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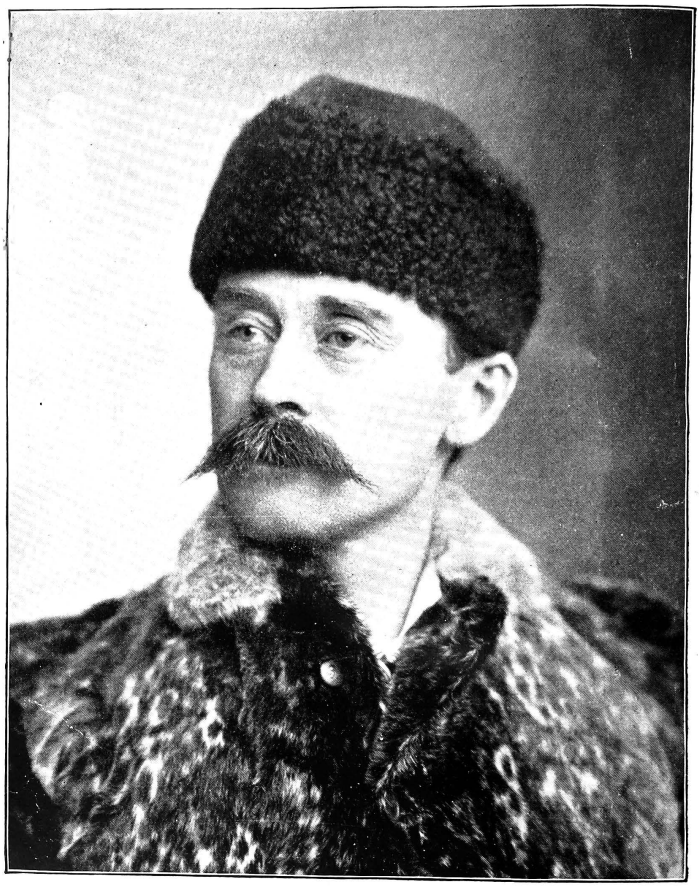

Very sincerely
R. E. Peary
Civil Engineer, U.S.N.

NORTHWARD

OVER THE "GREAT ICE"

A Narrative of Life and Work along the Shores and upon the Interior Ice-Cap of Northern Greenland in the Years 1886 and 1891–1897

WITH A DESCRIPTION OF THE LITTLE TRIBE OF SMITH-SOUND ESKIMOS, THE MOST NORTHERLY HUMAN BEINGS IN THE WORLD, AND AN ACCOUNT OF THE DISCOVERY AND BRINGING HOME OF THE "SAVIKSUE," OR GREAT CAPE-YORK METEORITES

BY

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WITH MAPS, DIAGRAMS, AND ABOUT EIGHT HUNDRED ILLUSTRATIONS

IN TWO VOLUMES

VOL. I.



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TO THE TWO WHO LINK ME WITH
THE PAST AND FUTURE
MY MOTHER AND MY DAUGHTER
THIS BOOK IS DEDICATED

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PREFACE.

THIS narrative has been written to supply a complete authentic record of my Arctic work,—a record which I owed it to my family, my friends, and myself to put in permanent form. It is my first and only book, and it covers all my Arctic work.

It contains the cream of my Arctic material, literary and pictorial. The reader will find no padding. My constant aim has been condensation. The reader will find neither *résumés* of previous work, nor constant reference to other explorers. This is not because I do not appreciate their magnificent achievements, and have not profited by the experience of Kane, Hayes, Hall, Greely, Melville, and the long list of my gallant countrymen, as well as those of other countries, my predecessors, but because I have no room or right to rehash their experiences and results. The interested reader can go to their original narratives, and there learn, in their own words, as much or as little of their work as he pleases. As to constant comparisons with the work of others, the cursory reader will not care for these. The specialist can make them himself.

The constant incentive in my work has been an ineradicable feeling that I saw something before me worthy and possible of accomplishment, and that I could never have content until it was done, or that I had satisfied myself that I was not the one to do it.

"While it is hoped the narrative itself will not be lacking in attractiveness, yet I feel, outside of this, that it and the accurate and profuse illustrations, most of which are not only "pictures," but typical studies of the features and objects which they represent, will prove of pronounced educational value in showing what the Arctic regions, with their inhabitants and the phases of life there, are really like.

While I have endeavoured in these pages to carefully sum up the general aspects and results of my work, I desire it to be clearly understood that I have made no attempt to have the data I accumulated set forth with scientific fulness and detail.

It has been my aim to make this book worthy of and adapted for the most general reading, yet at the same time to give it a character that may, I trust, secure for it the attention of Arctic students and scientific specialists.

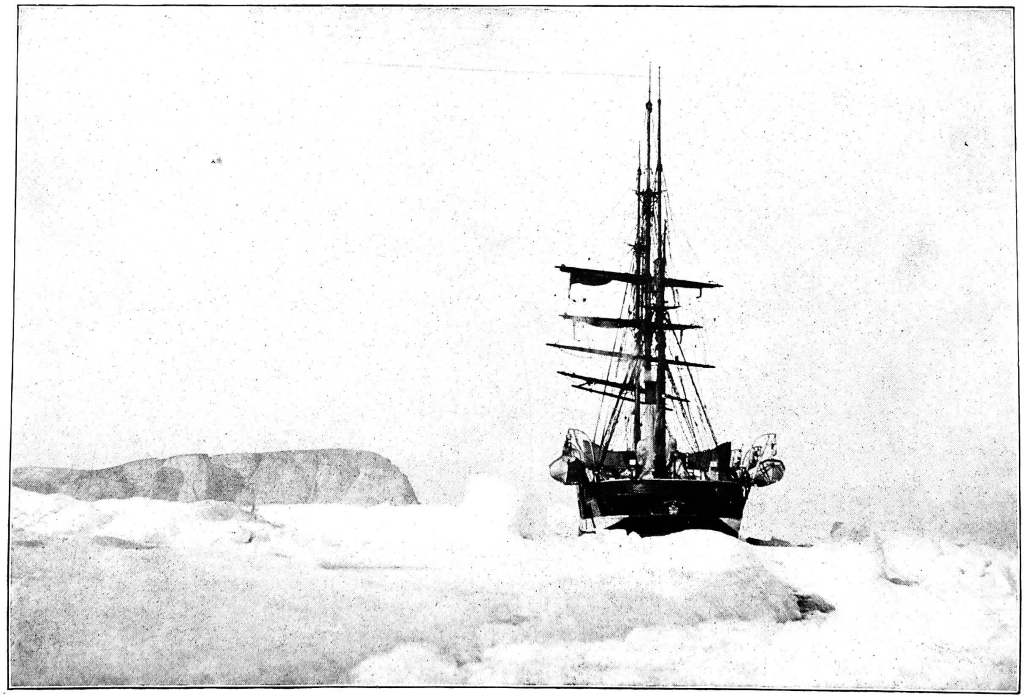
My Expeditions have gathered valuable scientific material in ethnology, meteorology, geography, and natural history. This material has not as yet been digested and collated by experts. When it has it will be presented in monograph form.

Dependent upon the results of my coming Expedition, this book will clear the field for something further, or will form the complete record of my Arctic work.

R. E. PEARY,
Civil Engineer, United States Navy.

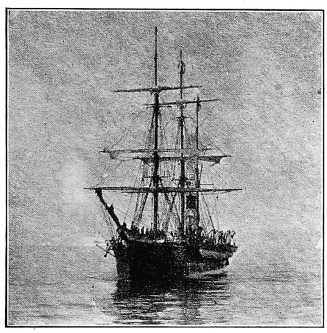
NEW YORK, May, 1898.

INTRODUCTION.



THE ARCTIC PACK.

INTRODUCTION.



MY Arctic work comprises:

1st. A summer voyage and reconnaissance of the Greenland Inland Ice, 1886.

2d. A thirteen-months' sojourn in Northern Greenland, including a twelve-hundred-mile sledge journey across the ice-cap, and the determination of the insularity of Greenland, 1891–92.

3d. A twenty-five-months' stay in North Greenland, including a second twelve-hundred-mile sledge journey across the ice-cap, the completion of the study of the Whale-Sound natives, a detail survey of that region, and the discovery of the great Cape-York meteorites, 1893–95.

4th. Summer voyages in 1896 and 1897, including the securing of the last and the largest of the great Cape-York meteorites, the 90-ton mass.

Before taking up these expeditions in their order, I will attempt to bring home to the reader a realistic conception of what the land which has been the scene of action is actually like.

Stretching southward over the swelling bosom of the earth, Greenland is the pendent brooch in the

glittering necklace of snow and ice which circles the North Pole.

It is an Arctic island-continent, the most interesting of Arctic lands; a land of startling contrasts; a land of midnight suns and noonday nights; of tropical skies and eternal ice; of mountains with sides still tinged with the deep warm glow of ancient volcanic fires, and summits hidden beneath caps of everlasting snow.

I fancy most of my readers will be surprised to learn that Greenland has a history accented by events as strange as its own midnight sunlight and far-stretching snow-fields.

Nine hundred years ago, Erik, an Iceland outlaw, discovered the country and named it Greenland, "because," he said, "people would sooner be induced to go thither in case it had a good name." Shrewd old land agent! From the colony founded by him, his son Lief and other restless spirits sallied forth to the discovery of the New World. Centuries after, from these iceberg-haunted seas, went forth, it is said, a gleaming pile of walrus tusks, tribute for the Crusades.

Then a hostile fleet descended upon the colonies, and ravished away many of the inhabitants, to replace those carried off by the plague, or "black death," in Europe. Strange anomaly—Greenland repopulating Europe! Finally, the last of the shipmasters who knew the route to Greenland were assassinated by German merchants to whom they refused to sell their cargoes, and Greenland in the fifteenth century dropped out of the world and was absolutely forgotten before the voyages of Columbus.

A century or more later, Davis rediscovered the "Land of Desolation," but the colonists had disappeared, and to-day, though the Danes occupy nearly all the inhabitable land in Greenland, only scattered

ruins of houses and churches have been found, and these are mute as to the mysterious fate of their former inhabitants.

Geographically and topographically, Greenland has been, since the day its black cliffs loomed through the Arctic fog upon the eyes of Erik, a land of mystery, and a source of constantly increasing interest and speculation.

It has been traced farther into the *terra incognita* that encompasses the Pole than any other land on the globe, and there are reasons for thinking that its northern headland may be one abutment of a bridge of islands, over which, through years of Arctic summer day and winter night, a portion of the human race slowly migrated from Siberia, via the Pole, to this hemisphere.

Its interior is the last of those glacial conditions which for ages submerged northern Europe, and northern North America, in its icy flood.

Its northern shores are famous with the names of Americans who have dragged its sable headlands and icy bays out of the Arctic fog and night.

From Cape Farewell, its southern extremity, in the same latitude as Christiania, St. Petersburg, and Mount St. Elias, to Cape Washington, its northernmost known limit, in latitude 83° 38′ N., the distance is fifty miles greater than the extreme width of the United States, from the mouth of the Rio Grande to the 49th parallel. It is probable, however, that its northern limit is near or within the 85th parallel, in which case its extreme length is some 1739 statute miles, about the same as the air-line distance from Washington to the City of Mexico. From Cape Hatherton, its most westerly, to Cape Bismarck, its most easterly, known limit, is six hundred and ninety miles.

Its area is from 740,000 to 750,000 square miles, about the same as that of Mexico, and four times the area of the New England and Middle States. No less than four-fifths of this area, or 600,000 square miles, equivalent to three times the area of France or the German Empire, and thirteen times the area of Pennsylvania, is covered by the Inland Ice.

The population of the country is about ten thousand. Two or three hundred of this number are Danes located south of 73½° N. Lat., and the Danish Crown has a fleet of six or eight ships, for transporting the blubber, eiderdown, ivory, and furs obtained in the southern part of the country.

The coast is bold and mountainous, cut by numerous deep fjords, and protected by an advance guard of outlying rocky islands. Some of these fjords extend inland a distance of sixty to eighty miles, and many of them are the outlets of great glacier streams from the Inland Ice.

But it is in the character of its interior that the chief interest centres. We all have a general idea of Greenland, and know that its interior is covered with snow and ice, yet the actual facts are so different from anything existing in lower latitudes, so entirely dissimilar from anything with which we are personally acquainted, and which we might use as a foundation from which to start our conception, that I doubt if one in ten, even of the best-read, has a true conception of the actuality of this great glacial continent.

All there is of land, as we understand the term, in Greenland, is a ribbon five to twenty-five (and in one or two places sixty to eighty) miles in width, along the coast, made up of mountains and valleys and deep branching fjords; surrounded by the Arctic Sea, playground of the iceberg and the pack ice, and itself in turn surrounding and supporting, like a Titan dam, the great

white ice-cap beneath which the interior of the country is buried. When I say this, I am sure most of us immediately think of some particularly mountainous region with which we are familiar, as for instance the Rockies, the Sierras, the Alps, or the Pyrenees, covered several hundred feet deep in snow and ice, yet still retaining the original irregularities of the region. Such a mental picture, however, would in no way represent the conditions of interior Greenland. There, the accumulated snow precipitation of centuries, in a latitude and altitude where it is practically correct to say that it never rains and the snow does not melt even in the long summer day, has gradually filled all the valleys of the interior, until it has levelled them even with the mountain summits, and still piling higher through the centuries, has at last buried the highest of these mountain summits hundreds and even thousands of feet deep in snow and ice.

The interior of Greenland to-day is simply an elevated unbroken plateau of snow, lifted from five thousand to eight thousand and even ten thousand feet above the level of the sea; a huge white glistening shield some twelve hundred miles in length and five hundred miles in width, resting on the supporting mountains. It is an Arctic Sahara, in comparison with which the African Sahara is insignificant. For on this frozen Sahara of inner Greenland occurs no form of life, animal or vegetable; no fragment of rock, no grain of sand is visible. The traveller across its frozen wastes, travelling as I have week after week, sees, outside of himself and his own party, but three things in all the world, namely, the infinite expanse of the frozen plain, the infinite dome of the cold blue sky, and the cold white sun,—nothing but these. The traveller, too, across this frozen desert knows that at no time during his journey are the high-

est rocks of the mountain summits below him nearer than from one thousand to five thousand feet down through the mighty blanket of snow. Such is the interior of Greenland, and it is upon the surface of this uplifted desolation, in nearly straight lines, at a constant elevation of from five thousand to eight thousand feet above the level of the sea, that my sledge journeys have been made, in widest contradistinction to the road of the usual Arctic sledge-party, the frozen surface of the polar sea at the sea-level, along and outside of the ragged periphery of an Arctic coast-line.

In the fall of 1885, I had completed my work on the maps and plans of the Government Nicaragua Interoceanic Ship-Canal Survey, from which I had returned the previous summer, and affairs had taken on an aspect which made it seem as if the project would inevitably be postponed indefinitely.

Something was necessary to occupy my leisure from Navy-Yard routine, and take the place of the subject to which I had devoted my surplus energy for the past six years.

One evening, in one of my favourite haunts, an old book-store in Washington, I came upon a fugitive paper on the Inland Ice of Greenland. A chord, which, as a boy, had vibrated intensely in me at the reading of Kane's wonderful book, was touched again. I read all I could upon the subject, noted the conflicting experiences of Nordenskjold, Jensen, and the rest, and felt that I must see for myself what the truth was of this great mysterious interior.

My summer voyage to Greenland in 1886 and reconnaissance of the Inland Ice (Part I. of this narrative) was the outcome.

In a paper read before the National Academy of Sciences at Washington, April 23, 1886, occurs the following :

"After a perusal of these attempts [to explore the Inland Ice], the truth of the following statement will, I think, be apparent, viz.: Not one single determined effort having for its goal the east coast of Greenland has ever been made, and there is nothing to show that an intelligent and determined effort and the devotion of an entire season to the work would not be crowned with success. The question that naturally arises then is, how can it be done?

"There are two ways: one is to start from, say, Auleitsivik Fjord, and travel south-easterly to the coast south of Cape Dan, then to follow the coast round Cape Farewell to the settlements. This might take two seasons to accomplish, as, after reaching the coast, one would necessarily, to a large extent, be dependent on the movements of the natives. The distance across at this point is, however, less than four hundred statute miles, and I have not the slightest doubt but that, by starting at the right season of a favourable year, the distance across and back could be accomplished in one summer.

"The other, more arduous, but at the same time more attractive, route has for its origin Whale Sound or vicinity, and for its finish, a point on the unknown east coast near the 80th parallel, and this route I believe to be the key to the solution of the Greenland problem. This, I believe, is the way by which not only the crossing of Greenland but the delineation and closing of its coast-line will be accomplished."

In an interview before starting, published in the New York *Herald*, May 8, 1886, appears the following:

"For the accomplishment of the simple feat of crossing, he [Peary] believes a route from Nordenskjold's base at Auleitsivik Fjord, in a south-easterly direction to the east coast near the Graah Islands, south of Cape Dan, offers facilities superior perhaps

to any other. The distance is less than four hundred miles, and though there is a possibility that the trip out and back might, with an early start and under very favourable circumstances, be made in a season, the chances are that the return would be made along the coast to Cape Farewell.

"A third route, in which the fact of crossing to the east coast would be of secondary importance, a step to something more, has for its origin Whale Sound or vicinity, and for its finish a point on the unknown east coast near the 80th parallel. This route, once shown to be practicable, would be the key to the solution of the Greenland problem, and would be the way by which the delineation and closing of the coast-line of Greenland will be accomplished, with the least risk and at the least expense."

It will be observed that the route by which Nansen attempted to cross Greenland in 1888, is here pointed out, and that my own journey from Whale Sound to Independence Bay, accomplished in 1892, was already fully developed in my mind.

Returning from my reconnaissance, full of enthusiastic plans for accomplishing the crossing of Greenland and then attacking the problem of its northern extension, I found the Nicaragua project infused with new life and blood, and the next two years of my time were devoted to it, part of the time at home, part in command of the Locating Expedition in Nicaragua.

Returning from this work, I was detailed to League Island, Philadelphia, in charge of the construction of the timber dry dock, about to be commenced at the Navy Yard there. A brief paper covering my summer's work, noting my deductions, and formulating my comprehensive plan for the overland exploration of Greenland was published in the *Bulletin of the*

American Geographical Society for December, 1886. In 1888, Nansen effected the crossing of Southern Greenland, starting on the shortest of my indicated routes, but being compelled to modify his plans and finally crossing on a route two hundred and eighty miles long.

This forestalling of my work[1] was a serious blow to me; but my duty to the Service left me helpless, and I could only fall back upon the other northern route. Needless to say my project was always with me, and as soon as the dry dock neared completion I put my plan in formal shape, and presented it for the consideration and endorsement of prominent societies and individuals: Philadelphia Academy of Natural Sciences, American Geographical Society, National Geographical Society, and Brooklyn Institute. It was unanimously endorsed by all these, and the Navy Department having been sounded informally, I sent in an application for eighteen months' leave, accompanied by a brief of my project and the strongest letters from Judge Daly, Professors Leidy, Putnam, Adams, and others. My object was to reach and determine the northern limit of Greenland overland, *i. e.*, across the Inland Ice.

The salient features of my plan were:

First and foremost, the utilisation of the elevated surface of the great interior sea of ice lying within the coast-land ribbon, as a direct and imperial highway to the point of destination.

Second, a party of minimum size.

Third, entire reliance upon the game of the region

[1] "Peary and Maigaard, with their scanty equipment, had made a highly successful inroad upon the Greenland ice-field, intended, as Peary had expressly stated in his brief narrative, merely as a preliminary reconnaissance. *Nansen had no time to lose if he did not want to be anticipated.*"—*Fridtiof Nansen*, Longmans, Green, & Co., 1896, p. 160.



Sincerely yours
Angelo Heilprin

about my base, or headquarters, for the meat-supply of my party.

Fourth, extreme lightness and compactness of sledges and equipment, rendered possible by the surface to be traversed.

Fifth, the presence of the leader of the Expedition in the van of exploration.

My application was favourably endorsed by the Commandant at League Island, Captain H. B. Seeley, U. S. N.; by the Chief of the Bureau of Yards and Docks, Commodore Norman H. Farquhar, U. S. N., hero of the Samoan disaster; and was immediately granted by the Secretary of the Navy, Hon. Benj. F. Tracy.

The American Geographical Society then appropriated $1000; Professor Putnam assigned $1000 for an ethnological exhibit for the Columbian Exposition; the New York *Sun* offered $1000 for letters; Verhoeff contributed $2000; and Professor Heilprin, of the Philadelphia Academy, organised an auxiliary expedition, the members of which contributed amounts which, together with smaller amounts from various friends and a few thousand dollars of my own, permitted the fitting out of my North-Greenland Expedition of 1891–92, and the chartering of a ship to take it north.

An explicit statement is necessary here to correct erroneous impressions. The Philadelphia Academy was the first institution to which my project was presented, and the first to endorse and commend it, which it did in warm and unequivocal terms. As an institution, however, the Academy never appropriated or contributed a dollar to the Expedition. Members of the Academy, in their private capacity, did contribute powerfully, both in work and money, towards its success.



Isaac J. Wistar

To the personal interest, friendship, and intense energy and push of Prof. Angelo Heilprin, Curator of the Academy, was I indebted, more than to any other one person, not only for the official action of the Academy, but for the unofficial interest and efforts of its members, which assured the balance of the funds necessary to make the affair a success.

