

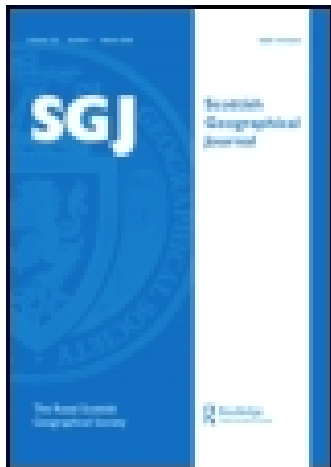
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THE SCOTTISH GEOGRAPHICAL MAGAZINE.

NORTH POLAR EXPEDITION—1898-1902.¹

By Commander R. E. PEARY, U.S.N.

INTRODUCTION.

IN January 1897 I promulgated before the American Geographical Society of New York City my plan for an extended scheme of Arctic exploration, having for its main purpose the attainment of the North Pole. During the spring of 1897 Morris K. Jesup, now President of the Peary Arctic Club, became interested in the matter, and suggested the idea of this Club. His example was followed by other prominent men, and late in May, through the persistent personal efforts of Charles A. Moore, backed by letters from these and other influential men, five years' leave of absence was granted me by the Navy Department to enable me to carry out my plans.

It being too late that season to get the main expedition under way, the summer of 1897 was devoted to a preliminary trip to the Whale Sound region, to acquaint the Eskimos with my plan for the coming year, and set them to work laying in a stock of skins and meat. These objects were successfully accomplished, and, in addition, the great "Ahnighito" meteorite of Melville Bay, the largest known meteorite in the world, was brought home.

In December 1897, while in London, the S.Y. *Windward*, which had been used in his Franz Josef Land expedition, was tendered to me by Alfred Harmsworth, who offered to have her re-engined and delivered to me in New York. This generous offer I accepted.

In the spring of 1898 the Peary Arctic Club was organised, Morris

¹ A Paper read before the Society on November 12.

K. Jesup, Henry W. Cannon, H. L. Bridgman, all personal friends of mine, forming the nucleus about which the rest assembled.

In May the *Windward* arrived, but to my extreme regret and disappointment, she still retained her antiquated and puny engine (the machinists' strike in England prevented the installation of new ones), and was practically nothing but a sailing craft.

The lateness of the season was such that nothing could be done but make the most of the *Windward* as she was. But her extreme slowness ($3\frac{1}{2}$ knots under favourable circumstances) and the introduction of a disturbing factor, in the appropriation by another of my plan and field of work, necessitated the charter of an auxiliary ship if I did not wish to be distanced in my own domain. The *Windward* sailed from New York on the 4th of July 1898, and on the 7th I went on board the *Hope* at Sydney, C.B., and sailed just as the first two-line cablegram came of the battle of Santiago.

1898-1899.

Pushing rapidly northward, and omitting the usual calls at the Danish Greenland ports, Cape York was reached after a voyage, uneventful except for a nip in the ice of Melville Bay which lifted the *Hope* bodily, and for a few hours seemed to contain possibilities of trouble.

The work of hunting walrus and assembling my party of natives was commenced at once; the *Windward* soon joined us, after which the hunting was prosecuted by both ships, until the final rendezvous at Etah, from whence both ships steamed out on August 13, the *Windward* to continue northward, the *Hope* bound for home. The *Windward* was four hours forcing her way through a narrow barrier of heavy ice across the mouth of Foulke Fjord. Here the *Hope* left us, straightening away southward toward Cape Alexander, and the *Windward* headed for Cape Hawkes, showing distinctly beyond Cape Sabine.

At 4 A.M. Sunday we encountered scattered ice off Cape Albert. About noon we were caught in the ice near Victoria Head, and drifted back several miles. Finally we got round Victoria Head into Princess Marie Bay at 6 P.M. The bay was filled with the season's ice, not yet broken out, while Kane Basin was crowded with the heavy, moving polar pack. Between the two, extended northward across the mouth of the bay, was a series of small pools and threads of water, opening and closing with the movements of the tide. At 11.30 P.M. on the 18th, the *Windward* had worried her way across the bay to a little patch of open water close under Cape D'Urville. Here further progress was stopped by a large floe, several miles across, one end resting against the shore, and the other extending out into the heavy ice. While crossing the bay the more important stores had been stowed on the deck in readiness to be thrown out upon the ice in the event of a nip. Pending the turning of the tide, when I hoped the big floe would move and let us proceed, I landed at Cape D'Urville, deposited a small cache of supplies, and climbed the bluffs to look at the conditions northward.

August 21.—I went on a reconnaissance along the ice-foot to the

head of Allman Bay and into the valley beyond. The night of the 21st young ice formed, which did not melt again. On the 28th I attempted to sledge over the sea ice to Norman Lockyer Island, but found too many weak places, and fell back on the ice-foot. The night of the 29th the temperature fell to 13° F., and on the 31st the new ice was four and a quarter inches thick. On this day I went to Cape Hawkes and climbed to its summit, whence I could see lakes out in Kane Basin, but between them and the *Windward* the ice was closely packed—a discouraging outlook. Only a strong and continued westerly wind would give me any chance.

The uncertainty of these two weeks was very annoying to me. Had I been sure that we could not get away from here, I could have been making an inland trip. As it was, I could not leave the ship for fear an opportunity to advance would occur in my absence.

September 2.—I started on a sledge trip up Princess Marie Bay. At Cape Harrison the strong tidal current kept the ice broken, so I could not round it, and the ice-foot was impracticable for sledges. I went on foot to the entrance of Cope's Bay, surveying the shore to that point, then returned to the ship after four days' absence. During this trip I obtained the English record from the cairn on the summit of Norman Lockyer Island, deposited there twenty-two years ago. This record was as fresh as when left.

September 6.—I left the ship to reconnoitre Dobbin Bay, the head of which is uncharted, returning three days later. During this trip the first real snowstorm of the season occurred, five and a half inches falling.

September 12.—One-third of my provisions, an ample year's supply for the entire party, was landed at Cape D'Urville, my Eskimos sledging loads of 700 to 1000 pounds over the young ice. The night of the 13th the temperature dropped to -10° F., and all hope of further advance was at an end.

September 15.—The boiler was blown off and preparations for winter commenced.

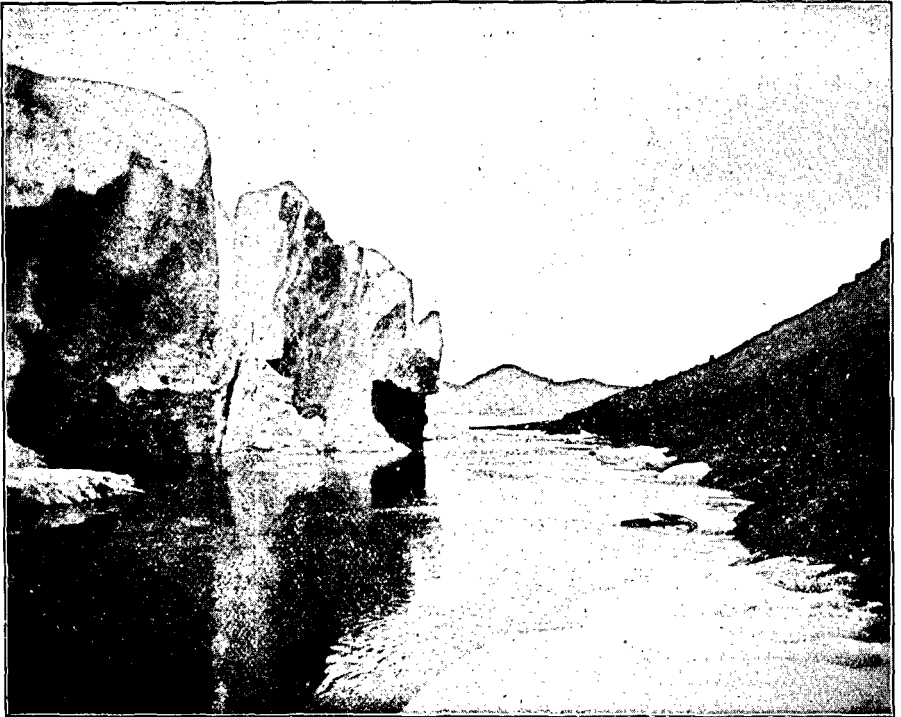
On the 17th I broached my plans for the winter campaign as follows:—

The autumn work was simple enough and outlined itself. It comprised two items—the securing of a winter's supply of fresh meat for the party, and the survey of the Buchanan Strait-Hayes Sound-Princess Marie Bay region. In spite of the peculiarly desolate character of that part of the Grinnell Land coast immediately about the *Windward*, and the apparent utter absence of animal life, I felt confident of accomplishing the former. Various reconnaissances thus far on the north shore of Princess Marie Bay had given me little encouragement, but I knew that the Eskimos had killed one or two musk-oxen in years past on Bache Island, and that region looked favourable for them. As regards the survey, a presentiment that I must get at that at the earliest possible moment had already led me to make attempts to reach the head of Princess Marie Bay.

As to the spring campaign, I could not be reconciled to the idea of

losing a year from the main work of the expedition, and proposed to utilise the winter moons in pushing supplies to Fort Conger, then move my party to that station early in February, and on the return of the sun start from there as a base, and make my attempt on the Pole *vid* Cape Hecla. I *might* succeed in spite of the low latitude of my starting-point, and in any event could be back to the ship before the ice broke up, with thorough knowledge of the coast and conditions north of me.

