down by Hayes, and the 'open polar sea' of Kane, are quite imaginary. Morton, the steward, who is said to have discovered the wide, immeasurable ocean, was on board the 'Polaris,' and we brought him home in the 'Arctic.' He is an Irishman from Dublin, and a very good man, and he took the mild chaff that was levelled at him about his famous 'open polar sea' very good-humouredly. Cape Constitution of Kane has been determined to be about fifty miles south of the position formerly assigned to it by that explorer, and the entire coast-line must be placed considerably further to the eastward."

And so ends the eventful history of American exploration in the Arctic seas down to the present date—1877.

PART XIV.

RECENT EUROPEAN EXPEDITIONS.

CHAPTER I.

THE GERMAN EXPEDITION, 1869-70—GULLS AND GULLED—FIRST ICE.

AMONG European nations Germany has been the last naval power to enter upon the field of Arctic exploration. In 1868 Dr Petermann, the eminent geographer, fitted out a small vessel, named the "Germania," for an Arctic voyage of discovery, and placed her under the command of Captain Karl Koldewey, of Bucken, near Hoya, in the province of Hanover. Koldewey was born in 1836, went to sea in 1853, subsequently studied navigation at the Polytechnic School in Hanover, and physics and astronomy at the University of Göttingen during the winter sessions of 1867 and 1868. On 24th May 1868 he set sail from Bergen in the "Germania" for the east coast of Greenland, with a crew of only eleven men. In his attempt to push northward along the Greenland coast he was frustrated by pack-ice. Unwilling to return, however, without having achieved something, he sailed away eastward for the Spitzbergen seas, and had the good fortune to reach a high latitude, $81^{\circ} 5'$, off the north coast of Spitzbergen. He then sailed down Hinlopen Strait, sighted Wiche Island, and thence setting sail for home, arrived safely at Bergen on the 30th September 1868.

The "Second German Arctic Expedition," as the voyage of the "Germania" and "Hansa" in 1869-70 was named, was organised soon after Koldewey's return from his first Arctic command. The "Germania" was a screw steamer of 140 tons, with a crew of seventeen officers and men; the sister ship, the "Hansa," was a schooner, almost new, of $76\frac{3}{4}$ tons burden, under the command of Captain Hegemann, and having fourteen officers and men. No German ship had ever previously sailed from the German coast with the intention of passing a winter season in Arctic latitudes; the victualling and outfit of these vessels, therefore, were proceeded with slowly

and very carefully. Special attention was given to the completeness and abundance of the supplies of provisions, which were intended to last for two years, and every precaution was taken to make certain that all articles were of the best quality. The ships did not carry much dried or salted meat, while the supply of preserved meats in tins was unusually ample. There was also "a good supply of drinks," which Captain Koldewey regards as "so necessary on an Arctic voyage."

The vessels set sail on the 15th June 1869 from Bremerhaven, in the presence of King William of Prussia, Count Bismarck, and Generals Von Roon, Von Moltke, and others whose names became as household words soon afterwards. Gradually, as the ships were towed out, the last cheers died away in the distance. On reaching the open sea the tugs were cast off, and the last of the private friends went away in the pilot cutter. "We were now fairly left to ourselves," says Captain Koldewey, "and with a cheerful song the sailors set one sail after another; and thus, with a light south-westerly breeze, which had just sprung up, under full sail for the north, we left our native land, to meet an uncertain future. The prevailing frame of mind was serious; every man of us knew what depended upon himself, and what was expected of us; that the whole world of letters was watching the undertaking; but still we had full confidence in the cause, and were fully determined to return to our native shore only with honour."

For some time wind and weather continued favourable, the ships sailed well in company, and there was frequent and very agreeable intercourse between the officers of the "*Germania*" and "*Hansa*." From the 16th June storms were almost constant till the beginning of July—the vessels making no more headway in sixteen days than with a fair wind they could have made in two days and a half. On the 1st July the ships had passed lat. 61° N., and entered that region of the North Atlantic known in Germany as the *Nordmeer*. It was observed here that between the north wind that now prevailed and the sweep of the Gulf Stream, which here sets toward the east, the vessels were carried far east toward the Norwegian coast. The wide and solitary seas of the "high latitudes"—beyond the ordinary tracks of commerce—were now reached, and peculiar phenomena were observable. In the beginning of July the sun did not set till a quarter-past ten, and even at midnight there was so much light that the finest print could be easily read. The voyagers now found themselves "alone upon the broad surface, which, to some, offers only a picture of boundless void and lasting sameness, but in others exciting a deep feeling of the might and sublimity of boundless Nature."

The vessels were about this time surrounded by immense numbers of sea-birds—a circumstance due in a great measure to the neighbourhood of land—and the naturalists of both vessels were in their glory. The following

sketch of the appearance and habits of the "three-toed" and of the dreaded "robber" gull, is at once novel and vivid: "The ship was surrounded nearly the whole day by the three-toed sea-gull (*Larus tridactylus*, L.) in flocks of from twenty to fifty, with the swiftness and lightness of wing peculiar to this small gull, following the ship with manifold unwearying windings and turnings, spying for prey in the dead-water, and then darting like lightning upon some little crab tossed in the current; or sitting sociably some short distance from the ship's side upon the smooth or even strongly-heaving water, sunning themselves, trimming their plumage, or fishing. They also liked to whirl round the mast, accompanying the truck in all its waving to and fro, and sometimes settling upon it. If we mounted into the top, the birds were not at all shy, but hovered about with fluttering wings, apparently standing still, and from time to time shooting nearer to the observer, who might almost fancy that he could clasp them easily in his hand, thus having a good opportunity of observing this really handsome bird at his leisure. The round head, with the knowing dark eyes, turns backwards and forwards upon the short neck, the wings move in graceful lines, the small black feet are drawn tight under the tail. The whole under-part of the bird is a pure white, whilst the upper part is bluish-grey. But what strikes the eye the most is that the tips of the slender wings and the fan-shaped tail are jet black. In rather lighter black, differing according to the age and time of year, are marks on the head and neck, one in particular looking like a collar. In spite of all this outward beauty (in which property they are far surpassed by the ivory gull) there remains an ugly peculiarity common to this species, namely, their ever harsh and grating cry. In fair or foul weather, in slow and in swift flight, the sharp 'ih, ih, ha, ha,' is ever heard without intermission, and in every possible cadence. These are the same gulls that in northern neighbourhoods flock together in thousands, make their nests in the rocks, and thus form the so-called 'gull mountains,' of which Fr. Boie, Faber, Brehm, and other travellers cannot relate enough. These creatures are, upon the whole, known to be very sociable and gentle, so their cry only expresses contentment and liveliness. Now and then, however, our attention would be aroused when those tones were quicker, more decided, and fell heavily on the ear. We naturally looked round for the cause, and saw three of them flying terror-stricken; followed by another bird with darker plumage, longer wings, and a quicker, stronger flight. It is the robber gull (*Lestris*); and now an odd spectacle is presented to our sight. One of our small gulls has just caught a little fish, which, prompted by curiosity, had come to the surface, and flies hurriedly forward, anxious to devour it. His plundering dark cousin, not far off, roving apparently purposeless above the waves, scarce has time to espy this, when he darts swiftly down, catches the flying gull, and sets upon it unmercifully, until bursting into this scream of terror,

it opens its beak and lets the booty fall. The robber having now gained his end, quits the chase, and rushes after the falling fish, which, with incredible agility, he catches half-way. In the next moment we see the bird again quietly circling above the waves as if nothing had happened, or sailing slowly in the distance, bent upon robbing other gulls of their hard-earned meal."

On the 5th July, at five minutes before midnight, the "Hansa" crossed the Arctic circle (lat. $66^{\circ} 33'$) in longitude $0^{\circ} 15' W$. At midnight they were called on deck. A gun was fired, the familiar salute "Ship ahoy!" was heard, apparently from the waves ahead of the vessel, and presently three wonderful figures clambered over the bowsprit into the vessel. First of these was Neptune, dressed on this occasion in Eskimo furs, wearing a long cotton beard, and wielding a dolphin harpoon by way of trident in one hand, and a speaking trumpet in the other. The sea-god was followed by his barber and assistant. The usual civilities having passed—Neptune welcoming the strangers into his watery domain, and wishing them success on their voyage, and the officers of the watch dutifully and respectfully responding—the awful question came, "Any green hands on board?" It happened that on both vessels—on which similar ceremonies on crossing the circle were observed—the green hands embraced the whole of the scientific staff—naturalists, astronomers, and medical men, who—far from ever having crossed the equator or penetrated the Polar regions—had, in most cases, passed all their life in a university town. These gentlemen, doctors and professors, were now for the first time in their lives subjected to an examination which they were in no sense qualified to pass; and had not the very best understanding subsisted throughout the voyage hitherto between fore-castle and cabin—the men knew the merits of a good cigar, and the "professors" were frank and generous—they would doubtless have been subjected to the usual rough shave and christening. Dr Gustavus Laube of the "Hansa," Professor of Zoology and Lecturer to the University and Polytechnic School in Vienna, describes his examination: "A tarpaulin was spread on the quarter-deck, and a stool placed upon it. It looked like a judge's bench. Here each of us was seated with eyes bound, while the masked followers of the northern ruler went through the customary proceedings. I was soaped and shaved; god Neptune was most favourable to me; he knows what good cigars are and has great respect for those to whom they belong. Then came the christening, which in this case was not applied to the head (as is usual), but to the throat and stomach. Neptune put some questions to me through his speaking trumpet, desiring me to answer. I saw his object, answered with a short 'yes,' and then closed my lips. The mischievous waterfall rattled over me, causing universal merriment. They then took the bandage from my eyes, that I might see my handsome face in the glass; but instead

of a looking-glass, it was the combing of the wooden hatchway, which, with great gravity, was held before my face by the barber's assistant. I was now absolved, and could laugh with the others, whilst seeing my comrades obliged to go through the same course one after the other." "Universal grog on board both ships brought the time-honoured and merry ceremony to a close."

Snow fell on the 7th July, and on the following day the *fog* began its rule of terror, a rule which prevailed during sixteen out of the next twenty days. The wild, rugged, bleak shores of Jan Mayen Island were passed on the 9th, and about the same time the midnight sun of the Polar world was for the first time seen, hovering over the edge of the limitless sea, like a great crimson ball, and surrounded by gold and purple-violet clouds. The ships were now well within the region of their search, and the representatives of the different scientific departments continued hard at work from morning till night. The temperature of the surface water was taken every two hours, and that of greater depths every four hours. In connection with these observations, Drs Börgen and Copeland began a series of experiments relating to the quantity of salt in the surface and the deep water. Notice was also taken of the colour of the sea, the character of the driftwood met with, etc. These observations were of no small interest, as they were in that part of the somewhat changing boundary where the warm (so-called) Gulf Stream coming up from the south, and the cold Arctic current coming down from the north, just meet. "This Gulf Stream," writes Koldewey, "is known not only by its relative warmth, but by the greater saltness and deep blue colour of its waters. The beautiful blueness of the sea struck us as soon as we left the North Sea. But from this time until we reached the ice, the colours changed continually, and sometimes very quickly, from dirty blue, light blue, greenish blue, bluish green, clear and transparent green, greyish green, and so on, so that our attempts at representing a series of these colours became a failure." The Greenland seal (*Phoca Grönlandica*) was seen in large numbers in the seas around Jan Mayen Island. The skin and fat of a young seal are worth from 7s. 6d. to 9s. Koldewey states that a single Bremen ship sometimes takes from eight to ten thousand seals. In 1868 five German, five Danish, fifteen Norwegian, and twenty-two British ships took no less than 237,000 seals.

The "crow's-nest" had been rigged on the main-mast early in July, and near midnight of the 12th, the first piece of ice was seen from the deck of the "Germania." On the 14th, the ice-sky was seen glistening yellowish-white away to the north-west and west, and the border of the ice was reached on the following day.

After leaving Jan Mayen Island, Captain Koldewey saw nothing of the "Hansa" for several days. The appointed place of rendezvous for both

ships was in latitude 75°, on the border of the ice on the east coast of Greenland. The "Germania" had headed this position, and on the 18th July the "Hansa" came in sight. Captain Hegemann and other officers of the "Hansa" came on board the "Germania," and discussed plans for the future with Captain Koldewey. It was agreed that, in case of separation, the next rendezvous for the vessels should be Sabine Island. The vessels then sailed in company southward, along the ice-line of the east coast of Greenland, in search of a break in the ice, through which they might reach the land-water between the shores and the floes. The object of the expedition was to explore the east coast of Greenland by sailing along this land-water to the highest possible point—to the North Pole itself. The "Germania" continued sailing along the ice. The wind was S.S.W., and the "Hansa" was sailing a few miles to windward of the larger vessel. It was arranged that the captains should have another interview on the night of the 19th July, and accordingly Koldewey signalled to Hegemann to "come within hail." The "Hansa" misunderstood the signal. She "set more sail," says Koldewey, "and disappeared in the now thickly-rising fog before we could succeed in following her." Thus a fatal misunderstanding separated the two ships, and that for ever.

CHAPTER II.

GERMAN ARCTIC EXPEDITION, 1869-70—WRECK OF THE "HANSA"—ON THE
ICE-RAFT—THE "NIGHT OF THE NORTH"—TAME BIRDS.

SEPARATED from her sister ship the "Germania" on the 20th July, the "Hansa" continued to beat about the edge of the floe, in the neighbourhood of Sabine Island (the rendezvous) but always somewhat to the south of that position. On the 28th, Captain Hegemann found himself in lat. $72^{\circ} 56'$. On the 5th August the current had carried the schooner twenty-six miles southward. A valorous attempt was then made to push northward to the appointed meeting-place, and lat. $72^{\circ} 16'$ was reached. On the 14th August the "Hansa," which had been battling among the ice for more than three weeks, was again hemmed in on all sides. On the 25th the vessel reached its nearest to Sabine Island, but was still distant thirty-five nautical miles to the south. "Taking into consideration," says Hegemann, "the strong ice-pressure to which the ship was continually subject, we made ready the boats, and divided the fur clothing. We saw before us the imminent prospect of being obliged to pass the winter off the coast. We began seriously to talk of using our coal-bricks to build on the ice, to which we might fly for refuge, in case the ship were lost. September 2d, rain and storm from the south-east. Morning of the 5th, fine weather, light south-east wind; sailed twenty nautical miles in a north-westerly direction, partly by the side of an ice-field, *fifteen nautical miles long*, until eight in the evening, when calm, fog, and ice, brought us once more to a stand. *This was our last sail.* Had we had steam, we should most likely have reached the open water, which we saw along the coast. The next day we laid the 'Hansa' between two promontories of a large ice-field, which eventually proved a raft of deliverance. Now began the complete blockade of our ship in the ice." It was soon freezing visibly, and the new ice between the floes was strong enough to bear a man. The schooner was lying on the 7th September blocked up on the east side of the large ice-field already mentioned, while to the west of the ice-field open water, the channels of which, however, were too narrow to admit the vessel, extended to the land. On the 11th a she-

bear and cub were seen on a neighbouring ice-field, and a boat was soon put off to hunt them. "The pair soon espied us, and tramped to the edge of the ice, near the boat—the old one gnashing her teeth and licking her chops. We fired as soon as we could take a steady aim, and the bear fell dead in the snow. Over the young one, which remained by her side, licking and caressing her in the most affecting way, we repeatedly cast a noose, which, however, it always eluded." The young one was afterwards caught, and attached with a collar and chain to the ice-anchor. A snow-house was built for it, but it exhibited the true Arctic spirit by preferring to camp on the snow. In a few days it escaped, chain and all; but must have sunk in the water from the weight of the iron attached to it. The crew of the "Hansa" much enjoyed the fresh meat of the older bear, which tasted excellent either as a roast joint or in chops.

Before the close of September, it became evident to Captain Hegemann that the coming winter must be passed on the ice with or without the ship. That fourteen men might pass the winter in the ice in their three boats was possible, but would certainly be highly dangerous. How, in such circumstances would it be possible to provide tolerable sleeping accommodation or warm food? It was evident to all that a house would have to be built on the ice-field. "Immediately," writes Hegemann, "the building of the afore-said coal-house was clamoured for. Bricks were already there in the shape of coal-tiles, an excellent building material, which would absorb the damp and keep the warmth in the room. Water and snow formed the mortar. For the roof, in case of a real settlement on the ice-field on account of the loss of the ship, we proposed taking the snow roofing of the deck of the 'Hansa.' Before anything else was done the boots were cleared out, and two of them, the 'Hope' and the 'Bismarck,' covered with the snow roof. For each of these, provisions were kept ready on deck. Captain Hegemann sketched the plan for the building. The length was 20 feet, the breadth 14 feet, and the height $6\frac{1}{2}$ feet in the gable, the side walls being only 4 feet 8 inches high. A firm spot, free from any fracture, was chosen about 450 paces from the ship; and we had no cause to fear that the floe might soon break from friction with any other drifting ice-field. Had the house been a greater distance from the ship, the difficulty of bringing up the heavy materials would have been greater, and thus have retarded the progress of the building. The work began on the 27th of September with the foundations, which here were more ready to hand than on land. With snow-axes and ballast-shovels, we then cleared away from the firm mass of ice about a foot and a half of snow. We had intended to raise the walls with a double row of stones; but unfortunately had overrated our stock, and were therefore obliged to economise, and only use the 9-inch broad stones up to about two feet, and after that lay them singly. A brook, which we had dug in the ice hard by, and which

gave us the sweetest of water, also afforded the most excellent cement. Whilst wall-building on land has to be given up in frosty weather, our building on the contrary progressed the more rapidly. We only needed to strew finely-powdered snow between the grooves and cracks, pour water upon it, and in ten minutes all was frozen to a strong compact mass, from which one single stone would with difficulty have been extracted! The roof for the present was composed of sail-cloth and some matting, which had by chance been left on the 'Hansa' after her last West Indian voyage. (This was made of reeds, and was laid down in the cabin when company was expected.) The rafters were made out of the spars and staves of tubs; the first-named were laid crossways upon the latter. On this framework the sail-cloth and matting were nailed; and in order to give this somewhat airy building more solidity and firmness, snow was thrown upon the top. A double door, two feet and a half wide, we made on board; the floor was filled in with coal blocks; and thus in seven days, namely, on the 3d of October, we began to provide the finished house with provisions for two months—about 400 lbs. of bread, two dozen tins of preserved meat, a side of bacon, some coffee and brandy; afterwards fuel, and some boxes of coal. At the same time the plank roofing, in case of wintering on board, was erected. This wooden roof, covered with felt, rested on the one side on the mast, and on the other on the bulwarks. It reached from the mainmast to the after part of the ship. Amidships and to the fore, sails were stretched. The whole work was favoured by fine weather and a medium temperature of 20° to 9° Fahr."

Wild weather came on the 8th of October, just after the completion of the coal-brick house. A few days of it would have completely destroyed both house and ship. From the 5th to the 14th October the ice-field to which the ship was attached drifted seventy-two miles in a south-south-west direction, and the hope of the castaways was that this drift would continue until the floe on which they were moored, having approached the shores of south Greenland, they might be able to escape by their boats to land. On the morning of the 18th October the ice "began to thrust and press around the ship. This unpleasant noise lasted until the afternoon. At regular intervals underneath, the ice, like a succession of waves, groaned and cracked, squashed and puffed; now sounding like the banging of doors, now like many human voices raised one against another; and lastly, like a drag on the wheel of a railway engine. The evident immediate cause of this crushing was that our field had turned in drifting, and was now pressed closer to the coast-ice. . . . For a time the 'Hansa' was spared, though trembling violently. The masts often swayed so much that it seemed as though some one was climbing them." The weather cleared in the afternoon; but still wilder disruptions of the ice were to be feared as the winter

advanced, and preparations—however vain these might prove to be—were made to meet these. Provisions, fuel, and clothing were got up from the hold, and placed in readiness on the deck of the "Hansa." Early on the 19th a fearful snow-storm from north-north-west broke over the vessel. Ice-pressure was of course expected to follow as a natural consequence. The air was gloomy and thick, and the coast, though only four miles distant, was invisible. The unearthly noises of the squeezed ice were first heard at ten A.M. In the early afternoon the deck seams sprang amidships. The bow of the vessel was forced up seventeen feet. "The rising of the ship was an extraordinary and awful yet splendid spectacle, of which the whole crew were witnesses from the ice. In a haste the clothing, nautical instruments, journals, and cards were taken over the landing-bridge. The after-part of the ship, unfortunately, would not rise; and therefore the stern post had to bear the most frightful pressure, and the conviction that the ship must soon break up forced itself upon our minds." Soon it was found that there were seventeen inches of water in the hold, and though the pumps were instantly set working, the water continued to make—the leak, or leaks, being undiscoverable. "Enough!" exclaims Hegemann, "the fate of the 'Hansa' was sealed; our good ship must go to the bottom!" A number of men had been sent into the fore-peak to bring up firewood. They returned with anxious faces, stating that the water had risen so high in the hold that *the loose firewood was floating*. When the captain learned that this was really the case he ordered the men away from the pumps. There was no saving the vessel now—she must be abandoned.