To the late distinguished President Leidy and the Council of the Academy of National Sciences of Philadelphia; to Prof. F. W. Putnam, of the American Association for the Advancement of Science; to Judge Charles P. Daly, President of the American Geographical Society; to Prof. F. W. Hooper, Director of the Brooklyn Institute; to President Adams and the Executive Committee of the Geographical Department of the Brooklyn Institute; to Professors Lee and Young and the President and other members of the faculty of Bowdoin College, my Alma Mater, I was indebted for cordial and most valuable endorsement of my project.

To Secretary Tracy I was indebted for my leave, for his approval of my project, and for his kindly interest in my plans; and to Commodore Farquhar and Chief-Engineer Melville, chiefs, respectively, of the Bureaus of Yards and Docks, and Steam Engineering, for kindly offices which no others were in a position to render so effectively.

To the National Geographic Society I am under obligations for its interest in my work, and to the Society and Miss Ulrica Dahlgren for a beautiful flag, to be carried to the "farthest."

Though friends in the Portland Society of Natural History, and others, accompanied their wishes for success with tangible enclosures, it was to the American Geographical Society, and particularly to the efforts of the active, enthusiastic members of the North-

Greenland Committee of the Philadelphia Academy of Natural Sciences, Professors Leidy, Sharp, Heilprin, and Brinton, Mr. Hart, and Drs. Ruschenberger and McCook, that I was indebted for the sinews of war necessary, in addition to my own resources, to fit out my Expedition.

And when the unlooked-for point-blank refusal of the Dundee whaling companies and the director of the Greenland trade to give my party transportation to Greenland in any of their vessels, on any terms, made it necessary to charter a vessel for the purpose, Professor Putnam, in behalf of his Department of Ethnology of the World's Fair, Mr. Verhoeff, and the organisation by Professor Heilprin of a party of scientific men to make a summer scientific cruise, assured the additional funds necessary to meet the more than doubled expense.

Thus the North-Greenland Expedition of 1891–92. (Part II.) After my return from this Expedition, on the *Kite*, which again, through the indefatigable energy and efforts of Professor Heilprin and friends in the Academy had been sent for me,—though I felt my friends were right in saying that I had accomplished a brilliant feat in my long sledge journey,—I was far from satisfied. I felt that there was still further important work to be done in the north, and *now*, while the iron was hot, and I armed with the experience already gained.

An important factor in this connection was a proposition made by Major Jas. B. Pond, the widely known lecture impresario, in regard to a series of lectures. This proposition promised to yield me the funds for another expedition, which should be on a more pretentious scale than the first. But for this I needed an additional leave, which I had reason to believe would not be readily granted.

I approached Dr. Nolan, Secretary of the Academy. His advice was: "See the President, General Wistar. If he favours your scheme he can assist you in obtaining your leave; if not, the Academy will take no steps." My interview with General Wistar took place the same day. At its close he said: "I believe you should have the opportunity to carry out your project. On the understanding that the Academy will not be called upon for any money, its endowment not being lawfully available for this purpose, and will not be responsible for the risks to yourself and companions, I will use my best efforts to obtain your leave." With this powerful influence in my favour, I felt the thing already done. Assisted by his friends, Drs. Chapman and Dixon of the Academy, General Wistar presented the matter to the Navy Department in such a convincing light that the Secretary, Hon. B. F. Tracy, at once granted me three years' leave.

This was November, 1892. I had six months in which to raise the funds, organise my party, and equip and fit my Expedition. It was too much work for the time, and though it was done, some of it was not carefully done. This applies specially to the selection of my party. Carried away by enthusiasm, and with no time in the rapid whirl of effort for a calm consideration of the matter, I made the fatal mistake of taking, contrary to my expressed theory, a large party. I found, when too late, that I had very little suitable timber for Arctic work in it.

From my lectures, of which I delivered one hundred and sixty-eight in ninety-six days, I raised $13,000; Mrs. Peary put in all the money received for her books; the American Geographical Society again contributed $1000; the New York *Sun* doubled its offer of the previous year, for letters; and receipts from other sources amounted to two or three thousand.



Henry G. Bryant

Still the total was not sufficient, and just at this time the silver panic materialised, and it was impossible to get any society or individual interested. I had already chartered my ship, ordered my equipment and supplies, enlisted my party, and now had not sufficient funds to meet the demands. What was to be done? At this crisis a friend suggested putting my ship on exhibition, and raising the balance needed in this manner. I hesitated some time. The idea was extremely distasteful to me, but there was no other alternative, and the people of Philadelphia, New York, Boston, and Portland were given an opportunity to visit the ship on the payment of a nominal admission.

As a result, the quarters of the people made up the needed balance.

The North Greenland Expedition of 1893–94 (Part III.) sailed in the *Falcon*, June, 1893.

This time my ship, a much larger one than the *Kite*, was chartered for two voyages—to take me north and bring me back. She returned for me in 1894 with Mr. Henry G. Bryant, of Philadelphia, who had been Prof. Heilprin's second in command in 1892, in command of an auxiliary expedition. My expenditures the previous year had been in excess of my estimates, and now the balance necessary to pay the expenses of the ship was met by my mother, and the efforts of Prof. Heilprin in organising the auxiliary party.

My previous year's work not having been successful, I remained, with Lee and Henson, while the rest of the party returned. Mrs. Peary and our little girl also came home. While going from Philadelphia to St. John's, after landing the party, the *Falcon*, with all on board, was lost.

All my own means and Mrs. Peary's as well had now been exhausted, and it devolved upon her, single-





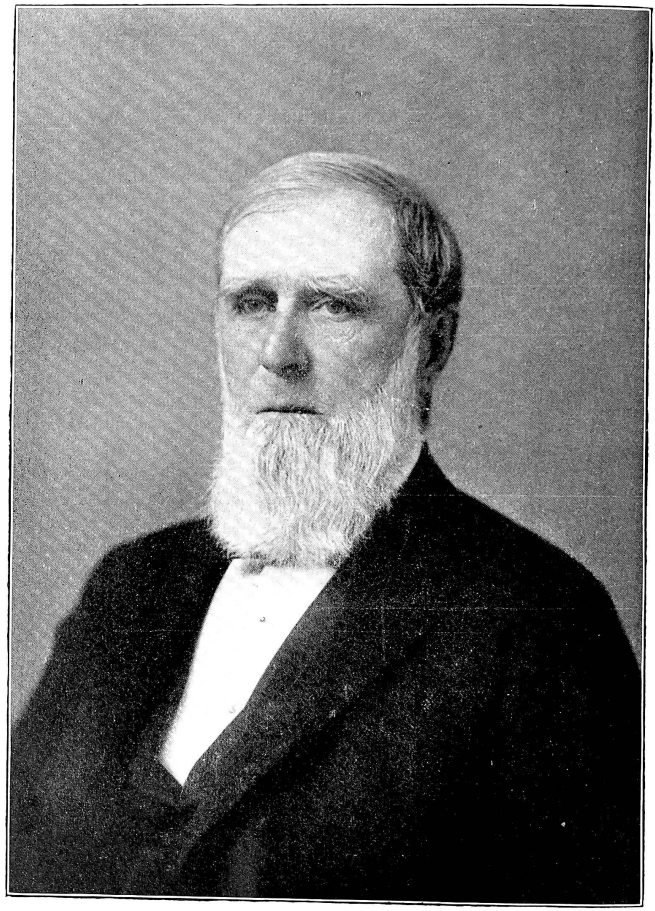
handed, to raise the money to send a ship for me and my companions the following year.

Her most earnest efforts met with but ill success in raising the total amount, although the American Geographical Society again came forward with $1000, the American Museum of Natural History appropriated $1000, the Geographical Club of Philadelphia, through the efforts of Professor Heilprin, its President, raised $760 to send one of its members, the National Geographical Society organised a lecture which netted Mrs. Peary $400, and several friends, Judge Daly, Miss Thorn, Mrs. Bryant, Mr. Baring, Mr. Bryant, and Mr. Parrish, contributed various sums.

At this juncture, the President of the American Museum, Morris K. Jesup, in his private capacity, stepped in, with unexampled generosity, and guaranteed whatever balance might be necessary to complete the full amount, and the *Kite* again went north in 1895, with Mr. Emil Diebitsch—whose experience in 1894 especially fitted him for the place, who had given his time and energy unreservedly to aid Mrs. Peary, and who now unselfishly set aside his own affairs entirely—in command of the Expedition.

Returning from this Expedition exhausted by the strain of my ice-cap journey, and, as I now appreciate, not myself physically or mentally, I felt as if my Arctic efforts were ended, and the fact that there were two well-equipped expeditions still in the field, with a good chance of accomplishing their objects, made me feel as if my life-work had been a failure.

There were still some unfinished threads of my work to be knotted, before I loosened my grasp upon it and turned my eyes away from my dream,—threads which my struggle for something more important had left me no time to attend to. The principal one of these items of unfinished business was the securing



Chas. P. Daly

of the third, last, and largest of the great Cape-York meteorites which I had discovered in 1894, and to accomplish this I was anxious to make another summer voyage.

There was very strong opposition to my obtaining the necessary leave for this, but President Jesup's powerful influence, assisted by the personal efforts of Hon. Wm. C. Whitney, overcame it, and the opportunity was afforded me of making the summer voyage of 1896.

Returning from this voyage unaccompanied by the meteorite, owing to hostile conditions, I was met by the news of Nansen's return from his three years' drift through the polar basin, and his attainment of an exceptionally high northing, and learned that during the long drift no land had been seen from the *Fram*, though she had passed across a line drawn from Franz Joseph Land to the Pole. This vetoed Jackson's hopes and eliminated the entire Siberian half of the polar basin from any further serious consideration as a possible route for reaching the Pole. The summer's voyage and the Arctic atmosphere had brushed away the last vestige of the previous year's exhaustion and morbidness. I felt once more my old-time *élan* and sanguineness. The fact that the field was not only still open, but that the plan nestling fully developed in my mind before my return was now proven to be not merely the *most* practicable but the *only* remaining practical one by which to reach the yet unscaled apex of the earth, filled me with new hopes and courage.

Plans which, though fully developed before, it would have been entirely premature to have put forth previous to the finale of Nansen's and Jackson's work, were now ripe for promulgation, and at the annual meeting of the American Geographical So-



Emil Diebitsch

ciety, January 12, 1897, on the occasion of the Society's presentation to me of the first Cullum Medal, I broached my project for effecting "the conquest of the North Pole, the complete delimitation of the Greenland Archipelago, and the elimination from our maps of the unknown area between the 84th parallel and the Pole."

My plan was in brief: "To raise a fund sufficient to insure the continuation of the work of exploration for five years, if necessary, say $150,000, and deposit it in a trust company; purchase a ship; give her a minimum crew; load with concentrated provisions; proceed to Whale Sound; take on board several picked families of my faithful Eskimos, with their tents, canoes, dogs, etc.; force a way through Robeson Channel to Sherard-Osborn Fjord or farther, and land people and stores; then send the ship back. As soon as the freezing of the ice in the great fjords of the north-west coast would permit sledge travel, the work of advancing supplies north-eastward along the coast would be commenced, taking comparatively short stages and light loads so that the trips could be quickly made. As soon as the supplies had been advanced the first stage, the party itself would move forward, leaving a cache behind, and as they would be following Eskimo customs and living in snow houses, this could easily be done. Then the second stage of advance would be taken up, and the work carried on until the departure of the sun. Each of the brilliant winter moons of the polar night would afford opportunities for continuing it, so that early spring should find the party and the bulk of its supplies located at the northern terminus of the North-Greenland Archipelago, probably not far from the 85th parallel, with caches behind it at each prominent headland. From this point, when the proper time

came, with picked dogs, the lightest possible equipment, and two of the best of the Eskimos, the dash for the Pole would be attempted with strong probabilities of a successful termination. Should the first season be unfavourable as regards ice conditions, it would be devoted to a detailed survey of the archipelago itself and a reconnaissance of the east coast as far south as possible, and the northern journey reserved for the following season, or the next. Each succeeding summer the ship would attempt to establish communication with the party's base, succeeding probably every other year at first, then, with increasing experience, every year, and keep up its supply of food, dogs, and Eskimos until the objects of the Expedition were accomplished. Should the ship be unsuccessful in the passage of Robeson Channel the first year, the party would land at Hayes Sound, and devote the first year to explorations of that unknown region. Retreat from the colony at Sherard-Osborn Fjord would always be practicable across the Inland Ice to Whale Sound.

"In a nutshell my project contemplates:

"First: The raising of a sum sufficient to insure persistent, continued effort, so that if the attempt fails the first year it can be repeated the next, and the next, and the next until it is done.

"Second: The establishment of a party of picked Eskimo families, a surgeon, and an experienced leader at the highest practicable point on the north-west coast of Greenland; with ample supplies, means of communication, which would enable the colony to sustain itself until its work is accomplished, and with a practical line of retreat entirely independent of the ship."

The approval of the project was immediate and emphatic, and my friends began steps to permit its being put into execu[illegible] The funds having been

assured,[1] the only remaining thing was the necessary extended leave from the Navy Department.

The opposition which had made itself felt in my previous work was now so determined, concentrated, and bitter, that though the strongest memorials were presented to the Navy Department by President Jesup of the American Museum of Natural History, President Daly of the American Geographical Society, and urged by the most prominent business and scientific men in the country, it took the splendid force, personal efforts, and persuasive eloquence of Charles A. Moore, in a direct appeal to his friend, President McKinley, to obtain from him an intimation that it would please the President if the necessary leave were granted me.

[1] REPORT OF THE COMMITTEE APPOINTED FEBRUARY 6, 1897, TO CONSIDER AND REPORT UPON A SCHEME FOR POLAR EXPLORATION SUBMITTED BY R. E. PEARY, U.S.N.

To the Council of the American Geographical Society.

GENTLEMEN:

Your Committee, having examined and considered Mr. R. E. Peary's project of polar exploration, respectfully report that they find it clearly stated and well reasoned, and in their judgment (so far as men not personally familiar with the conditions of Arctic life can be supposed to form a judgment), practicable and worthy of support.

In itself and keeping in view the objects sought to be attained—the added distinction to be won for America, and the increase of knowledge among men—and the chances of success, the attempt is one that ought to be made.

Considering Mr. Peary's rare experience and his remarkable qualifications of energy, prudence, tenacity, and fitness for command, it must be regarded as a singular advantage for his country that he stands ready to undertake the task for which his natural gifts and his acquirements have fitted him beyond other men.

Your Committee submit, and recommend for adoption, the following resolution:

Resolved, that the Council of the American Geographical Society heartily approves the project of polar exploration laid before it by Civil-Engineer R. E. Peary, U. S. N., and will gladly contribute towards the expense of the same, provided such contribution is needed and will be acceptable, and that other subscriptions, sufficient to warrant the undertaking, are secured by Mr. Peary.

Respectfully submitted,

BANCROFT GHERARDI,
CHARLES P. DALY,
CHANDLER ROBBINS,
} *Committee.*

NEW YORK, February 20, 1897.



Sincerely Your Friend
Chas. A. Moore

The immediate outcome of that leave was the voyage of last summer the Sixth Peary Expedition (Part V.), in which the work of instructing my natives as to the coming year, in accordance with my programme, was successfully accomplished, and the great meteorite also safely brought home.

In conclusion, the men to whose personal interest, efforts, and influence has been due, more than to anyone else, my ability to undertake my various voyages, are in chronological order: Prof. Angelo Heilprin of Philadelphia, President of the Geographical Club of Philadelphia, formerly Curator of the Philadelphia Academy of Natural Sciences; General I. J. Wistar of Philadelphia, President of the P. R. R. Coal & Canal Co., and late President of the Philadelphia Academy of Natural Sciences; President Morris K. Jesup of the American Museum of Natural History, New York; and Charles A. Moore, of Brooklyn.

Aiding and assisting these were President H. W. Cannon, and Vice-President Jas. G. Cannon of New York, Hon. Francis Wilson of Brooklyn, and others whose names I am not at liberty to mention here; and standing in solid line ready to use the weight of their influence in my favour, and to aid in every way, morally and financially, throughout the entire time, were Judge Daly, President of the Geographical Society, and his Council; Chief-Engineer Geo. W. Melville, U. S. N., Chief of the Bureau of Steam Engineering; the New York *Sun;* Cyrus C. Adams, and H. L. Bridgman.

Never was a man more fortunate in his friends than I. It is impossible to enumerate them all.

To the societies and friends who gave me, when I needed help, the moral and material support required to place my enterprise on its feet, I owe a debt of gratitude which I may acknowledge here, but can never adequately discharge. No one but myself knows how

potent their aid was to me ; and it is with heartfelt pleasure that I here express, however feebly, my grateful sense of their helpfulness.

To the newspaper press, and to the public of my native land, I am indebted for their kind interest in my work. Their uniform friendliness has been a source of much comfort to me.

Such in brief is the sequence and thread of events which led up to and connected my various Expeditions, and the part which my friends have played in the work.

A few points, in my judgment, demand and are worthy of clear, definite presentation.

The work, the narrative of which follows, has been accomplished entirely by private enterprise. I might perhaps claim, without in any way belittling the assistance of those who have helped me with both money and influence, that it is the result of my single-handed efforts. Though a member of that Service which keeps the Stars and Stripes in all the seas of the globe, none of my Expeditions—contrary to a quite general impression—has been under Government auspices. The Government has never appropriated, nor been asked to appropriate, a dollar for any of my Expeditions. Nor has the Government had any responsibility in connection with my work. It has, however, kindly given me my time, *i. e.*, allowed me the leave necessary to enable me to prosecute my plans.

Nor has any society or individual contributed the bulk of the funds. Fully two-thirds of the total amount expended by me in my Arctic work during the past twelve years have been my own personal earnings. Single contributions to my work have never exceeded $1000,—except in one instance, when President Jesup of the American Museum of Natural History,

with a kindness and generosity which have made me eternally his debtor, lifted a burden from Mrs. Peary's shoulders and defrayed the lion's share of the expense of sending a ship north in 1895. During seven years I have strained every energy, and devoted every dollar I possessed to my Arctic efforts, and during more than half that time I have kept the Stars and Stripes waving within the Arctic Circle.

So unreservedly have the slender fortunes of Mrs. Peary and myself; my earnings from lectures, and letters to newspapers and magazines; receipts from transportation of scientific parties to Greenland, etc., been devoted to the work in which I am interested, that I am to-day several thousand dollars in debt. I do not say this in a plaintive way, but as a simple statement of facts which it is only just should be known.

My comprehensive scheme for work in Greenland, as first outlined by me in 1886, based upon the utilisation of the Inland Ice for overland sledge journeys, and my subsequent development and execution, in actual practice, of methods, means, and details, justify me, I think, in claiming to have originated a new departure in Arctic work. Since my origination of that departure, Nansen has crossed Greenland; Conway has crossed Spitzbergen; and if our present idea of conditions in the Antartic be correct, it is entirely within the possibilities, that the conqueror of the South Pole will achieve success by adopting my methods and equipment. My long sledge journey across the ice-cap in 1892 was a typical illustration of my ideas. It presents my insistent features: the Inland Ice for a road, dogs for traction, a party of two.

I can claim to be the originator of the idea of utilising the dogs themselves as dog food. In the 1891–92 Expedition, for the first time in Arctic work did a party start out with the carefully considered intention of

utilising a large portion of the dogs for dog food, thus enabling the original load of provisions to last for a much longer time. Only by some such device as this was the proposed march practicable, and results proved the utter soundness of the principle.

Nansen, who, while preparing for his recent North Polar Expedition, was acquainted with the details and methods of my ice-cap journey of 1891–92, through his countryman Astrüp, my companion on that journey, was quick to see the advantage of this, and by adopting it, was enabled, in his magnificent attack upon the Pole, to keep his dogs in the field for three months on an original one month's rations.

The maximum value of this equation would be, that the two men would subsist during the last four or five days of their return march upon the flesh of their last dog, he previously having eaten all his comrades. This maximum value was nearly reached in my 1895 journey. Previous to this the fundamental principle of Arctic sledging was, that overland travelling was impracticable, and that the sea ice along and outside of an Arctic coast offered the only possible highway.

In my various Expeditions I have introduced for the first time, and determined the feasibility of, several new features of pronounced value to the Arctic explorer, as the design for winter quarters, the use of the odometer, barograph, and thermograph, the discarding of the hitherto supposedly indispensable sleeping-bag.

The detailed knowledge of the Smith-Sound region obtained by me has enabled me to point out to various scientists the localities most suitable for their specialties; has permitted one of the first glacialists of the country (Prof. T. C. Chamberlin) to reap, in a single season, a harvest of information and original material in his special field, which, had he gone blindly

to the country, he could not have obtained in two or three years; and has more than doubled the amount of scientific material and information from the Arctic regions, in the museums of this country.

There is also a phase of my work which has a deeply human interest, and that is, its connection with, and effect upon, the very small but extremely interesting tribe, or perhaps I might more properly say family, of the human race,—the little community of Eskimos, the most northerly known individuals of the human race, numbering but two hundred and fifty-three, living at, and north of, Cape York, completely isolated from all the rest of mankind by impassable icy barriers.