September 18.—I left the ship with two sledges and my two best



Glacier River.

Eskimos, with provisions for twelve days, for a reconnaissance of Princess Marie Bay.

September 20.—I reached the head of a small fjord running southwest from near the head of Princess Marie Bay, and found a narrow neck of land about three miles wide separating it from a branch of Buchanan "Strait." Bache "Island" of the chart is, therefore, a peninsula, and not an island. From a commanding peak in the neighbourhood I could see that both arms of Buchanan "Strait" ended about south of my position; that the "strait" is in reality a bay, and that Hayes Sound does not exist. On the 21st and 22nd I penetrated the

arms of Princess Marie Bay, designated as Sawyer and Woodward Bays on the charts, and demonstrated them to be entirely closed.

September 23.—While entering a little bight about midway of the north shore of Bache Peninsula, I came upon two bears. These my dog chased ashore, and held at bay until I could come up and kill them.

September 25.—I crossed Bache Peninsula on foot with my two men, from Bear Camp to the intersection of the northern and southern arms of Buchanan Bay. Here we found numerous walrus, and could command the southern arm of the large glacier at its head. Comparatively recent musk-ox tracks convinced me of the presence of musk-ox on the peninsula. The next day I returned to the *Windward* to refit and start for Buchanan Bay *via* Victoria Head and Cape Albert, in the quest of walrus and musk-oxen. Henson, in a reconnaissance northward during my absence, had been unable to get more than a few miles beyond Cape Louis Napoleon, sea ice and ice-foot being alike impracticable. A day or two after my return I started him off again to try it.

September 30.—I started for Buchanan Bay. Between Victoria Head and Cape Albert found fresh tracks of a herd of musk-oxen and followed them until obliterated by the wind. Reached the walrus grounds in Buchanan Bay late on October 4, and the next day secured a walrus, and the remainder of my party arrived. The following day every one was out after musk-oxen, but, finding it very foggy on the uplands of the peninsula, I returned to camp and went up to Buchanan Bay in search of bears, the track of which we had seen. Returning to camp, I found that one of my hunters had killed a bull musk-ox.

On the 7th I sent two men to bring out the meat and skin, while I went up Buchanan Bay again. Returning to camp, I found it deserted. A little later some of my party returned, reporting a herd of fifteen musk-oxen killed. The next two days were consumed in cutting up the animals, stacking the meat, and getting the skins and some of the meat out to camp. The latter had to be dragged to the top of the bluffs and thrown over.

October 10.—We started for the ship, which was reached late on the 12th. The ice in Buchanan Bay was very rough, and a snowstorm on the 11th made going very heavy. Five days later, October 17th, I went with two men to locate a direct trail for getting the meat out to the north side of the peninsula, but found the country impracticable, and returned to the ship on the 21st. The sun left on the 20th.

The following week was devoted to the work of preparation for the winter. A reconnaissance of Franklin Pierce Bay developed nothing but hare tracks, but Henson came in from Cope's Bay with a big bear, killed near the head of the bay. This marked the end of the fall campaign, with our winter's fresh meat supply assured, and the Bache "Island"-Buchanan "Strait"—"Hayes Sound" question settled.

The next step was the inauguration of the teaming work, which was to occupy us through the winter. I already had my pemmican and some miscellaneous supplies at Cape Louis Napoleon, and two sledge loads of provisions at Cape Fraser. The rapidly disappearing daylight being now too limited for effective travelling, I was obliged to wait the appear-

ance of the next moon before starting for a personal reconnoissance of the coast northward. On the 29th I left the ship with Henson and one Eskimo. The soft snow of the last two storms compelled me to break a road for the sledges with my snowshoes across Allman Bay and along many portions of the ice-foot, but in spite of this delay, we camped at Cape Louis Napoleon after a long march.

The next day we reached Cape Fraser, having been impeded by the tide rising over the ice-foot, and camped at Henderson's farthest, at the beginning of what seemed an impracticable ice-foot. It was the only possible way of advance, however, as the still moving pack in the channel was entirely impassable. The following day I made a reconnoissance on foot as far as Scoresby Bay, and though the ice-foot was then entirely impracticable for sledges, I was convinced that a good deal of earnest work with picks and shovels, assisted by the levelling effects of the next spring tides, would enable me to get loaded sledges over it during the next moon. From Cape Norton Shaw I could see that by making a detour into Scoresby Bay the heavy pack could be avoided in crossing.

This stretch of ice-foot from Cape Fraser to Cape Norton Shaw is extremely Alpine in character, being an almost continuous succession of huge blocks and masses of bergs and old floes, forced bodily out of the water and up on to the rocks. At Cape John Barrow a large berg had been forced up on the solid rock of the cape, until one huge fragment lay fully one hundred feet above the high-tide level.

Returning from my reconnoissance, I camped again at Cape Fraser, building the first of my snow igloos, which I intended should be constructed at convenient intervals the entire distance to Fort Conger. The next three days were occupied in bringing the supplies at Cape Louis Napoleon up to Cape Fraser, and on the 4th of November I returned to the ship.

The time until the return of the next moon was fully occupied in making and repairing sledges, bringing in beef from the cache on Bache Peninsula, and transporting supplies and dog-food to Cape Hawkes, beyond the heavy going of Allman Bay. During much of this time the temperature was in the -40° s F.

November 21.—Henson and three Eskimos left with loads, and on the 22nd I followed with a party of three to begin the work of the November moon. This work ended just after midnight of December 4th, when the last sledges came in. It left 3300 pounds of supplies and a quantity of dog-food at Cape Wilkes on the north side of Richardson Bay. These supplies would have been left at Cape Lawrence had it not been for the desertion and turning back of one of my men, discouraged with the hard work, while crossing Richardson Bay. Knowing it to be essential to prevent any recurrence of the kind, I pushed on to Cape Wilkes, camped, and turned in after a twenty-five-hour day, slept three hours, then started with empty sledge, eight picked dogs, and an Eskimo driver, to overtake my man. He was found at Cape Louis Napoleon, and after receiving a lesson, was taken along with me to the ship.

My party was left with instructions to bring up supplies which the

wrecking of sledges had obliged me to cache at various places, assemble all at Cape Wilkes, and then, if I did not return, reconnoitre the ice-foot to Rawlings Bay, and return to the ship.

The distance from Cape Wilkes to the *Windward* was sixty nautical miles in a straight line (as travelled by me along the ice-foot and across the bays, not less than ninety statute miles), and was covered in 23 hours and 20 minutes, or 21 hours 30 minutes actual travelling time. Temperature during the run, -50° F.

Every sledge was more or less smashed in this two weeks' campaign, and at Cape John Barrow, sledges and loads had to be carried on our backs over the ice jams. The mean daily minimum temperature for the thirteen days was -41.2° F., the lowest -50° F., which occurred on four successive days.

The experience gained on this trip led me to believe that the conditions of travel from Cape Wilkes northward, as far at least as Cape Defosse, would not differ materially from those already encountered, and enabled me to lay my plans with somewhat greater detail. With the light of the December moon I would proceed to Cape Wilkes with such loads as would enable me to travel steadily without double-banking, advance everything to Cape Lawrence on the north side of Rawlings Bay, then go rapidly on to Fort Conger with light sledges, determine the condition of the supplies left there, that I might know what I could depend upon, and thus save transportation of unnecessary articles, then return to the ship.

In the January moon I would start with my entire party; move my supplies from Cape Lawrence to Fort Conger; remain there till the February moon, the light of which would merge into the beginning of the returning daylight; then sledge the supplies for the polar journey to Cape Hecla, and be in readiness to start from there, with rested and well-fed dogs, by the middle of March.

In pursuance of this plan, the two weeks intervening between the departure of the November moon and the appearance of the December one were busily occupied in repairing and strengthening sledges, and making and overhauling clothing and equipment, to enable us to meet this long and arduous journey in the very midnight of the "Great Night." During this interval the temperature much of the time was at -50° F. and below.

December 20.—In the first light of the returning moon I left the *Windward* with my doctor, Henson, four Eskimos, and thirty dogs, all that were left of the sixty odd of four months previous. Thick weather, strong winds rushing out of Kennedy Channel, heavy snow, and an abominable ice-foot in Rawlings Bay delayed me, and it was not until the 28th that I had all my supplies assembled at Cape Lawrence, on the north side of Rawlings Bay.

Cape Lawrence presented the advantage of two possible routes by which these latter supplies could be reached from Conger, one through Kennedy Channel, which I was about to follow, and the other *via* Archer Fjord and overland. In spite of the delays, I felt on the whole well satisfied with the work up to the end of the year. I had all my supplies

half way to Fort Conger, and had comfortable snow igloos erected at Cape Hawkes, Cape Louis Napoleon, Cape Fraser, Cape Norton Shaw, Cape Wilkes, and Cape Lawrence.

December 29.—I started from Cape Lawrence with light sledges for Fort Conger, hoping to make the distance in five days. The first march from Cape Lawrence the ice-foot was fairly good, though an inch or two of efflorescence made the sledges drag as if on sand. The ice-foot grew steadily worse as we advanced, until after rounding Cape Defosse, it was almost impassable even for light sledges. The light of the moon lasted only for a few hours out of the twenty-four, and at its best was not sufficient to permit us to select a route on the sea ice.