"The first thing to be done," writes Hegemann, "was to bring all necessary and useful things from the 'tween decks on to the ice—bedding, clothing, more provisions, and coal. Silently were all the heavy chests and barrels pushed over the hatchway. First comes the weighty iron galley, then the two stoves are happily hoisted over; their possession ensures us the enjoyment of warm food, the heating of our coal-house, and other matters indispensable for a wintering on the floe. At three o'clock the water in the cabin had reached the table, and all movable articles were floating. The fear that we should not have enough fuel made us grasp at every loose piece of wood and throw it on to the ice. The sinking of the vessel was now almost imperceptible, it must have found support on a tongue of ice or some promontory of our field. There was still a small medicine chest, and a few other things, which, in our future position, would be great treasures—such as the cabin-lamp, books, cigars, boxes of games, etc. The snow-roof, too, and the sails, were brought on to the ice; but still all necessary work was not yet accomplished. Round about the ship lay a chaotic mass of heterogeneous articles, and groups of feeble rats struggling with death, and trembling with the cold! All articles, for greater safety,

must be conveyed over a fissure to about thirty paces farther inland. The galley we at once took on a sledge to the house, as we should want it to give us warm coffee in the evening. We then looked after the sailor Max Schmidt, who was suffering from frost-bite, and brought him on planks under the fur covering to the coal-house. By nine A.M. all were in the new asylum, which was lit by the cabin-lamp, and looked like a dreary tomb. Pleased with the completion of our heavy day's work, though full of trouble for the future, we prepared our couch. A number of planks were laid upon the ground, and sail-cloth spread over them. Upon these we lay down, rolled in our furs. A man remained to watch the stove, as the temperature in the room had risen from 2° Fahr. to 27½° F. It was a hard, cold bed; but sleep soon fell upon our weary, over-worked limbs. On the morning of the 21st we went again to the ship to get more fuel. The coal-hole was, however, under water. We therefore chopped down the masts, and hauled them, with the whole of the tackle, on to the ice, a work which took us nearly the whole day. At eleven, the foremast fell; at three, the mainmast followed, and now the 'Hansa' really looked a complete, comfortless wreck."

After a few days spent in completing their house, covering it with a warm coating of snow, etc., the crew of the "Hansa" were at last safely, and in a measure comfortably housed on the ice. And now from week to week their ice-raft continued to drift slowly to the south.

Early in November a walrus was killed, its fat affording a very acceptable quantity of first-rate fuel. Some of this was burned in the open air, with the view of drawing out the bears. One of these animals only came sniffing toward the fire, and was greeted with three shots, and killed. The four hams of the carcass weighed, in all, 200 lbs., and were roasted as a great treat, one on each successive Sunday. On the 18th December the lowest temperature felt during the whole voyage—20° Fah. below zero—was registered. Early on the morning of the 26th December, after having celebrated a quiet and happy Christmas, the sleepers in the house on the floe were roused by the sailor on the watch shouting, "We are drifting to land—an island straight ahead!" The island proved to be an ice one—a huge, drifting ice-berg—which the field on which the castaways were floating passed without accident.

On the 2d January the officers thought they heard a peculiar rustling noise, as if some one was shuffling his feet on the floor; but as it was soon over, they took no further notice. "In the afternoon," writes the captain, "as we were resting after dinner, we suddenly heard the same rustle, but much louder. It was a scraping, blustering, crackling, sawing, grating, and jarring sound, as if some unhappy ghost was wandering under our floe. Perplexed, we all jumped up and went out; we thought that our store-house had fallen in. Some of the sailors going in front with the lamp carefully

searched the path to it. But in whatever direction the light fell on the sparkling and glittering ice-walls, we saw nothing. Immoveable hung the rigid icicles, often a foot long; evidently nothing was amiss here. We rummaged in the snow-path before the house. Although completely snowed-up (indeed the whole house was buried more than a foot deep in ice), we all rushed out, but of course we could not see more than the steps, nor hear anything but the howling of the storm. Still, between whiles, we could detect the same rubbing and grinding. For a change, we laid ourselves flat down, with our ears to the floor, and could then hear a rustling like the singing of ice when closely jammed, and as if water was running under our great floe. There could be no doubt but that it stood in great danger of being smashed to pieces, either from drifting over sunken rocks, and bursting up, or breaking against the ice border; perhaps both at once. We packed our furs and filled our knapsacks with provisions. Our position, if the floe should be destroyed, seemed hopeless."

Still it was well to make such poor preparations against impending fate as were possible. Ropes were fastened from the house to the boats, which lay at a distance of fifteen paces, so that the men might be able to reach them, should the ice break up even under the house. "In the morning," continues Hegemann, "some of us went out in the direction of the quay; for thus we had christened the spot, 500 steps from the house, where the sunken 'Hansa' lay. They there found a new wall of ice, and recognised to their horror that this wall was now the boundary of our floe, whilst on all sides of it large pieces had been broken off, and rose in dark shapeless masses out of the drifted snow. The bad weather lasted with undiminished violence till two in the afternoon. On the morning of the 4th of January it had completely worn itself out; the air was clear, and allowed an open view over the ice-field to the coast. Our floe had lost considerably in circumference, and changed its round form into a long one. The diameter, which before was two nautical miles, was now at the utmost but one. On three sides, our house was only 200 steps from the edge of the floe. On the fourth it was about 1000, where before it had been 3000. The distance to the coast amounted to scarcely two nautical miles. Besides the island seen on the 1st of January, we caught a glimpse of several others with different pyramidically rising cliffs in the north-west. We named them the 'New Year's Islands,' as we had seen the first on the 1st of January. They lay near the east cape of a deep bay which, from the never-to-be-forgotten danger we had passed through, we christened 'Bay of Horrors.' In the background rose snow-covered mountains, which by the rising sun were lit up with a beautiful Alpine glow, and here and there in the bay were small glaciers visible. The extreme land to the south-west stood out as a steep cape, which we called Cape Buchholz; another to the west (Hildebrandt) was close to

us, only two nautical miles off; that is the nearest land. We thus found ourselves in the mouth of the bay. After the dangers gone through, and as our ice-raft seemed to afford us less security than formerly, it was proposed that we should make an attempt to get to the coast with the boats, and sufficient provisions, so as to have some prospect of reaching the inhabited part of Greenland, the south-westerly side, in the mild time of year. But, unfortunately, we found that we could get no farther than the edge of our field. Short broken fragments succeeded, so covered over with snow that one could see neither the gaps nor crevasses. To get to the coast hence seemed impracticable, and, as before, our ice-field was our only means of deliverance."

As giving a vivid idea of the scene and of the feeling of the men at this juncture, the following extract from the day-book of one of the sailors, dated "January 9th, *Northern Hotel*," is interesting as well from its peculiarly German tone, as from the scenery of the "Bay of Horrors" to which it refers: "The weather in the past night was calm and clear. The moon shone brilliantly; the northern lights and the stars glittered upon the dead beauty of a landscape of ice and snow. Listening at night, a strange, clear, sounding tone strikes the ear, then again a sound as of some one drawing near, with slow and measured steps. We listen—who is it? All still! not a breath stirring! Once more it sounds like a lamentation or a groan. It is the ice; and now it is still, still as the grave; and, from the glance of the moon, the ghostly-outlined coast is seen, from which the giant rocks are looking over to us. Ice, rocks, and thousands of glittering stars. O thou wonderfully ghost-like night of the north!"

On the 11th January the splitting of the floe still continuing, the men stood huddled together for protection from the bad weather. "Water on the floe close by!" shouts the watch. The ice-field began again to split up on all sides. On the spot between the house and the piled up store of wood, which was about 25 paces distant, there suddenly opened a huge gap. The sadly diminished floe now rose and fell like a small raft. "All seemed lost," says Hegemann. "From our split-up ice-field all the firewood was drifting into the raging sea. And in like manner we had nearly lost our boat 'Bismarck'; even the whale-boat was obliged to be brought for safety into the middle of the floe. The large boat, being too heavy to handle, we were obliged to give up entirely. All this in a temperature of $-9\frac{1}{2}^{\circ}$, and a heavy storm, was an arduous piece of work. The community were divided into two parts. We bade each other good-bye with a farewell shake of the hands, for the next moment we might go down. Deep despondency had taken hold of our scientific friends; the crew were still and quiet. Thus we stood or cowered by our boats the whole day, the fine pricking snow penetrating through the clothes to the skin. It was a miracle that just that part of the

floe on which we stood should from its soundness keep together. Our floe, now only 150 feet in diameter, was the 35 to 40 feet nucleus of the formerly extensive field to which we had entrusted our preservation. Towards evening the masses of ice became closely packed again. At the same time the heavy sea had subsided, and immediate danger seemed past. Relieved, we partook of something in the house and lay down, after setting a good watch. It was past midnight, when we were roused from our sleep by a cry of terror; the voice of the sailor on watch exclaiming, 'Turn out; we are drifting on to a high iceberg!' All rushed to the entrance; dressed we always were; we had no time to run through the long snow passage, but burst open the roof, climbed on to the door, and so out. What a sight! Close upon us, as if hanging over our heads, towered a huge mass of ice, of giant proportions. 'It is past,' said the captain. Was it really an iceberg, or the mirage of one, or the high coast? We could not decide the question. Owing to the swiftness of the drift, the ghastly object had disappeared the next moment."

After a day or two of moderate weather, a frightful storm sprang up on the 14th. Around the house in which the men were living, the ice broke up, and the broken fragments rose up high around. All was hurry now, to secure the provisions and stores on sledges, though the driving storm made it almost impossible to breathe. Some of the men that night slept in the boats, some in the now half-dismantled house. On the 15th the dreadful weather lasted the whole day. "We lay in the boat half in water, half in snow, shivering with the frost, and wet to the skin. We also passed the night of the 15th to the 16th in the same comfortless position." A new house was built on a sound piece of the floe, but as only six men could be accommodated in it, the remaining eight had to sleep in one of the boats, which had been roofed in and covered with a sail. In the midst of all this danger and exposure, the men remained cool, uncomplaining, undismayed. Cook was a great figure among them. He never lost his good-humour or his gaiety even in the most distressing circumstances. As long as he had tobacco he made no trouble of anything. On one occasion, while the ice was breaking up all round, and threatening every moment to give way and engulf the house, cook, who was repairing the coffee-kettle at the time, proceeded with his tinkering undisturbed. "If the floe would only hold together until he had finished his kettle! he wished so to make the evening tea in it, so that, before our departure, we might have something warm!"

These days of tempest and disruption, however, passed over. On the 1st February the spring tide set free a piece of the floe that had been broken off the main piece, but still remained in connection, and caused it to float away. The "Hansa" men had then an opportunity of estimating the thickness and strength of their field. The ice of the fragment was seen through the clear

water, shining to the depth of thirty to thirty-five feet. The field from which it had been broken off could not be less thick, so that the men had some reason to hope, that unless another crisis overtook them, their floe might even yet carry them into a latitude from which they might be able to reach the nearest West Greenland settlement.

One very striking effect of the sufferings and the situation of these men is worthy of notice. They became indifferent to their possessions and effects to a degree unequalled, so far as we remember, in any previous expedition. "The most costly books," says Hegemann, "are torn up for the most trifling purposes. The gilded frame of our cabin looking-glass has long since been used as firewood, and the glass thrown on one side. Streams of petroleum and brandy flow in the course of heating the stove; packets of tobacco furnish a welcome means of warmth. Why is gunpowder of no use to us? We like letting it off in fireworks for our pleasure, and to pass away the time!" But the feelings that gave rise to indifference in others had a different effect upon Dr Buchholz, surgeon to the "Hansa." During all the trials of January, Buchholz had exhibited great courage and resolution. In the beginning of February, however, he became melancholy; a nervous disorder developed itself, which he did not get quit of until he returned to Germany.

On the 18th March the castaways, on their ice-raft, had drifted as far south as $64^{\circ} 2'$, or considerably over 600 miles along the ice-fringed coast of Greenland. On the 29th, to their great joy, the men found themselves in the latitude of Nukarbik, in the bight of which they were detained for four weeks. After release from this bay, three weeks of continuous southern drift brought the men as far south as lat. $61^{\circ} 4'$. Meantime the animal life of this region became again cheerfully active. Linnets and snow-buntings were numerous and tame. "Some of them," writes one of the officers, "will almost perch upon our noses, and in five minutes allowed themselves to be caught three times." Still there was no open water.

The thaw, however, was proceeding rapidly, and with the disappearance of the snow on the ice-field many articles that were believed to have been lost "turned up." Among these articles was the always useful carpenter's chest.

Open water, leading in the direction of the land, was first seen on the 7th May. "A stiff south-easter had cleared the sky during the night, and in the grey morning the watch heard through the fog a rushing and roaring sound, which could be nothing but the sea. The thought had now to be seriously entertained as to whether the time had not come for our release from the floe. And it had come. Wind and weather remained favourable. The strip of water in the south-west came nearer and nearer, the wind separating masses of small floes and driving them northwards. At half-past twelve the captain, after having uninterruptedly observed the ice and the

weather for some time, decided, with the agreement of all the officers, that, according to his opinion, the moment had come when they should leave the floe, and try to save themselves by reaching the coast in the boats. But he did not wish to bear the entire responsibility of such an important step, believing that if the abandonment of the floe and the taking to the boats were decided upon with unanimous consent, or at least with that of the majority of his comrades, their prospect of ultimate preservation would be greatly enhanced by increased individual exertions. How well founded this opinion was, time would prove. It was also found that this day's observations gave a latitude of $61^{\circ} 12'$; more northerly than that of yesterday, as on the 6th we were in $61^{\circ} 4'$. This view of the captain's therefore received unlimited approbation, Dr Laube only showing some hesitation, which was overruled. Our decision stood firm. After a hasty mid-day meal we at once began to clear the boats. This was troublesome work. First we took out all the provisions, clothing, sails, masts, oars, instruments, and so forth, so that the boats might be hauled empty over three floes; and the whole of the contents were carried after them, partly on sledges and partly on the back, and they were again reladen. In feverish haste and impatience this work was accomplished, and in three hours all was ready. We took one last thankful look at our faithful floe; through numerous dangers and calamities, from the region of terror and death, it had borne us here in 200 days, into a more hospitable latitude; and now, filled with fresh courage, we might hope for a speedy release."

The party set sail at four P.M. on the 7th, and that night, after advancing "seven nautical miles," encamped on a floe. Bad weather and successive barriers of ice delayed the progress of the explorers, and it was not till the 24th May that an advance party reached the island of Illuidlek, off the Greenland coast, and in latitude about $60^{\circ} 55' N$. From this point it was necessary to drag the boats across the ice to the island, but these were so heavy, and the ice so rough, that only a very short distance was made daily. On the night of the 30th to the 31st May the party advanced 1200 paces. As they drew the boats to their destination, Captain Hegemann, who had been active in dragging the boats the whole night, was overcome with his labours, and fainted. On the 4th June the boats were landed on Illuidlek. On the 6th June, having trimmed their small craft, the party set sail for Friedrichsthal, the nearest colony on the south-west coast of Greenland. In the evening they hauled up their boats for the first time on the mainland of Greenland, about five miles north of Cape Valløe. "For the first time, now that we had no longer the crowding ice to fear, did we give ourselves completely and quietly up to rest. The light of another bright, sunshiny dawn showed us some signs of vegetation inland. There were sorrel, dandelion, and cinquefoil, which we sought for eagerly in the fissures and rents of the

rocky ground, and with which, with the help of some pickle, we improvised a salad. . . . Got once more under sail, and in the evening had left twenty miles behind us. Our quarters this night were close to the south end of Greenland ($60^{\circ} 34'$). On June 13th, starting at four in the morning, the party were resolved to push on to Friedrichsthal. They sped before the wind through the Strait of Torsukatek, and then rowed westward, looking out sharply for the expected bay. "There, suddenly, after rounding a low promontory, the longed-for bay lay before us. It was a never-to-be-forgotten moment. The wind was now favourable, so we at once set sail, and hoisted our flag. A few hundred steps from the shore, on the green ground, stood a rather spacious red house, topped by a small tower. It was the mission-house. . . . This green flat spot of land the Moravian brotherhood have chosen for their most southerly mission station. The Northmen had already lived here. As the brothers' house was being built, traces were found of their old settlement in the ground. Friedrichsthal is, indeed, one of the most lovely spots in Greenland. Open and pleasantly situated on the grassy sward, and enclosed in a wide semi-circle of high mountains, it makes a good impression on all comers; how much more so on us, comparatively raised from the dead!

"Hurrah! hurrah! European houses, Friedrichsthal!" Indeed, there lay before us two low red-painted houses. At this moment sprang up a most welcome breeze, and from our flagstaff the German flag fluttered lustily. I sat behind, with the glass to my eye, viewing the land. At the door of the mission-house a blue dress was visible for a moment, and then disappeared; now came a whole company from the house down to the strand; they had seen us. The rocks of the look-out hill, too, were alive. A European strode up and down, like an official guardian of order. Was it possible that in Greenland were already to be found harbour-masters and other government officers? What I had at first conjectured to be a heap of stones now stood upright. It was a group of oddly-dressed human beings—natives—who, crouching close together, with their skin clothes and fawn-coloured faces, could not be distinguished from the cliffs. Now the boats neared the shore. Even the water was alive. A man approached us in a canoe, but when he saw us would have turned quickly back again. The call of the Europeans to him from the cliff made him bolder; he came towards us, greeted us, and, nodding pleasantly, accompanied us into the harbour.

"Still it was uncertain whether the missionaries were Danish, but we heard, 'That is the German flag! They are our people! Welcome, welcome to Greenland!' Germans, Germans in Greenland! The first word, after so long a time, heard from strange lips was German; the first sound, our dear German mother-tongue; and their people the first to offer us help and refreshment—who can describe our wonder and delight?

"The land reached, each wanted to be first on the bank. I sprang into shallow water. We almost forgot the boats; the men could not finish the work quickly enough. What hand-shaking and grasping on all sides. Words died away in the throat, and the voice trembled. The man from the cliffs, too, and the natives had come up to greet us. The supposed guardian of public security was Mr Starick, the missionary, who, with Mr Gericke, superintended the mission. The good people opened their eyes when they heard some short details of our voyage! But this was Germany. As a token, we have Mr Gericke's command: 'Wives, go and get ready at once some good coffee; in the meantime, we men will drink a bottle of wine as a welcome.' No sooner said than done. Whilst the men on the strand were busy making fast and unloading the boats, we followed the missionaries to the house, relating and listening alternately."

Thus was the crew of the "Hansa" rescued, after one of the most extraordinary experiences in the history of navigation. At Julianshaab, the nearest seaport on the west coast of South Greenland, they procured a passage in the "Constance" which conveyed them safely to Copenhagen, whence they immediately set out for Germany.

CHAPTER III.

VOYAGE OF THE "GERMANIA"—GREAT GAME—IN WINTER QUARTERS—
KLENTZER'S ADVENTURE—CARRIED OFF BY A BEAR—RESULTS OF SLEDGE
JOURNEY.

For several days after the disappearance of the "Hansa" Captain Koldewey lingered about near lat. 74° N., in the expectation of again falling in with the sister ship. On the 27th July the vessel was in lat. $73^{\circ} 7'$. On the 1st August, having steamed toward the coast until arrested by solid ice, Koldewey resolved to wait for a change. There was open water, no doubt, extending along the Greenland shore; but between the vessel and this water a broad band of ice intervened. On the 3d, after having steamed away among the ice in a north-west direction, the "Germania" was brought up in lat. $74^{\circ} 18'$. Starting westward on the morning of the 4th, Koldewey reached to within five German miles from the coast. A group of islands lay clear and distinct before the vessel. The water was open, and the captain steered straight for the Greenland coast. All the officers were greatly excited, and in spite of the cold, remained on the deck nearly all night. "In the early morning," writes Koldewey, "we had a fall of snow, giving the ship a thick white covering. A few miles from land a large brash lay direct in our course; this we sailed round, and at last anchored in a small bay, which was afterwards our winter harbour. On the 5th of August we dropped anchor on Greenland soil, and a loud 'hurrah!' arose as we planted our flag, which also waved proudly from the mainmast."

A number of minor excursions were made by Lieutenant Payer and others during the months of August and September. These were, in the main, resultless for all practical purposes. The principal fact upon which Koldewey congratulates himself was not that he had achieved anything, but that he had reached a point from which it was possible to achieve something during the coming summer. He says: "We found ourselves in a field (which, scientifically, was almost unknown), on a coast respecting which the most unreliable and contradictory reports obtained; and nearly all our discoveries and observations seemed new, thus affording important contributions to the knowledge of the Arctic region." Events proved that

Captain Koldewey was right in choosing the coast of East Greenland for the basis of Arctic exploration, instead of Dr Petermann's suggestion of advancing between Nova Zembla and Spitzbergen to the North Pole.

On the 14th September a party of six men, under Captain Koldewey and Lieutenant Payer, set out to travel north-west on an exploring expedition. On the 16th the party discovered Fligely Fiord, between Kuhn Island and the mainland of King William Land. In this high latitude (about 75° N.) herds of musk-oxen and reindeer were seen. On the morning of the 19th Payer noticed on the south side of Kuhn Island a stone of very light colour, which formed solid, overhanging crystals, to the height of 2000 feet. "He therefore left the sledge, and, to his great astonishment, tumbled upon an enormous layer of coal, alternating with sandstone." This discovery of a coal layer is of the greatest importance for the future investigation of the Greenland coast.