The effect of my Expeditions upon those children of the North has been to raise the entire tribe to a condition of affluence. The difference between their condition five years ago, and to-day, can perhaps be best illustrated by imagining the case of a community or village of farm- or day-labourers working at a dollar and a quarter a day, and possessing nothing but their wages; and then suppose each member of this community to have given him a furnished house, and lot, and a ten-thousand-dollar bank account. Seven years ago, many a man in this tribe possessed no knife, and many a woman no needle. Few of the men possessed kayaks, or skin canoes; and he was indeed well off who had a spear- or harpoon-shaft made of a single piece of wood. To-day, men and women are amply supplied with knives and needles; every adult man and half-grown boy has his canoe; most of the men have guns; and every hunter is supplied with the best of wood for his lance, his harpoon, his seal-spear, and his sledge. The effect of these improvements in their weapons has shown itself at once in an improved condition of the tribe, result-

ing from the great increase in the effectiveness of the hunters. The people are better clothed, they can support a larger number of dogs (their only domestic animal), and, as a result of their more ample nourishment, and consequent greater ability to withstand the constant hardships of their life, the death-rate has decreased, and the birth-rate perceptibly increased, within the past six years.

I feel also that I am justified in thinking that I am largely, if not almost entirely, responsible for the present renaissance of Arctic interest, which, started by my Expedition of 1891–92, is still increasing in volume and intensity.

Other things which my work has established are: that long sledge journeys may be undertaken with safety even in the Arctic night; that white men can remain in high latitudes for long periods without fear of that dread of Arctic explorers, scurvy; that very small parties are the only ones suited for effective work in the Arctic regions, that the work of northern exploration can be prosecuted upon an economical basis, and that it can be done without loss of life.

The work, of which the following pages form the narrative, has been from the first persistently prosecuted on definite and consistent lines; and now that the capabilities of the overland method have been practically exhausted as far as Northern Greenland is concerned, the invaluable experience gained in the past is to be concentrated upon an equally persistent effort, on equally definite and consistent lines, to solve a problem which, unsolved, and to chart a portion of the earth's surface which, uncharted, are a reproach to our civilisation and manhood.

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It seems an appropriate place here to devote a little space to the general subject of sledge equip-

ment. It is unnecessary to say that no time spent in devising ways of perfecting the equipment for an Arctic sledge journey, can be regarded as wasted. His equipment is the explorer's machinery and tools. Upon its efficiency depends the amount of work done, and upon its smooth fitness for its varied purposes depend the comfort and even safety of himself and his men. The first great desideratum in each item is non-liability to damage. Conditions in the field are invariably hostile to the work of repairs, and a party cannot load itself down with tools and materials for such repairs. The next desideratum is lightness. The transporting efficiency of any given party will be a certain amount, made up of provisions and equipment; and for every pound that the equipment can be lightened, an additional pound of food can be carried, thus insuring an additional amount of travel.

Facile princeps in importance of all the items of equipment stands the sledge. Upon it everything else depends. It must combine in the highest degree the qualities of lightness, strength, and easy traction. Every detail is of the utmost importance, and apparently slight changes may affect the effectiveness of the sledge, as decisively as a change in a ship's lines affects her speed. The construction of a sledge for any particular class of work, simple as it seems, is something that can be properly done only after long experience, and the art of getting the most out of the sledge with the least expenditure of force after it is constructed, also requires much experience.

The general character of the Greenland Inland Ice is such as to permit a very decided gain in lightness of sledges over those for sea-ice work, yet many portions of the ice-cap, where its surface has been carved into sharp-edged, marble-like *sastrugi* by the furious winds, try the strength and endurance of

sledges to the utmost. The main feature in which sledges for use on the ice-cap must differ from those for use at sea-level, is the broad flat runner necessary to keep them from sinking into the generally prevailing deep, soft snow.

My previous experience in 1886, 1891, 1892, 1893, and 1894, in the construction and use of sledges, had left me with very clear and definite ideas as to what things were and what were not essential in a sledge, and when I began making the drawings for the sledges for the forlorn-hope journey of the spring of 1895, I felt that I knew what I wanted. Results justified this feeling.

Next after the sledges, the item of suitable clothing is one of the greatest importance to the Arctic explorer, and is one in regard to which there is great diversity of opinion among various Arctic authorities. Schwatka was in favour of reindeer clothing exclusively, while Greely is not a believer in fur clothing. The latter's experience, however, seems to have been confined to sealskin garments, which are not considered by the natives to possess any warmth. My own experience convinces me that fur clothing is absolutely essential in Arctic work, and that the less woollen and more fur clothing one wears, assuming that it is properly made, and that the wearer knows how to wear it, the more comfortable will the wearer be. Particularly is this the case in Inland-Ice travel, where the penetrating quality of the wind is far in excess of what it is at sea-level. Nothing but fur and the impervious integument of animal skin will protect one from this wind, and the traveller who goes upon the ice-cap without fur clothing, does so either from ignorance or because he is reckless of draughts upon his vital force; and he is likely seriously to regret his over-confidence.

In our suits,—an evolution from my previous experience,— we were comfortable in all temperatures between −60° F. and +50° F., under all conditions of activity, from sleeping in a tent, to snow-shoeing in deep snow at the end of a drag rope.

A tent has always been regarded as an essential item in the equipment of an Arctic sledge-party, and though the use of snow igloos has been advocated by some authorities, these will never be practicable for a party unaccompanied by natives. In my journeys of 1886 and 1892 on the ice-cap, I had no tent, and the experience of those trips gave me no reason to consider the tent other than I had always done—a superfluous luxury. In pleasant weather, the lee of the sledge ; in storms, a piece of canvas kept up at one end by snow-shoes stuck in the snow, or thrown over three low snow walls and weighted down by the sledge, had been sufficient.

In planning for the campaign of 1894, I did not therefore include a tent in the list, though a tent which had been used during the fall work, and left on the ice-cap during the winter, was utilised when we reached the cache, and taken along from there, till I could see whether it was essential or not. The equinoctial storm decided this in the affirmative, and showed me that for work on the ice-cap in early spring a tent is a necessity. It was therefore used throughout this journey.

When I took up the study of a tent for use in the 1895 campaign, I had two objects in view : first, to reduce the size and weight to the minimum consistent with comfort ; and second, to carry out an idea which had occurred to me in 1891, of having the tent attached permanently to a specially adapted sledge. Both these objects were successfully accomplished, and the tent, as finally constructed, consisting of tent,

floor, and wind-guard for entrance, weighed thirteen pounds and met all the requirements fully.

While the navigator of the ocean uses the compass, the sextant, and the chronometer, I have substituted, in navigating the "Great Ice," the odometer for the log line and the aneroid for the sounding-lead. From the indications of the latter, it is possible to change the course, so as to give the dogs less work, and it also gives warning, in thick weather, of approach to the dreaded land, between which and the serene, smooth heights of the interior ice-cap, lie dangerous slopes of bare blue ice, yawning crevasses, sudden and furious squalls, and frequent and violent storms.

My instrumental outfit for the journey comprised a transit, a sextant and artificial horizon, three chronometers, several compasses, two odometers, three aneroids, several thermometers, one pair of binoculars, and a camera.

The transit, a small Traveller's by Fauth & Co., of Washington, D. C., was used in preference to the sextant for ice-cap observations, as with it latitude, longitude, and compass variation may all be determined, near enough for all practical purposes, by observations extending over two or three hours. The sextant and artificial horizon were taken simply as a reserve, for use in case of accident to the transit.

Chronometers were pocket-size, furnished by the E. Howard Watch Company, of Boston. They were open-faced stem-winders enclosed in a single aluminum case,[1] made from a suggestion by me, and were carried during the journey suspended over my chest, inside of my clothing, by a cord around my neck. These

[1] The advantages of this case were a very considerable saving of weight, the chronometers were subjected to the same temperature, could be handled as one, and being side by side, any idiosyncrasies of either could be easily and immediately detected by comparison with the other two.

chronometers were *very* satisfactory, light, easily read, and kept excellent time.

Compasses were a four-inch liquid boat-compass, and several dry cards, pocket-size, in hunting-cases. The pocket-compasses were used in the hand for setting the course when I was walking in advance of the party. The boat-compass was used just as it would be at sea, lashed upon the top of my sledge, throughout the first three hundred miles of the northward journey, when I was obliged to keep the course and drive a team of ten dogs. On the return, lashed upon a pair of ski and pushed in front of me, it enabled us to march during days of fog, when without it advance would have been a simple impossibility.

The odometer outfit consisted of one wheel and two registering mechanisms.

My reconnaissance of the Inland Ice, in 1886, suggested to me that the odometer was a practical item, in the instrumental equipment of the navigator of the "Great Ice." The surface traversed by me during that reconnaissance was everywhere, except at the extreme edge of the ice-cap, entirely suitable for the satisfactory work of an odometer wheel, and the use of the instrument would save a great deal of annoyance and arduous work, by reducing the number of necessary solar observations; observations which the conditions of the ice-cap render, under the most favourable conditions, extremely trying, and much of the time impossible, or at best unsatisfactory. The almost constant wind and drift make the use of the artificial horizon very difficult, even when the temperatures are high enough not to affect the mercury; and the same causes, combined with the varying conditions of the snow surface, sometimes extremely hard, again very soft, and the constant vibrations from the wind, make the use of the transit difficult.

Refraction and atmospheric vibration are at all times excessive on the ice-cap, and the extreme brilliancy of the sun, even through the special glasses of instruments for this kind of work, is so trying to eyes already strained to their utmost by the unceasing glare from sky and snow, day and night, that the taking of an observation was always dreaded by me, and usually resulted in someone else being obliged to take the lead the next day, while I walked with bandaged eyes beside the sledge.

The compass and odometer would supply a means of obtaining the dead reckoning with an accuracy to render frequent solar observations unnecessary, and also show the traveller at any time just his position and what speed he is making.

In the winter of 1891 and 1892, the idea was put into practical shape, and during the ice-cap journey of 1892, an odometer wheel was used for the first time in Arctic work, and I obtained satisfactory results with it. Afterwards, during 1893–94, several wheels were constructed, and the evolution of the odometer for Arctic work gradually perfected, until, when the matter of the construction of a wheel for the ice-cap journey of 1895 came up, I was, as with the sledges, in possession of very definite ideas as to what would and what would not prove satisfactory, and the result was a wheel which met all the demands upon it.[1]

My aneroids were beautiful aluminum instruments, three inches in diameter, reading to twelve thousand feet. Like the chronometers, all three were carried in a single case, which permitted convenient comparisons.

[1] This wheel stood the wear and tear of the journey to Independence Bay and return, without requiring repair of any kind, and, I believe, cannot be improved upon for Inland-Ice work, except in as far as a wider range of material to select from would permit it to be made lighter.

The thermometers were all of Green's usual make; maximum and minimum self-registering, as well as plain mercurial and spirit.

Binoculars were Academic Optiques in aluminum, very light, and of good power and definition.

Camera was a specially constructed Eastman Kodak No. 4, with a capacity of 250 negatives. This camera was very light, strong, and in every way satisfactory.[1]

Norwegian ski, Indian snow-shoes, and the darkest of smoked-glass goggles for the eyes, were also important items of the equipment.

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It seems desirable also in this Introduction to attempt the merest outline of some of the most striking features of the Sermiksoah, or "Great Ice,"—the mighty frozen boss of Greenland, the Sahara of the North, the Hyperborean Hades. If I can succeed in conveying to the reader even the crudest conception of the personality of this "Great Ice" I shall be content.

The term "Inland Ice," by which this feature is generally known, suggests to the majority of persons erroneous ideas. The surface is not ice, but a compacted snow. Elevated as the entire interior is, to a height of from 4000 to 9000 feet above the sea-level, mountains of the coast which would be visible to the sailor at a distance of sixty to eighty miles, disappear beneath the landward convexity of the ice-cap by the time the traveller has penetrated fifteen or twenty miles into the interior, and then he may travel for days and weeks with no break whatever in the continuity of the sharp steel-blue line of the horizon.

Questions as to the characteristics of this unique

[1] All my photographic work, from which the illustrations in this narrative are taken, was done with the Eastman Kodaks, and (with very few exceptions) the Eastman films. The developing was done by Rau of Philadelphia.

terrestrial feature, among others, whether this enormous deposit of snow and ice is increasing or decreasing, or remaining practically stationary, are of special interest to geologists and glacialists.

It might seem at first thought that the "Great Ice" must be constantly increasing in depth, but there are causes at work inimical to such increase, and only investigations carried on through a period of years can determine whether the resultant of these causes is greater or less than, or just balances, the annual precipitation.

Principal among these causes are the glaciers, the wind, melting, and evaporation. The former, which protrude through every deep valley in the coast mountains, discharge into the sea during the year an enormous bulk of ice from the lower strata of the "Great Ice" of the interior, in the shape of numerous fleets of icebergs.

A very important peculiarity of the ice-cap is the intensity of the light. My journeys across the "Great Ice" have been made during the Arctic summer—that is, during the time that the sun is constantly above the horizon throughout the twenty-four hours, for a period of some four months. The Arctic sun in clear weather is as brilliant as the sun of any Southern latitude, and when this brilliancy is increased by reflection from an interminable, and absolutely unrelieved, glistening white surface of snow, lifted into the highly rarefied and pure upper strata of the Arctic atmosphere, the intensity of light is something that can be realised only by one who has actually experienced it. The pungent quality of this blinding glare is such that the strongest eye can endure it unaided only for a few hours. A man placed in the centre of the "Great Ice," in mid-summer, with no means of protecting his eyes, would be as completely helpless at the

end of a day as a blind kitten. The traveller upon the "Great Ice" must keep his eyes constantly protected by goggles of heavy smoked glass, and even with this we frequently, when in camp and trying to sleep, were obliged to protect our eyes still further by a strip of fur tied across them to exclude the light which would otherwise penetrate the closed lids.

Sometimes, though rarely, cloud shadows drift across the white expanse, but usually the cloud phenomena are the heavy prophecies or actualities of furious storms veiling the entire sky, or the dainty transparent cirrus feathers. In clear weather, the traveller upon this white waste sees but the snow, the sky, the sun. In cloudy weather, even these disappear. Many a time I have found myself in such weather travelling in grey space, feeling the snow beneath my snow-shoes but unable to see it. No sun, no sky, no snow, no horizon—absolutely nothing that the eye could rest upon. Zenith and nadir alike, an intangible grey nothingness. My feet and snow-shoes were sharp and clear as silhouettes, and I was sensible of contact with the snow at every step, yet as far as my eyes gave me evidence to the contrary, I was walking upon nothing. The space between my snow-shoes was equally as light as the zenith. The opaque light which filled the sphere of vision might come from below as well as above. Never shall I forget, though I cannot describe, the impressions made by these surroundings. The strain, both physical and mental, of this blindness with wide-open eyes was such that after a time I would be obliged to stop until the passing of the fog, or formation of higher clouds, gave me something to keep the course by.

The wind is never quiescent on the "Great Ice." Day and night, summer and winter, year in and year

out, it is sweeping down, sometimes with greater, sometimes with less velocity, from the frozen heart of the "Great Ice," bearing with it a burden of snow and following the most direct slope to the land, which once reached it goes rushing over the mountain summits, some of it sinking in whirlpools and eddies into the valleys, but much of it being carried on to the coast-cliffs, over which it goes swirling into the sea or onto the sea ice. During gentle breezes this drift is of almost impalpable fineness, and extends but a foot or two above the surface. As the wind increases in force, the particles of snow become coarser and the depth of the current of flying snow increases until, in the savage blizzards of the frozen Sahara, this drift becomes a roaring, hissing, blinding, suffocating Niagara of snow, rising hundreds of feet into the air; a drift which almost instantly buries any quiescent object, and in which it is almost impossible for the traveller to breathe. This drifting snow is as penetrating as water. When the depth of the drift is not in excess of the height of the knee, its surface is as tangible, and almost as sharply defined, as that of a sheet of water, and its incessant dizzy rush and strident sibilation become, when long contiued, as maddening as the drop, drop, drop of water on the victim's head in the old torture-rooms.

There is no doubt in my mind but that in the middle of the Arctic night, in the centre of this "Great Ice," lifted a mile and a half or two miles into the frozen air that sweeps around the pole, separated from any possible effect from the earth's radiated heat by a blanket of ice and snow a mile or more in thickness, and distant fully two hundred and fifty miles from the possible ameliorating effect of the Arctic seas, there is to be found the fiercest degree of cold of any spot upon the surface of the globe.

The characteristics of such portions of the Inland Ice as came under my personal observation, in 1886, in from the head of Disco Bay, may be stated as follows. The coast-line shows a great diversity of features, dependent upon the altitude, the season, and the elevation and configuration of the adjacent mountains. Wherever the ice projects down a valley in a long tongue or stream, the edges contract and shrink away from the warmer rocks on each side, leaving a deep cañon between, usually occupied by a glacier stream; and the upper surface, disintegrated by the reflected heat from the mountains above, and shattered by the daily change of temperature more perhaps than by the forward flow, presents a chaotic labyrinth of crevasses, gullies, and ragged pinnacles, increasing in magnitude in direct proportion to the length of the tongue and its approach to the sea-level. Smaller tongues or teats, rounding down into shallow indentations in the crest of the mountain dam, are apt to have only their tips ragged and their upper surfaces covered with a network of narrow crevasses. Higher up, along the unbroken portions of the dam, where the rocks have a southern exposure or rise much above the ice, there is apt to be a deep cañon between the ice and the rocks. The bottom of the cañon is almost invariably occupied by water. Where there are no adjacent rocks higher than the ice to push it back with their reflected heat, the ice will reach down upon the rocks in a dome-like slope. Frequently drifts of fine hard snow extend like causeways from ice to rock, through the bases of which the littoral glacier streams tunnel a passage. Still farther up, at the very crest of the dam, the ice lies smoothly against the rocks. As to the features of the interior beyond the coast-line, the surface of the "ice-blink" near the margin is a succession of rounded hum-

mocks, steepest and highest on their landward sides, which are sometimes precipitous. Farther in, these hummocks merge into long flat swells, which in turn decrease in height towards the interior, until at last a flat, gently rising plain is reached, which becomes ultimately level.

In passing from the margin of the "ice-blink" to the remote interior, from one to five distinct zones may be noted, the number and width varying with the season, the latitude, and the elevation. In winter the entire surface is undoubtedly covered with a deep unbroken layer of fine dry snow. Late in the spring, the warmth of the sun at mid-day softens the surface of the snow along the low borders of the ice, and this freezes at night, forming a light crust. Gradually this crust extends up the interior, and with the advance of the season, the snow along the borders of the "ice-blink" becomes saturated with water. A little later, this zone of slush follows the zone of crust into the interior, the snow along the borders of the "ice-blink" melts entirely, forming pools in the depressions, and streams which cut deep gullies in the ice; water cavities form; old crevasses open, and new ones appear. This zone rapidly widens and extends into the interior in the footsteps of the others, and behind it the immediate border of the ice gets ragged and soiled, pebbles, boulders, and moraines crop out of its melting surface, and by the end of the Arctic summer it is eaten and shattered by the heat, and eroded by the streams, into impassable roughness.

In my journey of 1891, across the ice-cap of Northern Greenland, on the upward march, in my effort not to make any more easting than was absolutely necessary, I was repeatedly turned from my course by the unexpected penetration of the glacier basins of the great fjords of the north-west coast into the

interior, and in this way experienced much delay and annoyance. On my return the same year, I went well into the interior to avoid these obstacles. In this I succeeded. With two routes having the same starting and objective points, and enclosing between them an elongated elliptical area, it was evident that an intermediate route on my next journey would not only be somewhat shorter, but would avoid the crevasses and steep slopes of the one route, and the deep soft snow of the other. This I found to be the fact, and after the experience of the upward journey I was able to modify the return route still more, with a saving of a few miles and an improvement in the travelling. A comparison of the four profiles between Whale Sound and Independence Bay is very interesting, and brings out the relief of the "Great Ice" in a very clear manner, showing that it is really a very much flattened mountain system in ice, with its main backbone, its radiant spurs, and its intermediate valleys.

The broad zone of wastage which I found so pronounced at the head of Disco Bay is very narrow, and even in places lacking entirely, along the edge of the ice-cap in Northern Greenland. The nunataks also, so common in South Greenland, occur in Northern Greenland, as far as my observations go, only in the actual current of the glaciers and the lower portion of their basins, and never at any distance from the coastal land ribbon.

My first journey was near enough to the edge of the ice to cross the great basins of exudation, if I may use the term, and their intermediate divides, and the profile shows a succession of ups and downs like those of a railroad located along the foothills of a mountain system. The profile of the return journey of the same year shows but one depression, and that in the

Humboldt basin. The profiles of the two journeys of 1894 are ideal in that they show a rapid ascent from Bowdoin Bay to the surface of the central ice mass, and then a gradual gradient along the western slope of the continental divide till the summit is reached, near Independence Bay, when the descent is rapid to the edge of the ice.

That the crest of the Greenland continental ice divide is east of the country's median line there can be no doubt. Where it is crossed on the way to Independence Bay, it is trending away to the north-west and rapidly decreasing in altitude to lose itself in the landward slopes of the "Great Ice" near the convergence of Victoria Inlet and the north-west coast. From this continental divide extend spurs into the Cape York Peninsula, Prudhoe Land, Washington Land, Hall Land, etc., and between these divides are the enormous basins which feed the glaciers of Melville Bay, Inglefield Gulf, Kane Basin, Petermann and Sherard-Osborne Fjords.