Just south of Cape Defosse we ate the last of our biscuit, just north of it the last of our beans. On the next march a biting wind swept down the channel and numbed the Eskimo who had spent the previous winter in the States to such an extent that, to save him, we were obliged to halt just above Cape Cracroft, and dig a burrow in a snowdrift. When the storm ceased, I left him with another Eskimo and nine of the poorest dogs, and pushed on to reach Fort Conger.

The moon had left us entirely now, and the ice-foot was utterly impracticable, and we groped and stumbled through the rugged sea ice as far as Cape Baird. Here we slept a few hours in a burrow in the snow, then started across Lady Franklin Bay. In complete darkness and over a chaos of broken and heaved-up ice, we stumbled and fell and groped for eighteen hours, till we climbed upon the ice-foot of the north side. Here a dog was killed for food.

Absence of suitable snow put an igloo out of the question, and a semi-cave under a large cake of ice was so cold that we could stop only long enough to make tea. Here I left a broken sledge and nine exhausted dogs. Just east of us a floe had been driven ashore, and forced up over the ice-foot till its shattered fragments lay a hundred feet up the talus of the bluff. It seemed impassable, but the crack at the edge of the ice-foot allowed us to squeeze through; and soon after we rounded the point, and I was satisfied by the "feel" of the shore, for we could see nothing, that we were at one of the entrances of Discovery Harbour, but which I could not tell.

Several hours of groping showed that it was the eastern entrance, we had struck the centre of Bellot Island, and at midnight of January 6 we were stumbling through the dilapidated door of Fort Conger. A little remaining oil enabled me, by the light of our sledge cooker, to find the range and the stove in the officers' quarters, and after some difficulty fires were started in both. When this was accomplished, a suspicious "wooden" feeling in my right foot led me to have my kamiks pulled off, and I found to my annoyance that both feet were frosted. Coffee from an open tin in the kitchen, and biscuit from the table in the men's room, just as they had been dropped over fifteen years ago, furnished the menu for a simple but abundant lunch.

A hasty search failing to discover matches, candles, lamps, or oil, we were forced to devise some kind of a light very quickly before our oil burned out. Half a bottle of olive oil, a saucer and a bit of towel, fur-

nished the material for a small native lamp, and this, supplemented by pork fat and lard, furnished us light for several days, until oil was located. Throwing ourselves down on the cots in the officers' rooms, after everything had been done for my feet, we slept long and soundly. Awakening, it was evident that I should lose parts or all of several toes, and be confined for some weeks. The mean minimum temperature during the trip was -51.9° F., the lowest -63° F.

During the following weeks our life at Conger was pronouncedly *à la* Robinson Crusoe. Searching for things in the unbroken darkness of the "Great Night," with a tiny flicker of flame in a saucer, was very like seeking a needle in a haystack. Gradually all the essentials were located, while my two faithful Eskimos brought in empty boxes and barrels and broke them up to feed the fire. The dogs left on Bellot Island were brought in, but several died before they got used to the frozen salt pork and beef, which was all I had to feed them. The natives made two attempts to reach and bring in the two men left at Cape Cracroft, but were driven back both times by the darkness and furious winds. Finally, some ten days after we left the dug-out, they reached it again, and found that the two men, after eating some of their dogs, had started for the ship on foot, the few remaining dogs following them.

On the 18th of February the moonlight and the remaining twilight afforded enough light for a fair day's march in each twenty-four hours; we started for the *Windward*. My toes were unhealed, the bones were protruding through the raw stumps on both feet, and I could hardly stand for a moment. I had twelve dogs left, but their emaciated condition and the character of the road precluded riding by any one but myself. Lashed firmly down, with feet and legs wrapped in musk-ox skin, I formed the only load of one sledge. The other carried the necessary provisions.

On the 28th we reached the *Windward*, every one but myself having walked the entire distance of not less than 250 miles in eleven days. Fortunately for us, and particularly for me, the weather during our return, though extremely cold, was calm, with the exception of one day from Cape Cracroft south, during which the furious wind kept us enveloped in driving snow. The mean minimum daily temperature while we were returning was -56.18° F., reaching the lowest, -65° F., the day we arrived at the *Windward*.

March 3.—I started one of my Eskimos for Whale Sound with a summons to the hunters there to come to me with their dogs and sledges. Between the 3rd and the 14th a party of Eskimos coming unexpectedly, the last of the musk-ox meat on Bache Peninsula was brought to the ship, and another bull musk-ox killed.

March 13.—The final amputation of my toes was performed. Pending the arrival of more natives, I sent a dory to Cape Louis Napoleon to be cached and had dog food and current supplies advanced to Cape Fraser.

March 31.—A contingent of five natives and twenty-seven dogs came in. My messenger had been delayed by heavy winds and rough ice, and the ravages of the dog disease had made it necessary to send to the more southerly settlements for dogs.

April 3.—Henson left with these natives and thirty-five dogs, with the instructions to move the supplies at Cape Lawrence to Carl Ritter Bay, then push on with such loads as he could carry without double-banking to Fort Conger, rest his dogs and dry his clothing, and if I did not join him by that time to start back.

April 19.—My left foot had healed, though still too weak and stiff from long disuse for me to move without crutches. On this day I started for Fort Conger with a party of ten, some fifty dogs, and seven sledges loaded with dog food and supplies for return caches.

April 23.—I met Henson returning with his party at Cape Lawrence. From there I sent back my temporary help and borrowed dogs, and went on with a party of seven, including five natives.

April 28.—We reached Conger.

May 4.—Having dried all our gear and repaired sledges, I started for a reconnaissance of the Greenland north-west coast. I should have started two days earlier but for bad weather. Following a very arduous ice-foot to St. Patrick's Bay, I found the bay filled with broken pack ice covered with snow almost thigh deep. From the top of Cape Murchison, with a good glass, no practicable road could be seen. The following day I sent two men with empty sledges and a powerful team of dogs to Cape Beechy to reconnoitre from its summit. Their report was discouraging. Clear across to the Greenland shore, and up and down as far as the glass could reach, the channel was filled with upheaved floe fragments, uninterrupted by young ice or large floes, and covered with deep snow.

Crippled as I was, and a mere dead weight on the sledge, I felt that the road was impracticable. Had I been fit and in my usual place, ahead of the sledges breaking the ice with my snow-shoes, it would have been different. One chance remained—that of finding a passage across to the Greenland side at Cape Lieber.

Returning to Conger, I sent Henson and one Eskimo off immediately on this reconnaissance, and later sent two men to Musk-Ox Bay to look for musk-oxen. Two days afterward they returned reporting sixteen musk-oxen killed, and Henson came in on the same day, reporting the condition of the channel off Capes Lieber and Cracroft the same as that off Capes Beechy and Murchison, and that they had been unable to get across. I now gave up the Greenland trip, and perhaps it was well that I did so, as the unhealed place on my right foot was beginning to break down and assume an unhealthy appearance from its severe treatment. As soon as the musk-ox skins and beef were brought in, the entire party, except myself and one Eskimo, went to the Bellows and Black Rock Vale for more musk-oxen. Twelve were killed here, and the skins and meat brought to Conger.

Not believing it desirable to kill more musk-oxen, and unable to do any travelling north, I completed the work of securing the meat and skins obtained; getting the records and private papers of the United States International Expedition together; securing, as far as possible, collections and property; housing material and supplies still remaining serviceable, and making the house more comfortable for the purposes of my party.

May 23.—We started for the ship, carrying only the scientific records of the expedition, the private papers of its members, and necessary supplies. I was still obliged to ride continuously. Favoured with abundant light and continuously calm weather, and forcing the dogs to their best, the return to the ship was accomplished in six days, arriving there *May 29*.

During my absence Captain Bartlett had built at Cape D'Urville, from plans which I had furnished him, a comfortable house of the boxes of supplies, double roofed with canvas, and banked in with gravel.

June 1.—I sent one sledge load of provisions to Cape Louis Napoleon, and four to Cape Norton Shaw.

June 6.—I sent three loads to Carl Ritter Bay, and two to Cape Lawrence. On the 25th of June the last of these sledges returned to the *Windward*, and the year's campaign to the north was ended. The return from Carl Ritter Bay had been slow owing to the abundance of water on the ice-foot and the sea ice of the bays, and the resulting sore feet of the dogs.

June 28.—A sufficient number of dogs had recovered from the effect of their work to enable me to make up two teams, and Henson was sent with these, four of the natives and a dory, to make his way to Etah and communicate with the summer ship immediately on her arrival, so that her time would not be wasted even should the *Windward* be late in getting out of the ice.

June 29.—I started with two sledges and three natives to complete my survey of Princess Marie and Buchanan Bays, and make a reconnaissance to the westward from the head of the former. My feet, which I had been favouring since my return from Conger, were now in fair condition, only a very small place on the right one remaining unhealed. Travelling and working at night, and sleeping during the day, I advanced to Princess Marie Bay, crossed the narrow neck of Bache Peninsula, and camped on the morning of July 4 near the head of the northern arm of Buchanan Bay. Hardly was the tent set up when a bear was seen out in the bay, and we immediately went in pursuit, and in a short time had him killed. He proved to be a fine large specimen.

While after the bear I noticed a herd of musk-oxen a few miles up the valley, and after the bear had been brought into camp and skinned, and we had snatched a few hours' sleep, we went after the musk-oxen. Eight of these were secured, including two fine bulls and two live calves, the latter following us back to camp of their own accord. The next three days were occupied in getting the beef to camp. I then crossed to the southern arm of Buchanan Bay, securing another musk-ox. Returning to Princess Marie Bay, I camped on the morning of the 14th at the glacier which fills the head of Sawyer Bay.