The ordinary preparations for wintering in the little harbour on the south side of Sabine Island were being carried out, when a discovery was made which had a cheering effect on the people of the "*Germania*." It was discovered that the island on which they were wintering was frequented both by reindeer and musk-oxen. This led to a famous hunting excursion, which serves to enliven the somewhat dull chronicle of the fortunes of the expedition during its first few weeks in winter quarters. Dr R. Copeland, who had been the first to discover that Sabine Island was a haunt of musk-oxen, is an Englishman, born at Woodplumpton, in Lancashire, England. He acquired a scientific education in England, travelled in foreign countries, and studied astronomy at Göttingen in 1867-67, and afterwards became voluntary assistant in the Göttingen observatory. He and his companion, Dr Börgen, had volunteered to take charge of the departments of astronomy and physical science in the German Arctic expedition of 1869-70. On the morning of the 14th September he set out, accompanied by Wagner, the stoker of the "*Germania*," to hunt the great game he had discovered on the previous day. "As we neared the Hasenberg," writes Copeland, "we saw our friends, by the help of a pocket telescope, peacefully resting on the snow, at a height of from 1050 to 1200 feet above us, on the side of the mountain looking landwards. We climbed as quickly as possible, and after about an hour's time found ourselves near them. But although we tried on every side to get close to them, we could not succeed without their seeing us. At last we were obliged to agree to try with less circumspection. At first they seemed quite contented with their work of chewing, not dreaming of any threatened danger, but suddenly, with a bound, they were off. I was so beyond myself at this mishap, that, from sheer desperation, I sent some shots after them, of course without any result. If their great speed and agility had astonished us the day before, our wonder was greater to-day, as we saw them bound up

the acclivity, which was as steep as basalt fragments could possibly be. At the utmost, they were not more than three or four minutes reaching the height of 450 feet, which the top of the mountain appeared to reach. We followed slowly after them, and really the ascent was so difficult that it took us quite half-an-hour to do what the oxen had done in a few minutes. We found a slight trace of blood, thereby concluding that the chance shots had not been without effect. Upon reaching the summit, we saw that they had climbed to a steep snow furrow on the outer slope of the roof-shaped mountain. As we knew that by following them we should only hasten their flight, we sat down and took some refreshment. It did not escape us, however, that the oxen had ceased to mount, and had withdrawn to the north-west side of the mountain. Here the ground was very uneven; deep rifts, alternating with stony hills. We now distinctly saw that one of the bulls was less active than the other, and as the unharmed one seemed resolved not to leave his comrade, they went but slowly forward. We waited until they were out of our sight behind the hills, and then followed as quickly as the stony nature of the ground permitted. We now passed quickly, but cautiously, one hilly range after another, and, at every open spot where the oxen might perceive us, we looked carefully to see if they were not in the next hollow. Thus we had passed several hills, and had begun to fear that our prey had escaped us again, when at that moment we espied the back of one. It was grazing, and coming straight towards us. I fell back at once, and, after drawing Wagner's attention, dropped upon hands and knees, and thus approached the unsuspecting beast. Before they suspected anything, we were alongside of all three. Wagner's Austrian breech-loader and my double-barrelled gun made it possible to give them the three shots in as many seconds; one of the oxen was quite incapable of combat. Wagner looked after the other, with which it seemed that he would have enough to do. The poor terror-stricken cow tried to blunder down the slope, and I ran after her. In two or three minutes I stood but a few steps from her and fired, aiming at the head. It was the first and last time that I tried this shot upon a musk-ox. I struck the cow exactly in the middle of the forehead, about an inch above the eyes; she scarcely seemed to shrink, and I was glad to be able to give her another in the shoulder immediately, as she seemed inclined to try what she could do with her short, crooked horns in self-defence. Wagner in the meantime had finished his part of the work, so that, after cutting their throats, we rolled them some hundred feet down the deep, steep slope, where they rested upon a comparatively smooth snow heap. Then followed the less agreeable but necessary work of skinning them. Wagner was willing enough and strong enough; but as this sort of work was new to him, the greater part of course fell to my share. As the animals were so near the ship, I much wished to so skin them as to put them in our

collection ; and at last, after the lapse of two hours, we had the pleasure of taking off the skin of the third ox, with its head and feet attached. Whilst thus busied, we kept a sharp look-out for less agreeable guests ; for a bear, attracted by the smell of the dead animals, might visit us ; but at first nothing happened. Excited by the happy results of our hunt, we were about returning, when Wagner suddenly saw a huge bear very near to us. He was a magnificent fellow. Standing on the back of the neighbouring height, he twisted his long neck from right to left, sniffing the air with every sign of caution and mistrust ; he showed to advantage as he stood with his powerful broad breast presented to us ; his huge paws firm upon the ground, or sometimes raised when he stood on his hind feet to sniff the air more effectually. As soon as we saw him, we ducked between the stones, and examined whether we had cartridges enough. I being more practised in shooting than Wagner, took his breech-loader, which for this case was the best weapon. Carefully did I pick the spot in the silvery shining fur of Bruin where the heart ought to be, and fired. With a fearful howl he disappeared behind the hill. We followed him as fast as our legs could carry us, and found the huge beast about twenty paces from the spot where he had been standing, mortally wounded. We gave him an extra shot to make sure, and then opened the jugular vein. I think this was the largest specimen of *Ursus maritimus* that we saw during our stay in the Arctic regions. He was very fat, proving that though his teeth were gone, the experience of age had taught him how to supply all necessities. Our united exertions could not turn him round, so, for the present, we had to leave him. Our comrades on board were delighted at the prospect of being so richly provided with fresh meat ; and on the following morning, at half-past two, we started with seven men, two boats, and a light sledge. At two p.m. we returned laden with the carcasses, heads, and skins of our three oxen, and the head and skin of the great bear, besides some foxes which we surprised at our meat store. One of them seemed fond of liver, and was making off with a large piece when a shot brought him down. At dinner, when the liver came on the table, some shot in the piece which had fallen to my lot, showed that I had shared the unlucky fox's last morsel. Our careful sailors were of opinion that no gift of God's should be lost, so they had brought it away and found it useful for the cabin table."

The winter quarters of the "Germania" on the south coast of Sabine Island formed the finest harbour that could be desired. A passage having been cut into it through the three-inch thick ice, the vessel was towed into the position it was destined to occupy for 290 days on the 24th September. The winter preparations differed in some respects from those of earlier expeditions. "First the sails were taken down and rolled together, then the yards and the main-topmast, and the sails and all the rigging dismantled.

The foretopmast we purposely left standing, that we might have a lofty point, which, in the course of time, might be useful for observing the air-currents and electricity. Then the deck was cleared, and the long-boat hoisted from its place. The spare spars and all utensils and chests were brought to shore. The same thing was done with all provisions which the frost could not destroy, except, of course, what we needed for use during the half-year. The two largest boats we laid with the yards, etc., on the flat shore at the end of the harbour. For the provisions, however, we erected a 'depôt,' half way to the observatory on the peninsula. On a layer of planks we closely packed our chests and vessels, covering them with sails, the edges of which were kept down by heavy stones. Thus buried, our belongings seemed able to defy both storms and bears. But other things remained to be done. One or two men had to help build the stone houses; and the engineer and the stoker were busy taking the machinery to pieces. One of these stone houses was intended for an observatory. . . . To keep out the snow and wind, and also to keep in the warmth, a tent of strong sail-cloth was stretched over the ship; and finally, a three-inch thick layer of moss was spread over the deck. The tent roof had been prepared before our departure, so it had only to be put up. . . . As has already been said, this was composed of the strongest sail-cloth, and the different parts were so firmly put together that we dared to hope it would resist the storm; and the more so as the sharp front lay towards the north wind. . . . Whilst the outside was thus putting on its winter clothing, many alterations were made within. The question here was not only the greatest protection from cold, but the making it really habitable and home-like. We already found that the warmest half was the fore-cabin, just abaft the fore-castle, and which was built like a cage in the middle of the hold, which surrounded it on all four sides. Hereupon a winter cabin for the captain had to be made, as the former, from its isolated position in the after-part of the ship, required too much coal to warm it." A wall of ice-blocks was built around the ship, and from this rampart a rope was led by a line of ice-pilasters to the shore.

The sun disappeared for the winter on the 6th November. Except for frequent and violent storms, the latter part of the year was in no sense noteworthy. In its natural course, Christmas came round; and as Koldewey and his officers and crew were the first Germans who had ever wintered on this coast, it was resolved that the Christmas tree should not be wanting on the "Germania." The "tree" was a wonderful structure, the framework of which was due to the carpenter, while the foliage consisted of the andromeda, which has been so often mentioned in these pages. "Somewhat later," writes Dr Pansch, "followed a hot supper, in which the cook astonished us with some delightful cakes. Healths were drunk in foaming wine of the Neckar, and at dessert a large chest, which had taken its place in the

cabin since yesterday, was opened. It contained a valuable present from Mainz: a number of bottles of excellent Rhine wine. You should have seen the men of the 'Germania!' Heart and mind were in a glow, they joked and chattered, speeches were made, and healths drunk, and the ship resounded with many a hearty cheer. We thought of our loved ones at home, our brothers on the 'Hansa,' and our ever dear country! But we still wanted a song. Each one had his song-book, a gift from the publisher, G. Westermann, and—were we not Germans, 'Vereint zur frohen Stunde?' So it was not long before we had a song. Was it a warning that the 'Wacht am Rhein' should resound in the Arctic night? As it was a wonderfully warm, soft air, the suggestion of a dance on the ice received universal approbation. Soon we were dancing merrily on the white snow, whilst the boatman, wrapped in a reindeer's skin, played the new harmonica with an artist's hand. More bottles were opened, more healths drunk, and midnight had passed before we retired to rest."

The months of January and February passed by almost without incident, the sailors busy in their evening school, for the most part, and the officers engaged in teaching them, and in taking meteorological and other observations. There was no *ennui* on board, for a great geographical expedition was to be undertaken in March, and every spare hour was occupied in preparing for it; and, in the meantime, had not the men the great adventure of Theodor Klentzer to talk about? "Our Theodor," as Dr Pansch calls him, went out by himself one morning, when the men were either out taking their daily walk, or otherwise busy. He ascended an icy hill, which had been named the Germaniaberg, at some distance from the vessel. Reaching the summit of the hill, he seated himself, and in exaltation of spirit sang to himself a song of Fatherland. The song rang pleasantly enough in the still air, but happening to look round after he had finished it, Klentzer beheld a huge bear watching him with gravity at the distance of a few paces. Under other circumstances, the presence of this unexpected auditor would not have materially discomposed our Theodor, who was a silent, decisive man, and had a pretty way with the breech-loader. On the present occasion, however, he had no breech-loader, no pistol, not even a knife. We leave Dr Pansch to finish the narrative: "Thus Klentzer saw himself, unarmed and alone, far from his companions, and close to the bear. Flight is the only, though a doubtful, chance of safety, and the audacious thought struck him of plunging down the steep side of the glacier; but he chose the softer side-slope, and began to hurry down the mountain. Upon looking back, after a time, he perceived the great bear trotting behind him at a little distance, like a great dog. Thus they descended the mountain for some time. If Klentzer halted, so did the bear; when he went on, the bear followed slowly; if he began to run, the bear did the same. Thus the two had gone some distance,

and Klentzer thought seriously of saving himself, as the bear, finding the chase somewhat wearisome, might press close upon his heels. He therefore uttered a loud shout, but the bear, only disconcerted for a moment, seemed to get more angry and approached quicker, so that he seemed to feel the hot breath of the monster. At this dreadful moment—and it was most likely his preservation—he remembered the stories he had heard, and, while running, pulled off his jacket, throwing it behind him. And see! the trick answers: the bear stops and begins to examine the jacket. Klentzer gains courage, rushes on down the mountain, sending out a shout for help, which resounds through the silent region. But soon the bear is again at his heels, and he must throw away cap and waistcoat, by which he gains a little. Now Klentzer sees help approaching—several friends hurrying over the ice. Collecting his last strength, he shouts and runs on. But help seems in vain, for the pursuer hurries too, and he is obliged to take the last thing he has, his shawl, which he throws exactly over the monster's snout, who, more excited still by renewed shouting, throws it back again contemptuously with a toss of the head, and presses forward upon the defenceless man, who feels his cold black snout touch his hand. Klentzer now gave himself up for lost; he could do no more; but the wonderful thought struck him of fastening up the bear's throat with the leathern belt which he wore round his body. Fixedly he stared into the merciless eyes of the beast—one short moment of doubt—the bear was startled, his attention seemed drawn aside, and the next moment he was off at a gallop. The shouts of the many hurrying to the rescue had evidently frightened him. Klentzer was saved by a miracle. We had all hurried out just as we sat below, without coats or caps—indeed, some were in their stockings. The terrified creature fled on to the ice, where he received a cross-fire, then turned hither and thither, and made for Cairn Point. Some of the bullets must have struck him, for he collapsed, and we thought it was all over. But he rallied the next moment, and climbed the steep bank with huge strides, and, leaving traces of blood on the open ice, hurried to the sea. Glad and thankful, our full number were soon seated at the mid-day meal, praising a good Providence who had saved our brave companion from death. From the effects of this day several suffered slightly from pains in the chest, and Mr Sengstacke and P. Iversen had large frost-blisters on their feet. No wonder, when they had run about in stockinged feet for a whole hour and a half!"

On the 3d February the sun reappeared. "It was a joyous and a glorious sight. Invigorating were the effects of its first rays as they fell upon us, as were also the effects upon the landscape. For as until now the whole mountain panorama lay in one uniform coloured dark mass, except now and then, in the bright moonlight, when some glaring lights and shades stood out, and even the brightest twilight could scarcely individualise an object, now every

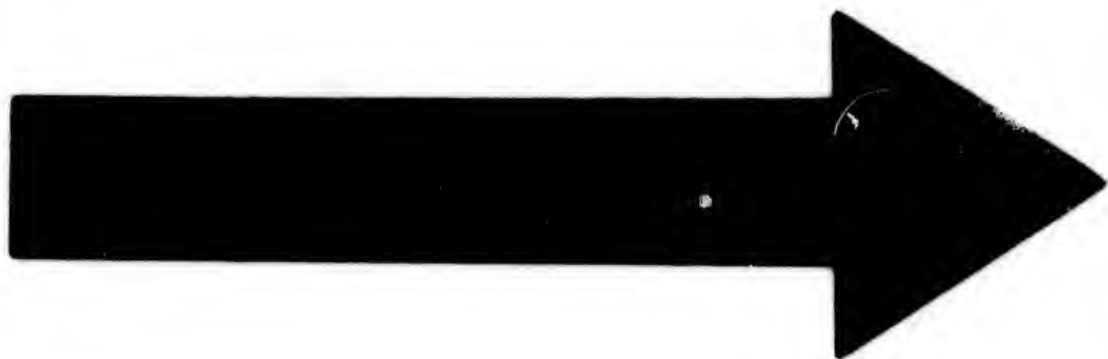
part and outline of the mountain-chain stood prominently forward; the projections were elevated, and the distant points receded; and this now beautiful living landscape was flooded with the softest colours—red, violet, blue, and green, in all shades—according to the strength of the light, the kind of ground, and the nature of the surroundings. But our pleasure was destined to be of short duration, for the sun soon disappeared again behind the jagged horizon of ice, and the gloomy, uniform, greyish-blue shadows descended one after the other on the wintry landscape.”

The lowest degree of cold experienced during the voyage was that of February 21st, when the thermometer indicated -40° . On the 16th February it was spring-tide, and at the lowest ebb the ship grounded. The ice and the snow-wall still adhered to the ship, and their weight forcing down the vessel was enormous. Had the ground been uneven, the stern-post or the rudder must have been damaged. The ice was at this time fifty-seven English inches thick.

It had been arranged that the great sledge journey to the north was to be commenced on the 7th March 1870, but an event occurred which caused it to be postponed for a day. On the evening of the 6th the officers were sitting silent in the cabin when Koldewey heard a faint, sudden cry for help. Rushing up the companion-ladder to the deck, they listened, and presently heard Dr Børgen cry out, “A bear is carrying me off!” It was quite dark, but picking up whatever weapons lay handy, every one advanced over the hummocks and drifts in the direction from which the sound proceeded. An alarm shot was fired; the bear dropped his prey and ran forward a few paces, but soon returned, seized his victim, and set off with him over the broken shore-ice toward a field which stretched in a southerly direction. “All depended upon our coming up with him before he could reach this field,” writes Julius Payer, “as he would carry his prey over the open plain with the speed of a horse, and thus escape. We succeeded. The bear turned upon us for a moment, and then, scared by our continuous fire, let fall his prey. We lifted our poor comrade up on to the ice to bear him to his cabin—a task which was rendered somewhat difficult by the slippery and uneven surface of the ice. But after we had gone a little way, Børgen implored us to make as much haste as possible. On procuring a light, the coldest nature would have been shocked at the spectacle which poor Børgen presented. The bear had torn his scalp in several places, and he had received several injuries in other parts of his body. His clothes and hair were saturated with blood. . . . The first operation was performed upon him on the cabin table. And here we may briefly notice the singular fact that, although he had been carried more than 100 paces with his skull almost laid bare at a temperature of -13° Fah., his scalp healed so perfectly that not a single portion was missing.”

Dr Børgen's own account of this fearful encounter is thrilling, yet modest and truthful. He says: "About a quarter before nine p.m. I had gone out to observe the occultation of a star, which was to take place about that time, and also to take the meteorological readings. As I was in the act of getting on shore, Captain Koldewey came on to the ice. We spoke for a few moments, when I went on shore, while he returned to the cabin. On my return from the observatory, about fifty steps from the vessel, I heard a rustling noise to the left, and became aware of the proximity of a bear. There was no time to think or use my gun. The grip was so sudden and rapid that I am unable to say how it was done; whether the bear rose and struck me down with his fore-paws, or whether he ran me down. But from the character of the injuries I have sustained (contusions and a deep cut on the left ear), I conclude that the former must have been the case. The next thing I felt was the tearing of my scalp, which was only protected by a skull-cap. This is their mode of attacking seals, but, owing to the slipperiness of their skulls, the teeth glide off. The cry for help which I uttered frightened the animal for a moment, but he turned again and bit me several times on the head. The alarm had meanwhile been heard by the captain, who had not yet reached the cabin. He hurried on deck, convinced himself that it was really an alarm, roused up the crew, and hastened on to the ice, bringing assistance to his struggling comrade. The noise evidently frightened the bear, and he trotted off with his prey, which he dragged by the head. A shot fired to frighten the creature effected its purpose, inasmuch as he dropped me, and sprang a few steps aside; but he immediately seized me by the arm, and, his hold proving insufficient, he seized me by the right hand, on which was a fur glove, and this gave the pursuers time to come up with the brute, which had by its great speed left them far behind. He was now making for the shore, and would certainly have escaped with his prey had he succeeded in climbing the bank. However, as he came to the edge of the ice, he turned along the coast side, continuing on the rough and broken ice, which greatly retarded his speed, and thus allowed his pursuers upon the ice to gain rapidly upon him. After being dragged in this way for about 300 paces, almost strangled by my shawl, which the bear had seized at the same time, he dropped me, and immediately afterwards Koldewey was bending over me with the words, 'Thank God! he is still alive!' The bear stood a few paces on one side, evidently undecided what course to pursue, until a bullet gave him a hint that it was high time to take himself off.

"No one thought of pursuing him, for their first care was to carry the wounded man on board, whither the doctor and Herr Trammitz had gone, in order to prepare the requisites for binding up the wounds. The main injuries were in the head, where, amongst numerous other wounds from the



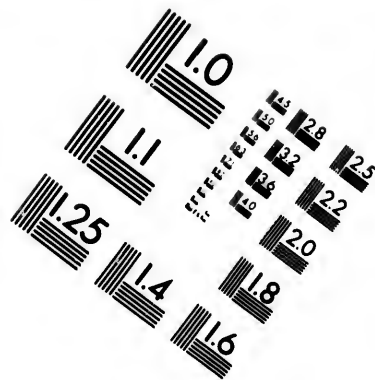
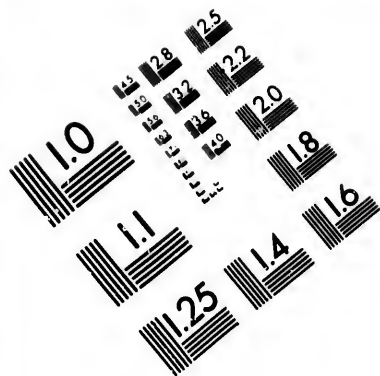
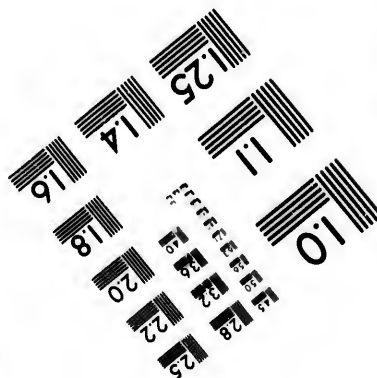
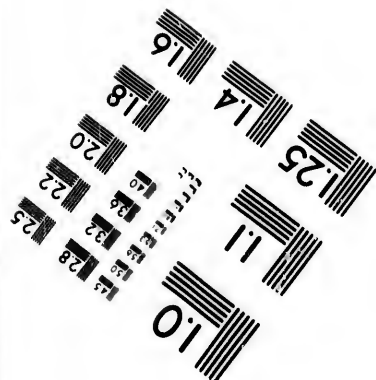
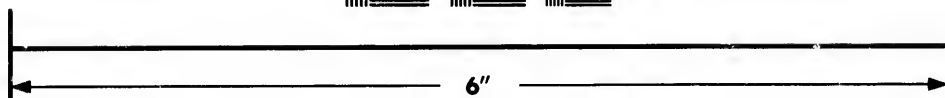
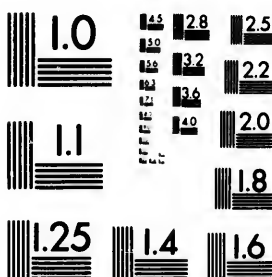


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bites, two especially, from four to six inches long, ran along the scalp, the edges of which hung loose, leaving the skull bare for one-third to two-fifths of an inch. The other wounds, about twenty in number, were in part caused by striking against the fragments and rough broken edges of the ice. It is worth while mentioning that neither during the act of receiving the wounds nor during the process of healing, which progressed favourably, did I experience the smallest pain.* The next day, upon the ice, at some distance from the scene of the accident, the chronometer and the gun were found, showing the force of the blow, and also the sail-cloth boots, which had dropped off while crossing the ice.

"This accident was an additional proof how dangerous it was ever to go out alone in the dark; for weapons are but of little avail if one is not aware of the approach of the animal. This precaution, which was, as a rule, strictly observed, was in my case neglected simply because the next day the whole crew were to start on a sledge expedition to the north, which had now to be postponed for a day."