The experienced navigator of the "Great Ice" has, like his brother of the sea, the means of avoiding or overcoming adverse conditions. If he has come in too close proximity to the land, *i.e.*, the edge of the ice, and finds himself among the rocks and breakers, *i.e.*, crevasses and steep blue ice slopes, he must put to sea at once, *i.e.*, swerve into the interior. If when well out to sea he encounters continuous adverse winds and currents and heavy sea, *i.e.*, up grade and deep soft snow, he can avoid them by veering toward the shore, when he will at once reduce the grade, and in a short time reach hard going.

The regularity of the winds of the "Great Ice" of Greenland, as I have found them during an actual sojourn of over seven months upon the "Great Ice," and visits to it of greater or less duration in every month

of the year, is phenomenal. Except during atmospheric disturbances of unusual magnitude, which cause storms to sweep across the country regardless of ordinary rules, the direction of the wind of the "Great Ice" of Greenland is invariably radial from the centre outward, perpendicular to the nearest part of the coast land ribbon. So steady is this wind and so closely does it adhere to this perpendicularity, that I can liken it only to the flow of a sheet of water descending the slopes of the "Great Ice" from the central interior dome to the coast. The direction of the nearest land is always easily determinable in this way: the neighbourhood of great fjords is always indicated by a change in the wind's direction; and the crossing of a divide, by an area of calm or variable winds, followed by winds in the opposite direction, independent of any indications of the barometer.

The opinion was advanced by me immediately on my return in 1892, that the transporting effect of the wind upon the snow of the ice-cap must be counted as one of the most potent factors in preventing the increase in height of the ice-cap; a factor equal perhaps to the combined effects of evaporation, littoral and sub-glacial melting, and glacial discharge. This opinion has been corroborated and greatly strengthened by my later observations. When it is remembered that the flow of the atmosphere from the cold heights of the interior ice-cap to the lower land of the coast is going on throughout the year with greater or less intensity, and that a fine sheet of snow is being thus carried beyond the ice-cap to the ice-free land at every foot of the periphery of the ice-cap, there to melt, it will perhaps be seen that the above assumption is not excessive. I feel confident that an investigation of the actual amount of this transfer of snow by the wind is well worth the attention of all glacialists.

The character of the "Great Ice" is such as to make a powerful impression upon even the most prosaic mind. When I think of it I rarely recall the hunger, the cold, the killing work, the disappointments I have experienced upon it. Rather do I think of it in its varying phases, as one of the sublimest features that earth contains. I harbour malice against it for but one thing, the lives of my dogs.

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And finally a few words in regard to Arctic Exploration. From the earliest days, when men dreamed of the ever-sunny Eden of the Hyperboreans far beyond the land of the Antropophagi, till now, the region within that magic line which bounds the northern disk of midnight suns and noonday nights,—the Arctic Circle—has exercised a strange charm over men and women of all intellects, all ages, all conditions of life.

In exploration, as in business, as in letters, as in invention, conditions are entirely different now from what they were years ago. It is no longer possible for the confines of the well-known to be attained by a dash either mental or physical. The days when a Galileo or a Columbus could in a bound reach and pass beyond the narrow circumference of the world of mind or matter at any point are past. Arctic exploration must, like anything else, be made a business and carried on from year to year, profiting by each added item of experience, taking advantage of every occurring opportunity.

The two great popular objections to Arctic explorations seem to be the waste of money connected with it, and the supposedly excessive loss of life. It would seem from the emphatic utterances of some who decry what they consider a waste of money on Arctic work, that they are under the impression that the money

expended upon an Arctic expedition is taken north and buried in the snow, becoming an absolute and total loss. It seems to be forgotten that the supplies and equipments of these expeditions are purchased and paid for at home, and that they contribute to the support of a certain number of people for a certain time, as much as if those people were living at home.

The other objection, that Arctic work means too great a sacrifice of life, loses its force in the light of actual facts. To those familiar with the literature of Arctic explorations, it is a well-known fact that the loss of life in this field, even including those expeditions which have disappeared utterly and completely in the savage fastnesses of the "White North," amounts to but about two per cent. of the total number engaged in the work, a percentage less than that of the annual loss of life among the fishermen and sailors of the British Isles. During my own work of the past eleven years but one life has been lost, and that was the result of an accident in no way connected with the work itself, an accident which would have been likely to occur in the Alps or in any of our own wild mountainous districts.

My experience has strongly accentuated my belief in small parties for Arctic work. The results obtained by Graah, Rae, Hall, Schwatka, Greely, and others, were obtained by parties of two or three. Many of the sad disasters, which form a part of Arctic history, would have been avoided had the parties been small. It is a popular fallacy that there is safety in large parties. The entire animus of the Arctic regions is against such parties, and in the event of their being thrown, either temporarily or permanently, upon the resources of the country for sustenance, an occurrence that is one of the most certain of Arctic possibilities, the members of such large parties will starve, where

a small party would have abundant rations. A coward also, a weakling, or an insubordinate, has better opportunity to cause demoralisation in a large than in a small party. In the Franklin expedition of one hundred and thirty-eight, not one lived to tell the story of their awful final days, and I have no doubt that the utter loss of that expedition was due directly to its size. As long as everything goes well, a large party may be all right, but in the hour of disaster or serious disappointment, the trouble begins. Nothing can be more terrible than the retreat and struggle for life with a large party under the fearful stress of the Arctic.

It is impossible for a leader, no matter how able he may be, to fill a large party, as he can a small one, with his own courage and hopefulness. Every individual in the party represents a drain upon the vital magnetism and force of the leader, upon whom the safety of the party depends. Up to a certain point his example is contagious, and his cheerfulness, activity, and courage are reflected in every member of the party; but when day after day of arduous struggle, of cold, of hunger, and of discouragement, has reduced the strength, both physical and mental, the infusion of fresh courage into a desponding one requires as tangible a transfer of the leader's stamina and nerve-force, as the filling of a vessel with water from a reservoir, and the reservoir in this case does not refill as rapidly as under normal conditions.

To those who, in the absence of a dollar-for-dollar return for every effort, ask, "Of what earthly use is Arctic exploration?" I might answer: "What is the use of yacht races, of athletic contests, of trials of engines, and war-ships, or any of the innumerable tests that have, since the world was young, been man's only means of determining the superiority of one man,

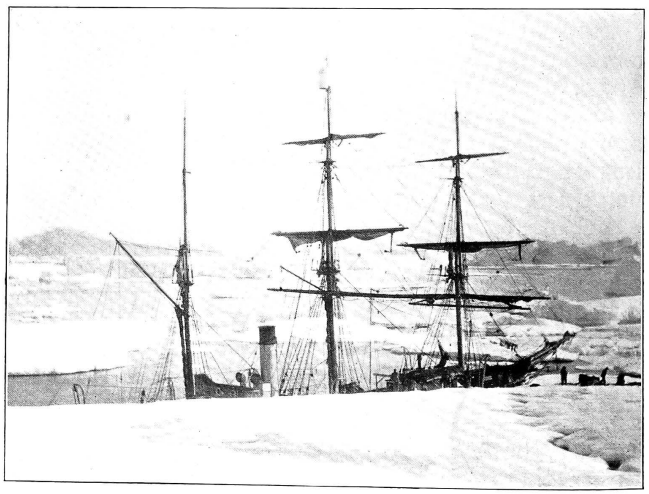
or one machine, or one method, or one nation, over another?" Were I asked to enumerate all the possible advantages of Arctic explorations, I should say frankly I cannot do so, any more than I or anyone could have said, fifteen or twenty years ago, that an insignificant grass growing on the banks of a tropical river would make our incandescent electric light a possibility. It would not be at all strange if, in a region of the strangest contrasts, where active volcanoes are found surrounded by eternal snow and ice, and where the poppy—symbol of warmth and sleep and luxury—blossoms at the very foot of the crags of icy glaciers, some material were found which would make possible some yet unknown necessity of our future civilisation.

But suppose we admit that Arctic exploration is only a matter of sentiment, with no money return; no increase of commerce; no fruit of colonisation; no harvest of great good for many men. Let it stand as a sentiment; it has good company. Love and patriotism and religion are matters of sentiment, and we ask no money return for them.

Yet a question which claimed the lives of such men as Kane, Hall, De Long, Chipp, and Lockwood, of our own countrymen, and Franklin, Bellot, Crozier, and many more from across the water, and has inspired the pens of Markham, Petermann, Barrow, Melville, and others, needs no apologies or defence. There are no pages of England's history on which she prides herself more than those on which are inscribed the work and the discoveries of her sons within the realm of noonday nights and midnight suns, and there is no American that is not proud of the records of De Haven, Kane, Hayes, Hall, De Long, Greely, Lockwood, and Schley.

Whatever may be said against Arctic exploration, it remains a definite fact, that no other portion of the

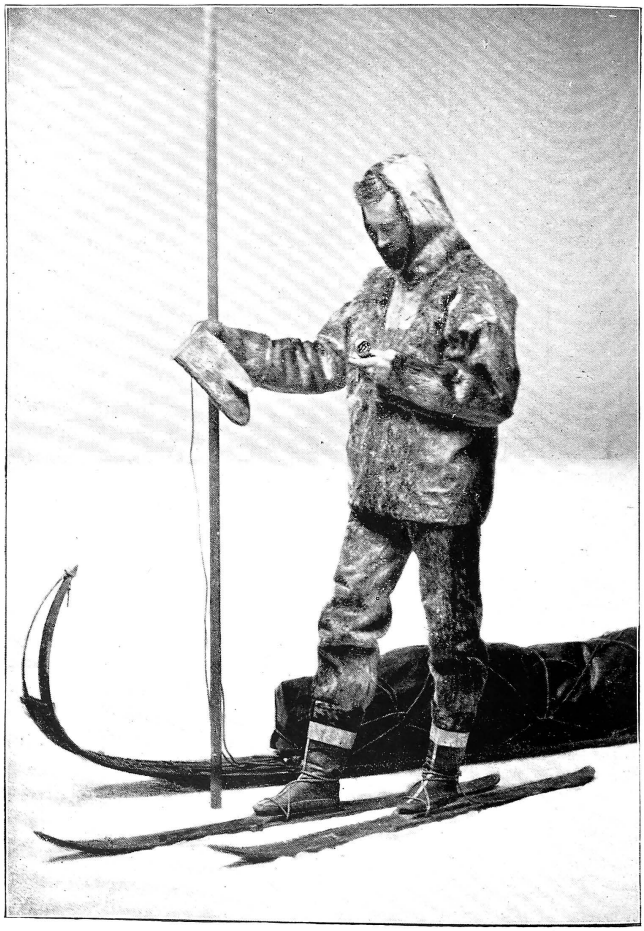
globe possesses such universal attraction for young and old, illiterate and intelligent, weak and strong, as this. And one thing is as certain as that the North Star will continue to shine: regardless of utility or non-utility, the inherent charm of Arctic work, and the irrepressible restlessness of the human animal as long as there remains a corner of the earth unknown to him, will keep up efforts in the "White North" till every square mile of sea and land has been charted.



PART I.

RECONNAISSANCE OF THE GREENLAND INLAND ICE, 1886.

St. John's to Godhavn on the Whaler *Eagle*—Godhavn to Pakitsok Fjord in an Oomiak—Eastward over the Ice-Cap—7500 Feet above the Sea—Back to the Land—Sailing down the Ice-Slopes—Forty Miles in a Night—Into the Tossukatek Fjord—Across the Base of Noursoak Peninsula—Fossil Beds of Atanekerdluk—Aboard the *Eagle* again and across Baffin's Bay—Dexterity Harbour—Cape Adair—The Savage West Coast—A Playful Whale—Natives—Bears—An Arctic Hurricane—Cumberland Sound—Fighting for Liberty—Back to St. John's.



ON THE GREAT ICE.

PART I.

RECONNAISSANCE OF THE GREENLAND INLAND ICE, 1886.

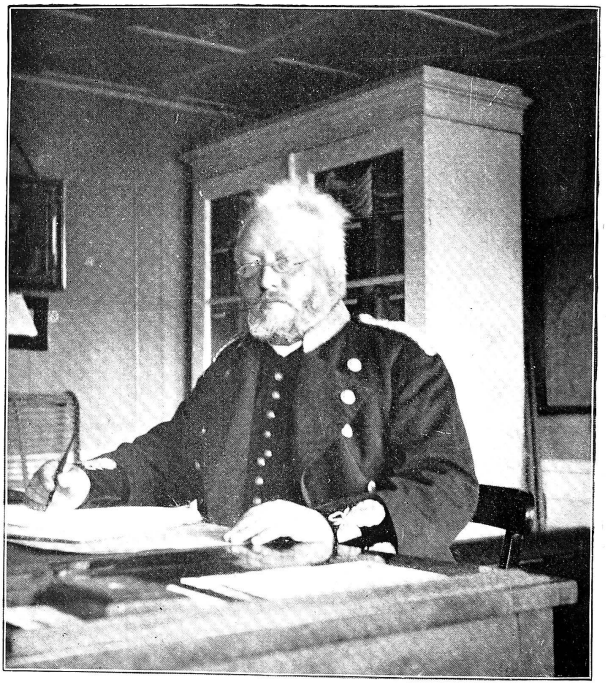


THE Navy Department having granted my application for leave, I made the necessary arrangements and left Sydney, C. B., on the steam whaler *Eagle*, Captain Jackman, Master, late in May, 1886.

The northward voyage to Greenland was one of intense interest and novelty to me. The masterly way in which the *Eagle's* solid iron-clad bow was handled by Jackman to smash a passage through the early-season ice of Davis Strait was a revelation, and the bracing air, the daylight growing till the whole twenty-four hours were brilliant in sunlight, and the endless succession of contrasts, make the voyage a never-to-be-forgotten memory.

One day a continuous succession of grinding, shivering shocks as the *Eagle* rammed the ice; a constant stopping and backing, then going ahead again; a continual rattling of the rudder-chains as the helm was hurled port, starboard, then port again; and a continual cry from the man in the crow's-nest conning the

ship; the next, the ship rolling and pitching as if mad, the decks awash with water, and the foam and spray driving over the rail and across the companion-way in a blinding drift of snow, while overhead the rigging was shrieking and the stay-sails tense as iron in a wild north-easterly gale.



INSPECTOR NEILS ANDERSEN.
North Greenland Inspectorate.

Perhaps the next day the *Eagle's* deck was as level as a floor, though the whole ship was vibrating with

the hum of the frosted rigging overhead, while just above the crow's-nest spread a lifeless dome of lead; to leeward a sea of ink, blacker yet by contrast with the spray cut from the waves and whirled and beaten into snow-flakes, rising in the distance to meet a sky black as itself; close to windward a solid grinding white pack imprisoning two or three huge spectral bergs, and above it a narrow band of light, the "ice-blink," like a long, low, mid-winter sunset, or the frosty two-edged blade of a viking.

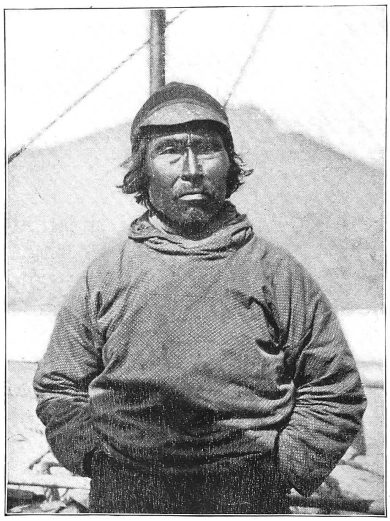
Then running out of the fog and storm, we would enter a rippling sea of sapphire and gold, with an exquisite mackerel sky above, and here and there a berg gleaming blue and rose in the level rays of the midnight sun.

June 6th, the *Eagle* left me at Godhavn and steamed away for the northern whaling grounds. Here I was obliged to wait two weeks for the ice to clear out of Disco Bay. During these two weeks the weather was sufficiently variegated to suit the most capricious fancy. Rain, snow, fog, wind, calm, tropical sunshine, and freezing cold, all played their parts in the shifting hours. Flowers bloomed alongside beds of snow, snow-buntings sang on the rocks, the sea was alive with gulls and terns and ducks, and the air full of the murmur of running water, while the eternal ice-cap of the island looked down from the top of the cliffs.

A wedding, a christening, visits to the "store" with its wealth of arctic treasures of fur and ivory, and long tramps up the cliffs and over the ice-cap of the island, fully occupied my time until at last I could embark for Ritenbenk at the head of the bay in a round little tub of a sail-boat manned by a crew of half-breeds: Neils, black-bearded, grey-eyed; Peter, yellow-haired, blue-eyed; Ikkias, Johann, and Daniell,

with Eskimo Frederick, who had been one of the dog drivers of the English 1875–76 Expedition, as pilot and interpreter.

My plan, in outline, was to gain the border of the interior ice at some point as near the north-east angle of Disco Bay as possible, my preference being the base of Noursoak Peninsula, and then take a course towards Petermann's Mountain on the east coast. But for various reasons I was obliged to modify my plans.



FREDERICK.

My sledging equipment was made in the lightest and most thorough manner, under my own supervision, and entirely without reference to the use of dogs. The principal items were two nine-foot sledges, thirteen inches wide, made of hickory, steel, and hide, on a modified Hudson Bay pattern, and weighing, complete, with drag ropes and lashings, twenty-three pounds each; small jacketed alcohol stoves, nine-foot double-ended ash alpenstocks with steel point and chisel, rubber ice-creepers, snow-shoes, snow-skates.

Rations consisted of tea, sugar, condensed milk, hard bread, pemmican, cranberry jam, baked beans, Liebig extract, and an experimental mixture of meat,

biscuit, and desiccated potato, put up in two-pound cans by Richard & Robbins, of Dover, Delaware.

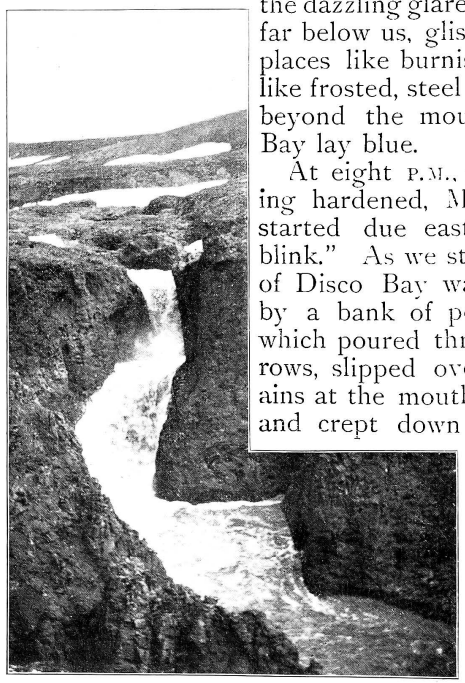
June 23d I left Ritenbenk with my friend Christian Maigaard, assistant Governor of Ritenbenk, eight natives, an oomiak, and two attendant kayaks. At midnight we rounded the southern extremity of Arveprins Island, in Disco Bay, and headed across the mouth of Ikaresak Sound for the entrance of Pakitsok Fjord. Above us the clouds were heavy and leaky, and ahead every depression of the dark mountains and the underside of the black cloud canopy above them was lit with the pale, cold glare of the "ice-blink."[1]

Entering the narrow-mouthed, bluff-walled fjord, we camped. The next day we proceeded up the fjord through the narrow cañon which separates the upper from the lower fjord, said by the natives to be impassable except at certain stages of the tide. One wall of the cañon was glowing in the brilliant yellow sunlight which poured in a level flood through the western entrance; the other lay in deep purple shadow; between them flowed the strong deep-green current, and through the cañon the upper fjord, known to the natives as Illartlek, gleamed blue, and the summits of the inner mountains were soft with yellow light. Beyond the cañon the fjord expanded into a broad lake, contracting again several miles farther up. Above this point the water was pale green, rapidly growing shallow, whiter, and fresher.

At six A.M. of the 25th we landed at the head of the fjord, and twenty-four hours later I had reconnoitred the entire extent of the mountain dam, some twenty-five hundred feet in height, which keeps the Inland Ice in check in this vicinity, and found a practicable route to the surface of the ice-cap. Early on the 28th

[1] The Danish colonists almost always refer to the Inland Ice as the "ice-blink," and I follow their custom.

we had everything up to the ice-foot, 1155 feet above the sea, and on the morning of the 29th our two sledges, the *Sweetheart* and *Princess Thyra* (named in honour of Denmark's youngest princess), lay with their loads upon the landward edge of the ice-cap, 1956 feet above the sea. We lay down under the lee of the sledges, but the wind and the blinding sun made sleep an impossibility. The masses of black rock beyond the margin of the "ice-blink" were tremulous in the dazzling glare; the blue fjord far below us, glistening in some places like burnished, in others like frosted, steel; and over and beyond the mountains, Disco Bay lay blue.



BLAESE DALE CATARACT.
Near Godhavn, Disco Island.