During the following six days I ascended the glacier, crossed the ice-cap to its western side, and from elevations of from 4000 to 4700 feet looked down upon the snow-free western side of Ellesmere Land, and out into an ice-free fjord, extending some fifty miles to the north-west. The season here was at least a month earlier than on

the east side, and the general appearance of the country reminded me of the Whale Sound region of Greenland. Clear weather for part of one day enabled me to take a series of angles, then fog and rain and snow settled down upon us. Through this I steered by compass back to and down the glacier, camping on the 21st in my camp of the 15th.

The return from here to the ship was somewhat arduous, owing to the rotten condition of the one-year ice and the deep pools and canals of water on the surface of the old floes. These presented the alternative of making endless detours or wading through water often waist deep. During seven days our clothing, tent sleeping-gear, and food were constantly saturated. The *Windward* was reached on the 28th of July.

In spite of the discomforts and hardships of this trip, incident to the lateness of the season, I felt repaid by its results. In addition to completing the notes requisite for a chart of the Princess Marie-Buchanan Bay region, I had been fortunate in crossing the Ellesmere Land ice-cap, and looking upon the western coast. The game secured during this trip comprised one polar bear, seven musk-oxen, three oogsook, and fourteen seals.

When I returned to the *Windward* she was round in the eastern side of Franklin Pierce Bay. A party had left two days before with dogs, sledge, and boat, in an attempt to meet me and supply me with provisions. Three days were occupied in communicating with them and getting them and their outfit on board. The *Windward* then moved back to her winter berth at Cape D'Urville, took the dogs on board, and on the morning of Wednesday, August 2, got under way.

During the next five days we advanced some twelve miles, when a southerly wind jammed the ice on us and drifted us north, abreast of the starting-point. Early Tuesday morning, the 8th, we got another start, and the ice gradually slackening, we kept under way, reached open water a little south of Cape Albert, and arrived at Cape Sabine at 10 P.M.

At Cape Sabine I landed a cache and then steamed over to Etah, arriving at 5 A.M. of the 9th. Here we found mail, and learned that the ss. *Diana*, which the club had sent up to communicate with me, was out after walrus. Saturday morning the *Diana* returned, and I had the great pleasure of taking Secretary Bridgman, commanding the Club's expedition, by the hand.

Though the year had not been marked by any startling results, it was a year of hard and continuous work for the entire party. During the year I obtained the material for an authentic map of the Buchanan Bay, Bache Peninsula, Princess Marie Bay region; crossed the Ellesmere Land ice-cap to the west side of that land, established a continuous line of caches from Cape Sabine to Fort Conger, containing some fourteen tons of supplies; rescued the original records and private papers of the Greely expedition; fitted Fort Conger as a base for future work, and familiarised myself and party with the entire region as far north as Cape Beechy.

With the exception of the supplies at Cape D'Urville, all the pro-

visions, together with the current supplies and dog food (the latter an excessive item), had been transported by sledge.

Finally, discouraging as was the accident to my feet, I was satisfied, since my effort to reach the north-west coast of Greenland from Conger in May, that the season was one of extremely unfavourable ice condition north of Cape Beechy, and doubt, even if the accident had not occurred, whether I should have found it advisable, on reaching Cape Hecla, to attempt the last stage of the journey.

My decision not to attempt to winter at Fort Conger was arrived at after careful consideration. Two things controlled this decision: First, the uncertainty of carrying dogs through the winter; and second, the comparative facility with which the distance from Etah to Fort Conger can be covered with light sledges.

After the rendezvous with the *Diana*, I went on board the latter ship, and visited all the native settlements, gathering skins and material for clothing and sledge equipment, and recruiting my dog teams. The *Windward* was sent walrus hunting during my absence. The *Diana* also assisted in this work.

August 25.—The *Windward* sailed for home, followed on the 28th by the *Diana*, after landing me with my party, equipment, and additional supplies at Etah.

1899-1900.

The *Diana* seemed to have gathered in and taken with her all the fine weather, leaving us a sequence of clouds, wind, fog, and snow, which continued with scarcely a break for weeks.

After her departure the work before me presented itself in its own natural sequence as follows: Protect the provisions, construct our winter quarters, then begin building sledges, and grinding walrus meat for dog pemmican for the spring campaign.

During the first month a number of walrus were killed from our boats off the mouth of the fjord, then the usual Arctic winter settled down upon us, its monotony varied only by the visits of the natives, occasional deer hunts, and a December sledge journey to the Eskimo settlements in Whale Sound as far as Kangerd-looksoah. In this nine-days' trip some 240 miles were covered in six marches, the first and the last marches being 60 to 70 miles. I returned to Etah just in time to escape a severe snowstorm, which stopped communication between Etah and the other Eskimo settlements completely, until I sent a party with snowshoes, and a specially constructed sledge, carrying no load, and manned by double teams of dogs, to break the trail.

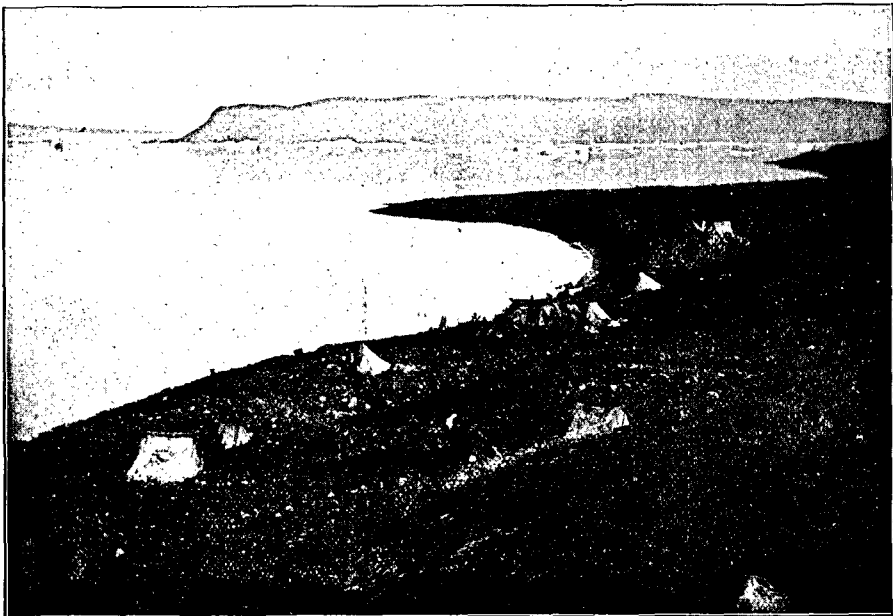
During my absence some of my natives had crossed to Mr. Stein's place at Sabine, and January 9 I began the season's work by starting a few sledge loads of dog food for Cape Sabine, for use of my teams in the spring journey. From this time on as the open water in Smith Sound permitted, more dog food was sent to Sabine, and as the light gradually increased, some of my Eskimos were kept constantly at Sonntag Bay some twenty miles to the south, on the lookout for walrus.

My general programme for the spring work was to send three

divisions of sledges north as far as Conger, the first to be in charge of Henson, while I brought up the rear with the third.

From Conger I should send back a number of Eskimos, retain some at Conger, and with others proceed north from there either *viâ* Hecla or the north point of Greenland, as circumstances might determine.

I wanted to start the first division on the 15th of February, the second a week later, and leave with the third March 1, but a severe storm, breaking up the ice between Etah and Littleton Island, delayed the departure of the first division of seven sledges until the 19th.



Kangerd-looksoah.

The second division of six sledges started on the 26th, and March 4 I left with the rear division of nine sledges. Three marches carried us to Cape Sabine, along the curving northern edge of the north water. Here a northerly gale with heavy drift detained me for two days. Three more marches in a temperature of -40° F. brought me to the house at Cape D'Urville. Records here informed me that the first division had been detained here a week by stormy weather, and the second division had left but two days before my arrival. I had scarcely arrived when two of Henson's Eskimos came in from Richardson Bay, where one of them had severely injured his leg by falling under a sledge. One day was spent at the D'Urville house drying our clothing, and on the 13th I got away on the trail of the other divisions with seven sledges, the injured man going to Sabine with the supporting party.

I hoped to reach Cape Louis Napoleon on this march, but the going was too heavy, and I was obliged to camp in Dobbin Bay about five miles short of the cape.

The next day I hoped on starting to reach Cape Fraser, but was again disappointed, a severe windstorm compelling me to halt a little south of Hayes Point, and hurriedly build snow igloos in the midst of a blinding drift.

All that night and the next day and the next night the storm continued. An early start was made on the 16th, and in calm but very thick weather we pushed on to Cape Fraser. Here we encountered the wind and drift full in our faces and violent, making our progress from here to Cape Norton Shaw along the ice-foot very trying.

The going from here across Scoresby and Richardson Bays was not worse than the year before; and from Cape Wilkes to Cape Lawrence the same as we had always found it. These two marches were made in clear but bitterly windy weather.

Another severe southerly gale held us prisoners at Cape Lawrence for a day. The 20th was an equally cruel day, with wind still savage in its strength, but the question of food for my dogs gave me no choice but to try to advance. At the end of four hours we were forced to burrow into a snow-bank for shelter, where we remained till the next morning.

In three more marches we reached Cape von Buch. Two more days of good weather brought us to a point a few miles north of Cape Defosse. Here we were stopped by another furious gale with drifting snow, which prisoned us for two nights and a day.