The spring journey toward the north was commenced on the 8th March, but such were the difficulties of the route from roughness of ice, extreme cold, etc., that it was considered wise to return for a time to the ship. This was accordingly done. The weather had improved toward the close of March, and on the 24th March the party (eleven men, under the command of Koldewey and Payer) again set out. On the 31st they penetrated between Shannon Island and the mainland. Koldewey Island was discovered on the 31st; Mount Haystack, which Clavering had misnamed an island, was reached on the 2d April. On the morning of the 4th a bear attacked the party in their tent, but was soon killed and immediately eaten—raw. On the 6th, lat. 76° N. was passed, and the explorers were astounded to find here the remains of Eskimo summer tents—circles of stones holding down hide coverings. An enormous reddish wall, rising to the height of 3280 feet, was named the Devil's Cape, and Payer is inclined to believe that behind it the Greenland coast, trending towards the north-west, is probably connected with Smith Sound. Dove Bay and East Island were reached. Storm Bay and Cape Bismarck—the latter in $76^{\circ} 47'$ —were discovered and named on the 11th. On the 15th April they reached their farthest point, $77^{\circ} 1'$, and there erected the North German and Austrian flags, and deposited a record. "Like so many of our predecessors," says Payer, "we, too, longed to lift the veil hanging over the whole of the Arctic world, so opposed to the mandate, 'Thus far shalt thou go, and no further;' and, like so many others, found that our object gained fell far short of our bold flights of fancy; and

* "Similarly Livingstone, who, on being torn by a lion, tells us 'there was no sense of pain nor feeling of terror. It was like what patients partly under the influence of chloroform describe, who see all the operation, but feel not the knife' (Missionary Travels, S. Afr., p. 12)."

that, resting after endless troubles at the end of our journey, we still looked in vain for the solution of the many riddles which science expected of us. The conjecture, once broached, of an open Arctic sea, we could, from our stand-point, only reject as idle. To the farthest point of the horizon the sea was covered with a solid covering of ice, over which, had it not been for the want of provisions, we could have continued our sledge journey. The outer coast-line stretched in an almost northerly direction; to the north-west, the prospect was closed in by lofty ice-covered mountains, only a few miles distant."

Captain Koldewey, in reference to the high latitude reached, says: "Fully convinced that perhaps never, or at least only in very particularly favourable years, could any ship advance along this coast, we set out on our return journey; the ice gave one the impression of a rampart built for eternity. With sledges it is possible, if the equipment is adequate, . . . to go considerably beyond 80°." The return journey, commenced on the 16th, was successfully completed on the 27th April.

The summer of 1870 was spent by the scientific staff of the "Germania" in surveying the coasts we have named. Beyond the discoveries already noted little of more than mere technical interest was achieved during the summer months. On the 16th August the return voyage to Europe was commenced, and on the 11th September 1870 the "Germania" arrived at Bremerhaven.

CHAPTER IV.

AUSTRIAN EXPEDITION, 1872-74—THE VOYAGE OF THE "TEGETTHOFF" UNDER WEYPRECHT AND PAYER—PIONEER EXPEDITION—COMPANION PICTURES—DRIFTING NORTH—NEW LANDS DISCOVERED—WILCZEK ISLAND REACHED—FRANZ-JOSEF LAND DESCRIBED—RETREAT AND RESCUE.

CARL WEYPRECHT, born in Hesse-Darmstadt in 1838, entered the Austrian navy in 1856, was present at the engagement between the Austrian and Italian fleets at Lissa, July 20, 1866, and was decorated with the Order of the Iron Cross for his services in that battle. On two occasions he volunteered to join expeditions to the Polar regions, but it was not till 1871, when he sailed with Payer in the "Isbjörn," that he commenced his career of Arctic experience and discovery. He was appointed to the "Tegetthoff," of the Austrian expedition in 1872, and had supreme command of that enterprise in all matters nautical. Julius Payer, who was responsible for the conduct of the sledging and surveying operations of the same expedition, was born at Schönan, in Teplitz, Bohemia; was educated at the Military Academy, Wiener-Neustadt, in 1856-59; served with the rank of senior lieutenant in 1866 in Italy; and was decorated for his services at the battle of Custoza. He afterwards served in Tyrol, where he earned a high reputation as an intrepid and skilful Alpine climber. He gained his first experience as an Arctic discoverer in the second German Arctic expedition under Koldewey and Hegemann.

Some disappointment was felt that the German Arctic expedition failed to reach a higher latitude than 77°, and the seas of Nova Zembla, or, more correctly, Novaya Zemlya, were turned to by the geographers of the day as offering a more promising route to the heart of the Arctic region. The seas between Spitzbergen and Novaya Zemlya were then utterly unknown to science, and in order to ascertain whether the route in this direction was likely to be fruitful in geographical discovery and scientific results, it was determined to despatch a pioneer expedition to these unknown waters, under the command of Lieutenants Weyprecht and Payer. "It seemed," writes Payer, "to be established as the result of many expeditions, that almost in-

vincible difficulties opposed the reaching of the central Arctic regions by the routes through Baffin Bay, Behring Strait, along the coast of Greenland, and from Spitzbergen, mainly because on them all we are met by the great Arctic currents, which act as channels to carry off the ice of the Polar basin. These currents carry with them vast masses of ice, which they deposit on all the coasts which they strike. On the results of many Norwegian, Russian, and German voyages, partly in the interests of science, partly in the interests of commerce, many geographers maintained that the traces of the Gulf Stream did not disappear at the North Cape, but rather that it exercised a considerable influence on places and in latitudes not before imagined, as, for instance, on the north-east coasts of Novaya Zemlya. An expedition, therefore, which followed the course of the warmer waters of the Gulf Stream, would find fewer and less formidable obstacles than on the routes exposed to the Arctic currents, carrying with them colossal masses of ice towards the south. On the east of Spitzbergen there is a land which has, indeed, been often seen, but never reached, or even attempted to be reached—Gilles Land—lying in the course of the Gulf Stream; and it is a probable assumption that navigable water would be found under its western coast, as at Spitzbergen, where 80° N. lat. can be reached every year without any difficulty. If, then, this stream extends still farther to the north—which is probable according to the soundings taken by the Swedes—it is reasonable to expect that higher latitudes may be reached on this than on any other route."

In order to acquire information on these points, Weyprecht and Payer set sail from Tromsø in the "*Isbjörn*," a small sailing vessel, on the 20th June. Directing their course to the eastward of Spitzbergen, they reached lat. $77^{\circ} 17'$ on the 21st August. On the night of August 31st they passed beyond lat. $78^{\circ} 30'$, and on the 1st September they found themselves in $78^{\circ} 38'$, longitude about 42° E., and yet the ice presented no serious impediment to a still higher advance. They had now reached the middle of the ocean extending between Spitzbergen on the west, and Novaya Zemlya on the east—the centre of the region the limits of which it was contemplated to explore. So far, then, it was ascertained that the proposed route was a feasible and a promising one, and having ascertained this, they returned and landed at Tromsø early in October 1871. It had formed no part of their plan either to make discoveries or to reach high latitudes. Their object was to investigate whether the Novaya Zemlya seas "offered greater facilities, either from the influence of the Gulf Stream, or from any other causes, for penetrating the unexplored Polar regions," and in the course of their successful voyage of reconnaissance, their observations furnished them with many reasons for believing that the projected Austro-Hungarian Arctic expedition would be best conducted toward the Novaya Zemlya seas. "To

this idea," says Payer, "a most gracious reception was given by the Emperor of Austria. Hence arose the Austro-Hungarian expedition of 1872. The promoters of this undertaking," continues Payer, "assumed neither the existence of an open Polar sea, nor the possibility of reaching the Pole by boat or sledge expeditions. Their object, simply and broadly stated, was the exploration of the still unknown Arctic regions, and it was their belief that a vessel would penetrate farther into this region by the route between Novaya Zemlya and Spitzbergen, where the 'Isbjörn' in her pioneer voyage found the ice more loose and navigable than had been imagined possible."

The "Tegetthoff" was a steam vessel of 220 tons burden, with an engine of 100 horse-power. She was fitted out for two years and a half, and was manned by a crew of twenty-two Germans, Italians, Slavs, and Hungarians. Counting the two commanders, the "Tegetthoff" carried in all twenty-four souls. There were also eight dogs on board. The vessel set sail from Tromsøe on the 14th July 1872.

The ice was first sighted on July 25th, in lat. 74°. Northerly winds had prevailed for some time, and the ice broken up by the wind was seen disposed in long loose lines. These became gradually closer, and in lat. 74° 44', long. 52° 8' E. (reached on July 29th), the assistance of steam was required to force the vessel through the floes. In many cases progress was only to be made by *charging the ice*. On the night of the 29th, an apparently impenetrable barrier extended across the "Tegetthoff's" bows; but the tactics of charging under steam again cleared a passage, and the ship penetrated into a larger "ice-hole."

Probably no other Arctic explorer has displayed so much true insight, combined with true artistic taste, in his descriptions of Arctic scenes, as Lieutenant Payer. Here are two companion pictures of the frozen ocean in gloom and in sunshine, which will serve to convey a vivid idea of nature in the remote north: "For some days we had entered into a world utterly strange to most of us on board the 'Tegetthoff.' Dense mists frequently enveloped us, and from out of the mantle of snow of the distant land the rocks, like decayed battlements, frowned on us inhospitably. There is no more melancholy sound than that which accompanies the decay and waste of the ice, as it is constantly acted on by the sea and thaw, and no picture more sad and solemn than the continuous procession of icebergs floating like huge white biers towards the south. Ever and anon there rises the noise of the ocean swell breaking amongst the excavations of the ice-floes, while the water oozing out from their icy walls falls with monotonous sound into the sea; or perhaps a mass of snow deprived of its support, drops into the waves, to disappear in them with a hissing sound as of a flame. Never for a moment ceases the crackling and snapping sound, produced by the bursting of the external portions of the ice. Magnificent cascades of thaw water precipitate

themselves down the sides of the icebergs, which sometimes rend with a noise as of thunder, as the beams of the sun play on them. The fall of the Titanic mass raises huge volumes of foam, and the sea-birds, which had rested on its summit in peaceful confidence, rise with terrified screams, soon to gather again on another ice-colossus. But what a change, when the sun, surrounded by glowing cirrus clouds, breaks through the mist, and the blue of the heavens gradually widens out! The masses of vapour, as they well up, recede to the horizon, and the cold ice-floes become in the sun-light dark borders to the 'leads' which gleam between them, on the trembling surface of which the midnight sun is mirrored. Where the rays of the sun do not directly fall on it, the ice is suffused with a faint rosy haze, which deepens more and more as the source of light nears the horizon. Then the sunbeams fall drowsily and softly, as through a veil of orange gauze, all forms lose at a little distance their definition, the shadows become fainter and fainter, and all nature assumes a dreamy aspect. In calm nights the air is so mild that we forget we are in the home of ice and snow. A deep ultramarine sky stretches over all, and the outlines of the ice and the land tremble on the glassy surface of the water. If we pull in a boat over the unmoved mirror of the 'ice-holes,' close beside us a whale may emerge from its depths, like a black shining mountain; if a ship penetrates into the waste, it looks as weird as the 'Flying Dutchman,' and the dense columns of smoke, which rise in eddies from her funnel, remain fixed for hours until they gradually melt away. When the sun sinks at midnight to the edge of the horizon, then all life becomes dumb, and the icebergs, the rocks, the glaciers of the land, glow in a rosy effulgence, so that we are hardly conscious of the desolation. The sun has reached its lowest point—after a pause it begins to rise, and gradually its paler beams are transformed into a dazzling brightness. Its softly warming light dissolves the ban under which congelation has placed nature, the icy streams, which had ceased to run, pour down their crystal walls. The animal creation only still enjoys its rest; the Polar bear continues to repose behind some wall of ice, and flocks of sea-gulls and divers sit round the edge of a floe, calmly sleeping with their heads under their wings. Not a sound is to be heard, save perhaps the measured flapping of the sails of the ship in the dying breeze. At length the head of a seal rises stealthily for some moments from out the smooth waters; lines of auks, with the short quick beat of their wings, whiz over the islands of ice. The mighty whale again emerges from the depths, far and wide is heard his snorting and blowing, which sounds like the murmurs of a waterfall when it is distant, and like a torrent when it is near. Day reigns once more with its brilliant light, and the dreamy character of the spectacle is dissolved."

The "Tegetthoff" was beset on the 29th July off the west coast of Novaya Zemlya, in lat. 74° 39', long. 53° E. Getting up steam, however, Weyprecht

broke out of his prison on the night of the 2d, reached the open coast water, twenty miles broad to the northward of Matotschkin Strait (which separates the two chief islands of Novaya Zemlya), and steered away due north. The country is described as much resembling Spitzbergen—abounding in picturesque glaciers and mountains. On the 12th the "Tegetthoff" was joined by the "Isbjörn," which had been brought out to these seas by Count Wilczek (one of the chief supporters of the Austro-Hungarian expedition), for the purpose of depositing a store of provisions for the explorers, on the north coast of Novaya Zemlya. West of Cape Nassau are the Barentz Islands, the rocks of which are composed of black, friable slate, alternating with strata of mountain limestone, filled with countless numbers of fossil trilobites, mussels, corals, etc., which are utterly foreign to the frozen ocean *as it now is*, and which form in themselves an indisputable proof that there was once in these high latitudes a warm sea, which could not possibly exist with such great glaciers as those which now extend into the seas of Novaya Zemlya. On August 14th the depôt of provisions was formed on the Barentz Islands, and secured against bears. This depôt was intended to be the first place of refuge in the event of the ship being lost. On the 20th August the officers of the "Tegetthoff" went on board the "Isbjörn" to bid adieu to Count Wilczek and his friends. Weyprecht then steered away northward, and soon the little vessel left behind had disappeared from view. In the afternoon of this day, the Austrian ship was stopped by barriers of ice, in lat. $76^{\circ} 32' N.$, long. $63^{\circ} 31' E.$ "Ominous were the events of that day," writes Payer, "for immediately after we had made fast the 'Tegetthoff' to that floe, the ice closed in upon us from all sides, and we became close prisoners in its grasp. No water was to be seen around us, and *never* again were we destined to see our vessel in water. Happy is it for men that inextinguishable hope enables them to endure all the vicissitudes of fate which are to test their powers of endurance, and that they can never see, as at a glance, the long series of disappointments in store for them! We must have been filled with despair, had we known that evening that we were henceforward doomed to obey the caprices of the ice, that the ship would never again float on the waters of the sea, that all the expectations with which our friends, but a few hours before, saw the 'Tegetthoff' steam away to the north, were now crushed: *that we were in fact no longer discoverers, but passengers against our will on the ice.* From day to day we hoped for the hour of our deliverance! At first we expected it hourly, then daily, then from week to week; then at the seasons of the year and changes of the weather, then in the chances of new years! *But that hour never came;* yet the light of hope, which supports man in all his sufferings, and raises him above them all, never forsook us, amid all the depressing influence of expectations cherished only to be disappointed."

The "Tegetthoff" now continued to drift slowly northward along the coast of Novaya Zemlya. On the 2d October she had passed the 77th degree of north latitude. On the 6th October the first bear was killed and given to the dogs, "for as yet," says Payer, "we had not learnt to regard the flesh of these animals as the most precious part of our provisions." As the month wore on the vessel drifted more rapidly, and by the 12th of the month there was nothing to be seen of Novaya Zemlya but a line of heights about thirty miles to the south. At last every trace of land had disappeared. On the 13th October, as two officers sat at breakfast, the floe burst across right under the ship. "Rushing on deck," says Payer, "we discovered that we were surrounded and squeezed by the ice; the after-part of the ship was already nipped and pressed, and the rudder, which was the first to encounter its assault, shook and groaned; but as its great weight did not admit of its being shipped, we were content to lash it firmly. We next sprang on the ice, the tossing tremulous motion of which literally filled the air with noises, as of shrieks and howls, and we quickly got on board all the materials which were lying on the floe, and bound the fissures of the ice hastily together by ice-anchors and cables, filling them up with snow, in the hope that frost would complete our work, though we felt that a single heave might shatter our labours. But, just as in the risings of a people, the wave of revolt spreads on every side, so now the ice uprose against us. Mountains threateningly reared themselves from out the level fields of ice, and the low groan which issued from its depths grew into a deep rumbling sound, and at last rose into a furious howl as of myriads of voices. Noise and confusion reigned supreme, and step by step destruction drew nigh in the crashing together of the fields of ice. Our floe was now crushed, and its blocks piled up into mountains, drove hither and thither. Here they towered fathoms high above the ship, and forced the protecting timbers of massive oak, as if in mockery of their purpose, against the hull of the vessel; there masses of ice fell down as into an abyss under the ship, to be engulfed in the rushing waters, so that the quantity of ice beneath the ship was continually increased, and at last it began to raise her quite above the level of the sea. About 11.30 in the forenoon, according to our usual custom, a portion of the Bible was read on deck, and this day, quite accidentally, the portion read was the history of Joshua: but if in his day the sun stood still, it was more than the ice now showed any inclination to do."

To add to the gloom and horror of the situation, the sky was overcast, and one could only guess at the position of the sun. "In all haste we began to make ready to abandon the ship, in case it should be crushed, a fate which seemed inevitable, if she were not sufficiently raised through the pressure of the ice. About 12.30 the pressure reached a frightful height, every part of the vessel strained and groaned; the crew, who had been sent down

to dine, rushed on deck. The 'Tegetthoff' had heeled over on her side, and huge piles of ice threatened to precipitate themselves upon her. But the pressure abated, and the ship righted herself; and about one o'clock, when the danger was in some degree over, the crew went below to dine. But again a strain was felt through the vessel, everything which hung freely began to oscillate violently, and all hastened on deck, some with the unfinished dinner in their hands, others stuffing it into their pockets. Calmly and silently, amid the loud sounds emitted by the ice in its violent movement, the officers assumed and carried out the special duty which had been assigned to each in the contemplated abandonment of the ship. Lieutenant Weyprecht got ready the boats; Brosch and Orel cleared out the supply of provision to be taken in them; Kepes, our doctor, had an eye to his drugs; the Tyrolese opened the magazine and got out the rifles and ammunition—I myself attended to the sledges, the tents, and the sacks for sleeping in, and distributed to the crew their fur coats. We now stood ready to start, each with a bundle—whither, no one pretended to know! For not a fragment of the ice around us had remained whole; nowhere could the eye discover a still perfect and uninjured floe, to serve as a place of refuge, as a vast floe had before been to the crew of the 'Hansa.' Nay, not a block, not a table of ice was at rest, all shapes and sizes of it were in active motion, some rearing up, some turning and twisting, none on the level. A sledge would at once have been swallowed up, and in this very circumstance lay the horror of our situation. For, if the ship should sink, whither should we go, even with the smallest stock of provisions?—amid this confusion, how reach the land thirty miles distant without the most indispensable necessities? The dogs, too, demanded our attention. They had sprung on chests and stared on the waves of ice as they rose and roared. Every trace of his fox-nature had disappeared from 'Sumbu.' His look, at other times so full of cunning, had assumed an expression of timidity and humility, and unbidden he offered his paw to all passers-by. The Lapland dog, little Pekel, sprang upon me, licked my hand, and looked out on the ice as if he meant to ask me what all this meant. The large Newfoundlanders stood motionless, like scared chamois, on the piles of chests."

Again, on October 14th, a strain was felt throughout the timbers of the "Tegetthoff," and immediately every one, with his fur dress on, and carrying his bundle in his hand, was on deck. So will it be throughout the winter, think some of the officers. When all was calm, every one set about making a bag to contain the gear he meant to take with him in the event of the ship being crushed. "Mine," says Payer, "contained the following articles: One pair of fur gloves, one pair of woollen gloves, a pair of snow spectacles, six pencils, a rubber, three note-books, the journal of my Greenland expedition, a book of drawings, ten ball cartridges, two pairs of stockings, a knife, a

case of needles and thread. On the 13th we had neglected to provide ourselves with maps of Novaya Zemlya; two of these I now included among my stock of necessities. Six Lefaucheur rifles, four Werndl-rifles, two thousand cartridges, two large and two smaller sledges, a tent for ten, one for six men, two great sleeping-sacks, each for eight, and a smaller one for six men, were placed in the boats. Although all these preparations would have been quite vain if the ship had sunk with the ice in motion to crush us, we must, for our mutual encouragement, keep up the appearance of believing in them. About six o'clock in the evening the full moon rose, like a copper coin fresh from the mint, above our horizon on the deep blue of the heavens. In the evening the ice was at rest, and for the first time for some days we ventured to undress on going to bed."

And so, amid perpetual alarms, the year wears away, while the vessel is still drifting away north-east into void space. Christmas comes, the New Year comes, the summer of 1873 comes, but still the same doom seems to surround the "Tegetthoff." In the middle of July 1873 an attempt is made to measure the thickness of the ice, but the borer, after piercing through successive ice-tables to the depth of twenty-seven feet, still strikes on ice.

The latter half of August 1873 was spent in hunting, especially for seals; for it was only by obtaining supplies of fresh meat that the officers could contend with or prevent cases of scurvy. But though anxiously employed in hunting, these mariners cannot drive away the thoughts that assail them. Two summers in the ice! With sad resignation they now looked forward to another winter. Often, as they went on deck and gazed over the icy wastes, the despairing thought recurred that next year they should return home without having achieved anything—taking nothing with them but a narrative of a long drift in the ice. "Not a man among us," says Payer, "believed in the possibility of discoveries, though discoveries beyond our utmost hopes lay immediately before us. A memorable day was the 30th August 1873, in 79° 43' lat. and 59° 33' E. long. That day brought a surprise, such as only the awakening to a new life can produce. About mid-day, as we were leaning on the bulwarks of the ship and scanning the gliding mists, through which the rays of the sun broke ever and anon, a wall of mist, lifting itself up suddenly, revealed to us afar off in the north-west the outlines of bold rocks, which in a few minutes seemed to grow into a radiant Alpine land! At first we all stood transfixed, and hardly believing what we saw. Then carried away by the reality of our good fortune, we burst forth into shouts of joy: 'Land, land, land at last!' There was now not a sick man on board the 'Tegetthoff.' The news of the discovery spread in an instant. Every one rushed on deck to convince himself, with his own eyes, that the expedition was not after all a failure—there before us lay the prize that could not be snatched from us. Yet not by our own action, but through the happy

caprice of our floe and as in a dream had we won it; but when we thought of the floe, drifting without intermission, we felt with redoubled pain that we were at the mercy of its movements. As yet we had secured no winter harbour, from which the exploration of the strange land could be successfully undertaken. For the present, too, it was not within the verge of possibility to reach and visit it. If we had left our floe, we should have been cut off and lost. It was only under the influence of the first excitement that we made a rush over our ice-field, although we knew that numberless fissures made it impossible to reach the land. But, difficulties notwithstanding, when we ran to the edge of our floe, we beheld from a ridge of ice the mountains and glaciers of the mysterious land. Its valleys seemed to our fond imagination clothed with green pastures, over which herds of reindeer roamed in undisturbed enjoyment of their liberty, and far from all foes. For thousands of years this land had lain buried from the knowledge of men, and now its discovery had fallen into the lap of a small band, themselves almost lost to the world, who far from their home remembered the homage due to their sovereign, and gave to the newly-discovered territory the name Kaiser Franz-Josef Land. With loud hurrahs we drank to the health of our emperor in grog hastily made on deck in an iron coffee-pot, and then dressed the 'Tegetthoff' with flags. All cares, for the present at least, disappeared, and with them the passive monotony of our lives. There was not a day, there was hardly an hour, in which this mysterious land did not henceforth occupy our thoughts and attention. We discussed whether this or that elevation in the grey and misty distance were a mountain, or an island, or a glacier. All our attempts to solve the question of the extent of the land lying before us were, of course, still more fruitless. From the headland which we had first seen (Cape Tegetthoff), to its hazy outline in the north-east, it seemed to extend nearly a degree; but as even its southernmost parts were at a great distance from us, it was impossible to arrive at anything more definite than a mere approximation to its configuration. The size and number of the icebergs which we had recently fallen in with were now amply explained,—they were indisputable witnesses of its great extent and its vast glaciation."