At eight P.M., the snow having hardened, Maigaard and I started due east up the "ice-blink." As we started, the blue of Disco Bay was blotted out by a bank of pearl-white fog, which poured through the narrows, slipped over the mountains at the mouth of the fjord, and crept down their eastern slopes in feathery sprays of silver upon jet. A little later a mass of black clouds hid the sun, and at midnight the fog blotted out the land be-

hind us. At one A.M. it overtook us, the suddenness with which it blotted out everything and shrouded us in grey nothingness was startling. We kept on till the fog changed to sleet, and, the wind increasing, I called a halt three thousand feet above the sea. Turning the sledges upon their sides, and placing our rubber pillows and blankets in their lee, we lay down. By this time the wind had become a gale, and the sleet, changed to snow, was driving in a continuous sheet over the tops of the sledges.



DANISH ESKIMO WOMAN.
Showing Greenland Styles in Sealskin Jackets, and Characteristic Eskimo Method of Carrying Children.

We lay behind our sledges, which with ourselves were soon buried in the drift, until late in the afternoon of the second day, when the steady roar of the storm broke into intermittent squalls, and crawling out we got momentary glimpses, behind and below us, of a dense mass of clouds, black beneath and dark, dull lead colour above, hurrying northward just above the summits of the land. The land itself, hoary in its elevated portions with the newly fallen snow, lay everywhere else as black as midnight, and the fjord had become a pool of ink. Ahead of us, a pale supernatural glare rose nearly to the zenith, and in every direction the "ice-blink," swept by furious snow-

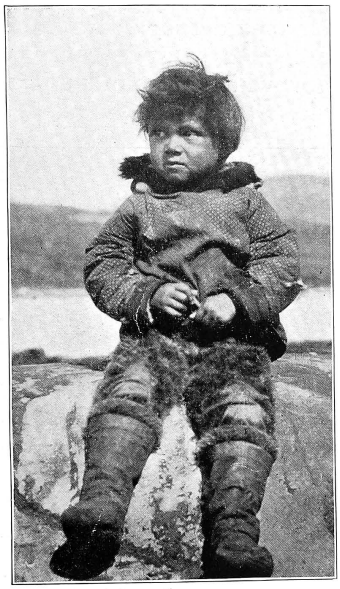
squalls, and its inequalities obliterated in the shadowless light, stretched dead and silent.

At six P.M., the clouds growing blacker and blacker every moment, and every indication pointing to a protracted storm, I decided to take the instruments and go back to the tent and await more favourable weather. At the level of the brink of the ice-tongue overlooking the ragged descent through the crevasses and gulches to the ice-foot, rain had fallen, instead of snow, and the edges of the crevasses, the sides of the gullies, and the hard blue pinnacles were like oiled steel, utterly impracticable. We could do nothing but climb over the crest of the mountain dam and down the cliffs to the valley. Here we forded the glacier river, and at midnight reached the tent, the rain falling in sheets, the wind dashing first up and then down the valley, threatening every moment to level the tent, and the glacier river a roaring torrent. Truly, the Inland Ice had given us a savage welcome, but we were not yet done with it.

On the afternoon of the fourth day, July 5th, bits of blue sky were visible, and we climbed the ice-cliffs once more, reached the sledges, dug them out, and started due east again.

North and east of us the surface of the ice was higher, and the swells apparently longer and flatter than those already passed. South-east lay the great feeder basin of the Jacobshavn Glacier stretching eastward into the "ice-blink," like a great bay, and up through its centre, like a tide rip in a smooth sea, glistened the ragged points of the glacier itself. Just previous to starting, while walking near the sledges without snow-shoes or alpenstock, I broke into a narrow crevasse, and as I hung for an instant supported by my outstretched arms, before scrambling out, the fragments of the treacherous snow arch went rattling down the

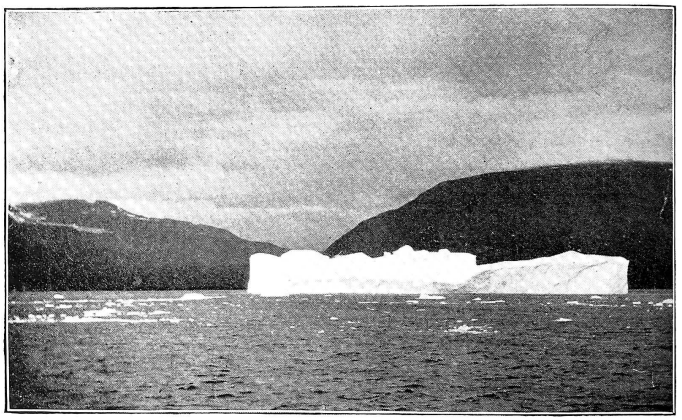
azure depths till the echoes they awoke were like the chimes of silver bells. Our snow-shoes prevented a repetition of the occurrence in crossing the network of crevasses which extended east from our camp. As we advanced these disappeared, and in the cold of the early morning the entire surface became one firm unbroken crust, affording excellent walking. Two or three small ponds which we met were frozen just hard enough to support us as we half slid, half skated rapidly across on our "ski" (snow-skates). While crossing another, Maigaard followed me too closely; the ice, cracked and weakened by my passing, broke, and let the *Princess Thyra* through in some five feet of water, and it was only with the utmost difficulty that we got her out and to the bank again. This mishap brought us to a halt in a hollow 3300 feet above the sea, and we turned in in the lee of the sledges for a few hours' sleep, after which we spent the day drying our foot-gear and Maigaard's sleeping-gear, saturated by the accident and frozen stiff.



GREENLAND SMALL BOY.

As soon as the sun got around to the north-west and the snow had hardened sufficiently to support our sledges, we strapped our snow-shoes on and

started again. We soon reached a long, narrow lake, stretching across our path to the left, and not yet frozen hard enough to support us. To flank this lake cost us a detour of two miles, and even then we were compelled to wade through the morass of saturated snow which surrounded it and extended far on either side.



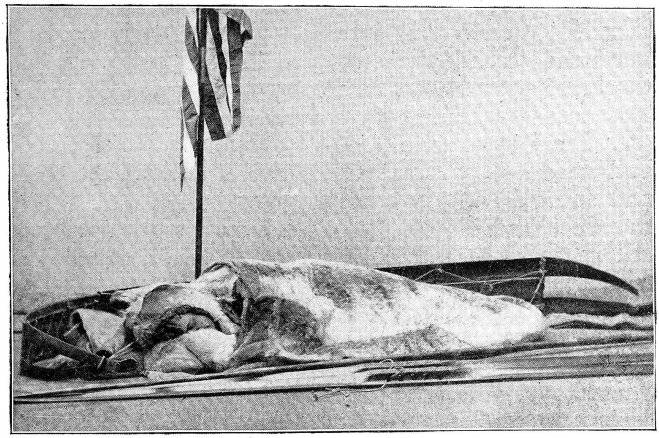
SOUTH COAST OF DISCO ISLAND, EAST OF GODHAVN.
Tabular Berg in Foreground.

Soon after midnight the snow surface became firm and coarsely granular with occasional small patches of snow of marble-like fineness and whiteness, souvenirs of the last storm.

Later we encountered areas of glazed snow, of such hardness that even the brads in our sandals and the steel shoes of the sledges scarcely left a trace. The fierce morning gale brought us to a standstill 4100 feet above the sea, the entire surface of the "ice-blink," as far as we could see, glazed and shining

beneath the morning sun, with a blinding brilliancy impossible to describe.

Taught by our experience at previous camps, that it was impossible to sleep exposed to the powerful glare of the sun and the searching sweep of the wind, and having at this camp suitable material, we built a rough hut, cutting blocks of snow with a long, narrow-bladed saw, and building a low wall around three sides of a rectangle, over which we spread a rubber blanket and weighted it down with the sledges.



BIVOUAC ON THE ICE-CAP.

During the next nine days we pushed on through various experiences, usually in the teeth of a head-wind. Sometimes far up the most delicate cirrus clouds hung motionless in the blue, again black banks of cumuli would sweep up above the horizon. Once or twice we were enveloped in dense fog, which coated everything with tiny, milk-white crystals of ice, and in one march a brilliant parhelion filled the north-

eastern sky with rainbow hues and elicited answering flashes of colour from the glittering snow-field.

After getting above an altitude of six thousand feet, the temperature dropped to 10° and 8.5° F.

When we resumed our march on the 15th, the wind had settled down to a south-easterly gale loaded with snow; and against this we advanced with goggles on, hoods pulled up, and heads down, keeping our course by the wind, until the sinking of the sledges in the soft snow, and the continual clogging of our snow-shoes, compelled us to stop and wait the cessation of the storm at an elevation of 7525 feet. Too tired and sleepy from our struggle with the storm to build a hut, even had the loose snow rendered it possible, we lay down behind our sledges and fell asleep.

When I awoke we were completely snowed under, and here we lay for forty-eight hours, with the wind and snow driving in one incessant, sullen roar across the drift above us. Then we crawled out during a lull in the storm and dug a shallow pit, covered it with a rubber blanket, excavated our sledges and bags, weighted the blanket down with the sledges, threw our bags underneath, and crawled after them.

About five A.M., Monday the 19th, a narrow ribbon of crystalline blue appeared beneath the clouds in the south-east, and widened and grew until it reached the sun. Then followed a perfect day, warm, clear, almost calm, enabling me to get a good observation, and permitting us to dry all our gear. Our camp, 7525 feet above the sea, and within a fraction of one hundred miles from the margin of the "ice-blink," lay in a shallow basin, the snow, previous to the last storm, of the consistency of fine granulated sugar as far down as I could force my alpenstock (some six feet).

We had six days' provisions left, and being uncertain as to the changes in the lower portion of the

"ice-blink" during our absence, I decided to return. We lashed the *Sweetheart* and the *Princess Thyra* together, making as strong and flexible a little catamaran as one could wish to see; the black sail, yellow spars and hulls, red sailing pennant, and the flashing tins of the load, forming a vivid contrast to the unbroken white expanse of the "ice-blink."



COASTING.

Late on the 19th we started on our return beneath a cloudless sky. A peculiar phenomenon noticed during this march was the apparent sinking of large areas of snow at intervals as we passed along, accompanied by peculiar muffled reports which rumbled away beneath the crust in every direction until they died away; just as happens when one is skating upon a freshly frozen lake in early winter. The sky above was flawless blue, the crimson sun in one direction, the yellow moon opposite, and the plain on which we travelled spread with diamond dust. At

midnight the northern sky was a sea of crimson light, and the snow lay bathed in delicate shades of rose.

All the next day an east wind blew, and the sledges went merrily along before it, requiring no exertion on our part other than to guide and restrain them.

During this march sky and snow were again brilliant with indescribable splendour. Not a cloud was visible except, at a great altitude, two or three delicate, motionless "mare's-tails," the banners of the wind. The snow-dust raised by our snow-shoes went hurrying along before us in two long, sinuous lines of pale rose-tinted smoke, twisting and waving like spirits of the ice at play.

When we halted, the wind was howling like a demon past the sledges. After rigging a rudder (a hatchet lashed to the end of a snow-skate) to the catamaran, we turned in upon the sledges. As the yellow sun stooped to the northern horizon again, Maigaard and I turned out, took our places upon the sledges, and began a bit of travelling which, as far as I know, has no parallel in arctic work. From midnight till five A.M. we sped along, taking levels at the speed of a fast walk, and dashing rapidly down the inclines, the hatchet rudder working admirably. Then a group of enormous snow-covered crevasses sprang across our path, and the land, Noursoak and Disco, dark and half shrouded in haze, leaped up from behind the white expanse below us with a suddenness that was absolutely startling. The crevasses, the most magnificent ones we had seen, were many of them fifty feet wide, and the group was about half a mile across. As a rule, they were covered by snow arches, though in several places these had fallen in. The snow arches being apparently strong, we rushed the sledges over, taking flying steps, and half supporting ourselves on the yard of the catamaran, as



ICE-CAP EQUIPMENT.

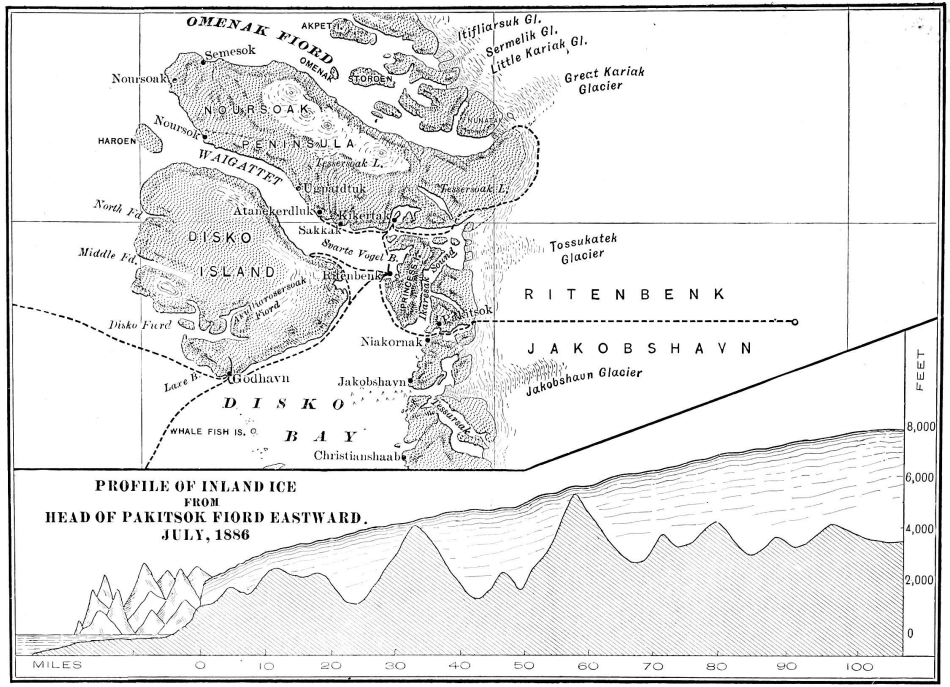
the wind and the impetus of our run hurried us across. The edges of all the openings into these huge chasms had an overhanging lip of snow, making it impossible to approach them to sound or look down. We could only get hasty glimpses into them as we passed over the snow arches, and these showed that their ragged blue walls, hung with giant icicles and frostwork of fantastic patterns, descended into depths of blue-black night.

Beyond the crevasses the descent was very rapid, and, jumping on the sledges again, we began an exciting run. The wind, straining the sail till it threatened to tear it from the mast, and the rapid descent together, drove us down the frozen slope with a breathless rush which only those who have been on a toboggan can understand, our supple catamaran gliding over the snow and rising and falling to every inequality with sinewy ease and grace.

There are two who will not soon forget that glorious dash down the slope of the eternal ice in the crisp air and rosy light of that arctic summer morning. At the end of an hour we reached a region where every depression was occupied by a blue pond, often hidden by the hummocks till we were almost into it, and we were compelled to lower our sail, get off the catamaran, and walk until we were stopped by a broad morass of slush and water, extending right and left as far as we could see. The total descent during this march was 2125 feet. The snow where we halted was a mass of heavy slush, and the wind threatened to pick us up bodily and hurl us into the swamp ahead. Here we remained until midnight, waiting for the surface of the morass to freeze sufficiently to support us. Scarcely fifty yards from camp, however, we sank to our knees, our snow-shoes coming up loaded with slush, at a temperature that needed but a touch of the

air to make it congeal. Fortunately, the depth of this slush and water nowhere exceeded three feet, and fording the stream, which ran through the centre of the morass, we at last emerged upon dry ice, and, clearing the sledges of their load of slush, started on a run to restore sensation to our feet. For several hours these half-frozen morasses alternated with hard blue ice, honeycombed with water cavities. Then the character of the ice changed completely, the slush and water cavities disappeared, and the entire surface consisted of a white granular snow-ice scored in every direction with furrows one to four feet deep, and two to eight and ten feet wide, with a little rill at the bottom of each.

The tops of all the hummocks were traversed by more or less numerous crevasses, and one of the crevasses, covered by a light snow arch, came near robbing me of my friend. We had pushed the catamaran across, as was our custom, till it rested at each end on the opposite edges of the chasm, and I had leaped across to pull at the same instant that Maigaard pushed. Unfortunately, he tripped as he sprang after, stepped heavily upon the snow arch, it gave way beneath him, and clinging to the stern of the catamaran he sank into the crevasse, while the bow shot into the air with a jerk that nearly tore it from my grasp. For a moment the sledges hung tilted on the lip of the chasm, with a man's life hanging on their quivering forms; then my weight conquered, and Maigaard's head came up to the surface level; the sledges crept farther on to the ice till the long arm of the lever was in my favour, and Maigaard, pale but smiling, swung himself up on the ice. A little farther on, I came in for a disagreeable though harmless experience. Having stepped down mid-thigh-deep in a glacier stream to lift the *Sweetheart* and the *Princess Thyra* across,

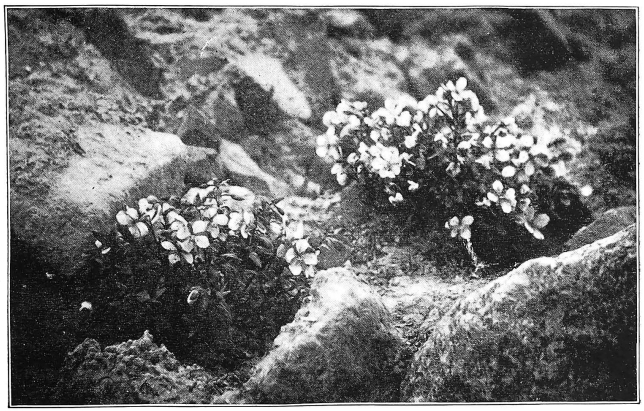

OMENAK FIORD
AKPET
Itifliarsuk Gl.
Sermelik Gl.
Little Kariak Gl.
Great Kariak Glacier
Semesok
Noursoak
OMENAK
STORDEN
NOURSOAK
PENINSULA
Noursok
HAROEN
WAIGATTET
Tessersoak L.
Ugpatdtuk
Tessersoak L.
North Fd
Atanekerdluk
Kikertak
Sakkak
DISKO
ISLAND
Middle Fd.
Swarte Vogel B.
Tossukatek Glacier
Ritenbenk
PRINCESS
Ikaresak Sound
RITENBENK
Akulhorosersoak Fiord
Disko Fiord
Pakitsok
Niakornak
JAKOBSHAVN
Lake B.
Godhavn
Jakobshavn
Jakobshavn Glacier
DISKO
BAY
WHALE FISH IS.
Tessarsak
Christianshaab
PROFILE OF INLAND ICE
FROM
HEAD OF PAKITSOK FIORD EASTWARD.
JULY, 1886
FEET
8,000
6,000
4,000
2,000
0
MILES
0
10
20
30
40
50
60
70
80
90
100

the current swept my feet from under me, plunged me into a deep hole just below, then rushed me along between the polished banks with dizzy velocity. I was beginning to get irritated at my utter helplessness in this stream, scarcely more than six feet wide, or more than five feet deep, when a shallow place gave my spiked sandal a point of application for a spring against the steep bank, up which I scrambled, and ran to help Maigaard, who was barely able to hold the half-submerged sledges against the current.

The furrows and crevasses increased in number and width as we neared the land. After the sun rose from its short dip below the horizon, we forgot everything in the splendour of the morning. The wealth of deep, rich colouring among the dark mountains below us was wonderful, and through their massive portals we caught glimpses of the deep blue of Pakitsok and Kangendluarsarsoak Fjords, and farther away Ikaresak Sound. Behind us the yellow sun floated along, above the steel-blue line of the frozen horizon, through a sea of liquid fire. Reaching the edge of the ice-tongue, we anchored the sledges, and with my instruments slung on my back, descended the glacier face.

All the more salient features here were the same as when we made the ascent three weeks before, but those three weeks of arctic summer had transformed every inch of surface into solid, glistening, unctuous blue ice, and every detail was sharper, deeper, more angular, more heavily accented, like an etching longer exposed to the acid. Ridges which then were broad enough to permit a sledge to pass with a man on each side, were now mere knife edges ; crevasses that could be jumped then, were impassable gulfs now. As we went down the valley we found a new tribe of flowers had made their appearance during our

absence. In some places the sod was covered with large purple blossoms, and delicate bluebells were abundant everywhere. The heat in the valley even



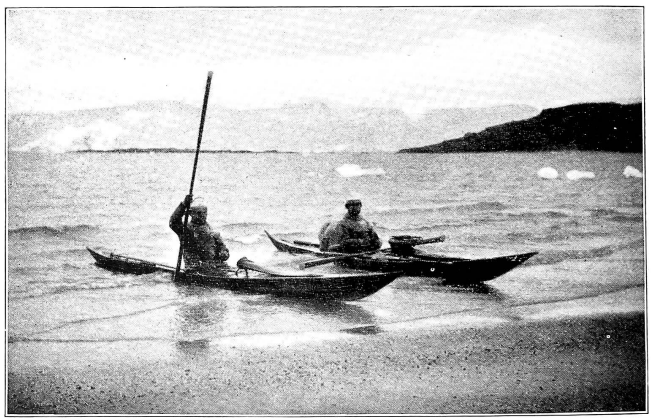
LARGE PURPLE BLOSSOMS.

at this early hour was oppressive to us, accustomed to the cold atmosphere of the "ice-blink," and when we reached the tent, I was carrying nearly all my wearing apparel except foot-gear slung at my back.