The wind was still bitter in our faces when we again got under way the morning of the 27th, the ice-foot became worse and worse up to Cape Cracroft, where we were forced down into the narrow tidal joint at the base of the ice-foot; this path was a very narrow and tortuous one, frequently interrupted, and was extremely trying on men and sledges. Cape Lieber was reached on this march. At this camp the wind blew savagely all night, and in the morning I waited for it to moderate, before attempting to cross Lady Franklin Bay.

While thus waiting, the returning Eskimos of the first and second divisions came in. They brought the very welcome news of the killing of twenty-one musk-oxen close to Conger. They also reported the wind out in the bay as less severe than at the Cape.

I immediately got under way and reached Conger just before midnight of the 28th, twenty-four days from Etah, during six of which I was held up by storms.

The first division had arrived four days and the second two days earlier. During this journey there had been the usual annoying delays of broken sledges, and I had lost numbers of dogs.

The process of breaking in the tendons and muscles of my feet to their new relations, and the callousing of the amputation scars, in this, the first serious demand upon them, had been disagreeable, but was, I believed, final and complete. I felt that I had no reason to complain.

The herd of musk-oxen so opportunely secured near the station, with

the meat cached here the previous spring, furnished the means to feed and rest my dogs. A period of thick weather followed my arrival at Conger, and not until April 2 could I send back the Eskimos of my division.

On leaving Etah I had not decided whether I should go north from Conger *via* Cape Hecla, or take the route along the north-west coast of Greenland. Now I decided upon the latter. The lateness of the season and the condition of my dogs might militate against a very long journey; and if I chose the Hecla route and failed of my utmost aims, the result would be complete failure. If, on the other hand, I chose the Greenland route and found it impossible to proceed northward over the pack, I still had an unknown coast to exploit, and the opportunity of doing valuable work. Later developments showed my decision to be a fortunate one.

I planned to start from Conger the 9th of April, but stormy weather delayed the departure until the 11th, when I got away with seven sledges.

At the first camp beyond Conger my best Eskimo was taken sick, and the following day I brought him back to Conger, leaving the rest of the party to cross the channel to the Greenland side, where I would overtake them. This I did two or three days later, and we began our journey up the north-west Greenland coast. As far as Cape Sumner we had almost continuous road-making through very rough ice. Before reaching Cape Sumner we could see a dark water sky, lying beyond Cape Brevoort, and knew that we should find open water there.

From Cape Sumner to Polaris Boat Camp in Newman Bay we cut a continuous road. Here we were stalled until the 21st by continued and severe winds. Getting started again in the tail end of the storm, we advanced as far as the open water a few miles east of Cape Brevoort, and camped. This open water about three miles wide at the Greenland end extended clear across the mouth of Robeson Channel to the Grinnell Land coast, where it reached from Lincoln Bay to Cape Rawson. Beyond it to the north and north-west as far as could be seen, were numerous lanes and pools. The next day was devoted to hewing a trail along the ice-foot to Repulse Harbour, and on the 23rd, in a violent gale accompanied by drift, I pushed on to the "Drift Point" of Beaumont (and later Lockwood), a short distance west of Black Horn Cliffs.

The ice-foot as far as Repulse Harbour, in spite of the road-making of the previous day, was very trying to sledges, dogs, and men. The slippery side slopes, steep ascents, and precipitous descents wrenched and strained the latter, and capsized, broke, and ripped shoes from the former.

I was not surprised to see from the "Drift Point" igloo that the Black Horn Cliffs were fronted by open water. The pack was in motion here, and had only recently been crushing against the ice-foot, where we built our igloo. I thought I had broken my feet in pretty thoroughly on my journey from Etah to Conger, but this day's work of handling a sledge along the ice-foot made them think they had never encountered any serious work before. A blinding snowstorm on the 24th kept us

inactive. The next day I made a reconnaissance to the Cliffs, and the next day set the entire party to work hewing a road along the ice-foot. That night the temperature fell to -25° F., forming a film of young ice upon the water. The next day I moved up close to the Cliffs, and then with three Eskimos reconnoitred the young ice. I found that by proceeding with extreme care it would in most places support a man.

With experienced Ahsayoo ahead constantly testing the ice with his seal spear, myself next, and two Eskimos following, all with feet wide apart and sliding instead of walking, we crept past the Cliffs. Returning we brushed the thin film of newly fallen snow off the ice with our feet for a width of some four feet, to give the cold free access to it.

I quote from my diary for the 27th. "At last we are past the barrier, which has been looming before me for the last ten days, the open water at the Black Horn Cliffs. Sent two of my men, whose nerves are disturbed by the prospect ahead, back to Conger. This leaves me with Henson and three Eskimos. My supplies can now be carried on the remaining sledges. Still further stiffened by the continuous low temperature of the previous night, the main sheet of new ice in front of the Cliffs was not hazardous, as long as the sledges kept a few hundred feet apart, did not stop, and their drivers kept some yards away to one side. Beyond the limit of my previous day's reconnaissance there were areas of much younger ice which caused me considerable apprehension, as it buckled to a very disquieting extent beneath dogs and sledges, and from the motion of the outside pack, was crushed up in places, while narrow cracks opened up in others. Finally, to my relief, we reached the ice-foot beyond the Cliffs and camped."

The next day there was a continuous lane of water 100 feet wide along the ice-foot by our camp, and the space in front of the Cliffs was again open water. We crossed just in time.

Up to Cape Stanton we had to hew a continuous road along the ice-foot. After this the going was much better to Cape Bryant. Off this section of the coast the pack was in constant motion, and an almost continuous lane of water extended along the ice-foot. A little west of Cape Bryant I killed two musk-oxen, the flesh of which my dogs highly appreciated. A long search at Cape Bryant finally discovered the remains of Lockwood's cache and cairn, which had been scattered by bears. At 3.30 P.M. the 1st of May I left Cape Bryant to cross the wide indentation lying between Cape Bryant and Cape Britannia. Three marches, mostly in thick weather and over alternating hummocky blue ice and areas of deep snow, brought us at 1 A.M. of the 4th to Cape North (the northern point of Cape Britannia Island). From this camp, after a sleep, I sent back two more Eskimos and the twelve poorest dogs, leaving Henson, one Eskimo, and myself with three sledges and sixteen dogs for the permanent advance party.

From Cape North, a ribbon of young ice, on the so-called tidal crack which extends along this coast, gave us a good lift nearly across Nordenskjöld Inlet. Then it became unsafe, and we climbed a heavy rubble barrier to the old floe ice inside, which we followed to Cape Benet and camped. Here we were treated to another snowstorm.

Another strip of young ice gave us a passage nearly across Mascart Inlet, until, under Cape Payer, I found it so broken up that two of the sledges and nearly all of the dogs got into the water before we could escape from it. Then a pocket of snow, thigh and waist deep, over rubble ice under the lee of the Cape, stalled us completely. I pitched the tent, fastened the dogs, and we devoted the rest of the day to stamping a road through the snow with our snowshoes. Even then, when we started the next day, I was obliged to put two teams to one sledge in order to move it.

Cape Payer was a hard proposition. The first half of the distance round it we were obliged to cut a road, and on the last half, with twelve dogs and three men to each sledge to push and pull them, snow-plough fashion, through the deep snow.

Distant Cape was almost equally inhospitable, and it was only after long and careful reconnaissance that we were able to get our sledges past, along the narrow crest of the huge ridge of ice forced up against the rocks. After this we had comparatively fair going, on past Cape Ramsay, Dome Cape, and across Meigs Fjord as far as Mary Murray Island. Then came some heavy going, and at 11.40 P.M. of May 8 we reached Lockwood's cairn on the north end of Lockwood Island. From this cairn I took the record and thermometer deposited there by Lockwood eighteen years before. The record was in a perfect state of preservation.

One march from here carried us to Cape Washington. Just at midnight we reached the low point, which is visible from Lockwood Island, and great was my relief to see, on rounding this point, another splendid headland, with two magnificent glaciers debouching near it, rising across an intervening inlet. I knew now that Cape Washington was not the northern point of Greenland, as I had feared. It would have been a great disappointment to me, after coming so far, to find that another's eyes had forestalled mine in looking first upon the coveted northern point.

Nearly all my hours for sleep at this camp were taken up by observations and a round of angles. The ice north from Cape Washington was in a frightful condition, utterly impracticable. Leaving Cape Washington, we crossed the mouth of the fjord, packed with blue top floe-bergs, to the western edge of one of the big glaciers, and then over the extremity of the glacier itself, camping near the edge of the second. Here I found myself in the midst of the birthplace of the "floe-bergs," which could be seen in all the various stages of formation. These "floe-bergs" are merely degraded icebergs; that is, bergs of low altitude, detached from the extremity of a glacier, which has for some distance been forcing its way along a comparatively level and shallow sea bottom.

From this camp we crossed the second glacier, then a small fjord, where our eyes were gladdened by the sight of a polar bear, which a couple of bullets from my carbine quickly transformed into dog-meat for my faithful teams. The skin of this bear I have brought back as a trophy for the Club.

It was evident to me now that we were very near the northern extremity of the land, and when we came within view of the next point

ahead, I felt that my eyes rested at last upon the Arctic Ultima Thule (Cape Morris Jesup). The land ahead also impressed me at once as showing the characteristics of a musk-ox country.