But the new land, the discovery of which had ennobled and warranted and rewarded the labours of two years in the Novaya Zemlya seas, had been but barely revealed to the explorers when it was for a time at least snatched from their gaze. At the close of August and the beginning of September north winds drifted the "Tegetthoff" far to the south. Towards the close of September the winds wore round to the south, and the vessel, still attached to its platform of ice, was again drifted north as far as lat. $79^{\circ} 58'$, the highest latitude reached during the voyage. An attempt to reach the nearest land—the island of Hochstetter, as it was afterwards

named—was frustrated by a blinding mist that bewildered the adventurous men who had set out to reach the *terre ignota*. The “open” season, which, so far as the “Tegetthoff” was concerned, had remained “close” throughout, was now at an end. Among other stores, the stock of lemon-juice was now much reduced, and the commanders of the expedition perceived that it would be necessary to abandon the vessel during the summer of 1874, and to risk everything in the attempt to return to Europe by means of sledges and boats.

Meantime, however, there was work yet to be done. “On the 1st of October we were driven so near the land that we found ourselves in the midst of the destruction going on in the ice. Our ice-floe was shattered and broken, and so rapidly had it diminished in size that the distance of the ship from the edge of the floe, which was 1300 paces on the 1st, amounted to only 875 two days afterwards. On the 6th it had diminished to 200 paces, so that it was reduced to a mere fragment of its former size. The shocks it now received caused the ship to quiver and shake, and we heard the cracking and straining in its timbers, which kept us on the tenter-hook of expectation lest the ice should suddenly break up. It seemed as if we were doomed to a repetition of the trials and dangers of the preceding winter. The bags of necessaries to be taken with us, if we should be forced to leave the ship, were kept in readiness for immediate use. As we watched the advancing wall of ice, and heard the too well-known howl it sent forth, and saw how fissures were formed at the edge of the floe, the days of the ice-pressures were painfully recalled, and the thought constantly returned—what will be the end of all this? The land we had so longed to visit lay indeed before us, but the very sight of it had become a torment; it seemed to be as unattainable as before; and, if our ship should reach it, it appeared too likely that it would be as a wreck on its inhospitable shore. Many were the plans we formed and debated, but all were alike impracticable, and all owed their existence to the wish to escape from the destruction that stared us in the face.”

On the 1st November the new land was seen lying in the dim twilight toward the north-west. The lines of rocks were so clearly defined that Payer was convinced the shore could be reached without endangering his return to the ship. The attempt was made. The men clambered over a rampart of ice fifty feet high, dashed across the smooth surface of the young ice that lined the coast, crossed the ice-foot that was soldered down upon the shore, and at last stepped upon actual land. It was a country of snow, rocks, and broken ice; a more desolate land could not be conceived; but to the discoverers it was a paradise, and they gave to it the name of a much-loved friend—*Wilczek Island*.

The explorers examined the features of the land with fondness and

delight, as one peruses the lineaments of a favourite child. "We looked into every rent in the rocks, we touched every block, we were ravished with the varied forms and outlines which each crevice presented. . . . The vegetation was indescribably meagre and miserable, consisting merely of a few lichens. . . . The land appeared to be without a single living creature. . . . There was something sublime to the imagination in the utter loneliness of a land never before visited; felt all the more from the extraordinary character of our position. We had become exceedingly sensitive to new impressions, and a golden mist, which rose on the southern horizon of an invisible ice-hole, and which spread itself like an undulating curtain before the glow of the noontide heavens, had to us the charm of a landscape in Ceylon."

Over the incidents of the second winter (1873-74) spent in the ice we must not linger. In the spring three great sledge journeys were undertaken, with the view of exploring the new country, and were successfully carried out by Lieutenant Payer. The results of these exploring expeditions are best given in Payer's "General Description of Kaiser Franz-Josef Land:"

"The country, even in its already ascertained extent, is almost as large as Spitzbergen, and consists of two main masses—Wilczek Land on the east, and Zichy Land on the west—between which runs a broad sound called Austria Sound, extending in a northerly direction from Cape Frankfort till it forks at the extremity of Crown Prince Rudolf Land, 80° 40' N.L. One branch of it, a broad arm running to the north-east—Rawlinson Sound—we traced as far as Cape Buda-Pesth. Wilczek and Zichy Lands are both intersected by many fiords, and numerous islands lie off their coasts. A continuous surface of ice extends from the one land to the other. At the time of our exploration, this expanse was formed of ice, for the most part not more than a year in growth, but crossed in many places with fissures and broad barriers of piled-up ice. Throughout its whole extent we saw many icebergs, which we never did in the Novaya Zemlya seas; whence it is to be inferred that they sail away in a northerly direction. Our track lay over this ice-sheet. As long as it remains unbroken, every fiord might serve as a winter harbour; but if it should break up, not a single locality suitable to form one presented itself along the coast we visited, which had no small indentations. . . . As I have had the privilege of visiting all the Arctic lands north of the Atlantic, I have been able to compare them and observe their resemblances as well as their differences. West Greenland is a high uniform glacier plateau; East Greenland is a magnificent Alpine land, with a comparatively rich vegetation and abundant animal life. How and where the transition between these opposite characters takes place in the interior is as yet utterly unknown. We may form some notion of Spitzbergen and

Novaya Zemlya, if we imagine a mountain-range, like that of the Oetzthal with its glaciers, rising from the level of the sea, if that level were raised about 9000 feet. There is more softness, however, in both these countries than is usual in the regions of the high north. But Franz-Josef Land has all the severity of the higher Arctic lands; it appears, especially in spring, to be denuded of life of every kind. Enormous glaciers extend from the lofty solitudes of the mountains, which rise in bold conical forms. A covering of dazzling whiteness is spread over everything. The rows of basaltic columns, rising tier above tier, stand out as if crystallised. The natural colour of the rocks was not visible, as is usually the case: even the steepest walls of rock were covered with ice, the consequence of incessant precipitation, and of the condensation of the excessive moisture on the cold faces of the rock. This moisture in a country whose mean annual temperature is about -13° R., seems to indicate its insular character, for Greenland and Siberia are both remarkable for the dryness of their cold, and it was singular that even north winds occasioned a fall of temperature in Franz-Josef Land. In consequence of their enormous glaciation, and of the frequent occurrence of plateau forms, the new lands recalled the characteristic features of West Greenland, in the lower level of the snow-line common to both, and in their volcanic formation. Isolated groups of conical mountains and tablelands, which are peculiar to the basaltic formation, constitute the mountain system of Franz-Josef Land; chains of mountains were nowhere seen. These mountain forms are the results of erosion and denudation; there were no isolated volcanic cones. The mountains, as a rule, are about 2000 or 3000 feet high, except in the south-west, where they attain the height of about 5000 feet. . . . The dolerite of Franz-Josef Land greatly resembles also the dolerite of Spitzbergen. After the return of the expedition I saw in London some photographic views of the mountains of North-East Land, Spitzbergen, taken by Mr Leigh Smith, and I was at once struck with the resemblance between their forms and those of Franz-Josef Land. I learned also from Professor Nordenskjöld, the celebrated explorer of Spitzbergen, as I passed through Sweden, that the rock of North-East Land was this same hyperstenite (hypersthene). Hence the geological coincidence of Spitzbergen and Franz-Josef Land would seem to be established; and this geological affinity, viewed in connection with the existence of lands more or less known, appears to indicate that groups of islands will be found in the Arctic seas on the north of Europe, as we know that such abound in the Arctic seas of North America. Gilles Land and King Karl Land are perhaps the most easterly islands of the Spitzbergen group; for it is not probable that these and the lands we discovered form one continuous uninterrupted whole. . . . Some of the islands of the Spitzbergen and Franz-Josef Land group must be of considerable extent, because they bear enormous glaciers, which are possible only in

extensive countries. Their terminal precipices, sometimes more than 100 feet high, form generally the coast-lines. The colour of all the glaciers we visited inclined to grey, we seldom found the dull, green-blue hue; the granules of their ice were extraordinarily large; there were few crevasses; and the moraines were neither large nor frequent. Their movement was slow; and the snow-line commences at about 1000 feet above the level, whereas on the glaciers of Greenland and Spitzbergen the like limit is generally 2000 or even 3000 feet, and in these countries also, all below that line is free from snow in summer. Franz-Josef Land, on the contrary, appears even in summer to be buried under perpetual snow, interrupted only where precipitous rock occurs. Almost all the glaciers reach down to the sea. Crevasses, even when the angle of inclination of the glacier is very great, are much less frequent than in our Alps, and in every respect the lower glacier regions of Franz-Josef Land approach the character of the *névés* of our latitudes. There only was it possible to determine the thickness of the annual deposits of snow and ice. In these lower portions, the layers were from a foot to a foot and a half thick; fine veins, about an inch wide, of blue, alternating with streaks of white ice, ran through them, which occurred with peculiar distinctness at the depth of about a fathom. On the whole, this peculiar structure of alternating bands or veins was not so distinctly marked as it is in the glaciers of the Alps, because the alternations of temperature and of the precipitations are very much less in such high latitudes. . . . It is well known that the north-east of Greenland, as well as Novaya Zemlya and Siberia, *are slowly rising from the sea, nay, that all the northern regions of the globe have for ages participated in this movement.* It was therefore exceedingly interesting to observe the characteristic signs of this upheaval in the terraced beaches, covered with *débris* containing organic remains along the coast of Austria Sound. The ebb and flow, which elevates and breaks up the bay-ice only at the edge, is to be traced on the shores of Austria Sound by a tidal-mark of two feet. . . . Driftwood, chiefly of an old date, we frequently found, but in small quantities. On the shore of Cape Tyrol, we once saw a log of pine or larch, one foot thick and several feet long, lying a little above the water-line, and which might have been driven thither by the wind, as the 'Tegetthoff' was. The fragments of wood we found—the branches on which showed that they did not come from a ship—were of the pine genus (*Pinus picea*, Du Roy), and must have come from the southern regions of Siberia, as the large broad rings of growth showed. Franz-Josef Land is, as may be supposed, *entirely uninhabited*, and we never came to any traces of settlements. It is very questionable whether Eskimos would have been able to find there the means of subsistence, and if anywhere, most likely on the western side of Wilczek Island, where an "ice-hole" of considerable extent remained open for a great part

of the year. In the southern parts it is destitute of every kind of animal life, with the exception of Polar bears and migratory birds. North of lat. 81° , the snow bore numberless fresh tracks of foxes, but though their footmarks were imprinted on the snow beyond the possibility of mistake, we never saw one. . . . The scanty vegetation forbade the presence of the reindeer and musk-ox. It is not, however, impossible that there may be reindeer in the more westerly parts of the country, which we did not visit. The character of that particular region approximates to that of King Karl Land and Spitzbergen, on the pastures of which herds of these animals live and thrive."

The purposes of the expedition being thus triumphantly attained, Weyprecht and Payer, with their crew, abandoned the "Tegetthoff" on the 20th May in three boats, which they dragged across the frozen ocean towards Barentz Islands, on which, as we have seen, a depôt of provisions had been placed. The expedition reached and landed on Novaya Zemlya, but were unable to penetrate to the depôt. The adventures of the travellers on the ice, on their southward march, along the west coast of Novaya Zemlya, recall the retreat of Kane and the famous drift of the "Hansa." On the 24th August, when the retreating men, who had just made an equal division of the remainder of their provisions, were passing Cape Britwin, they beheld a small boat, with two men in it, engaged in bird-catching. A cry of joy arose from the retreating boats as from one voice. The boat pulled towards the exhausted explorers, "and," says Payer, "before either party could explain itself, we turned a corner of the rock, and—there lay two ships." On one of these, the Russian schooner "Nikolai," the officers and crew of the "Tegetthoff" returned to Europe in safety early in September 1874.

PART XV.

THE GREAT ENGLISH EXPEDITION OF 1875-76.

CHAPTER I.

ORGANISATION OF EXPEDITION UNDER CAPTAIN NARES—OBJECTS AND EXPECTED RESULTS—THE OUTWARD VOYAGE—FORCING THROUGH THE "MIDDLE ICE"—PORT FOULKE VISITED—CHARGING THE ICE OFF HAYES SOUND—MISTAKES IN THE CHART OF SMITH SOUND—GREAT SUCCESS!

AFTER the return of Sir Edward Belcher in October 1854, and the abandonment of the "Investigator," "Assistance," "Pioneer," "Resolute," and "Intrepid" in the ice, with their colours gloriously "nailed to the mast," the British Government appear to have considered Arctic discovery as a play that was hardly worth the somewhat expensive candles used in its illumination. From that date British credit in the Arctic seas was for twenty years maintained by private enterprise exclusively. But, in the opinion of many of our most eminent geographers, professors of natural science, and naval commanders, it was considered unfortunate for the naval renown of England that geographical discovery and physical research in the lands and seas within the Arctic circle should be definitively abandoned by the nation which was at once the greatest naval power in the world, and had met with the most substantial success in the regions referred to. For, from the middle of the sixteenth down to the middle of the nineteenth century, a greater number of the important discoveries—in fact, *all* the most important discoveries in that mysterious but important tract of the globe's surface, extending between the temperate zone and the North Pole (the spot of the earth's surface which is ninety degrees or 5400 geographical miles distant northwards from any part of the equator)—were achieved by Britons. By far the greater portion of the known lands intervening between the several entrances to the Arctic Sea and the North Pole have been discovered by British navigators. Parry, in one voyage, revealed to us the magnificent sweep of Lancaster and Barrow Straits and Melville Sound, and the near coasts of Melville Island and Banks Land. We owe the Peninsula and the Gulf of Boothia to Sir John Ross,

and the site of the North Magnetic Pole to his nephew, Sir James Clark Ross. The discovery and survey of the Arctic shores of the mainland of North America are due to Englishmen and Scotsmen—Mackenzie, Franklin, Richardson, Back, Beechey, Dease and Simpson, and Rae. The North-West Passage was discovered by Sir John Franklin in 1847, and by Captains McClure and Collinson, by different routes, three or four years afterwards. The clue to the fate of Franklin and of the officers and crews of the "Erebus" and "Terror," was discovered by Dr John Rae, and was followed up with the most brilliant success by Sir Leopold McClintock in 1857. In short, it would be difficult to point to many of the achieved results of Arctic exploration (those, at least, of acknowledged importance from a geographical point of view) that have been reached by other than British explorers down to about the year 1860.

After that date, however, the palm of merit for success in this direction was carried off successively by the Americans in the expeditions of Kane, Hayes, and Hall, and by the Germans and Austrians, under Koldewey and Lieutenants Weyprecht and Payer respectively. Between 1853 and 1872 Kane, Hayes, and Hall penetrated farther north by the Smith Strait route than had ever been reached by any British explorer; while Weyprecht and Payer, though they did not advance so far toward the North Pole as Parry had done in 1827, discovered the previously unknown archipelago of Franz-Josef Land, far to the north-north-west of Novaya Zemlya, in 1873. It now became evident to those interested in the subject that if Great Britain was to resume her wonted and her natural position at the head of the powers, in all departments of naval enterprise, it would be necessary for her to make a fresh effort toward the completion of discovery in the Polar area.

The results to be attained by a successful expedition to the heart of the Polar region were sufficiently discussed in all the scientific journals of this and other countries during 1874-75. It was pointed out that the unknown area around the North Pole was 2,500,000 miles in extent; and it was shown to be against all human experience that any tract of the earth's surface of that extent should present nothing but barrenness to the discoverer. A sufficient knowledge of the currents and temperatures of the sea, as well as of winds, tides, etc., is of the utmost practical importance to all commercial nations; but it is quite impossible to construct any satisfactory system of the "physical geography of the sea," of the cause and the track of storms, etc., while excluding from our calculations the vast region that surrounds the North Pole. But the direction and force of currents, etc., within a given area, are dependent chiefly upon the relative proportions and disposition of land and water within that area, and therefore *geographical* knowledge forms the basis of meteorological science, and to advance *that* must always be the first aim of the Arctic explorer. Further, it is important to

ascertain by pendulum observations the force of gravity in the remote north, and inferentially the form of the earth; while the question of the climatic changes which the fossil and other remains of this region prove to have taken place, seems to open up a new and hitherto unwritten chapter in the history of the globe. The vegetation of the Arctic regions, according to Dr Hooker, throws great light upon the geographical distribution of plants on the surface of the earth. Professor Heer of Zurich has proved from collections of fossil leaves, etc., that the Polar regions "were once inhabited by primeval forests, presenting fifty or sixty different species of arborescent trees, most of them with deciduous leaves, some three or four inches in diameter—the elm, pine, oak, maple, plane, etc.—and, what was more remarkable still, evidences of apparently evergreen trees, showing that these regions must have had perpetual light." Again, Dr Hooker states that botanists look anxiously to farther exploration in the northern parts of Greenland for more light on the subject, and especially for evidence of rising or sinking of the land in Smith Sound and the countries north and east of it, and for evidence of ancient connection between Greenland and Scandinavia—Scandinavian floræ once extended over the Polar regions—for observations on the temperature, direction, and depth of transporting currents in these seas; and on the habits of its ruminant migrating animals that may have influenced the distribution of the vegetation by transporting the seeds. Such facts as those of the existence of ancient forests in what are now Arctic regions, and of the migration of existing flora over lands now bound fast in perpetual ice, appear to some naturalists to call for vaster changes than can be brought about by a redistribution of the geographical limits of land and sea, and to afford evidence of changes in the direction of the earth's axis to the plane of its orbit, and perhaps of variations in the ellipticity of the orbit itself. Such topics as have here been indicated, together with a hundred others, concerning the Eskimo race, and the animal inhabitants of the seas and shores within the Arctic circle, all claimed loudly the attention of naturalists while the movement for sending out a new Arctic expedition from England was being discussed in 1874. Of that movement we now know the result. On the 17th November 1874 Mr Disraeli addressed a letter to Sir Henry Rawlinson, who had introduced an influential deputation of the most celebrated promoters of Arctic research to the Prime Minister a month or two previously, informing him that Her Majesty's Government "had determined to lose no time in organising a suitable expedition to explore the region of the North Pole."

On the 15th April two ships—the "Alert," a steam sloop of 751 tons burden and 100 horse-power; and the "Discovery," formerly the "Blood-hound," steam whaler, of Dundee, 556 tons burden and 96 horse-power—were commissioned for the Arctic expedition of 1875-76, under the command

of George S. Nares, formerly commander of the "Challenger" exploring ship. The following is a list of the officers of both ships :

H.M.S. "ALERT."

Captain—George S. Nares, F.R.S.
Commander—Albert H. Markham.
Lieutenant—Pelham Aldrich.
 " Alfred A. C. Parr.
 " George A. Giffard.
 " William H. May.
 " George Le Clerc Egerton (*Paymaster*).
Fleet-Surgeon—Thomas Colan, M.D.
Surgeon—Edward L. Moss, M.D.
Engineer—James Wootton.
 " George White.
Naturalist—H. W. Fielden, Capt. R.A.
Chaplain—Rev. H. W. Pullen.

H.M.S. "DISCOVERY."

Captain—Henry F. Stephenson.
Lieutenant—Lewis A. Beaumont.
 " Robert H. Archer.
 " Wyatt Rawson.
 " Reginald B. Fulford.
Sub-Lieutenant—C. J. M. Conybeare.
Staff-Surgeon—Belgrave Ninnis, M.D.
Surgeon—R. W. Coppinger, M.D.
Assistant-Paymaster—Thomas Mitchell.
Engineer—Daniel Cartmel.
 " M. R. Miller.
Naturalist—H. C. Hart.
Chaplain—Rev. C. E. Hodson.

The vessels, which were fitted with all the most improved appliances, and provisioned for three years on a scale at once liberal and complete, left Portsmouth Harbour on the 29th May 1875, amid cheers from a vast concourse of spectators on Southsea beach, and from the crews and passengers of an endless variety of ships, steamers, and small craft.