Two days later my burning eyes and cracked and blistered face had regained something like their normal condition, and we packed the sledges over the mountains and down to the tent on our backs, and returned to Ritenbenk. Here much to my regret I was obliged to part with my tawny-bearded, blue-eyed friend Maigaard, and go on alone to the Tossukatek Glacier and the base of Noursoak Peninsula.

The voyage in a small boat from Ritenbenk to Kekertak, where I was to obtain my crew and oomiak for the journey up the fjord, was without special incident

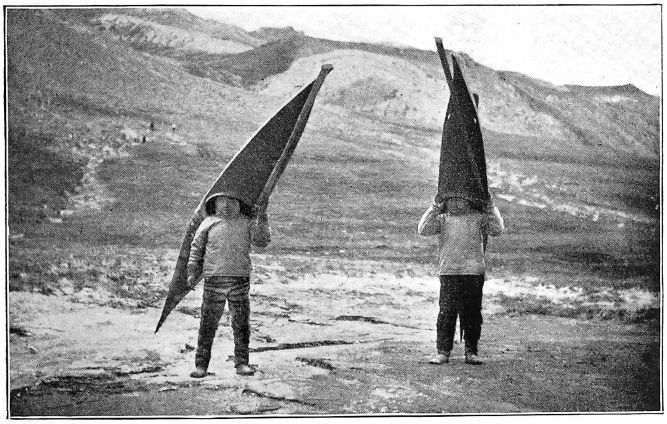
except the waiting one night in the rain at the black point of Niakornak for the swiftly drifting bergs and ice-pans to give us an opportunity to cross the fjord. The black rocks of the point tossed and pulled at the boat's painter, the rain pattered merrily on my rubber blanket as on a tin roof, and the point itself under its sable canopy of clouds, with ragged veils of rain driving across it, was as wild a piece of rockwork as I have ever seen.



ESKIMO KAYAKERS EFFECTING A LANDING.

From Kekertak I pushed on up the Tossukatek Fjord in an oomiak, manned by a crew of broad-shouldered, red-cheeked, white-toothed young men, the finest specimens of Eskimos I have seen. To my inexperienced eye, the fjord seemed utterly impassable. From shore to shore it was filled with a confusion of huge flat-topped bergs, the narrow cañons and tortuous lanes between them apparently packed solid with berg fragments and pans of floe ice. But

my pilots in the kayaks seemed to know by instinct where there was a passage, and on the second day we reached the head of the fjord without mishap. This voyage up the long, narrow outlet of such an enormous and active glacier as Tossukatek, was one of inexpressible grandeur. The air was continuously filled with a succession of sharp reports, varying in loudness from that of a percussion-cap to heavy artillery, while every few moments there would come a reverberating peal as of rolling thunder, and the swells from disrupting icebergs kept the whole mighty fleet surging and swaying, and broke with intermittent roar against the rocks of the shore.



ESKIMO KAYAKERS TRAVELLING OVERLAND.

My first view of the glacier showed it stretching across the head of the fjord, a giant rose-coloured dam, the majestic "ice-blink" rising blue above it.

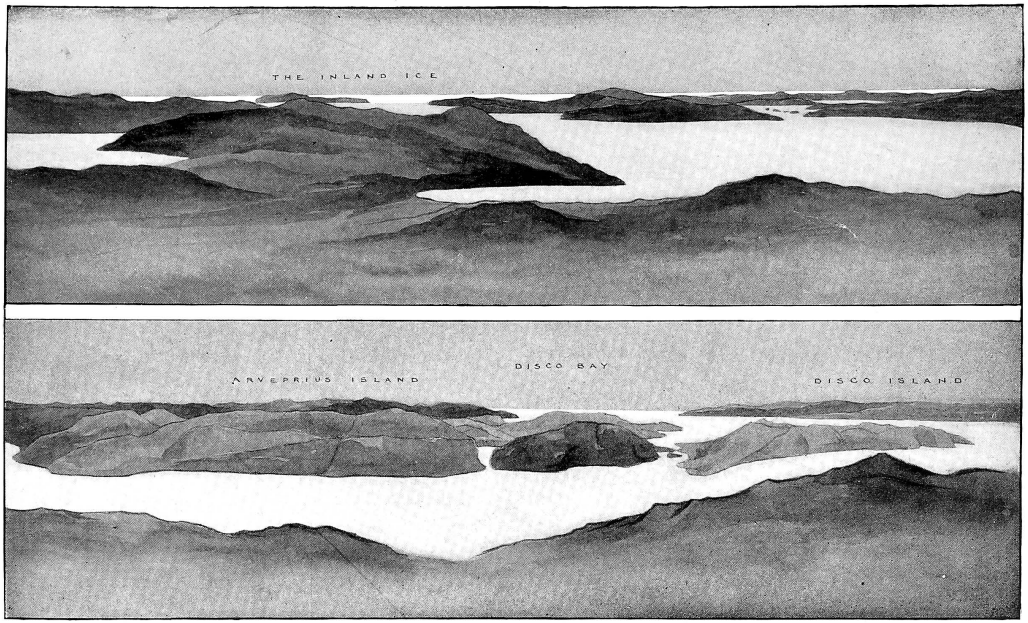
Late in the evening of August 3d, as the sun was dropping behind the northern mountains, I started

from my little tent, which had been erected close to the edge of the ice-cap, on my solitary reconnaissance of the "great ice" across the base of Noursoak Peninsula. Three days later I was back to the tent again, having crossed the ice to the edge of the Great Kariak Glacier, some twenty-five miles northward, where, after a momentary glimpse into the mighty basin of the great ice-stream filled with chaos-heaped ice, then out through the magnificent berg-dotted blue waters of Omenak Fjord, I had been caught in a south-easter, the black clouds of which poured over Noursoak, hiding the snowy peaks of Okaitsortalik, Majorkarsuatsiak, and their companions, and blotting my world out behind a veil of falling snow and rain.

Then I had retraced my steps through the continuation of the storm back to my tent. This solitary experience in the silence and desolation and infinite expanse of the "great ice" made a deep impression upon me.

Returning to Kekertak, I climbed the ragged peak of Nayat on the north side of the fjord, where I had a magnificent view of the entire north-eastern section of Disco Bay. Beneath the eye of an observer on the summit of Nayat, the whole of Tossukatek Fjord, with its ramifications into Ikaresak Sound, and the great glacier at its head, lies like a map, and the apparently level horizon of the ice-cap stretches from north-east to south-east.

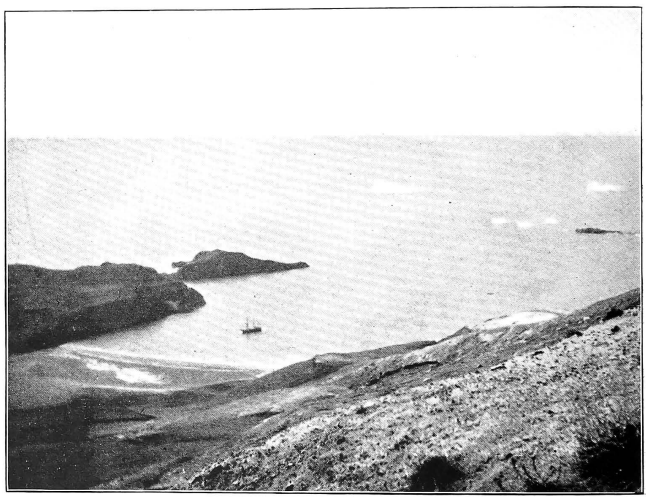
Then from Kekertak I went to the famous fossil beds of Atanekerdluk. Here I found fragments of trees, black petrifactions with the grain of the wood and the texture of the bark showing clearly. Pieces of sandstone split readily into sheets, between which were to be seen sharp, clear impressions of large net-veined leaves, every tiniest veinlet and minute serration of the edges distinct as the lines of a steel



PANORAMA OF THE INLAND ICE, TOSSUKATEK FJORD AND GLACIER, AND DISCO BAY, GREENLAND.

(From the summit of Nayat, 2500 ft. high, on the north side of the Fjord near the entrance, Aug., 1886, by R. E. P.)

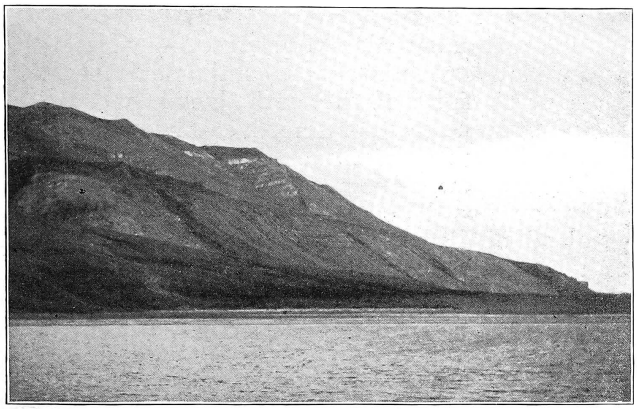
engraving; long, slender parallel-veined leaves and exquisite feathery ferns. To one who appreciates the strange story of these leaf impressions, yet has not the circumscribed microscopic vision of the specialist, these fossils give strange sensations. One holds in his hand the new-cut grey pages of a book



HARBOUR OF ATANEKERDLUK.

that went to press countless ages ago, with fresh green leaves scattered through it, leaves that seem familiar to us, that remind us of the beech, the magnolia, and the oak, leaves such as may be found in the sun-flecked aisles of any of our June forests; yet looking over the top of the page we see below a fleet of huge ice-bergs, and beyond the narrow channel the eternal ice-dome of Disco Island, cresting the cliffs and reaching pendent glacier arms down their sides. I

descended the slope with a strange, unreal feeling, half expecting that if I turned and looked up the gorge I should see a green, leaf-carpeted forest, rustling and shimmering in the sunlight. Yet it is all a part of this land of startling contrasts, this land of midnight sun and noonday night, of tropical skies and perennial snow, of mountains half hidden beneath the eternal ice-caps, yet still tinged with the deep glow of ancient volcanic fires.



ATANEKERDLUK FOSSIL BEDS.

From Atanekerdluk back to Kekertak, thence to Ritenbenk, thence again in a sluggish tub of a sail-boat to Godhavn, where the *Eagle* came for me on the 6th of September.

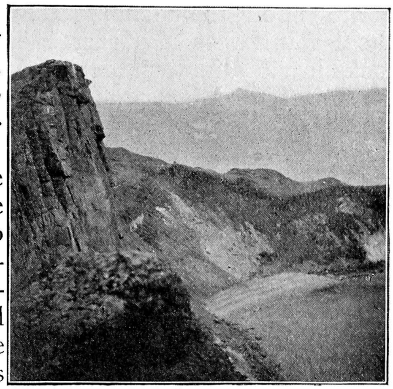
From Godhavn the *Eagle* steamed directly west across Baffin's Bay, through the scattered streams of the "middle ice," and dropped anchor near Agnes Monument, just north of the river Clyde. The low shore here and the mountains back of it were covered

deeply with snow, an unbroken ice-foot hid the beach, and new ice was rapidly forming. In the morning the ice drove us out, and the *Eagle* steamed north and dropped anchor in Dexterity Harbour of the whalers, an uncharted inlet, lying just north of Cape Cargenholm, in a group of entirely unexplored islands and deep fjords. The surroundings of the harbour, as seen through the deep snow and drifting clouds, were wild in the extreme. Sharp, ragged mountains enclose its head, the black, vertical cliffs at their summits standing out in startling relief against the white shroud which covered everything else. Nine days we lay here in an almost continuous snow-storm. Then at daylight of the 20th Jackman drove the *Eagle* out in the teeth of a north-east snow-storm, and squared away for Eglinton Fjord. As the day advanced, the land came gradually out from the clouds on our starboard bow, and gave a view of the bold headland of Cape Adair, in the rear of which is a high conical peak very conspicuous to the north. The peaks north-west of this have also a tendency to the conical form. Later, Scott Inlet showed out in sharp relief against a ghastly background, its vertical black walls reaching far inland among the mountains. Scott Island, at the entrance, is a giant fortress, with vertical walls 1500 feet high, smooth and true as if laid by masons.

Reaching Eglinton, we headed across for Ravenscraig Harbour on the south side. The shore here is solid rock, with not a boulder, pebble, or grain of sand along its entire wave-worn extent. In the harbour were three whalers, the *Esquimaux*, *Active*, and *Nova Zembla*, and as night descended the *Eagle* dropped her anchor among them.

Ravenscraig Harbour is one of the finest on this whole coast, a narrow deep-water inlet, making south

several miles into the land. The next day the *Terra Nova* came in, and here the fleet made its rendezvous for the next ten days, sending boats out daily to cruise for whales. With thirty boats darting back and forth over its surface, the fjord presented an animated appearance. If the wind was favourable, the ships themselves stood out under canvas (whalers never using their propellers when in the vicinity of whales), and reached back and forth off the mouth of the fjord. While here ten bears were killed by the various ships, and one day the *Eagle's* boats came in with the skins of two which they had harpooned in the water. It had taken the united efforts of three boats' crews to keep one of these powerful brutes from climbing into the boat and wreaking vengeance for the murderous thrust of the steel. On the last day of September we steamed south to Bute Island on the south side of the Clyde. The coast from Eglinton to the Clyde looks like the side of a long, deep railway cut. The next afternoon we made Kater Head (of the whalers—Cape Raper of the charts). Here we found the *Polynia*, *Terra Nova*, and *Esquimaux*, and along this coast from Kater Head to Cape Kater we put in ten days. During this time it was snowing almost constantly, and young ice formed wherever the lee of a projecting point, or stream of

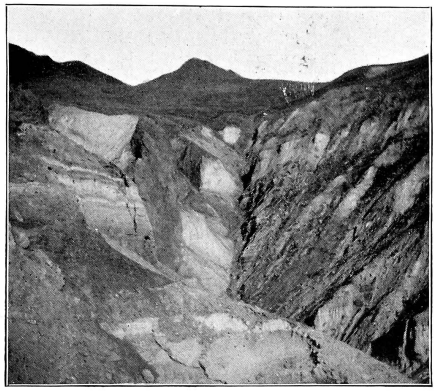


CLIFF VIEW AT ATANEKERDLUK.

old ice, made calm water. One forenoon the barometer dropped rapidly, and in the afternoon the snow ceased, the clouds lifted, and a tremendous swell came rolling in from the south-east. Not a breath of wind disturbed the surface as the long, lazy swells, smoothed by the pressure of the ice through which they had passed, came slipping noiselessly in, lifting and dropping the huge bergs as if they were but corks, and then, with clouds of dark smoke streaming from their crests and with great cakes of blue ice borne upon their shoulders, dashed up the long shoal south-west of Kater Head, and fell upon the rocks in vibrating thunders of foam and shattered ice. At sunset the western mountains stood intense blue steel between flaming sky and sea, and then the stars came forth like flashing brilliants, the Milky Way rivalled the Aurora in brightness, and the wind howled like mad devils through the rigging. Just the outskirts of an arctic hurricane sweeping through the straits had reached us.

October 8th I saw my first whale,—in fact it was the first seen from the *Eagle* for the season. The big black brute was playing in a little opening in the pack close to a berg, and as he stood on his head with his tail and nearly half his body thrown into the air against the white background of the berg, the huge tail thrashing the water into columns of spray, it looked as if it would reach the *Eagle's* main-yard. After a few minutes' play, he came out and started south, and though each ship in turn made for him as he passed, he was too knowing or had too pressing business, for he gave none of them a chance. At Kater Head a number of the natives of this coast came on board. One family, consisting of a widow with one grown and one younger son and one married daughter with her baby, were comparatively clean and intelli-

gent-looking. The old lady was tattooed with lines curving from the bridge of the nose upward over the eyes, and also three lines on each side from the nostrils across the cheeks back to the ears. The daughter had a pleasant and even pretty face, with dark-brown eyes, and a ruddy glow to her cheeks. She had on the peculiar "cummings" (long-legged sealskin boots) with huge pouches on the outside, worn by the women of this tribe. The hang of these about the knees reminded me of trousers worn by Turkish women. The baby was completely cased in mottled fawn-skin except its face and hands, and when removed from the depths of his mother's hood for refreshments, reminded me of nothing so much as a chicken just out of the eggshell. The boys were both big open-faced, intelligent-looking fellows.



THE GORGE AT ATANEKERDLUK.

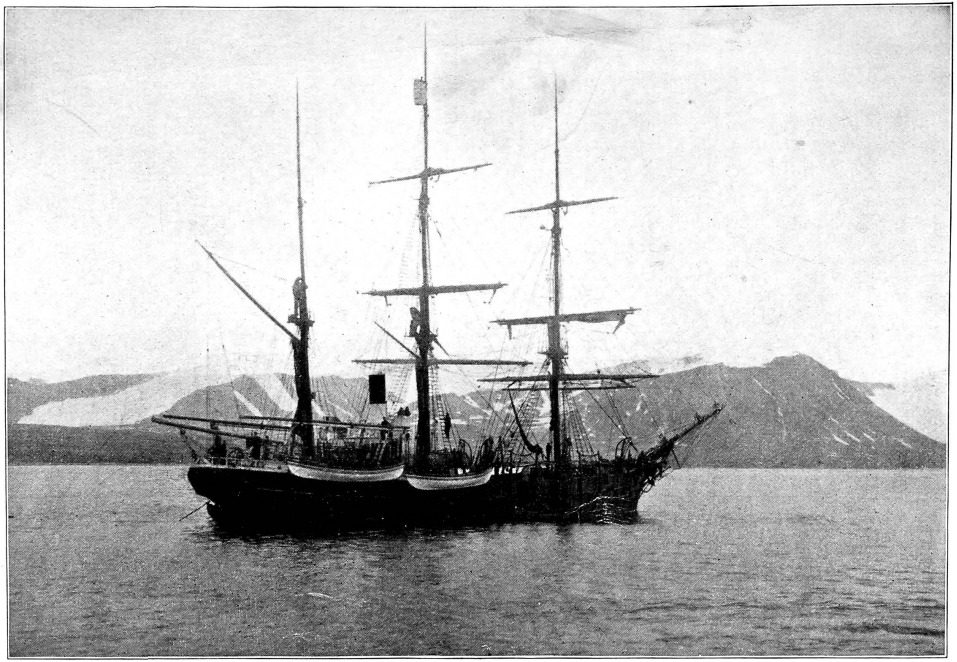
Showing the Stratification. One of the Rich Fossil Beds is just at the Left of the Place Shown in the Picture.

On the morning of the 10th, all the ships had a heavy belt of ice at and above the water-line, and the thickness of young ice everywhere precluded further stay in that locality. In the afternoon the *Eagle* headed south again. At midnight we ran into the ice-pack north of Cape Hooper, and the next day in this ice three bears were shot by Jackman and myself

from the ship. There is but little of the excitement of danger in this sport, but there is an excitement in being driven through the ice, and kept in range of the big game, by such a quivering, powerful steed as one of these whalers. The ice was heavy enough so that the *Eagle* at her best could barely keep up with the bears, and what with the constant jumping and trembling of the vessel as she struck the solid pans, and the motion of the bears as they leaped from piece to piece, ran behind hummocks, and plunged into the wider lanes of water, we usually burned several cartridges apiece before the bear dropped. There was never any uncertainty as to whether a bullet reached the mark or not, everyone that struck being followed by a savage snap at the wound. One of the bears, as he started to canter away, received a bullet from my Winchester through his hind foot, eliciting a bite and a double-barrelled kick, and accelerating his speed; another from the Captain through the other foot elicited another bite and kick; then followed several ineffective shots, and he took to the water; here I got a bullet in his head which staggered him, and as he was attempting to climb out on the ice, another in the base of the skull tumbled him over, an inert mass. He was a gaunt old fellow, without an ounce of fat on him, with a magnificent head and set of ivories, and arms that would be worth a fortune to a prize-fighter.

Shortly after noon of the 13th, the *Eagle* drove through the compacted edge of the pack, and entered the dark wind-tossed, ice-free waters of the Strait, off Cape Walsingham.