This point was reached in the next march, and I stopped to take variation and latitude sights. Here my Eskimo shot a hare, and we saw a wolf-track and traces of musk-oxen. A careful reconnaissance of the pack to the northward, with glasses, from an elevation of a few hundred feet, showed the ice to be of a less impracticable character than it was north of Cape Washington. What were evidently water clouds showed very distinctly on the horizon. This water sky had been apparent ever since we left Cape Washington, and at one time assumed such a shape that I was almost deceived into taking it for land. Continued careful observation destroyed the illusion. My observations completed, we started northward over the pack, and camped a few miles from land.

The two following marches were made in a thick fog, through which we groped our way northward over broken ice, and across gigantic, wave-like drifts of hard snow. One more march in clear weather over frightful going, consisting of fragments of old floes, ridges of heavy ice thrown up to heights of twenty-five to fifty feet, crevasses and holes masked by snow, the whole intersected by narrow leads of open water, brought us at 5 A.M. on the 16th to the northern edge of a fragment of an old floe bounded by water. A reconnaissance from the summit of a pinnacle of the floe, some fifty feet high, showed that we were on the edge of the disintegrated pack, with a dense water sky not far distant.

My hours for sleep at this camp were occupied in observations, and making a transit profile of the northern coast from Cape Washington eastward.

The next day I started back for the land, and having a trail to follow, and no time wasted in reconnaissance, reached it in one long march, and camped.

Leaving this camp on the 18th, as we were travelling eastward on the ice-foot an hour later, I saw a herd of six musk-oxen in one of the coast valleys, and in a short time had secured them. Skinning and cutting up these animals, and feeding the dogs to repletion consumed some hours, and we then resumed our march, getting an unsuccessful shot at a passing wolf as we went.

Within a mile of our next camp a herd of fifteen musk-oxen lay fast asleep; I left them undisturbed. From here on, for three marches, we reeled off splendid distances over good going, in blinding sunshine, and in the face of a wind from the east which burned our faces like a sirocco.

The first march took us to a magnificent cape (Cape Bridgman), at which the northern face of the land trends away to the south-east. This cape is in the same latitude as Cape Washington. The next two carried us down the east coast to the 83rd parallel. In the first of these we crossed the mouth of a large fjord penetrating for a long distance in a south-westerly (true) direction. On the next, in a fleeting glimpse through the fog, I saw a magnificent mountain of peculiar contour which I recognised as the peak seen by me in 1895 from the summit of the interior ice-cap south of Independence Bay, rising proudly above the

land to the north. This mountain was then named by me Mt. Wistar. Finally, the density of the fog compelled a halt on the extremity of a low point, composed entirely of fine glacial drift, and which I judged to be a small island in the mouth of a large fjord.

From my camp of the previous night I had observed this island (?), and beyond and over it a massive block of a mountain, forming the opposite cape of a large intervening fjord, and beyond that again another distant cape. Open water was clearly visible a few miles off the coast, while, not far out, dark water clouds reached away to the south-east.

At this camp I remained two nights and a day, waiting for the fog to lift. Then, as there seemed to be no indications of its doing so, and my provisions were exhausted, I started on my return journey at 3.30 A.M. on the 22nd of May, after erecting a cairn in which I deposited the following record :—

COPY OF RECORD IN CAIRN AT CLARENCE WYCKOFF ISLAND.

Arrived here at 10.30 P.M. May 20 from Etah, *via* Fort Conger and north end of Greenland. Left Etah March 4. Left Conger April 15. Arrived north end of Greenland May 13. Reached point on sea ice latitude 83° 50' N. May 16.

On arrival here had rations for one more march southward. Two days dense fog have held me here. Am now starting back.

With me are my man Mathew Henson; Ahngmalokto, an Eskimo; sixteen dogs and three sledges.

This journey has been made under the auspices of and with funds furnished by the Peary Arctic Club of New York City.

The membership of this Club comprises—Morris K. Jesup, Henry W. Cannon, Herbert L. Bridgman, John Flagler, E. C. Benedict, James J. Hill, H. H. Benedict, Fredk. E. Hyde, E. W. Bliss, H. H. Sands, J. M. Constable, C. F. Wyckoff, E. G. Wyckoff, Chas. P. Daly, Henry Parish, A. A. Raven, G. B. Schley, E. B. Thomas, and others.

(Signed) R. E. PEARY,
Civil Engineer, U.S.N.

The fog kept company with us on our return almost continuously until we had passed Lockwood Island, but, as we had a trail to follow, did not delay us so much as the several inches of heavy snow that fell in a furious Arctic blizzard, which came rushing in from the polar basin and imprisoned us for two days at Cape Bridgman.

At Cape Morris K. Jesup, the northern extremity, I erected a prominent cairn, in which I deposited the following record :—

COPY OF RECORD IN NORTH CAIRN.

May 13, 1900—5 A.M.—Have just reached here from Etah *via* Fort Conger. Left Etah March 4. Left Conger April 15. Have with me my man Henson; an Eskimo, Ahngmalokto; sixteen dogs and three sledges; all in fair condition. Proceed to-day due north (true) over

sea ice. Fine weather. I am doing this work under the auspices of, and with funds furnished by, the Peary Arctic Club of New York City.

The membership of this Club comprises—Morris K. Jesup, Henry W. Cannon, Herbert L. Bridgman, John H. Flagler, E. C. Benedict, Fredk. E. Hyde, E. W. Bliss, H. H. Sands, J. M. Constable, C. F. Wyckoff, E. G. Wyckoff, Chas. P. Daly, Henry Parish, A. A. Raven, E. B. Thomas, and others.

(Signed) R. E. PEARY,
Civil Engineer, U.S.N.

May 17.—"Have returned to this point. Reached $83^{\circ} 50'$ N. Lat. due north of here. Stopped by extremely rough ice intersected by water cracks. Water sky to north. Am now going east along the coast. Fine weather.

May 26.—"Have again returned to this place. Reached point on East Coast about N. lat. 83° . Open water all along the coast a few miles off. No land seen to north or east. Last seven days continuous fogs, wind, and snow. Is now snowing with strong westerly wind. Temperature 20° F. Ten musk-oxen killed east of here. Expect start for Conger to-morrow."

At Cape Washington, also, I placed a copy of Lockwood's record, from the cairn at Lockwood Island, with the following indorsement:—"This copy of the record left by Lieut. J. B. Lockwood and Sergt. (now Colonel) D. L. Brainard, U.S.A., in the cairn on Lockwood Island south-west of here, May 16, 1882, is to-day placed by me in this cairn on the farthest land seen by them, as a tribute to two brave men, one of whom gave his life for his Arctic work."

May 29.—For a few minutes on one of the marches the fog lifted, giving us a magnificent panorama of the north coast mountains. Very sombre and savage they looked, towering white as marble with the newly fallen snow, under their low threatening canopy of lead-coloured clouds. Two herds of musk-oxen were passed—one of fifteen and one of eighteen—and two or three stragglers. Four of these were shot for dog food, and the skin of one, killed within less than a mile of the extreme northern point, has been brought back as a trophy for the Club.

Once free of the fog off Mary Murray Island, we made rapid progress, reaching Cape North in four marches from Cape Washington. Clear weather showed us the existence of open water a few miles off the shore, extending from Dome Cape to Cape Washington. At Black Cape there was a large open water reaching from the shore northward. Everywhere along this coast I was impressed by the startling evidences of the violence of the blizzard of a few days before. The polar pack had been driven resistlessly in against the iron coast, and at every projecting point had risen to the crest of the ridge of old ice, along the outer edge of the ice-foot in a terrific cataract of huge blocks. In places these mountains of shattered ice were 100 feet or more in height. The old ice in the bays and fjords had had its outer edge loaded with a great ridge of ice fragments, and was itself cracked and crumpled into huge swells by the resistless pressure. All the young ice which had helped

us on our outward passage had been crushed into countless fragments, and swallowed up in the general chaos.

Though hampered by fog, the passage from Cape North to Cape Bryant was made in twenty-five and a half marching hours. At 7 A.M. of the 6th of June we camped on the end of the ice-foot, at the eastern end of Black Horn Cliffs. A point a few hundred feet up the bluffs commanding the region in front of the Cliffs showed it to be filled by small pieces of old ice held in place against the shore by pressure of the outside pack. It promised at best the heaviest kind of work, with the certainty that it would run abroad at the first release of pressure.

The next day, when about one-third the way across, the ice did begin to open out, and it was only after a rapid and hazardous dash from cake to cake, that we reached an old floe, which after several hours of heavy work allowed us to climb upon the ice-foot of the western end of the Cliffs.

From here on rapid progress was made again, three more marches taking us to Conger, where we arrived at 1.30 A.M. June 10, though the open water between Repulse Harbour and Cape Brevoort, which had now expanded down Robeson Channel to a point below Cape Sumner, and the rotten ice under Cape Sumner hampered us seriously. In passing I took copies of the Beaumont English records from the cairn at Repulse Harbour, and brought them back for the archives of the Club. They form one of the finest chapters of the most splendid courage, fortitude, and endurance, under dire stress of circumstances, that is to be found in the history of Arctic explorations.

In this journey I had determined conclusively the northern limit of the Greenland Archipelago or land group, and had practically connected the coast southward to Independence Bay, leaving only that comparatively short portion of the periphery of Greenland lying between Independence Bay and Cape Bismarck indeterminate. The non-existence of land for a very considerable distance to the northward and north-eastward was also settled, with every indication pointing to the belief that the coast along which we travelled formed the shore of an uninterrupted central polar sea, extending to the Pole, and beyond to the Spitzbergen and Franz Josef Land groups of the opposite hemisphere.