The discovery ships were accompanied by the store-ship "Valorous," with additional supplies of provisions and coals for transhipment at Godhaven. Mr Clements R. Markham, secretary of the Royal Geographical Society, and formerly of the Arctic ship "Assistance," was permitted to accompany the expedition, sailing in the "Alert" as far as Disco, where he was taken on board the "Valorous," and thus returned to England. Markham informs us that almost as soon as the ships had left British waters contrary winds, with very heavy weather, prevailed. "No Arctic expedition on record," says this writer, "has had so long or so boisterous a passage across the Atlantic, yet this was not without its countervailing advantages. All the gear aloft was thoroughly tried, all things below were shaken into their places, and the men, amidst discomfort and hard work, more quickly formed that brotherhood, upon the strength of which so much depends." The bad weather began on June 11th, and continued till the 27th, on which day the "Alert," having rounded Cape Farewell, was proceeding north along the west coast of Greenland. The first ice was seen on the 27th, and "on the 29th, from daylight until ten A.M.," writes Markham, "the 'Alert' was passing through a stream of very heavy floe-pieces, and sustained several severe bumps, which brought the ship up all standing. Some of the pieces were 200 or 300 yards long, others were fragments of pressed-up hummock ridges from 20 to 30 feet high. Many were worn into fantastic and beautiful

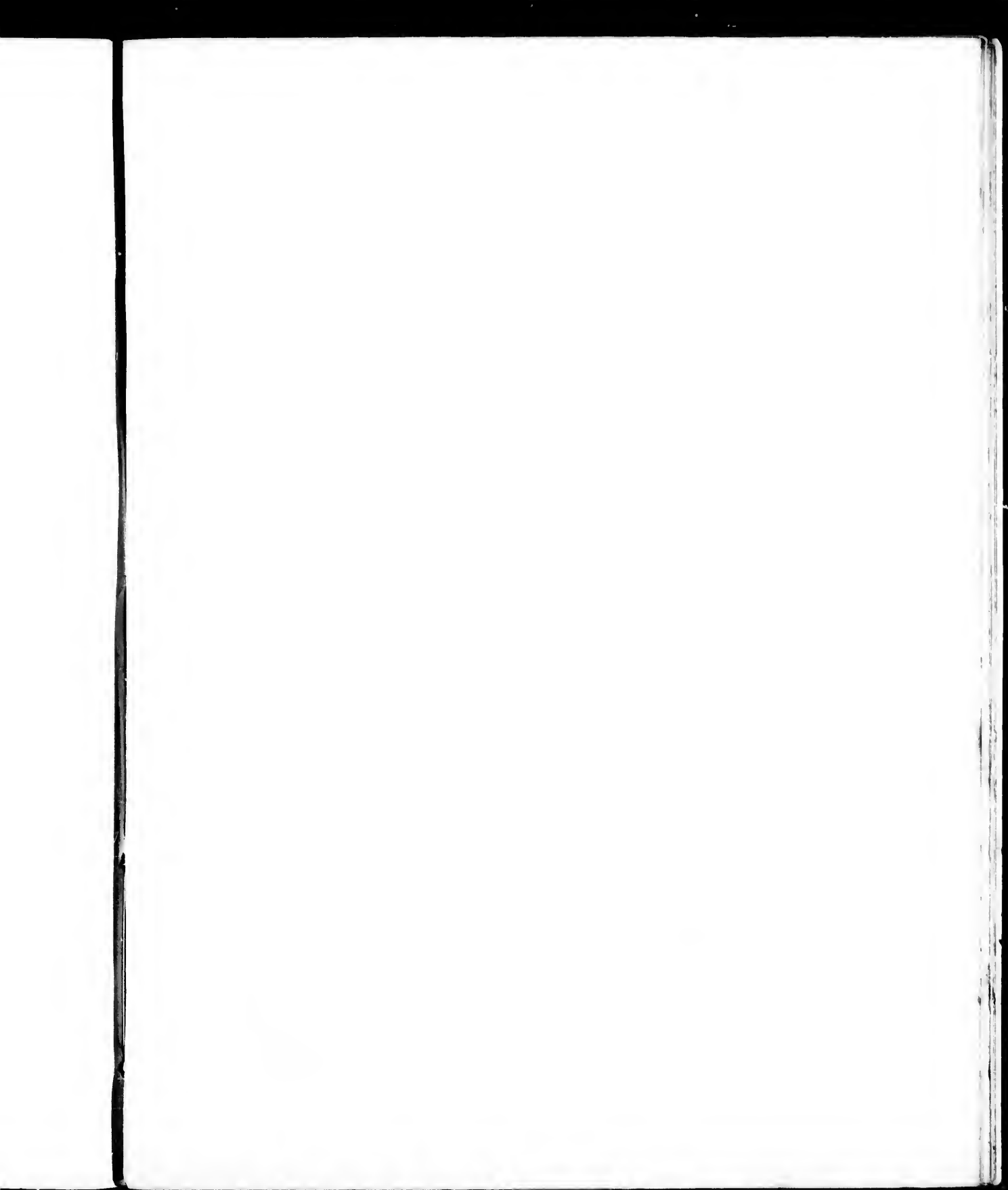
shapes, the wash of the sea having frequently worked laterally into the ice-blocks, until they consisted of two floors connected by ice-pillars of the deepest blue. This old ice was streaming round from the east coast of Greenland with the current, which is usually lost or deflected again near the Arctic circle. The ship was clear of the ice before noon, and only the following night a gale of wind came on, and a very heavy confused sea with high perpendicular waves, which made her roll gunwales under, and ship seas over the stern and forecastle. Everything began to fetch way; a tremendous sea came down into the ward-room, the masts laboured heavily, and there were several leaks from the upper deck. The 1st of July was a lovely day, and in the afternoon the 'Discovery' was sighted about ten miles in shore." From this point the ships proceeded north along the coast in company, passing Sukkertoppen on the 3d, Holsteinborg on the 4th, and reaching the harbour of Godhaven or Lievely, at the south-west extremity of Disco Island, on the 6th July. At Godhaven the ships filled up with provisions and fuel from the "Valorous," the officers of which were ready to supply everything the "Alerts" or "Discoverers" desired—"from a topmast to a harmonium." The transference of stores was completed on the 15th, and having taken twenty-four good Greenland dogs on board the "Alert" at Godhaven, as well as nine sheep from the "Valorous," Captain Nares set sail up Disco Bay on the afternoon of that day, accompanied by the "Discovery" and the transport ship. At Ritenbenk the "Discovery" took on board the twenty Greenland dogs that, by pre-arrangement, the Danish Government had provided at this settlement in the interests of the English expedition. Petersen, the Dane, who had served in Hayes' expedition in 1860-61, had joined the "Alert" in England as dog-driver; a second dog-driver, Frederick, an Eskimo, was engaged at Godhaven. At four A.M. on the 17th July the "Valorous" sailed from Ritenbenk, the "Alert" and "Discovery" following; and at eight A.M., says Markham, an eye-witness of what he here describes, "the Arctic ships could be made out from the stern of the 'Valorous,' with their mastheads and yards showing above the icebergs. . . . From the (Disco) hills there was a magnificent view of icebergs, streaming out of the Tossukatek Fiord (at the head of which there is a great discharging glacier) and down the Waigat, and among them the Arctic ships could be seen, over on the Greenland side of the strait, under all plain sail. They were standing down the Waigat (the 'Alert' leading), appearing and disappearing behind the huge icebergs, about six miles off." At five P.M. the "Valorous" hoisted a signal at all three mastheads—"Farewell! Speedy Return!" It was not seen for a long time, but at last the "Discovery" hoisted "Thank You," and afterwards the "Alert" also acknowledged the farewell. A slow fog now settled down upon the sea, and when it lifted a few hours after the Arctic ships had disappeared, and the "Valor-

ous," turning her prow toward the south, steamed away on the return voyage to England. Meanwhile the discovery ships, pushing on toward the north, touched at Proven, where Hans Christian, that most useful of Eskimos, who had done yeoman's service in the expeditions of Kane, Hayes, and Hall, was taken on board with his family. The expedition reached Uppernavik on the 21st, and left on the following day.

"On the morning of the 23d," writes Captain Nares, "after an anxious night, passed with a dense fog and a strong tidal current in a narrow channel, in which we could obtain no bottom with 100 fathoms of line at a cable's length of the shore, and with the 'Discovery' in tow, during a momentary clearance of the atmosphere, two Eskimos in their kayacks were observed close to us. After consulting with them through Christian Petersen, Danish and Eskimo interpreter, they volunteered to conduct us to an anchorage. On following them to the position they denoted, and obtaining no bottom with the hand-lead line at the main chains, I felt the bow of the ship glide slowly upon the ground. Through the fog we could then see that the land was within fifty yards of us. The Eskimos had evidently not considered that our ships required a greater depth of water to float in than their own frail canoes. As it was nearly low water, and the tide still falling, I allowed the ship to remain quiet where she was, the 'Discovery' still hanging to us by her towing hawser, and took advantage of the enforced delay by landing the ships' companies to wash their clothes. The fog lifted slightly as the day advanced, and as the tide rose the ship floated without having incurred any strain or damage whatever. I then proceeded to sea, discharging the pilot, who was not to blame for our mishap, off the north shore of Kangitok, the outlying island of the group, after passing which the channel presents no difficulties. . . . By four P.M. we had passed the Brown Islands with a sea perfectly clear of ice before and around us. Having given much study and consideration to the question, and a high and very steady barometer following a south-east wind, denoting that the calm settled weather we had lately enjoyed was likely to continue, I decided to force my way through the middle ice of Baffin Bay instead of proceeding by the ordinary route round Melville Bay. Accordingly both ships proceeded at full speed to the westward, racing in company for Cape York, with only about a dozen icebergs in sight ahead, floating quietly on a calmly mirrored sea to dispute our passage. As we passed out from the land the fog gradually dissolved, and revealed a magnificent and unique panorama of the ice-capped mountains of Greenland which give birth to Uppernavik Glacier, fronted by innumerable icebergs, and, at a long distance in advance, by the group of scattered black islets, among which we had passed the previous night, and of which Kangitok is the northernmost. At 1.30 A.M. of the 24th we ran into the pack at a distance of seventy miles from Kangitok. It consisted of open sailing ice

from one to three feet, and occasionally four feet in thickness. The floes were at first not larger than 250 yards in diameter, and were broken, dividing readily, and opening a channel when accidentally struck by the ship. The reflection in the sky near the horizon denoted that while the ice was very open to the southward of us, it was apparently closer packed to the northward. About six A.M., when we had run thirty miles through the ice, it gradually became closer, and the floes larger, estimated as measuring one mile in diameter, and necessitated a discriminating choice to be made of the best channels. For fourteen hours, during which time we ran sixty miles, the ice continued in much the same state, never close enough to suggest the probability of a barrier occurring, and yet keeping the look-out in the crow's-nest fully employed. After eight P.M. the channels of water became decidedly broader and more numerous, so I gradually altered course to the northward, steering directly for Cape York, the ice becoming more and more open as we advanced. At 9.30 A.M. of July 25, we sighted the high land north of Cape York, and at eleven o'clock, much to the astonishment of the Scotch ice-quartermasters, who continually declared, 'It will ne'er be credited in Peterhead,' we were fairly in the 'north water,' and able again to think about economising coal, having come through the middle ice in thirty-four hours without a check; but it is my duty to add, with not a few scratches along the water-line."

It has been mentioned elsewhere that by the use of steam Arctic navigators may now sometimes push through the dreaded middle pack into the north water leading to the mouth of Smith Sound in as few hours as their predecessors took days. But Captain Nares was not vain of his swift run northward. He knew that his great success was, in a sense, fortuitous, and that the best navigator, in the most powerful of steamers, will often find the passage of the ice impossible. "In consequence," he writes, "of our having made a successful voyage through the middle ice, it should not be too hastily concluded that a similar passage can always be commanded. The middle pack is justly dreaded by the most experienced ice navigators. Large icebergs and surface-ice, floating in water at various depths, when affected either by wind or an ocean current, move at different rates; hence, when in motion, as one passes the other, the lighter surface-ice, incapable of controlling its course, is readily torn in pieces by the heavy massive iceberg; therefore, a ship once entrapped in pack-ice among icebergs, unless she has water space to allow her to move out of the way, is constantly in danger of being carried forcibly against a berg. On such occasions man is powerless, for he can take no possible means to save his vessel. Before steam vessels were used for ice navigation the masters of sailing ships, being unable to take full advantage of a favourable calm, very wisely seldom ventured to force their way through the middle ice, and chose in preference the chance of delay in





LIEVELY HARBOUR, DISCO ISLAND

making the safer passage through Melville Bay, where, by securing their vessel in dock in the fixed land-ice, they ran less danger of being nipped whilst forcibly detained by the channels through the ice remaining closed."

After sighting land on the 25th, Captain Nares detached the "Discovery" to communicate with the natives at Cape York; while he himself proceeded north with the advance ship toward the Carey Islands. Learning nothing of importance from the Cape York Eskimos, Captain Stephenson sailed north without delay, and arrived at the Carey Islands at midnight of the 26th. A depôt of 3600 rations and a boat were landed on the south-east point of the south-east island, and a record deposited in a conspicuous cairn on the summit. The expedition then proceeded, steaming, with as much economy of coal as possible, northward through a calm sea, with bright clear weather. With the exception of the many scattered icebergs, there was no ice in sight from the summit of the Carey Islands. Passing between Hakluyt and Northumberland Islands, the ships were abeam of Cape Robertson by eight P.M. of the 27th July. Ice, apparently fast to the shore, completely closed Inglefield Gulf, east of Cape Acland, but both entrances to the gulf were clear. At eight A.M. of the 28th July, five days and a half from leaving the anchorage of Uppernavik, Nares had the satisfaction of seeing the expedition at anchor near Port Foulke, with the entrance of Smith Sound perfectly clear of ice, and none coming to the southward with a fresh northerly wind. While Captain Stephenson explored the head of Foulke Fiord to ascertain its suitability as a station for winter quarters for any relief vessel coming to be afterwards sent out, Captains Nares and Markham proceeded in a boat to Littleton Island and Lifeboat Cove, the scene of the wreck of the "Polaris." "The *cache* mentioned by Dr Emil Bessels and Mr Bryant of the 'United States North Pole Expedition' as the depository of certain instruments and boxes of books, was very readily discovered, but contained nothing. Articles of clothing and numerous small *caches* containing seal and walrus meat were scattered about the small peninsula in the neighbourhood of the late winter quarters; and near the ruins of the house, apart from each other, and without any protection, were found four or five boxes, each covered with heavy stones, to prevent the winds moving them, and having the lids secured on by a rope. Besides one thermometer, unfortunately not a self-registering one, they contained scraps of skin clothing, old mitts, carpenters' tools, files, needles, and many small articles of the greatest use to the Eskimos; but apparently they had not been disturbed since the abandonment of the station. A few books were found in the different boxes, and a copy of the log, or the actual log itself, from the departure of the vessel from the United States up to the 20th May of the following year."

During the absence of the "Discovery" Nares landed on Littleton Island,

and erected a cairn, with a record of the movements of the expedition down to date. From a high point on this island no ice was visible, but the sportsmen who had been over the highest cliffs reported an ice-blink far to the north.

Captain Stephenson's report of the suitability of Port Foulke as a winter station appears to have been satisfactory. It is probable that a scientific corps will be stationed here for the purposes of scientific research; and, according to Captain Nares, better winter quarters could not be selected. "Port Foulke," he says, "is at present the best known station for winter quarters in the Arctic regions. A warm ocean current, combined with the prevailing northerly winds, acting at the narrow entrance of Smith Sound, keeps the ice constantly breaking away during the winter, causes an early spring and a prolific seal and walrus fishery. The moisture and warmth imparted to the atmosphere by the uncovered water moderates the seasons to such an extent that the land is more richly vegetated, and therefore attracts to the neighbourhood and supports Arctic life in greater abundance than other less favoured localities. In addition to this great advantage—of obtaining an ample supply of fresh meat—connected as its waters are with the 'north water' off Cape York, it can readily be communicated with every summer without more than the usual risks attending Arctic navigation."

Cape Isabella was the next point visited. Here a cairn was erected, and a small depôt of provisions made. In the evening Nares steamed away northward for Cape Sabine, where another cairn, record, and small depôt were established. The pack off Cape Sabine consisted of floes of from five to six feet thick, with occasionally much older and heavier floes ten to twelve feet thick intermixed with them, which the steamers were unable to dash through as they had done through the ice in the middle passage of Baffin Bay. In Payer Harbour, immediately south of Cape Sabine, the ships were beset in the pack for several days. This harbour proved to be an excellent station, well protected against the entrance of heavy floes, possessing a lofty look-out and deep navigable channels to the north and south, through which to proceed to sea immediately the ice opened. It was a little strange, an instance of the perpetually-recurring surprises that the navigator within the Arctic circle must always be prepared for, that though the strait to the north and west of Littleton Island seemed to be clear of ice on the previous day, the ships were now firmly beset. "I may here draw attention," says Nares, "to the deceptive impressions inexperienced people naturally receive when from a lofty look-out station they observe a sea unbordered by ice. The distance from Littleton Island to Cape Sabine is only twenty-five miles. On a clear evening, from an altitude of 700 feet, with the land and horizon distinctly visible, no ice was in sight from the first-named place, and the prospects of the expedition as to attaining a higher latitude without trouble

appeared to be precisely the same as when I looked over a boundless sea from the summit of one of the Carey Islands 100 miles to the southward, and yet the ships were twenty-four hours afterwards locked up by ice in a harbour near Cape Sabine. From Littleton Island the inexperienced observer would conclude that there was an open Polar sea; from our present position he would as certainly conclude that his farther progress was for ever stayed, and that the sooner he looked for winter quarters the better."

On the morning of August 4th the ice having eased off the land, the "Alert" and "Discovery" escaped out of Payer Harbour, and, steaming north, advanced twenty miles along the southern shore of Hayes Sound, and then dropped anchor in a comfortable harbour, in the neighbourhood of which the sportsmen discovered "a richly-vegetated valley, with numerous traces of musk-oxen and other game." It was named Twin Glacier Valley. Returning down Hayes Sound, and resolved to push north along the west shore of Smith Strait, Nares ran the two ships into the pack under steam, with the view of forcing a passage. Before midnight both vessels were beset, and the floe to which they were secured was drifting rapidly toward an iceberg. It was necessary to prepare both ships for being severely nipped, and the rudders and screws were unshipped. The "Alert" was directly in the path of the advancing mass, which was steadily tearing its way through the intermediate surface ice. Out of this difficulty, however, the leading ship managed to escape with a slight nip.

The "Discovery" had less beam and a finer bow than the "Alert," and was consequently better adapted for ice-navigation. It was therefore quite a common practice when the bluff-bowed "Alert" had become embedded in the ice for the "Discovery" to come to the rescue, and Nares says it will be difficult ever to efface from his mind the determined manner in which Captain Stephenson handled his ship on these occasions. Having backed some distance astern, for the double purpose of allowing the *débris* ice from a former blow to float away, and for the vessel to attain distance sufficient for the accumulation of momentum with which to strike a second, the "Discovery," coming ahead at her utmost speed, would force her way into the ice, burying her bows in it as far aft as the foremast; the commanding officer on the bowsprit, carefully conning the ship to an inch, for had the ice not been struck fairly, it would have caused her to cannon off against the "Alert," with much havoc to the two. From the moment of the first impact the inclination of the stem necessarily caused the ship's bow to rise three or four feet as she advanced from twelve to twenty feet into the solid floe, and imbedded herself before the force of the blow was expended. As the ship's way was stopped, the overhanging weight, by settling down, crushed the ice down still further ahead. Frequently on these occasions her jibboom was within touching distance of the "Alert's" boats! But after a little experi-

once had been gained, such confidence had we in each other, that there was not the slightest swerving in any one. Floes up to four feet in thickness, and in a soft state, that is melting, not freezing, may be charged with advantage; thicker or harder ice had better be left alone. It speaks well for our chronometers, and the manner in which they are secured, that their rates were little affected by the frequent concussions on this and on many after occasions. By eight A.M. on the morning of the 8th we had succeeded in reaching the land-water off Cape Victoria, having sustained no more serious damage during this severe trial than sprung rudder-heads, consequent on the frequent necessity of going full speed astern; all heartily glad to be out of the pack ice."

Hayes, in his chart, sets down two islands in the mouth of Hayes Sound. Nares proved that these "two" are in reality joined, and are therefore *one*, as originally represented by Captain (now Admiral) Inglefield. Referring to this mistake made by Hayes, apparently from hasty, insufficient observation, Nares makes the following statement, which has been the subject of some "conversation" on the other side of the Atlantic: "It is necessarily an unthankful office to find fault with our predecessors; but navigators cannot be too careful how they remove from the chart names given by the original discoverers, merely because during a gale of wind a bearing or an estimated distance is a trifle wrong; and when the corrector or improver is also himself considerably wrong, and in fact produces a more unreliable chart than the first one, he deserves blame. The names given to the headlands undoubtedly discovered by Admiral Inglefield should not have been altered by Doctors Kane and Hayes, each of whom published very misleading delineations of the same coast."

It is still uncertain whether Hayes Sound is a channel or merely an inlet. Franklin Pierce Bay, protected from pressure by Norman Lockyer Island and Walrus Shoal would form suitable winter quarters. The pack in the offing of this part of Smith Strait consisted principally of old floes, which did not clear out of the sound during the previous season, mixed with light one-season ice, formed in Kennedy Channel and its numerous bays, and in Hall Basin. Amongst the floes, old and new, were a number of icebergs, thrown off from the Humboldt Glacier, and here and there a heavy, blue topped hummocky floe—of unknown thickness—from the Polar basin. By ice of this description, the expedition was detained here for a fortnight, off Walrus Shoal; the ships were delayed for three days, until August 12th, "when," says Nares, "during a calm, the ice set off shore with the ebb-tide, and allowed us without much trouble to steam past Cape Hawks, and between it and Washington Irving (or Sphinx) Island—a very conspicuous landmark—but here the ice prevented any further movement, the flood-tide closing in the channel by which we had advanced. A large depôt of 3600

rations of provisions was landed on the northern side of Cape Schott, and a notice of our progress deposited in a cairn on the summit of Washington Irving Island. Two cairns were found there, but they contained no documents, and were much too old to have been built by Dr Hayes in 1866, the only time any traveller has journeyed past the position."