The next afternoon we were caught by an arctic hurricane, before which the snow drove in level sheets across the deck, and a frightful sea arose, with indescribable rapidity. We ran before it till all the whaling-gear was passed from the boats down into the hold, to-



SCOTCH WHALER OFF THE WEST COAST.

gether with everything movable on deck, the boats themselves double-lashed, hatches battened down, and extra gaskets on the sails. Then with braces manned by the entire crew, and three men lashed at the wheel, the old ship was ready to round to into the teeth of the storm. Clinging to the weather end of the bridge, with everything except our eyes cased in the snow, stood Jackman and myself, watching the mad seas which came tumbling after us through the blinding drift. For a few moments, there was utter silence as to human sounds. Then a green monster flung the *Eagle's* stern high in the air, poured over the taffrail, burst through the propeller trunk, and passed ahead. "*Let her come!*"—a jump to the engine-room signal, the wheel flew round, the braces eased off, and, urged by propeller, sails, and rudder, the *Eagle* whirled like a top, rose to a second grey-green monster, climbed through its top, and plunged down its rearward slope. The foreyard cockbilled with a loud crash, the foretopsail flew out with a report like a piece of artillery, then split in thrashing streamers, and then with sails of iron straining at the sheets till they were like the slant, half-closed wings of her swooping namesake, the *Eagle* heeled over to the hurricane,



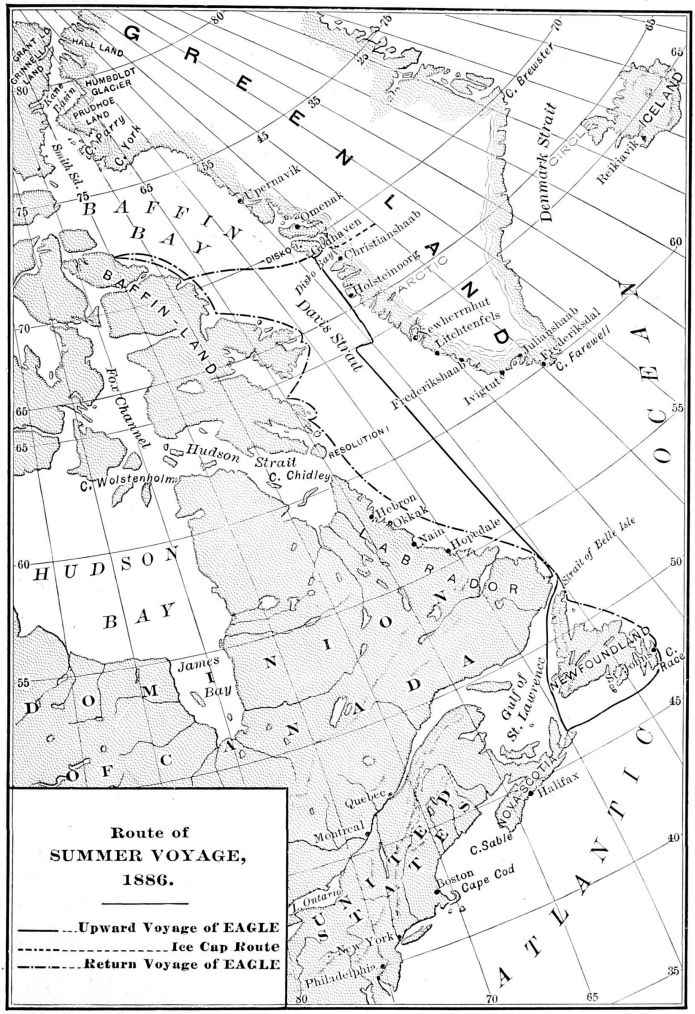
CAPTAIN ARTHUR JACKMAN
OF THE "EAGLE."



ESKIMO WOMEN AND CHILDREN OF CUMBERLAND SOUND.

and, with lee-rail under water, "lay to." A little later, the lee side was swept clear of boats, davits, and stanchions; then a vicious sea stove the weather bulwarks, and water came pouring down the companion-way, setting everything in the cabin afloat. Just before dark, a piercing cry of "Ice!" came from the lookout forward, and there, in the trough ahead, wallowed a huge blue, nearly submerged mass. As the *Eagle* plunged down upon it, it seemed from the bridge as if her jib-boom cleared by scarcely a foot, then she answered her helm, fell off, and sheered by it. For a moment, hurled aloft on the crest of a wave, it swung high above her quarter as she scraped past, then a bubbling whirlpool, and a glimmer of blue beneath the *Eagle's* stern, showed where it had plunged beneath the surface. Then the blackest of nights fell on us, as we stood out into the Strait. At midnight the snow had ceased, the moon was shining brightly, and the *Eagle* riding easily on the subsiding waves. Coming about in the morning, we steamed for the American whaling station in Cumberland Sound, where we lay at anchor sixteen days. Then on the 1st of November we hoisted anchor and for twenty-four hours fought our way out through heavy young ice. The brave old ship, staggering and quivering from keel to truck, rammed and fought her way through the tough, rapidly hardening pack, in her struggle to escape imprisonment for the winter. This battle with the ice was very different from those on the upward voyage in June. Then, it was the quick smashing work of a powerful and accomplished fighter. Now, it was the steady, killing pull of a giant, straining at a load which he could barely move.

Two days were passed in the shelter of Field Bay, and then our course was resumed south again, and all night long, with engines throbbing at full speed, with


GREENLAND
BAFFIN BAY
BAFFIN LAND
HUDSON BAY
DOMINION OF CANADA
LABRADOR
NEWFOUNDLAND
NOVA SCOTIA
UNITED STATES
ATLANTIC OCEAN
ICELAND
Denmark Strait
Davis Strait
Hudson Strait
Fox Channel
James Bay
Gulf of St. Lawrence
Strait of Belle Isle
Upernavik
Omenak
Godhaven
Christianshaab
Holsteinborg
Newherrnhut
Litchtenfels
Julianshaab
Frederiksdal
Frederikshaab
Ivigtut
C. Farewell
Hebron
Okkak
Nain
Hopedale
C. Chidley
C. Wolstenholm
Quebec
Montreal
Halifax
C. Sable
Boston
Cape Cod
New York
Philadelphia
Reikiavik
C. Brewster
C. Parry
C. York
Smith Sd.
Kane Basin
HUMBOLDT GLACIER
PRUDHOE LAND
GRANT LD
GRINNELL LAND
HALL LAND
DISKO
Disko Bay
RESOLUTION I
ARCTIC CIRCLE
Ontario
Route of
SUMMER VOYAGE,
1886.
Upward Voyage of EAGLE
Ice Cap Route
Return Voyage of EAGLE

every sail black against the southern moon, with black masts swaying to and fro among the stars, the *Eagle* went racing southward across the Strait of Hudson, beneath the blazing curtain of a magnificent aurora.

At first the aurora extended, in a brilliant white, waving curtain, north and south across the Strait, its bottom seeming to brush the mast-heads. Then the curtain disappeared, and scurrying wreaths and streams of pale amorphous light came rushing northward over the ship, and, forming in serpentine folds, waved and fluttered, waxed and waned, separated and ran together again, with a rapid, fluttering motion, which I can compare only to the rapid opening and shutting of a Japanese fan; and finally, agitated by some ghostly whirlwind, till every fold shot green and gold and violet and crimson flames, they broke in flying fragments, and dissolved into faint, luminous clouds.

After this, a week of head-winds and storms, driving mists, snow, and a waste of mad grey-green waves, sometimes lighted, for a moment, by bursts of pale November sunlight, was passed along the Labrador coast. On the 17th of November the *Eagle* steamed into the harbour of St. John's, and my first arctic voyage was at an end. But the northern bacilli were in my system, the arctic fever in my veins, never to be eradicated.

OBJECTS AND RESULTS OF 1886 RECONNAISSANCE.

OBJECTS.

"To gain a practical knowledge of the obstacles and ice conditions of the interior of Greenland; to put to the test of actual use certain methods and details of equipment; to make such scientific observations as may be practicable; and to push into the interior as far as possible." [1]

RESULTS.

Attainment of greater elevation than ever before reached on the Inland Ice.

Penetration a greater distance than any white man previously.

Attainment for first time of the real interior plateau of unchanging snow.

Determination of ruling characteristics of the Inland Ice from border to interior. (See article in "Bulletin Am. Geog. Soc.," No. 3, 1887, pp. 286–88.)

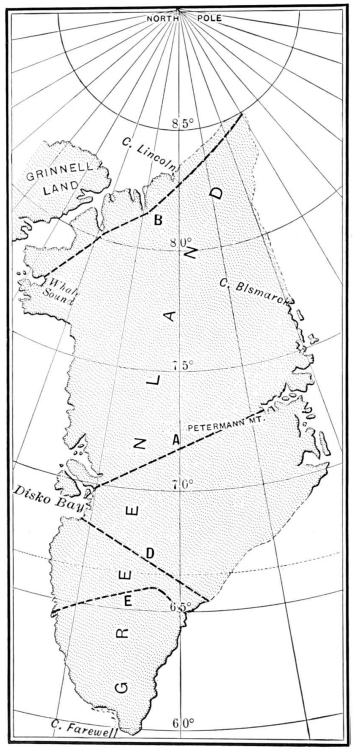
Securing of an invaluable fund of definite practical knowledge and experience of actual ice-cap conditions and necessary equipment, as well as practical knowledge of arctic navigation and a familiarity with a considerable extent of the arctic coasts.

Inception of ideas of pronounced future value, as odometer, sails, etc.

The following deductions [2]·

[1] Paper read before National Academy of Sciences, at Washington, April 23, 1886.

[2] *Bull. Am. Geog. Soc.*, No. 3, 1887, pp. 288, 289.



Attacks upon the Inland Ice should be made at a point as far above level of sea as possible, and where the presence of large and rapidly discharging glaciers indicates a rapid ascent to high elevation in close proximity to coast.

Party should be SMALL *and thoroughly accustomed to snow-shoes and ski.*

Surface of Inland Ice offers imperial highway to East Coast, and, in case the ice-cap is coextensive with the land, to the northern terminus of Greenland.

Proposal of the following prophetic routes:

"*From base of Noursoak Peninsula to head of Franz Joseph Fjord, and return.* (*A*)

"*From Whale Sound to northern terminus of Greenland or intersection of ice-cap with East Coast.*[1] (*B*) *This route the key to the Greenland Problem.*

"*From Disco Bay to Cape Dan.*" [2] (*D*)

[1] This route actually covered by me in 1892.

[2] This route utilised by Nansen in 1888. (*E*)

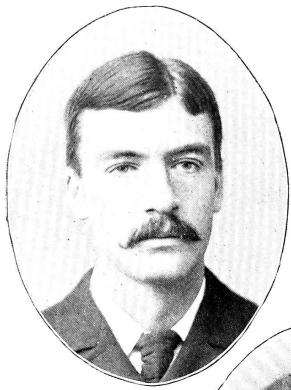
PART II.

NORTH GREENLAND EXPEDITION OF 1891–1892.

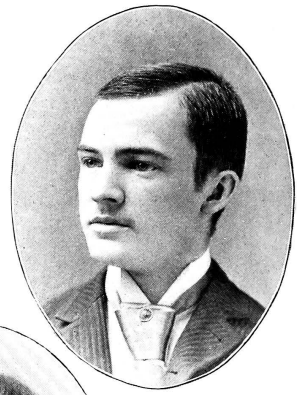
CHAPTER I.

BROOKLYN TO McCORMICK BAY.

STARTING FROM BROOKLYN—EAST RIVER STEAMBOATS WHISTLE THEIR ADIEUS—MY HEAVY-LADEN BARKENTINE—PURPOSES OF THE NORTH GREENLAND EXPEDITION—ITS PERSONNEL AND EQUIPMENT—OUR COMPANIONS ON THE VOYAGE—STOPPED BY ICE IN THE STRAIT OF BELLE ISLE—GREENLAND'S GRAND MOUNTAINS COME INTO VIEW—OUR FIRST FIELD DAY IN THE ARCTIC REGIONS—A PANORAMIC SURVEY OF MOUNTAINS, FJORDS, GLACIERS, ICEBERGS, AND SEA—CAUGHT IN THE ICE OF MELVILLE BAY—THREE WEEKS BATTLING WITH THE PACK—A BROKEN LEG—THE NORTH WATER REACHED AT LAST—WE MEET THE ARCTIC HIGHLANDERS—THE SITE SELECTED FOR OUR NORTH GREENLAND HOME.



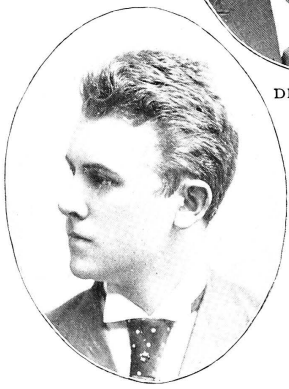
GIBSON.



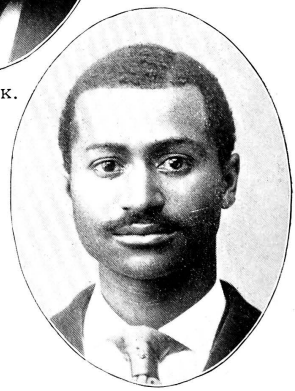
VERHOEFF.



DR. COOK.



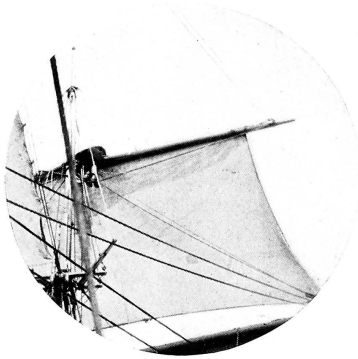
ASTRUP.



HENSON.

CHAPTER I.

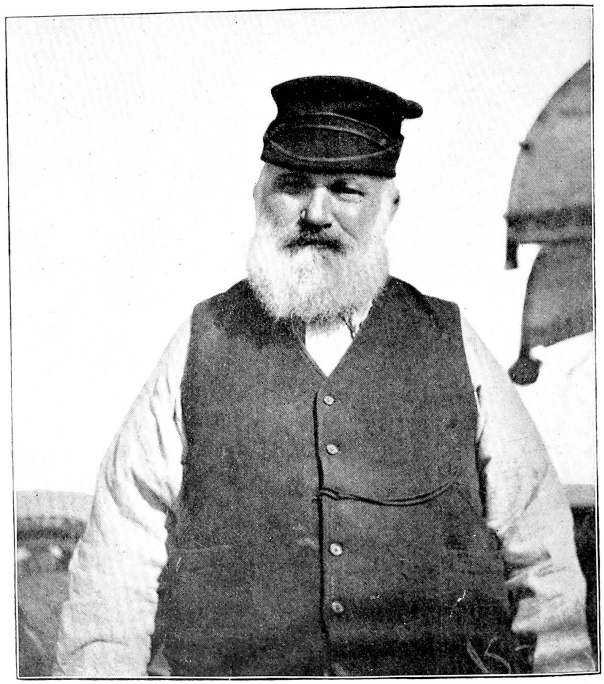
BROOKLYN TO McCORMICK BAY.



THE last boxes and parcels were finally stowed away on my little barkentine. At five in the afternoon of June 6, 1891, the *Kite* cast off from the foot of Baltic Street, Brooklyn, and swung out into the East River. Genial sunlight illumined the faces of a crowd of friends and sightseers, waving adieus from the end of the pier. We were fairly off for North Greenland, and every ferryboat and steamer in the crowded East River knew it. Scores of whistles bade us good-bye and *bon voyage*. All the way up the East River dipping flags gave us hail and farewell. The fleet of big Sound steamers passed us one by one, whistles saluting and decks crowded with passengers waving handkerchiefs. At Flushing, and other points, many yachts saluted with their guns; and it was not until night hid us that the inspiring God-speeds of our friends and well-wishers were heard no more. Our little world, very much cramped for elbow-room, for every inch of space

below deck was filled, and the deck itself hidden under my equipment, was left to itself at last.

Sixteen persons comprised the passenger list of the little *Kite*. Seven of them were members of my



CAPTAIN RICHARD PIKE OF THE "KITE."

North Greenland Expedition, while nine formed the scientific party sent out by the Academy of Natural Sciences, Philadelphia, to accompany me to my destination, and then make such investigations in their scientific specialties as time permitted before the *Kite*

returned home. This party was known as the West Greenland Expedition.

I had limited my own party to the number of men absolutely required for the work I proposed to do. The day of large expeditions in successful arctic exploration I believed had gone by. The great work of the future, like much of that of the past, will be done by very small parties.[1] Believing that every man beyond the number absolutely essential is an element of danger and failure, I had selected from the hundreds of applicants, whose letters had been pouring in for months, only five men to share my fortunes. They were all young, and, in addition to possessing first-class physique and perfect health, were men of education and attainments. I believe this to be the type of man best fitted to endure with minimum unfavourable effect the ordeal of the arctic winter, and to effectively execute a two or three months' dash on sledges, where intelligent will-power, youthful elasticity, and enthusiasm rise superior to the stolid endurance of muscles hardened by years of work. My assistants were:

Frederick A. Cook, M.D., the surgeon and ethnologist of the expedition, a young physician and surgeon, a native of New York State, a graduate of the College of Physicians and Surgeons, and of the University of the City of New York. He had been practising his profession in New York City for several years. He was twenty-six years old.

Langdon Gibson, of Flushing, L. I., my ornithologist and chief hunter, a stalwart young hunter of

[1] Schwatka's great sledge journey was made with four white men and an Eskimo. Captain Holm's party to East Greenland numbered four. Payer, in Franz Josef Land, started with seven, but, finding this number cumbrous, he left four and pushed ahead with two. The explorations of the Greely Expedition were made by parties of three men. Hall's earlier explorations and Graah s journey along the east coast of Greenland are striking examples of the success that may attend the efforts of *one* resolute man in arctic exploration.

twenty-six, a member of the American Ornithologists' Union. He was one of the Brown-Stanton party in the Colorado Cañon survey of 1889–90.



CHIEF ENGINEER JARDINE, 2d ENGINEER McKINLEY, AND "BO'SUN" DUNPHY.

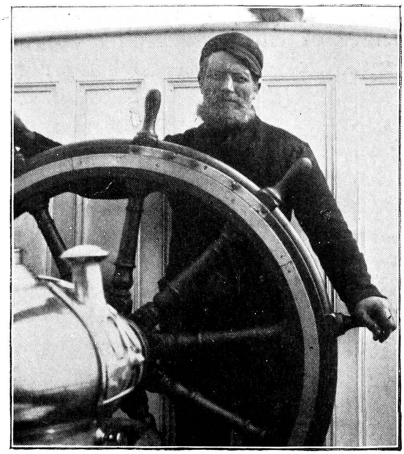
Eivind Astrüp of Christiania, Norway, twenty years old, was a stalwart young fellow who had but recently come to the United States. The son of the Commander of the Royal Civil Guard of Christiania, he was a first-class graduate of the Christiania Commercial College, and a winner of numerous prizes in athletic sports, especially ski-running.

John M. Verhoeff, of Louisville, Ky., my mineralogist and meteorologist, was twenty-five years old, and educated in an Eastern university. Mr. Verhoeff contributed generously to the expenses of the expedition.

Matthew Henson, my body-servant, a hardy coloured man, was a native of Virginia, twenty-three years

old. His intelligence and faithfulness, combined with more than average pluck and endurance, as shown during several years that he had been with me through varying experiences, part of the time in Nicaraguan jungles, led me to regard him as a valuable member of the party.

Mrs. Peary accompanied the party. Possessed of health, youth, energy, and enthusiastic interest in the work, she saw no reason why she could not endure conditions and environment similar to those in which Danish wives in Greenland pass years of their life. I concurred in this opinion, and believed that in many ways her presence and assistance would contribute to the valuable results of the expedition, as they were invaluable to me in the preparation. Events proved the entire correctness of this belief.



TIM.

Both the North Greenland and West Greenland Expeditions were under my command until the for-

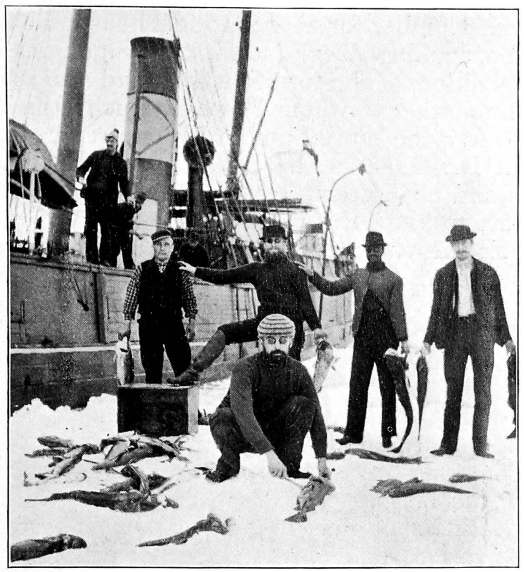
mer was landed at its winter quarters in McCormick Bay. The West Greenland Expedition then began its distinctive work under command of Prof. Angelo Heilprin, Executor Curator of the Academy of Natural Sciences, Philadelphia, and a geologist of international reputation. Associated with Professor Heilprin, were: Prof. Benjamin Sharp, zoölogist in charge; Prof. J. F. Holt, zoölogist; Dr. William E. Hughes, ornithologist; Mr. Levi W. Mengel, entomologist; Dr. William H. Burk, botanist; Mr. Alexander C. Kenealy, a reporter for the New York *Herald;* Dr. Robert N. Keely, Jr., surgeon; and Mr. Frazer Ashhurst.

The master of the *Kite*, a steam sealer of 280 tons, was the late Captain Richard Pike, a famous arctic skipper and one of the best of ice navigators. His death, in the spring of 1893, was widely regretted. As commander of the *Proteus*, he took Lieutenant Greely's Expedition, in 1881, to Lady Franklin Bay. On that occasion, Captain Pike made a phenomenally rapid run up Smith Sound to the site of Lieutenant Greely's camp. Two years later, Captain Pike was in command of the *Proteus* when Lieutenant Garlington attempted to relieve Greely; and after the vessel was crushed in the ice near Cape Sabine, he retreated with his crew in open whale-boats across Melville Bay to Upernavik.

Captain Pike and his crew numbered fifteen persons, making a total of thirty-one souls who had to be packed away in the very snuggest of quarters in the cabin berths, deck-house, and forecastle. The *Kite* was a staunch, strong vessel well adapted for the voyage, with a steaming power of seven knots. She had been thoroughly overhauled and additional cabin accommodations put into her for my party.