The origin of the floe-bergs and palæocrystic ice was definitely determined. Further than this, the result of the journey was to eliminate this route as a desirable or practicable one by which to reach the Pole. The broken character of the ice, the large amount of open water, and the comparatively rapid motion of the ice, as it swung round the northern coast into the southerly-setting East Greenland current, were very unfavourable features.

During my absence some thirty-three musk-oxen and ten seals had been secured in the vicinity of Conger; caches for my return had been established at Thank God Harbour, Cape Lieber, and Lincoln Bay, and sugar, milk, and tea had been brought up from the various caches between Conger and Cape Louis Napoleon.

July was passed by a portion of the party in the region from

Discovery Harbour westward *via* Black Rock Vale and Lake Hazen, where some forty musk-oxen were secured.

During August and early September various other hunting trips of shorter duration were made, resulting in the killing of some twenty musk-oxen.

1900-1901.

The middle of September I started with Henson and four Eskimos to Lake Hazen to secure musk-oxen for our winter supply, it being evident that my ship would not reach us. Going west as far as the valley of the Very River, by October 4 ninety-two musk-oxen had been killed. Later nine more were secured, making a total of one hundred and one for the autumn hunting.

From the beginning of November to March 6, the greater portion of the time was passed by my party in igloos built in the vicinity of the game killed in various localities from Discovery Harbour to Ruggles River.

April 5.—I left Conger with Henson, one Eskimo, two sledges, and twelve dogs for my northern trip. At the same time the remainder of the party, with two sledges and seven dogs and pups, started south for Capes D'Urville and Sabine to communicate with or obtain tidings of my ship. On reaching Lincoln Bay, it was evident to me that the condition of men and dogs was such as to negative the possibility of reaching the Pole, and I reluctantly turned back.

Arriving at Conger, after an absence of eight days, I found the remainder of my party there. They had returned to Conger after an absence of four days, having proceeded one-third of the distance across Lady Franklin Bay.

Fortunately the night before I arrived, one of the Eskimos secured several musk-oxen above St. Patrick's Bay, which enabled me to feed my dogs before starting south, which I did with the entire party on April 17.

April 30.—At Hayes Point I met the party from the *Windward* attempting to reach Conger, and received my mail, learning that the *Windward* was at Payer Harbour with Mrs. Peary and our little girl on board. After a rest at the D'Urville box-house, I went on to the *Windward*, arriving May 6.

After a few days' rest the work of establishing new caches along the coast northward towards Conger was commenced, and continued until the middle of June.

Then the preparing of Payer Harbour for winter quarters was carried on till July 3, when the *Windward* broke out of the ice and steamed over to the Greenland side.

July was devoted to killing walrus, and one hundred and twenty-eight were secured and transported to Payer Harbour.

August 4.—The *Erik*, sent up by the Club in command of Secretary H. L. Bridgman to communicate with me, arrived at Etah.

The usual tour of visits to the Eskimo settlements was then made, and both ships pressed into the work of hunting walrus until August

24, when the *Windward* proceeded southward, and the *Erik* steamed away to land me and my party and the catch of walrus at Payer Harbour.

A large quantity of heavy ice blocking the way to Payer Harbour, I requested Secretary Bridgman to land me and my party and walrus



Eskimo Boy (two years old).

meat in a small bight, some twelve or fifteen miles south of Cape Sabine, from whence I could proceed to Payer Harbour in my boats or sledges when opportunity offered. This was done, and on the 29th of August the *Erik* steamed away.

1901-1902.

On the 16th of September I succeeded in reaching Payer Harbour,

crossing Rosse Bay partly by sledge and partly by boat, and going overland across Bedford Pim Island.

Soon after this my Eskimos began to sicken, and by November 19 six of them were dead.

During this time I personally sledged much of the material from Erik Harbour to headquarters, and Henson went to the head of Buchanan Bay with some of the Eskimos, and secured ten musk-oxen.

The winter passed quietly and comfortably. Two more musk-oxen were secured in Buchanan Bay, and six deer at Etah.

January 2.—Work was begun in earnest on preparations for the spring campaign, which opened on the 11th of February. On this day I sent off six sledges, with light loads, to select a road across the mouth of Buchanan Bay, and build an igloo abreast of Cape Albert. On the 12th I sent two of my best hunters on a flying reconnaissance and bear hunt in the direction of Cape Louis Napoleon.

On the 13th eight sledges went out, taking dog food nearly to Cape D'Urville. On the 16th my two scouts returned with a favourable report; and on the 18th ten sledges went out loaded with dog food to be taken to Cape Louis Napoleon. This party returned on the 22nd.

On the evening of the 28th everything was in readiness for Henson to start the next day, it being my intention to send him on ahead with three picked men and light loads to pioneer the way to Conger, I to follow a few days later with the main party.

A northerly gale delayed his departure until the morning of March 3, when he got away with six sledges and some fifty dogs. Two of these sledges were to act as a supporting party as far as Cape Lawrence.

At 9 A.M. of March 6 fourteen sledges trailed out of Payer Harbour and rounded Cape Sabine for the northern journey, and at noon I followed them with my big sledge, the "Long Serpent," drawn by a team of ten fine grays. Two more sledges accompanied me. The temperature at the time was -20° F. The minimum of the previous night had been -38° F.

We joined the others at the igloos abreast of Cape Albert, and camped there for the night. Temperature -43° F.

The next day we made Cape D'Urville in temperature from -45° to -49° F.

Here I stopped a day to dry our footgear thoroughly, and left on the morning of the 9th with some supplies from the box-house. Two sledges returned from here. Camped about five miles from Cape Louis Napoleon. The next march carried me to Cape Fraser, and the next to Cape Collinson. During this march, for the first time in the four seasons that I have been over this route, I was able to take a nearly direct course across the mouth of Scoresby Bay, instead of making a long detour into it.

One march from Cape Collinson carried me to Cape Lawrence, on the north side of Rawlings Bay.

The crossing of this bay, though more direct than usual, was over extremely rough ice. Learning from Henson's letter at Cape Lawrence that I had gained a day on him, and not wanting to overtake him

before reaching Conger, I remained here a day, repairing several sledges which had been damaged in the last march. Five men, with the worst sledges and poorest dogs, returned from here.

Three more marches took us to Cape von Buch, on the north side of Carl Ritter Bay, temperature ranging from -35° to -45° F. Heavy going in many places.

Two more marches carried us to the first coast valley north of Cape Defosse. I had now gained two days on the advance party. The character of the channel ice being such that we were able to



Supporting Party at Cape Lawrence.

avoid the terrible ice-foot which extends from here to Cape Lieber, and my dogs being still in good condition, I made a spurt from here and covered the distance to Conger in one march, arriving about an hour and a half after Henson and his party.

I had covered the distance from Payer Harbour to Conger, some 300 miles, in twelve marches.

Four days were spent at Conger overhauling sledges and harness, drying and repairing clothing, and scouting the country, as far as The Bellows, in search of musk-oxen. None were seen, but about 100 hares were secured in the four days. Temperature during this time from

—40° to —57° F. Seven Eskimos returned from here, taking with them the instruments of the Lady Franklin Bay Expedition, and other items of Government property abandoned here in 1883.

On the morning of the 24th I started north with nine sledges. We camped the first night at "Depot B." The next march I had counted on making Lincoln Bay, but just before reaching Wrangel Bay a sudden furious gale with blinding drift drove us into camp at the south point of the bay. Here we were stormbound during the 26th, but got away on the morning of the 27th and pushed on to Cape Union, encountering along this portion of the coast the steep side slopes of hard snow, which are so trying to men and sledges and dogs.

Open water, the clouds over which we saw from Wrangel Bay Camp, was about 100 yards beyond our igloo, and extended from there, as I judged, northward beyond Cape Rawson, and reached entirely across the channel to the Greenland coast at Cape Brevoort, as in 1900.

Fortunately, with the exercise of utmost care, and at the expense of a few narrow escapes and incessant hard work, we were able to work our sledges along the narrow and villainous ice-foot to and around Black Cape.

The ice-foot along this section of the coast was the same as was found here by Egerton and Rawson in 1876, and Pavy in 1882, necessitating the hewing of an almost continuous road; but a party of willing, light-hearted Eskimos makes comparatively easy work of what would be a slow and heart-breaking job for two or three white men. Beyond Black Cape the ice-foot improved in character, and I pushed along to camp at the *Alert's* winter quarters. Simultaneously with seeing the *Alert's* cairn three musk-oxen were seen a short distance inland, which I went away after and secured. The animals were very thin, and furnished but a scant meal for my dogs.

One march from here carried us to Cape Richardson, and the next under the lee of View Point, where we were stopped, and driven to build our igloo with all possible speed, by one of the common Arctic gales. There were young ice, pools of water, and a nearly continuous water sky all along the shore.

As the last march had been through deep snow, I did not dare to attempt the English short cut across Fielden Peninsula behind Cape Joseph Henry, preferring to take the ice-foot route round it.

For a short distance this was the worst bit of ice-foot I have ever encountered. By the slipping of my sledge two men nearly lost their lives, saving themselves by a most fortuitous chance, with their feet already dangling over the crest of a vertical face of ice some 50 feet in height.

At the very extremity of the cape we were forced to pass our sledges along a shelf of ice less than 3 feet in width, glued against the face of the cliff at an elevation which I estimated at the time as 75 feet above the ragged surface of the floe beneath.

On the western side of the cape the ice-foot broadened and became nearly level, but was smothered in such a depth of light snow that

it stalled us and we went into camp. The next day we made Crozier Island.