On the morning of the 16th the ships advanced to within five miles of Cape Frazer. In this reach of the strait the character of the pack was considerably changed. The few icebergs seen were mostly aground, and the floes consisted of old hummocky pieces, from twelve to twenty feet thick, pressed together and "studded over with worn-down hummocks of a blue bottle-glass colour, which denotes great age." On the 19th Cape Frazer was passed, and in the evening the ships had fairly entered Kennedy Channel, and were fast to a floe off Cape John Barrow. "Soon after midnight," continues the captain (who proceeds to point out a number of errors in the chart of Smith Strait), "the ice moving off shore opened a passage, and again allowed us to proceed; the water spaces becoming more frequent and larger as we advanced northward. Passing the mouth of a large bay about ten miles deep, after making a very tortuous course through the ice, and many narrow escapes of being driven to the southward again in the pack, we reached what we supposed to be Cape Collinson, the second of two capes to the north of the large bay, which must be intended to be represented on the chart as Scoresby Bay. But as Cape Frazer is placed eight miles and Scoresby Bay twenty miles too far north, and the rest of the western land very incorrectly delineated on the charts, it is difficult to say where we arrived, and yet for the present it is necessary for me to describe the advance of the expedition by reference to the published charts. I shall therefore continue to do so, with an occasional necessary reference to our correct latitude. Between Cape Collinson and Cape McClintock, the north point of Scoresby Bay, is a slight indentation in the coast from half to three-quarters of a mile in depth, but affording no protection. North of Cape Collinson the land trends slightly to the westward, and about three miles north of the cape turns sharp to the west forming Richardson Bay, which is much deeper than represented, probably four miles broad and six deep."

On the evening of the 21st August the ships, after a troublesome passage through three miles of heavy floes, reached open leads of water, extending north-east up the strait. Nares carefully examined the western shores in the latitude given for Karl Ritter Bay, but could discover no inlet answering to the description of that supposed bay. Steaming to the northward, he endeavored to close the western shore south of Cape Cracroft, but found himself obliged to bear up eastward for Cape Bryant. Passing this headland the captain found the pack extending across the strait from Cape Morton and Joe Island to Cape Lieber. At Cape Morton he landed a small dépôt

for the use of any party that might be sent south to explore Petermann Fiord. On the 24th Nares ascended Cape Morton. We shall leave him to state in his own words what he saw from the cape, and what use he made of the information gained: "On the 24th, the south-west wind still continuing, which I knew would open the ice on the western shore of Hall Basin, I ascended Cape Morton. At an altitude of 2000 feet it was perfectly calm, with a clear sky. The prominent capes of the channel were clearly visible—Cape Union seventy miles distant, and Cape Sumner fifty miles, the one looking in beyond the other to within five degrees. All the west coast of Kennedy Channel, up to Cape Lieber and Lady Franklin Sound, was clear of ice, with navigable water through the ice-streams in the middle of the channel far to the northward. From Joe Island to the north, and east to Polaris Bay, the ice was clearly packed, but between Cape Lupton and Beechey was more open. Hurrying to the boat the ships were signalled to get under way, and we ran quickly to the northward across the channel under sail. Five miles north of Cape Lieber the pack obliged me to enter Lady Franklin Sound, on the northern shore of which an indentation in the land gave promise of protection. On a nearer approach we discovered a large and well-protected harbour inside an island immediately west of Cape Bellot, against which the pack-ice of the channel rested. Here the ships were secured close to the shore on the morning of August 25. On entering the harbour we had the satisfaction of sighting a herd of nine musk-oxen, all of which were killed; our joy at the good luck of the sportsmen and ourselves being greatly increased by the news that the vegetation was considerably richer than that of any part of the coast visited by us north of Port Foulke, the Elysium of the Arctic regions. Finding that the harbour was suitable in every way for winter quarters, and the abundance of the spare Arctic vegetation in the neighbourhood giving every promise of game being procurable, I here decided to leave the 'Discovery,' and to push forward with the 'Alert' alone."

Taking with him Lieutenant Rawson and seven men belonging to the "Discovery" (who were to form a separate sledge party), Captain Nares sailed still farther north in the "Alert." On the 28th he reached Cape Beechey, Robeson Channel, where he was detained some time; his sportsmen, however, making the best use of their leisure in hunting musk-oxen, three of which were killed. They formed a most welcome addition to the supply of fresh meat. Nares arrived at Lincoln Bay on the 29th, and on the 30th landed a depôt of 1000 rations, for the use of the travelling parties. Waiting at the edge of the pack off Lincoln Bay, with the view of taking advantage of the first opening that might present itself, the "Alert" was suddenly assailed by the ice, "and," says the captain, "having just sufficient warning to enable me to pick out the softest-looking place near us, that is, to get as far

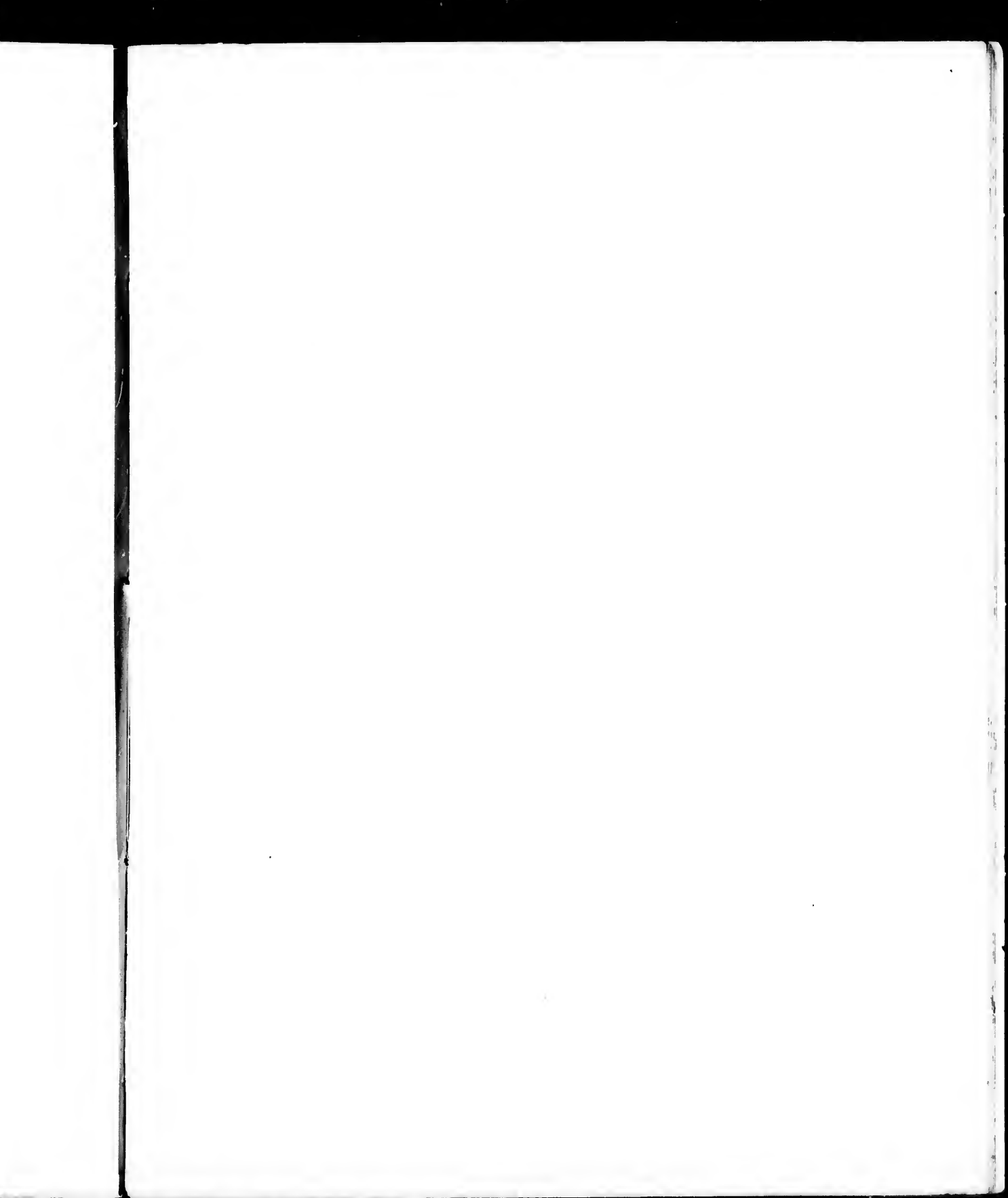
away as possible from the heavy ice. It completely encircled the ship; and she was hopelessly beset in a very heavy pack, consisting of old floes of eighty feet in thickness, and from one to four miles in diameter, the intervals between the floes being filled with broken-up ice of all sizes, from the blue-ice rounded hummocks, which were sufficiently high above the water-line to lift the quarter-boats bodily as they passed underneath whilst grinding their way along the ship's side, down to the smaller pieces which the previous nipping together of the heavy floes had rounded and polished like the boulders and pebbles in a rapid river." Captain Nares noted, that as he ascended Smith Strait the ice seemed to alter gradually, but considerably in appearance and formation. Off Cape Sabine the heaviest floes were only eight and ten feet in thickness; off Cape Frazer the floes were older, and considerably over twenty feet thick; "but," he writes, "up to the present time, when the main pack consisted entirely of heavy ice, I had failed to realise that, *instead of approaching a region favoured with open water and a warm climate*, we were gradually nearing a sea where the ice was of a totally different formation to what we had ever before experienced, that few Arctic navigators had met, and only one battled with successfully; that in reality we must be approaching the same sea which gives birth to the heavy ice met with off the coast of America by Collinson and McClure, and which the latter in 1851 succeeded in navigating through in a sailing vessel for upwards of 100 miles, during his memorable and perilous passage along the north-west coast of Banks Land from Cape Prince Alfred to the Bay of Mercy, but there sealed up his ship for ever; which Sir Edward Parry met with in the same channel in 1820, but with the more difficult task before him of navigating against stream and prevailing wind, and was forced to own conquered even him and his experienced companions; which, passing onwards to the eastward from Melville Strait down McClintock Channel, beset, and never afterwards released, the 'Erebus' and 'Terror,' under Sir John Franklin and Captain Crozier; and which, intermixed with light Spitzbergen ice, is constantly streaming to the southward along the eastern shore of Greenland, and there destroyed the 'Hansa' of the last German Arctic expedition."

Escaping on the 31st by the power of steam, which enabled him to penetrate the pack, which to the old voyagers was impassable, Nares ran up the channel, at the rate of $9\frac{1}{2}$ knots an hour, between the western shore and the pack, which was driving fast to the north before a gale from the south. This favouring gale enabled the "Alerts" to achieve the first signal triumph of the expedition. "By noon" (of September 1st), writes Nares, "having carried her Majesty's ship into latitude $82^{\circ} 24' N.$, a *higher latitude than any ship had ever before attained*, the ensign was hoisted at the peak."

The shore-line in Robeson Channel proper is fronted by an almost con-

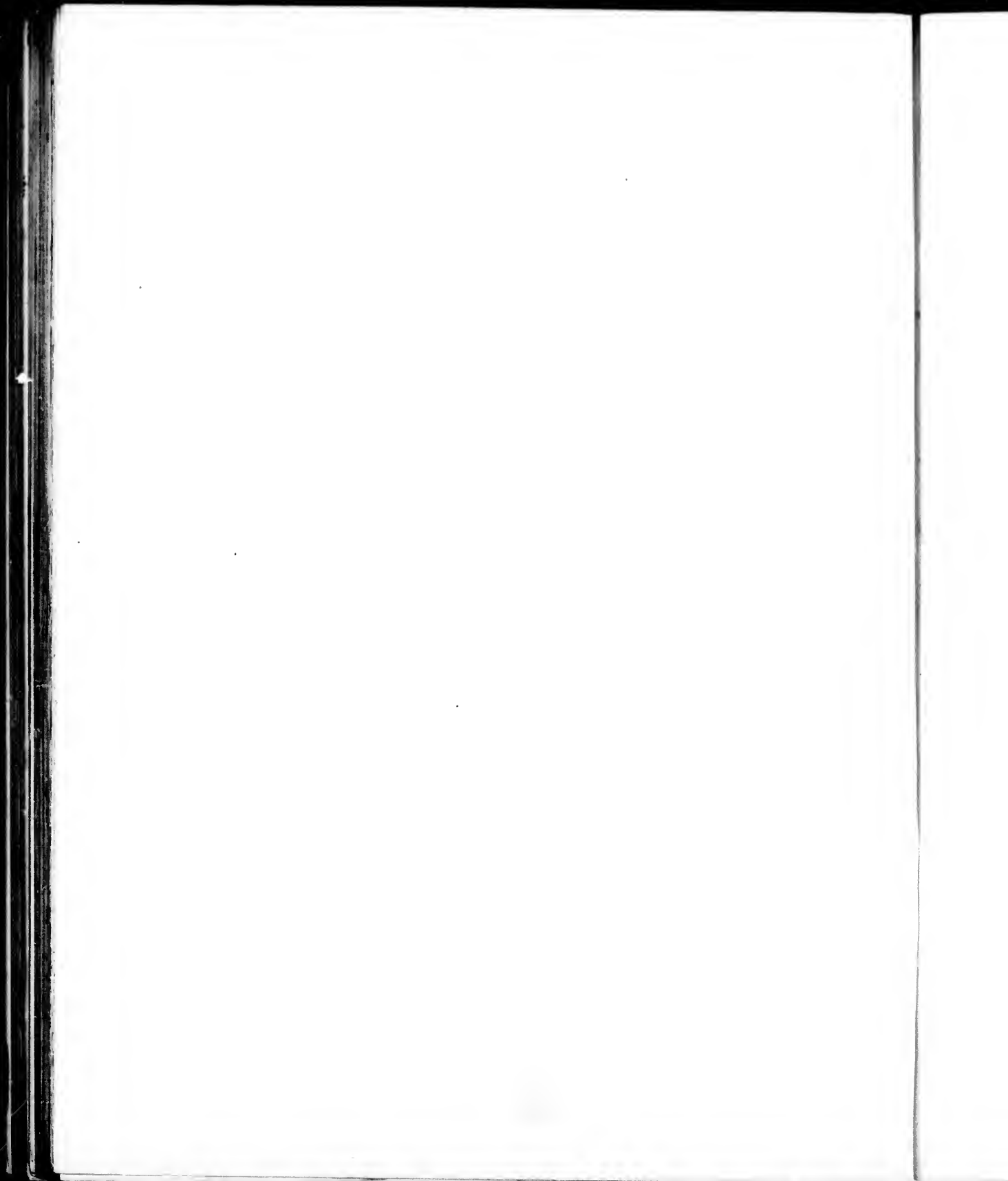
tinuous rugged-topped ice-wall of from 15 to 35 feet high; but on leaving the channel—the “Alert” had now reached the north entrance of the strait —“the land trends to the westward, the coast-line loses its steep character, and the ice lies stranded at a distance of 100 to 200 yards from the shore, forming a fringe of detached masses of ice from 20 to upwards of 60 feet in height above water, lying aground in from 8 to 12 fathoms water, and, except where the coast is shallow, extending close in to the beach-line. The average measurement of the ice in thickness, as it floated, is 80 feet. . . . The coast-line continued to the north-west for about 30 miles, forming a large bay bounded by the United States’ range of mountains—Mounts Mario and Julia and Cape Joseph Henry, named by the late Captain Hall, are so conspicuous that it was impossible to mistake their identity, although more than thirty degrees (minutes?) out in bearing on the chart. *No land was to be seen to the northward*, although, our wishes leading to the thought, we still hoped that the heavy clouds in that direction might hide it from our view; but considering the character and movement of the ice, I was reluctantly forced to admit that it gave convincing proof that *none existed* within a reasonable distance, and that *we had arrived on the shore of the Arctic Ocean, finding it exactly the opposite to an ‘open Polar sea.’*” The “Alert” had rounded Cape Union, and was now in the Polar Ocean, embayed by the pack near Cape Sheridan. This coast is *new* to geography, no previous navigator having ever been able to penetrate so far north. In such a region Nares and his officers would naturally be anxious to make discoveries. Accordingly, on the 11th September, the sky being on that day fairly clear for the first time since the arrival of the “Alert” on this coast, a careful examination was made all round the northern horizon. Captain Nares states the result as follows: “This was the first day on which we were able to pronounce decidedly concerning the northern land reported to exist by the ‘Polaris.’ After a constant watch, and carefully noting the movement of the darkened patches, I was now with much reluctance forced to admit that no land existed to the northward for a very considerable distance. As seen through the light haze the dark reflection of the sky above the detached pools of water in the offing, in strong contrast by the side of the light reflected from the close ice, which in a great measure is similar to the bright glare reflected from a large sand flat, creates a very decided appearance of land when there is a mirage; indeed, sufficiently so to deceive many of us when so anxiously expecting and hoping to see it. We, therefore, cease to wonder at the casual look-out men from the ‘Polaris’ being mistaken.”

On the 16th September the “Alert” was effectually closed in for the winter of 1875-76 on the shores of the Polar Sea, in lat. $82^{\circ} 27' N.$, long. $61^{\circ} 22' W.$





THE ALERT PRESSED ON SHORE IN KENNEDY CHANNEL



CHAPTER II.

THE WINTER AT FLOEBERG BEACH—DEATH OF PETERSEN—OUTBREAK OF SCURVY
—THE "PALEOCRISTIC" SEA, OR SEA OF ANCIENT ICE—ALDRICH'S FARTHEST
—RESULTS AND CONCLUSION.

FLOEBERG BEACH, the winter quarters of the "Alert," was so well protected by the heavy masses of ice which, grounding in twelve fathoms, could not reach the ship themselves and formed an impassable barrier against the advance of ice of less magnitude, that Captain Nares declares it to be the best protected position on the coast. From this position a number of sledge journeys in different directions were performed during the autumn. Lieutenant Rawson was twice despatched to travel southward round the coast, to establish communication with the sister vessel, the "Discovery," and twice he failed. Captain Markham and Lieutenants Parr and May went away on the 25th September with three sledges to establish a depôt of provisions as far to the north-westward as they could. The party returned on the 14th October, having, with severe labour, succeeded in placing a depôt of provisions in lat. 82° 44' N., and of tracing the coast-line nearly two miles farther north, thus reaching the exact latitude attained by Sir Edward Parry. Out of this northern party of twenty-one men and three officers, no less than seven men and one officer returned to the ship badly frost-bitten, three of these so severely as to render amputation necessary, the patients being confined to their beds for the greater part of the winter. "All the travellers," writes Nares, "returned in wonderful spirits, and full of pluck. Nothing could exceed the determined perseverance with which each obstacle to the advance of the party was overcome, or the cheerfulness with which each made light of the numerous unavoidable hardships they had undergone."

As soon as the travelling parties returned, preparations for the winter were commenced. The ship was housed over, all provisions and stores that would remain uninjured by the weather were placed on shore, and the habitable deck cleared. The winter months, during which both occupation and amusement fully engaged the attention of the "Alerts," passed away rapidly, "and," says Nares, "not until the sun actually returned on the 1st March did we in any way realise the intense darkness we must have experienced for so long a period." The health of the officers and crew, with

only one exception, was most excellent. The weather during the winter was remarkably calm. Such winds as did blow always came off the land. On only two days were the "Alerts" prevented by wind and snow-drift from taking exercise outside the ship. This is so far delightful; "but," adds Nares, "this quiet state of the atmosphere *was productive of the severest cold ever experienced in the Arctic regions.*" The following is a comparative record of the temperature during the winter: "Early in March, during a long continuance of cold weather, the 'Alert' registered a minimum of 73·7 below zero; the 'Discovery,' at the same time, 70·5 below zero. In 1850 the 'North Star,' at Wolstenholme Sound, in lat. 76° 30' N., recorded 69·5 below zero. The 'Alert's' minimum temperature for twenty-four hours was 70·31 below zero, the 'Discovery's' minimum temperature for twenty-four hours was 67·0 below zero; Dr Kane's, at Rensselaer Harbour, in lat. 78° 37' N., in 1854, 58·01 below zero. Previously the longest continuance of cold weather recorded, that by Sir Edward Belcher at Northumberland Sound, in lat. 76° 52' N., in 1853, was a mean temperature for ten consecutive days of 48·9 below zero. The 'Discovery' experienced a mean temperature for seven consecutive days of 58·17 ditto. The 'Alert' experienced a mean temperature for thirteen days of 58·9 ditto; and for five days and nine hours of 66·29. During February mercury remained frozen for fifteen consecutive days; a south-westerly gale, lasting four days, then brought warmer weather; immediately the wind fell cold weather returned, and the mercury remained frozen for a further period of fifteen days."

Exceedingly little snow—only a few inches—fell during the season. Light flashes of aurora were occasionally seen, but "the phenomena may be said to have been insignificant in the extreme, and, as far as we could discover, were totally unconnected with any magnetic or electric disturbance." Floeberg Beach was almost destitute of game. The report on the number of animals and birds killed and seen in the neighbourhood of the most northern winter quarters in which man has ever been known to reside, is to the following effect:

"On our first arrival a few ducks were seen and five shot, and during the winter and spring three hares were shot in the neighbourhood of the ship. This completes our list up to the end of May. In March a wolf suddenly made his appearance, and the same day the track of three musk-oxen or reindeer were seen within two miles of the ship, but they had evidently only paid us a flying visit. In July six musk-oxen were shot, the only ones seen in our neighbourhood. In June a few ptarmigan, ducks, and geese were shot, and used by the sick. In July and August they (the invalids) obtained a ration of fresh meat daily.

"In March and the beginning of April about two dozen ptarmigan passed the ship, flying towards the north-west in pairs: finding no vegetation uncovered

by snow in our neighbourhood, they flew on seeking better feeding-grounds, and were nearly all shot subsequently by the outlying parties near Cape Joseph Henry. In the middle of May snow-buntings and knots arrived. A number of the young of the latter were killed in July, but no nests or eggs were found. Early in June ducks and geese passed in small flocks of about a dozen, flying towards the north-west, but owing to a heavy fall of snow, lasting three days, which covered the land more completely than at any other time during our stay, at least half the number returned to the southward, not pleased with their prospects so far north." Captain Nares, it will be observed, states that ptarmigan, ducks, and geese were seen flying towards the north-west, to supposed feeding-grounds beyond the most northern known land, and though he failed to discover any tokens of the existence of land to the north of the coast on which he wintered, the fact of the migration of birds, which, of course, is constant from year to year, seems rather to favour the theory that the Polar area is not wholly occupied by the "Sea of Ancient Ice."

Spring sledging commenced in the middle of March. On the 12th Lieutenants Egerton and Rawson, with Petersen the interpreter as dog-driver, started from Floeberg Beach to open up communication with the "Discovery." "Four days afterwards," says Nares, "the temperature having risen considerably in the interval, with a strong wind from the southward, the party returned in consequence of the severe illness of Petersen. He was taken ill on the second march with cramp in the stomach; and afterwards nothing could keep him warm. The tent being very cold, the two officers burrowed out a snow-hut, and succeeded in raising the temperature inside to $+7^{\circ}$, but the patient still remained in an unsatisfactory condition, and it was only by depriving themselves of all their own warm clothing, and at the expense of the heat of their own bodies, that they succeeded, after great persistence, in restoring the circulation in his extremities to some extent. The following day, Petersen being no better, they wisely determined to return with him immediately to the ship. During this journey of sixteen miles, both Mr Egerton and Lieutenant Rawson behaved most heroically, and, although frequently very seriously frost-bitten themselves, succeeded in keeping life in the invalid until they arrived on board. He was badly frost-bitten in the feet, both of which had subsequently to be amputated. Notwithstanding the professional ability and incessant watchful care of Dr Thomas Colan, he never recovered from the severe shock his system had received on this occasion, and eventually expired from exhaustion three months afterwards. He leaves a wife and family living in Copenhagen."

Egerton and Rawson, accompanied by two seamen, set out again on the 20th March, and after six days' hard travelling over the rough ice in Robeson Channel, and along the steep snow-slopes at the foot of the lofty coast cliffs, reached the winter quarters of the "Discovery."

On the 3d April the great sledge journeys were commenced. Seven sledges and crews, numbering fifty-three officers and men, all in the best possible health and spirits, knowing the dangers before them, yet all cheerful and determined to do their duty, set out from the "Alert." Captain A. H. Markham, seconded by Lieutenant Parr, with two boats equipped for an absence of seventy days, was to force his way to the northward over the ice, starting off from the land near Cape Joseph Henry. Three sledge crews, under the commands of Dr Edward Moss, who, in addition to his duties as medical officer to the division, volunteered to assume executive charge, and Mr George White, engineer, also a volunteer, accompanied them as far as their provisions would allow. Lieutenant Pelham Aldrich, assisted by a sledge crew under the command of Lieutenant George A. Giffard, was to explore the shores of Grant Land towards the north and west, along the coast-line he had discovered in the previous autumn.

On the 4th April Rawson and Egerton returned from the "Discovery" in good health and spirits, though with noses and fingers touched with frost-bite. The "Discoverers" had passed a comfortable winter, and had killed over thirty musk-oxen. One man was down with scurvy. The first of the supporting sledges of Markham's party returned on the 8th April, and the second on the 14th. At first the temperature was -46° , but afterwards rose to about -26° . The extreme cold had tried the party severely, and three of the men who had arrived at the ship in these two divisions were disabled.

"Each sledge," writes Nares, "carried extra tea in lieu of the usual mid-day allowance of spirits. Both men and officers were unanimous in favour of the change, and willingly put up with the misery of standing still in the cold with cold feet during the long halt needed for the purpose of boiling the water; and all agreed that they worked better after the tea lunch than during the forenoon. On the 16th Lieutenant Lewis A. Beaumont and Dr Richard W. Coppinger arrived from the 'Discovery,' having been ten days performing a travelling distance of seventy-six miles with light sledges, so broken up and difficult was the nature of the ice in Robeson Channel. They brought news that the ice was continuous and afforded fair travelling across Hall Basin, and that the depôt of provisions at Polaris Bay was in good condition and fit for use. These circumstances enabled me to arrange for Lieutenant Beaumont to proceed with lightly-laden sledges along the Greenland coast to the eastward, and after completing his journey to fall back on the 'Polaris' depôt before June 15th, by which time two boats would be carried across the straits from the 'Discovery,' ready for his retreat should the ice have broken up. On April 20th, Lieutenant Beaumont, accompanied by Lieutenant Rawson and Dr Coppinger, started for his Greenland exploration, the few days' rest having materially benefited his men, who may be said to have started from the 'Discovery' unexperienced in Arctic sledging, that ship

having had no autumn travelling in consequence of the ice remaining in motion until a very late period of the season. On April 23d Captain Stephenson and Mr Thomas Mitchell, assistant-paymaster in charge, arrived from the 'Discovery,' and I had the advantage of consulting with the former unreservedly concerning the prospects of our numerous travellers then scattered over the neighbouring shores, the two ships remaining tenanted only by officers and a few invalids. Arrangements were made for the exploration of Petermann's Fiord, and should the season prove favourable, for the examination of the ice-cap south of Bessels Bay. On April 30th Captain Stephenson returned to the 'Discovery.' On the 3d May Lieutenant Giffard returned with news from Lieutenant Pelham Aldrich up to the 25th April, his twenty-second day out from the ship. He reported that all his crew were well and cheerful; but that the soft snow was causing very heavy and slow travelling.

"Up to this time all had gone well with the expedition. The two ships had advanced as far north as was possible; they were admirably placed for exploration and other purposes; and the sledge crews, formed of men in full health and strength, had obtained a fair start on their journeys under as favourable circumstances as possible. On May 3d, Dr Thomas Colan reported that five men had scorbutic symptoms; however, as each case had some predisposing cause, I was not alarmed until on the 8th the three ice-quartermasters and two able seamen returning from sledge service were attacked, and by June 8th, fourteen of the crew of the 'Alert' and three men belonging to the 'Discovery' who happened to be on board, forming the majority of the number of men then present, had been or were under the doctor's care for the same wasting disorder. Captain Stephenson also reported that four more of his crew had been attacked. Although many of the sledge crews formerly employed on Arctic research had been attacked by this disease, some had totally escaped; therefore, considering the ample equipment and carefully prepared provisions with which the 'Alert' and 'Discovery' were provided, its outbreak was most inexplicable and unlooked for. It was, however, most encouraging to learn from the report of former expeditions how transient the attacks had usually proved, and how readily the patients recovered with rest, the advance of summer, and a change to a more generous diet.

"On May 9th, by the return of Lieutenant May and Mr Egerton from Greenland, whither they had carried supplies, and who had succeeded in discovering a practicable overland route immediately east of Cape Brovort, fit for the use of the returning sledges should the ice break up, I received news of Lieutenant Beaumont's party up to May 4th, when he was within two miles of Cape Stanton. From their place of crossing the straits they found that the coast-line for nearly the entire distance to Cape Stanton was formed either by precipitous cliffs or very steep snow-slopes, the bases of which

receive the direct and unchecked pressure of the northern pack as it drifts from the north-westward and strikes against that part of the coast nearly at right angles. The floe-bergs, at their maximum sizes, were pressed high up one over the other against the steep shore; the chaos outside was something indescribable, and the travelling the worst that can possibly be imagined, seven days being occupied in moving forward only twenty miles. Being quite uncertain when such a road might become impassable by the ice breaking up in May as it did in 1872, a *depôt* of provisions, sufficient for a return journey by land, was wisely left.

"On the 24th of May Lieutenant Giffard returned on board, after depositing Lieutenant Pelham Aldrich's last *depôt* of provisions, he and his crew having performed their important work well and expeditiously; but I am sorry to add that he brought Dr Colan two more invalids. The attack occurred on his outward journey, but as it was of vital importance that he should push on, Lieutenant Giffard was necessarily obliged to leave them in a snow-hut for five days, one man taking care of the other as best he could until the party returned. Lieutenant Giffard acted with great judgment, decision, and consideration on this occasion, and the two invalids recovered before the ship broke out of winter quarters. On the 1st of June Mr Crawford Conybeare arrived with news from the 'Discovery' up to the 22d of May. Lieutenant Archer had completed his examination of the opening in the land west of Lady Franklin Sound, proving it to be a deep fiord terminating in mountainous land with glacier-covered valleys in the interior. Lieutenant Reginald B. Fulford, with the men returned from Lieutenant Archer's party, then transported two boats across Hall Basin to assist Lieutenant Beaumont in his return later in the season. Captain Stephenson, accompanied by Mr Henry C. Hart, naturalist, overtook this party on the 12th at Polaris Bay. On the following day, the American flag being hoisted, a brass tablet prepared in England was erected at the foot of Captain Hall's grave." This kindly tribute to the memory of Hall has already been noticed.

On the 8th June Lieutenant Parr arrived at the ship with the distressing intelligence that nearly the whole of the crew belonging to the northern (Captain Markham's) division of sledges had been attacked with scurvy and were in want of immediate assistance. Markham, assisted by the few men who could still walk, had brought the invalids to Cape Joseph Henry, about thirty miles from the ship, but each day "was rapidly adding to the intensity of the disease, and, while lessening the powers of those still able to work, adding to the number of the sick, and consequently alarmingly increasing the weight which had to be dragged on the sledges. Under these circumstances, Lieutenant Parr, with his usual brave determination, and knowing exactly his own powers, nobly volunteered to bring me the news and so obtain relief for his companions. Starting with only an Alpine stock

and a small allowance of provisions, he completed his long solitary walk over a very rough icy road deeply covered with newly-fallen snow within twenty-four hours."

Captain Nares immediately sent off Lieutenant May and Dr Moss with the dog-sledge, bearing a stock of proper medicines, and at midnight started himself with a rescue party. May and Moss reached Markham's party only fifty hours after Lieutenant Parr had left it, but were too late to save the life of George Porter, gunner. Their arrival inspired the debilitated party with new hope and strength. Early on the following morning Nares and his rescue party reached the invalids, and, starting on the 14th, the whole party reached the ship without further loss of life. Of the original seventeen members composing Markham's crew only the two officers and three of the men were able to drag the sledge alongside. Three others, Edward Lawrence, George Winston, and Daniel Harley, manfully kept on their feet to the last, submitting to extreme pain and fatigue rather than, by riding on the sledge, increase the weight their enfeebled companions had to drag, and were just able to walk on board the ship without assistance. The remaining eight, after a long struggle, had been forced to succumb to the disease, and were carried on the sledges. Out of the whole number the two officers alone escaped the attack of scurvy.

The character of the ice met with by Markham on his wonderful march northward, is of the greatest interest. "The route, after leaving the coast, seldom lay over smooth ice; the somewhat level floes or fields, although standing at a mean height of six feet above the neighbouring ice, were small, usually less than a mile across. Their surfaces were thickly studded over with rounded blue-topped ice humps, of a mean height above the general level of from ten to twenty feet, lying sometimes in ranges, but more frequently separated at a distance of from 100 to 200 yards apart, the depressions between being filled with snow deeply scored into ridges by the wind, the whole composition being well comparable to a suddenly frozen oceanic sea. Separating these floes, as it were, by a broadened-out hedge, lay a vast collection of *débris* of the previous summers, broken-up pack-ice which had been re-frozen during the winter into one chaotic rugged mass of angular blocks of various heights up to forty and fifty feet, and every possible shape, leaving little if any choice of road over, through, or round about them. Among these was a continuous series of steep-sided snow-drifts sloping down from the highest altitude of the pressed-up ice, until lost in the general level at a distance of about 100 yards. The prevailing wind during the previous winter having been from the westward, and the sledges' course being due north, these 'sastrugi,' instead of rendering the road smoother, as they frequently do in travelling along a coast-line, when advantage can be taken of their long smooth tops, had to be encountered nearly at right angles.

The whole formed the roughest line of way imaginable without the slightest prospect of ever improving.

"The journey," resumes the captain, "was consequently an incessant battle to overcome ever-recurring obstacles; each hard-won success stimulating them for the next struggle. A passage-way had always to be cut through the squeezed-up ice with pickaxes (an extra one being carried for the purpose), and an incline picked out of the perpendicular side of the high floes, or roadway built up, before the sledges, generally one at a time, could be brought on. Instead of advancing with a steady walk, the usual means of progression, more than half of each day was expended by the whole party facing the sledge and pulling it forward a few feet at a time. Under these circumstances, the distance attained, short as it may be considered by some, was truly marvellous.

"During this memorable journey to penetrate towards the north over the heavy Polar oceanic ice without the assistance of continuous land along which to travel, in which has been displayed in its highest state the pluck and courageous determination of the British seaman to steadily persevere, day after day, against apparently insurmountable difficulties, their spirits rising as the oppositions increased; Commander Markham and Lieutenant Parr, and their brave associates, succeeded in advancing the national flag to lat. $83^{\circ} 20' 26''$ N., leaving a distance of 400 miles still to be travelled over before the North Pole is reached. In order to attain this position, although a direct distance of only 73 miles from the ship was accomplished, the total distance travelled was 276 miles on the outward, and 245 miles on the homeward journey.

"Their severe labour and exertions, which certainly can never be surpassed, coupled with the experience gained by Sir Edward Parry in the summer of 1827, proves that a lengthened journey over the Polar pack-ice with a sledge party, provided with a navigable beat, is, in consequence of the rough nature of the road over which the party has to travel, impracticable at any season of the year; and further, as the sledges were necessarily advanced each stage singly, we are enabled to estimate the exact rate of progression which may be expected, should any one consider it desirable to push forward with light sledges without any additional means of re-arranging later in the season, in the event of the ice breaking up in his rear. The maximum rate of advance in this way was at the rate of $2\frac{3}{4}$ miles a day, the mean being at the rate of $1\frac{1}{4}$ miles a day."

Having got home his northern division of sledge travellers with the utmost difficulty, Captain Nares now became very anxious about his western division under Lieutenant Aldrich. He accordingly despatched Lieutenant May (who seems to have led most of the forlorn hopes of this enterprise), with the dog-sledge and three strong men, to meet the returning party.

"Lieutenant May met the party on the very last day that most of them were able to travel; having succeeded in reaching, after a very severe journey, most courageously borne, the same position to which Commander Markham's party had returned without assistance: but there the same blight that attacked the northern party, and against which the western division had long been struggling, gained on them so quickly that, with the exception of Lieutenant Aldrich and Adam Ayles, the whole crew of seven men were placed *hors de combat*, James Doidge and David Mitchell still gallantly struggling along by the side of the sledge; the other four invalids, having held out until the last moment, were obliged to be carried. Under these circumstances the arrival of Lieutenant May with relief was most providential. Notwithstanding a bad start, owing to the necessity of crossing the land with heavily-laden sledges, Lieutenant Aldrich with great energy succeeded in exploring the coast-line to the westward for a distance of 220 miles from the position of the 'Alert.' Trending first to the north-westward for ninety miles to Cape Columbia, the extreme northern cape in lat. $83^{\circ} 7' N.$, and long. $70^{\circ} 30' W.$, the coast extends to the west for sixty miles to long. $79^{\circ} 0' W.$, and then gradually trends round to the southward to lat. $82^{\circ} 16' N.$ and long. $85^{\circ} 33' W.$, the extreme position attained. No land or appearance of land was seen at any time to the northward or westward; and owing to the continued heavy nature of the ice, I conclude that no land can possibly exist within an attainable distance from this coast."

It is now necessary briefly to sketch the adventures and achievements of the Greenland division of exploring sledge parties. On the 4th May, the date on which we last heard of this division, Lieutenant Beaumont was journeying with his men to the north-eastward, along the north coast of Greenland, all apparently in good health. "A very few days after, James J. Hand, A.B., who had passed the winter on board of the 'Alert,' showed symptoms of scurvy. As soon as the nature of the disease was decided, Lieutenant Beaumont determined to send Lieutenant Rawson with three men and the invalid back to Polaris Bay, and to continue the exploration with reduced numbers. Lieutenant Wyatt Rawson parted company on his return on the 11th of May; but owing to two more of his crew breaking down, leaving only himself and one man strong enough to drag the sledge—on which lay the principal sufferer—and to look after the other two, he only succeeded in reaching the depôt at Polaris Bay on the 3d of June, James J. Hand unhappily dying from the extreme fatigue a few hours after the arrival of the party. Out of the other men forming the sledge crew, who had all passed the winter on board the 'Alert,' only one of them—Elijah Rayner, gunner, R.M.A.—escaped the insidious disease. On the 7th of June Lieutenant Fulford and Dr Coppinger, with Hans and the dog-sledge, returned to Polaris Bay depôt from the exploration of Petermann Fiord;

and, with the help of some fresh seal meat and the professional skill and care of Dr Coppinger, the malady was checked, and the sick men gradually regained strength. Lieutenant Beaumont, continuing his journey, on the 21st May succeeded in reaching lat. $82^{\circ} 18' N.$, long. $50^{\circ} 40' W.$, discovering land, apparently an island, but, owing to the nature of the ice, probably a continuation of the Greenland coast, extending to lat. $82^{\circ} 54' N.$, long. $48^{\circ} 33' W.$ By this time two more of the crew showed symptoms of scurvy, and soon after the return journey was commenced the whole party were attacked, until at last Lieutenant Beaumont, Alexander Gray, ice-quarter-master, captain of the sledge, and Frank Jones, stoker, were alone able to drag, the other four men having to be carried forward on the sledge in detachments, which necessitated always double and most frequently treble journeys over the rough and disheartening icy road; nevertheless, the gallant band struggled manfully onwards, thankful if they made one mile a day, but never losing heart—Lieutenant Beaumont's anxiety being intense lest relief should arrive too late to save the lives of the worst cases. Not arriving at Polaris Bay on the day expected, Lieutenant Wyatt Rawson and Dr Richard W. Coppinger, with Hans and the dog-sledge, started on June 22d to look for them, the two parties providentially meeting in Newman's Bay, twenty miles from the depôt. The following day, Frank Jones being unable to drag any longer, walked, leaving the three officers and Alexander Gray to drag the four invalids, the dogs carrying on the provisions and equipage. On the 27th Alexander Gray was obliged to give in, and the officers had to drag the sledge by themselves, Gray and Jones hobbling along as best they could. On the 28th, being within a day's march of the depôt with the dogs, the two worst cases were sent on in charge of Dr Coppinger, and arrived at the end of the march, but I regret to state that Charles W. Paul, A.B., who joined the expedition from the 'Valorous' at Disco, at the last moment, died shortly after their arrival. The remainder of the party, helped by Hans and the dogs, arrived at the depôt on July 1st, and it being impossible to cross the strait and return to the 'Discovery' before the invalids were recruited, at once settled themselves down for a month's stay, those able to get about shooting game for the sufferers with such success that they obtained a daily ration of fresh meat. It was entirely due, under Providence, to the timely assistance despatched by Lieutenant Rawson—who, as senior officer at Polaris Bay, when there was not time to cross Hall Basin and inform Captain Stephenson of his apprehensions, acted promptly on his own authority and went to the relief of Lieutenant Beaumont's party—that more casualties did not occur. On July 12th, Lieutenant Fulford, with two men and the dog-sledge, were despatched across Hall Basin to Discovery Bay, and arrived there on the third day, having found the ice in motion on the west side of the channel, and

experiencing much difficulty in effecting a landing. On the receipt of the news Captain Stephenson instantly started with a relief party carrying medical comforts, and arrived at Polaris Bay on the 19th. On the following day the ice was in motion on both sides of the channel. On the 29th Captain Stephenson, with Lieutenant Rawson, Hans, and four able men, with two invalids who could walk, started with the dingy for Discovery Bay, and after a very wet journey landed on the west shore on August 2d. Lieutenant Beaumont and Dr Coppinger, with five strong men, were left for a few days longer in order to give the other two invalids further time to recruit. The whole party ultimately re-crossed the strait, and arrived at Discovery Bay on August 14th, having been absent from their ship 120 days, several of the party who had wintered on board of the 'Alert' having been absent since August 26th, the previous year.

"Lieutenant Reginald B. Fulford and Dr Richard W. Coppinger cleared up all doubt about the nature of Petermann Fiord, having reached, at a distance of nineteen miles from the entrance, the precipitous cliff of a glacier which stretched across the fiord.

"On considering the result of the spring sledging operations," writes Nares, "I concluded that, owing to the absence of land trending to the northward, and the Polar pack not being navigable, no ship could be carried north on either side of Smith Sound beyond the position we had already attained; and also that from any attainable position in Smith Sound it was impossible to advance nearer the Pole by sledges."

Having made up his mind that it was impossible, under the circumstances, to push his discoveries farther, the gallant captain resolved to return to England, and on the 31st July succeeded in extricating the "Alert" from Floeberg Beach, and in steering her round Cape Rawson into Robeson Channel. He was delayed by heavy ice off Cape Union, and again off Cape Beechey, so that it was not until the 10th August that he was able to reach Lady Franklin Sound and join the "Discovery." On the 22d August the two ships in company had proceeded as far southward as Cape Collinson. On the 29th the expedition arrived in Dobbin Bay. The two old cairns on Washington Irving Island were again visited and unavailingly examined. The stones were bound together by lichens, proving that the structures were of ancient date. "They were probably erected," says Nares, "to mark the farthest north point reached by one of our enterprising and gallant predecessors who never returned home." Passing Cape Victoria on the 10th September, the "Alert" and "Discovery" broke through their last barrier, which they succeeded in doing by charging the ice simultaneously, and reached open water. On the 25th September the vessels arrived at Disco, and before the close of October they were riding at anchor in British waters.

Captain Nares carried his ships to a higher latitude than had ever pre-

vously been reached in ships; he demonstrated the fact that Europeans may winter safely in a climate in which the most intense degree of atmospheric cold known prevails. He discovered that the Polar ocean is apparently a "Sea of Ancient Ice," and is certainly not an "open sea;" his sledges reached a point within 400 miles of the Pole itself—a point much farther north than had ever before been reached; he explored the fringe of the frozen ocean over fifty degrees of longitude, and has thus added vastly to our knowledge of the heart of the Arctic region; and he has, above all, demonstrated that the skill and heroism of Englishmen, which have already won for Britain so many triumphs in the northern seas, remain unimpaired. The welcome he received, and the honours that have been showered upon him, evince the appreciation in which his services are held by his countrymen. With his voyage our proposed account of Arctic discovery and adventure comes to a close.

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