During April 2 and 3 we were held here by a westerly storm, and the 4th and 5th were devoted to hunting musk-oxen, of which three were secured, two of them being very small.

From here I sent back three Eskimos, keeping Henson and four Eskimos with me.

During this time reconnaissances of the polar pack northward were made with the glasses, from the summit of the island and from Cape Hecla.

The pack was very rough, but apparently not as bad as that which I saw north of Cape Washington two years before.

Though unquestionably a hard proposition, it yet looked as though we might make some progress through it, unless the snow was too deep and soft. This was a detail which the glasses could not determine.

On the morning of April 6 I left Crozier Island, and a few hours later, at the point of Cape Hecla we swung our sledges sharply to the right, and climbed over and down the parapet of the ice-foot on to the polar pack.

As the sledges plunged down from the ice-foot their noses were buried out of sight, the dogs wallowed belly-deep in the snow, and we began our struggle due northward.

We had been in the field now just a month. We had covered not less than 400 miles of the most arduous travelling in temperatures of from -35° to -57° F., and we were just beginning our work, *i.e.* the conquest of the polar pack, the toughest proposition in the whole wide expanse of the Arctic region.

Some two miles from the cape was a belt of very recent young ice, running parallel with the general trend of the coast. Areas of rough ice caught in this compelled us to exaggerated zigzags, and doubling on our track. It was easier to go a mile round on the young ice than to force the sledge across one of these islands.

The northern edge of the new ice was a high wall of heavily rubbled old ice, through which, after some reconnaissance, we found a passage to an old floe, where I gave the order to build an igloo. We were now about five miles from the land.

The morning of the 7th brought us fine weather. Crossing the old floe we came upon a zone of old floe fragments deeply blanketed with snow. Through the irregularities of this we struggled, the dogs floundering almost useless, occasionally one disappearing for a moment, now treading down the snow round a sledge to dig it out of a hole into which it had sunk, now lifting the sledges bodily over a barrier of blocks, veering right and left, doubling in our track, road-making with snowshoe and pickaxe.

Late in the day a narrow ditch gave us a lift for a short distance, then one or two little patches of level-going, then two or three small old floes, which though deep with snow, seemed like a godsend compared with the wrenching work earlier. Camped in the lee of a large hummock on the northern edge of a small but very heavy old floe. Every one

thoroughly tired, and the dogs utterly lifeless, dropping motionless in the snow as soon as the whip stopped.

We were now due north of Hecla, and I estimated we had made some six miles, perhaps seven, perhaps only five. A day of work like this makes it difficult to estimate distances. This a fair sample of our day's work.

On the 12th we were stormbound by a gale from the west, which hid even those dogs fastened nearest to the igloo. During our stay here the old floe on which we were camped split in two with a loud report, and the ice cracked and rumbled and roared at frequent intervals.

In the first march beyond this igloo we were deflected westward by a lead of practically open water, the thin film of young ice covering it being unsafe even for a dog. A little further on a wide canal of open water deflected us constantly to the north-west and then west, until an area of extremely rough ice prevented us from following it farther. Viewed from the top of a high pinnacle this area extended west and north-west on both sides of the canal, as far as could be seen. I could only camp and wait for this canal, which evidently had been widened (though not newly formed) by the storm of the day before, to close up or freeze over. During our first sleep at this camp there was a slight motion of the lead, but not enough to make it practicable. From here I sent back two more Eskimos.

Late in the afternoon of the 14th the lead began to close, and hastily packing the sledges, we rushed them across over moving fragments of ice. We now found ourselves in a zone of high parallel ridges of rubble ice covered with deep snow. These ridges were caused by successive opening and closing of the lead. When after some time we found a practicable pass through this barrier, we emerged upon a series of very small but extremely heavy and rugged old floes, the snow on them still deeper and softer than on the southern side of the lead. At the end of a sixteen-hour day I called a halt, though we were only two or three miles north of the big lead.

During the first portion of the next march we passed over fragments of very heavy old floes, slowly moving eastward. Frequently we were obliged to wait for the pieces to crush close enough together to let us pass from one to the other. Farther on I was compelled to bear away due east by an impracticable area, extending west, north-west, north, and north-east as far as could be seen, and just as we had rounded this and were bearing away to the north again, we were brought up by a lead some 50 feet wide. From this on, one day was much like another, sometimes doing a little better, sometimes a little worse, but the daily advance, in spite of our best efforts, steadily decreasing. Fog and stormy weather also helped to delay us.

I quote from my journal for April 21st:—

"The game is off. My dream of sixteen years is ended. It cleared during the night and we got under way this morning. Deep snow. Two small old floes. Then came another region of old rubble and deep snow. A survey from the top of a pinnacle showed this extending north, east, and west, as far as could be seen. The two old floes over

which we had just come are the only ones in sight. It is impracticable, and I gave the order to camp. I have made the best fight I knew. I believe it has been a good one. But I cannot accomplish the impossible."

A few hours after we halted, the ice to the north commenced like the sound of heavy surf, and continued during our stay at this camp. Evidently the floes in that direction were crushing together under the influence of the wind, or what was perhaps more probable, from the long continuation of the noise, the entire pack was in slow motion to the east. A clear day enabled me to get observations which showed my latitude to be $84^{\circ} 17' 27''$ N., magnetic variation 99° W. I took some photos of the camp, climbed and floundered through the broken fragments and waist-deep snow for a few hundred yards north of the camp, gave the dogs a double ration, then turned in to sleep, if possible, for a few hours preparatory to returning.

We started on our return soon after midnight of the 21st. It was very thick, wind from the west, and snowing heavily. I hurried our departure in order to utilise as much of our tracks as possible before they were obliterated. It was very difficult to keep the trail in the uncertain light and driving snow. We lost it repeatedly, when we would be obliged to quarter the surface like bird dogs. On reaching the last lead of the upward march, instead of the open water which had interrupted our progress then, our tracks now disappeared under a huge pressure ridge, which I estimated to be from 75 to 100 feet high. Our trail was faulted here by the movement of the floes, and we lost considerable time in picking it up on the other side. This was to me a trying march. I had had no sleep the night before, and to the physical strain of handling my sledge, was added the mental tax of trying to keep the trail. When we finally camped, it was only for a few hours, for I recognised that the entire pack was moving slowly, and that our trail was everywhere being faulted and interrupted by new pressure ridges and leads, in a way to make our return march nearly if not quite as slow and laborious as the outward one. The following marches were much the same. In crossing one lead I narrowly escaped losing two sledges and the dogs attached to them. Arrived at the "grand canal," as I called the big lead at which I had sent two Eskimos back, the changes had been such as to make the place almost unrecognisable.

Two marches south of the grand canal the changes in the ice had been such, between the time of our upward trip and the return of my two men from the canal, that they, experienced men that they were in all that pertains to ice-craft, had been hopelessly bewildered, and wandered apparently for at least a day without finding the trail. After their passage other changes had taken place, and as a result I set a compass course for the land, and began making a new road. In the next march we picked up our old trail again.

Early in the morning of the 22nd we reached the second igloo out from Cape Hecla, and camped in a driving snowstorm. At this igloo we were stormbound during the 27th and 28th, getting away on the 29th in the densest fog, and bent on butting our way in a "bee"-line compass

course for the land. Floundering through the deep snow and ice, saved from unpleasant falls only by the forewarning of the dogs, we reached Crozier Island after a long and weary march. The band of young ice along the shore had disappeared, crushed up into confused ridges and mounds of irregular blocks.

The floe at the island camp had split in two, the crack passing through our igloo, the halves of which stared at each other across the chasm. This march finished two of my dogs, and three or four more were apparently on their last legs. We did not know how tired we were until we reached the island. The warm foggy weather, and the last march together, dropped our physical barometer several degrees.

As we now had light sledges, I risked the short cut across the base of Fieldin Peninsula, and camped that night under the lee of View Point. Four more marches carried us to Conger, where we remained three days drying clothing and repairing sledges, and giving the dogs a much-needed rest. Leaving Conger on the 6th of May, eleven marches brought us back to Payer Harbour on the 17th of May. A few days after this I went north to complete the survey of the inner portions of Dobbin Bay, being absent from headquarters some ten days. Open water vetoing a trip which I had planned for June up Buchanan Bay and across to the west coast of Ellesmere Land, the remainder of the time was devoted to assiduous hunting, in order to secure a supply of meat for the winter in the contingency of no ship arriving.

On the 5th of August the new *Windward* sent north by the Club, and bringing to me Mrs. Peary and my little girl, steamed into the harbour. As soon as people and supplies could be hurried aboard her, she steamed across the Sound to the Greenland side. Here my faithful Eskimos were landed, and after devoting a week or so to the work of securing sufficient walrus to carry them in comfort through the winter, the *Windward* steamed southward, and after an uneventful voyage arrived at Sydney, C. B., on the 17th of September, where I had the pleasure of meeting Secretary Bridgman of the Club, and forwarding through him a brief report of my movements during the past year.

THE MAPPING OF INDIA.

IN scientific circles in India and elsewhere considerable dissatisfaction exists with regard to the mapping of the Indian Empire, and the Indian Government is being pressed to bring its Survey Department work more into line with modern requirements. We are favoured by an Indian correspondent with the following article, which originally appeared in the *Pioneer*, and will be read with attention by all interested in the cartography of India.

While all around us in India, generally speaking, we see progress, it is a matter for regret that many of the maps of this country are far from what they should be, and the original accuracy of a large number shows