The question of my food supplies, clothing, and

other equipment, and scientific outfit, had been the subject of long study and careful digestion of the experience of my predecessors.



COD-FISHING IN STRAIT OF BELLE ISLE.

My equipment was one of the most modest and inexpensive ever taken to the "White North." Yet nothing was omitted that was essential to our comfort or success.

The food supply differed little from that of the later arctic expeditions. I had a year and a half's supplies; with tea, coffee, sugar, and milk in sufficient quantity to last two and a half years. I took little meat except pemmican for the ice-cap journey, as I expected to secure an abundance of reindeer and

other fresh meat at my winter camp. Evaporated vegetables in large variety, and beef-meal, pemmican, and cocoa tablets had been prepared expressly for the expedition.

I carried lumber for a 12 x 20 feet house. I had two whale-boats, *Mary Peary* and *Faith*,[1] built expressly for the expedition. The former was named *Mary Peary*, after the mother to whom I owe so much; the latter, *Faith*, after the sturdy boat which thirty years ago brought Dr. Kane and his brave companions back to friends and civilisation, past the same cliffs and bays that were to know this new *Faith*.

I took the two sledges used by me in my reconnaissance of the Inland Ice in 1886, and an ample supply of timber for making new ones.

Other important items were Indian snow-shoes, Norwegian ski, moccasins and rubber ice-creepers, alcohol stoves, and an abundance of woollen clothing. For my fur clothing, as for my meat supply, I depended upon the region about my headquarters.

My firearms consisted of Winchester 44-calibre repeating carbines, 45-calibre repeating rifles, Winchester repeating shot-guns 10 gauge, a Daly 3-barrel gun, shot barrels 10 gauge, rifle barrel 45 calibre. Ammunition consisted of one size shells and two sizes rifle cartridges.

My surveying outfit comprised one small theodolite, arranged expressly by Fauth & Co., of Washington, with prismatic eyepiece and coloured glasses; one 7-inch sextant with artificial horizon and extra mercury; a pocket sextant; three pocket chronometers, made expressly for me by the Howard Watch Co., of Bos-

[1] One of them, built by S. H. Mitchell, of New Bedford, was 28 feet long, 6 feet beam, and 28 inches deep amidships, weighing about 1000 pounds and carrying one sprit-sail and a large jib. The other, built by Reeves & Comstock, of New London, Conn., was 28 feet long, 6 feet beam, and 24 inches deep, weighing 600 pounds. It had two masts (sliding Gunter rig).

ton , several compasses of different varieties ; five aneroid barometers ; a boiling-point apparatus ; steel tapes, odometers, and field-glasses.

For meteorological work I had a mercurial barometer, hydrometer, and several sets maximum and minimum thermometers ; several special minimum thermometers, a number of ordinary mercurial thermometers, a deep-sea thermometer, and an anemometer.



DECK SCENE AFTER HEAVY WEATHER.

My photographic outfit consisted of Eastman No. 4 kodaks and films, made expressly for me by the Eastman Company.

Miscellaneous items were navy-blue lights and signals, rockets, burning-glasses, flint and steel, pocket lamps, and many other articles too insignificant to mention, yet of importance in a region where not

even a piece of string or a paper of pins can be obtained.

On June 11th, the fifth day out from New York, we steamed into Sydney harbour, and while the crew spent a day filling the coal-bunkers, the members of the two expeditions enjoyed to the utmost their last



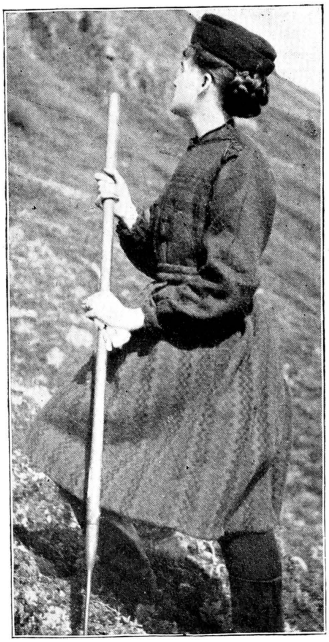
MRS. PEARY AND GROUP OF DANISH-ESKIMO WOMEN AT GODHAVN.

day in civilisation. By Friday evening, the 12th inst., 180 tons of coal from the Cape Breton mines had been taken aboard, giving us over three hunderd tons

in the bunkers and hold and on deck. Then, with a last glance at the hills around the bay, only recently reclad with verdure by the awakening touch of spring, we put to sea, and headed northward across the Gulf of St. Lawrence for the Strait of Belle Isle. It was lightning sharply astern, and by noon next day the growing wind had risen to a gale, and life became a burden to the poor sailors in our party. The little *Kite*, however, proved herself a good sea boat. Her waist and a part of her quarter-deck were filled to the rail with coal, and the rest of the deck was packed full of trunks, boxes, and barrels. But in spite of her heavy load she rode much easier than was to be expected. During Saturday night the sea went down, and Sunday was comparatively pleasant. Steaming along the west coast of Newfoundland, we could see now and then, through rifts in the fog, the snow-streaked mountain sides. At Sydney, the Strait of Belle Isle was reported to be free of ice, but early Monday morning, just within the Strait, we ran into pack-ice, and the members of my party had their first experience of this common phase of arctic navigation. This occurrence of heavy arctic ice in the Strait of Belle Isle, choking it from end to end, was unprecedented for this time of year. The ice-pans rose and fell with the undulations of the sea, and the rhythmic roar of the white pack's heaving edge was grander than any surf upon the shore. The cakes were from five to one hundred feet in diameter, and from one to eight feet thick, some tiny pinnacles rising from eight to ten feet. As we moved back and forth along the ice edge, vainly seeking a lead that would take us north, we secured fine views of the grim shores of Newfoundland and Labrador. Some Newfoundland fishermen put off to us in boats to tell us of their sore straits, for many were ill in their settlement. They

had no medicines, and no ship had visited them for many months. We gave them medicines, and letters for our friends.

Impatient of delay as I was, I still enjoyed the novel situation. When the *Kite*, tired of hunting for a lead, anchored now and then to a floe, we fished and photographed, or got out our ski and snow-shoes and had a little practice. We caught four hundred pounds of fine codfish, and salted down a barrel for our North-Greenland larder. Myriads of looms, kittiwakes, herring gulls, and seals gave life and movement to the scene. Scenic splendours were not wanting. On Monday night we enjoyed an exquisite sunset. A mirror-like sea reflected the rosy glories of the western sky, and the Labrador coast was purple as amethyst. Ice, fantastically carved, floated all around us, and the stillness was broken by cries of gulls and puffing of whales. During five days we struggled with the ice, forcing ahead a few miles, only to be caught and drifted back again. At last, Friday afternoon, we felt the swell of the open sea again, and crowding on all steam and sail, were soon free, and bowling along at an eight-knot pace.



CLIMBING THE GODHAVN CLIFFS.

As we passed Belle-Isle lights, the keepers ran up the British flag to shew that they saw us, and perhaps in greeting to the first vessel they had seen that year. We came out of Belle Isle Strait, our faces burned as with tropical suns by the blinding glare from snow-covered ice-fields.

The next five days were a time of stress and storm for the little *Kite*. On Tuesday morning she had to lay-to several hours, after twice dipping her bows un-



THE PARTY AT THE CAIRN.

der, and rising heavily from the weight of green seas forward and in her waist. Our poorest sailors, however, forgot their misery at eleven P.M. on Tuesday, June 23d, when we got our first glimpse of the grandeur of the Greenland coast. Cape Desolation was the distant landmark before us, and next morning the mountains were in full view all along to the east. Ivigtut, famous for its cryolite mines, was abreast, and before noon we saw the great marble wall of the Frederick-

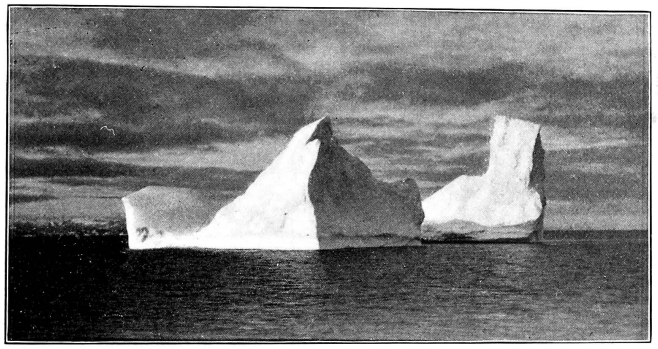
shaab Glacier, one of the largest in the world; and to the right of it, and inland, the peak of Kangarsuk, 4710 feet high, reared its sharp, snow-blotched apex, a perfect counterpart of the Matterhorn. The vivid brilliance of the sun brought into bold relief the rugged outlines of the mountains twenty miles away, on whose sides was much snow, particularly on their northern aspects. As the sun neared the horizon, the lights and shadows and clear-cut profiles of the mountains were inexpressibly grand. We met the East-Greenland pack-ice that had rounded Cape Farewell, and our course was changed a little to avoid it.

Early on Thursday morning we passed Godhaab, north of which the rugged mountains dropped away, and for a long distance, until South Isortok Fjord is reached, the coast is comparatively low and the mountains rounded. North of South Isortok, the mountains, capped with snow, streaked with glaciers, and cleft with deep gorges, again grow wild and rugged. All Friday afternoon we passed great numbers of icebergs, the spring output from the Disco Bay glaciers, marvellous in endless variety of form and colour. Large flocks of eider-ducks were seen and a few shot.

I shall not dwell upon the various phases of life and nature in Danish Greenland, which have been so often and so well described by travellers. This volume has to do with hitherto unknown or little understood aspects of North Greenland, and with experiences, some of which are entirely new in arctic exploration.

On Saturday, June 27th, we dropped anchor in the land-locked harbour of Godhavn, the chief settlement in the North Inspectorate of Danish Greenland. The place had not changed in the five years since I had seen it. No building boom had reached God-

havn, and the real-estate market was as flat as ever. The families of Inspector Andersen and Governor Carstens were a little larger than five years ago, and the Inspector and Mrs. Andersen were the same genial, hospitable, homelike couple as ever. We learned that Hans Hendrick, the Eskimo who had accompanied so many expeditions, and whose autobiography has been published in English, had died three years before. With Mrs. Peary and Professor Heilprin,

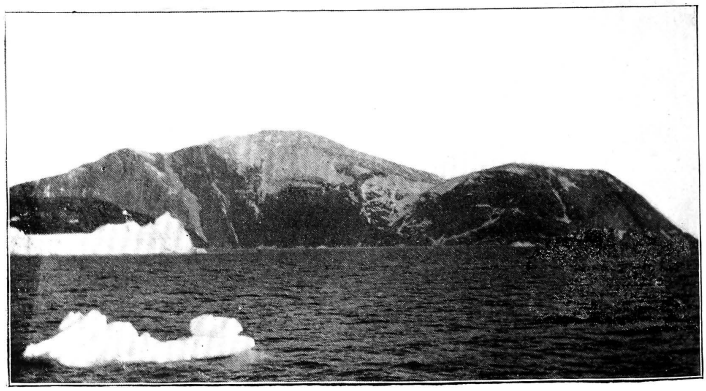


A CRUISER OF THE ARCTIC WHITE SQUADRON.

I called on Inspector Andersen, and the freedom of the place was given to the expeditions. Most of us started for a field day on the ice-cap peering down from the summit of the island. It took us four hours of an arctic afternoon to reach the edge of the ice-cap, 2400 feet above the sea. Seating ourselves, we enjoyed the scene around and below us, a scene that can be duplicated nowhere but in Greenland.

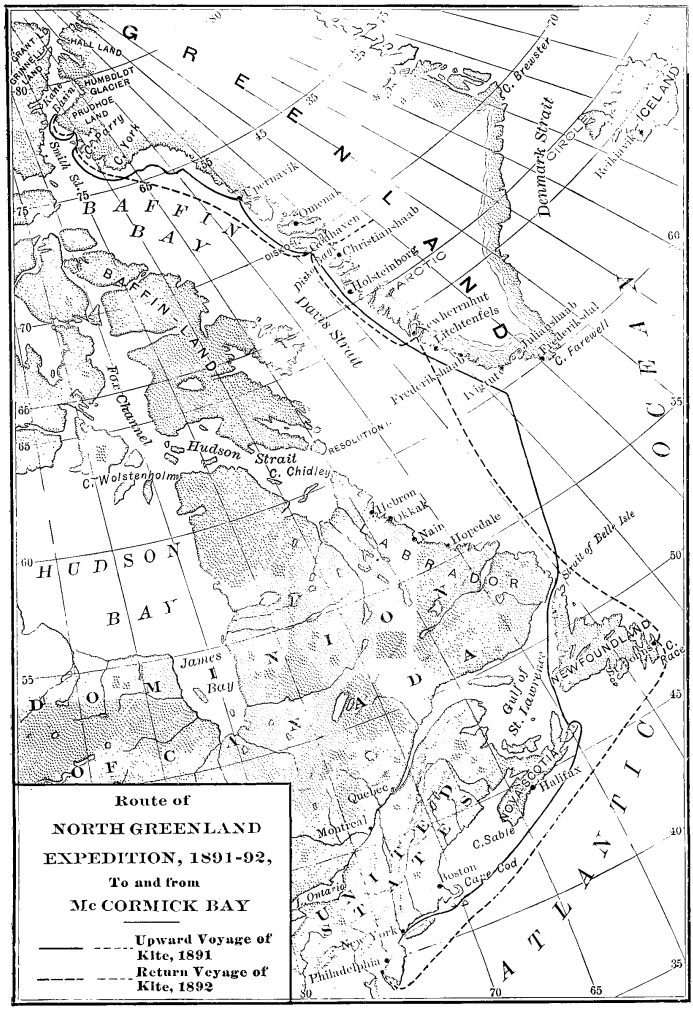
Almost at our feet lay the town and harbour of Godhavn, the houses mere specks. The *Kite* and a Danish brig in the harbour looked like toy boats. Beyond the town, over Disco Bay, to the south-east, was

far-distant, misty Egedesminde and the Crown Prince Islands. To the west, the blue of Baffin's Bay climbed upward till lost in golden splendour beneath the western sun. Over the ice-cap to our left, Disco Bay bore upon its placid bosom hundreds of icebergs, the output of the mighty Jacobshavn Glacier, whose gleaming front was seen breaking the dark round of the mountains on the eastern horizon. Behind us was the eternal, unbroken ice-cap, smooth as marble and with a gently undulating surface. We built a cairn eight feet high in memory of our visit, depositing in it, in a tin box, the date, the names of the party, and a few American coins. Then we returned to the *Kite*, tired and hungry, but enthusiastic over our first Greenland outing.



SANDERSON'S HOPE.

The next day was devoted to excursions in the neighbourhood. In the evening, Professor Heilprin, Mr. Astrüp, Mr. Kenealy, Mrs. Peary, and I dined with Inspector Andersen. After dinner, we looked on for a while at a native dance in one of the govern-

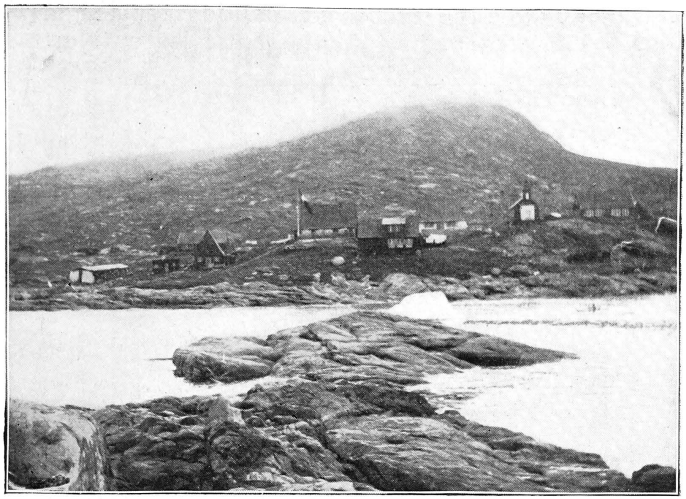

Route of
NORTH GREENLAND
EXPEDITION, 1891-92,
To and from
Mc CORMICK BAY
Upward Voyage of Kite, 1891
Return Veyage of Kite, 1892
GREENLAND
BAFFIN BAY
BAFFIN LAND
HUDSON BAY
DOMINION OF CANADA
UNITED STATES
ATLANTIC OCEAN
Davis Strait
Hudson Strait
Fox Channel
Denmark Strait
Gulf of St. Lawrence
Strait of Belle Isle
NEWFOUNDLAND
NOVA SCOTIA
ICELAND
C. Brewster
C. Farewell
C. Chidley
C. Wolstenholm
C. Race
C. Sable
Cape Cod
Upernavik
Omenak
Godhaven
Christianshaab
Holsteinborg
Newherrnhut
Litchtenfels
Julianshaab
Frederikshaab
Ivigtut
Hebron
Okkak
Nain
Hopedale
Quebec
Montreal
Boston
New York
Philadelphia
Halifax
Ontario
Smith Sd.
Kane Basin
HUMBOLDT GLACIER
PRUDHOE LAND
C. Parry
C. York
HALL LAND
GRANT LAND
GRINNELL LAND
DISKO
RESOLUTION
ARCTIC CIRCLE
Reikiavik
Ketchikan
Dixie Bay
Dixie Bay
Ontario

ment buildings, and then passed a pleasant evening at the Inspector's house.

I had intended to get under way early on Monday morning, but a south-wester, accompanied by a dense fog, held us in the harbour until two P.M., when we steamed out with flags dipping and a salute from the ship's cannon. Shaping our course north, we went along the shore of Disco Island, and thirty-six hours later, cast anchor in the harbour of Upernavik. During all these hours, we steamed through a sea on which hardly a ripple could be seen. Save for the icebergs that dotted the sea here and there, there was no ice. The Waigat, Nugsuak Peninsula, broad-mouthed Omenak Fjord with the great Inland Ice visible far up at its head, Black Hook of the old Dutch navigators, and sublime Sanderson's Hope, all stood out in their grandest, most brilliant aspects.

I found it impossible to obtain from Governor Beyer, of Upernavik, either a kayak or a native interpreter to go along with us, and so, after returning his official call, accompanied by Professor Heilprin and Mrs. Peary, I got under way, leaving behind the most northerly town on the globe. The *Kite* steamed over summer seas, past the numerous red-brown islands that guard this arctic coast. Through every depression in the mountains and from every fjord head, the marble surface of the Inland Ice looked down upon us, the crevasses in the lower portions visible at times with the naked eye. Past many giant mile-stones by which the whalers measure their advance in their annual battles with the ice-floes, we steamed without seeing a bit of ice, and at six o'clock in the morning reached the Duck Islands, a well-known rendezvous and lookout for the whalers while waiting for the ice barriers of Melville Bay to open for them. At these islands we stopped till afternoon, laying in a supply

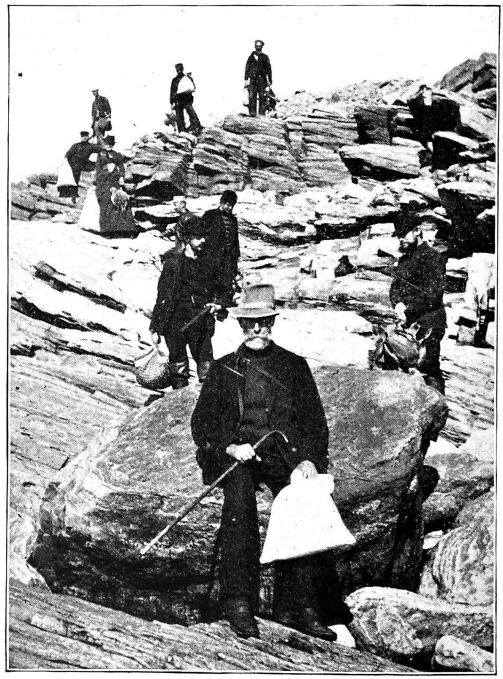
of eider-ducks which breed here in thousands. Unfortunately we were too late to get eggs, they being too far advanced to be edible.



UPERNAVIK.

Leaving the islands, we shaped our course direct for Cape York, with the most sanguine expectation of making a speedy passage across Melville Bay, and perhaps reaching Whale Sound on the 4th of July, the day on which famous old Baffin cast anchor in the Sound over 275 years ago. Our expectations, however, were doomed to speedy disappointment. Sixteen miles north of the Duck Islands, we met the dreaded Melville-Bay pack, and after running along its edge close to the Devil's Thumb, and then back again to the westward, in search of a good opening, the *Kite*, at 7:30 P.M., on July 2d, stuck her sturdy little nose into the pack and began a long struggle.

The Greenland ice-cap, which we could discern above the coast mountains, seemed very rough and broken by crevasses. I had no doubt, however, that farther inland it offered the favourable conditions for sledging that I expected to find on the inner ice of North



THE PARTY AT THE DUCK ISLANDS.

Greenland. Baffled by the ice of Melville Bay, I encountered at the outset of my arctic work one of the common vicissitudes of polar exploration in ships; while not many miles east of us was the great interior

ice-plateau, offering an imperial highway to the far North. The ice of the pack, where we first encountered it, was only six to fifteen inches thick, and rotten. The ice-pans, as sailors call very small and somewhat rounded floes, averaged perhaps twenty-five feet across, and numerous icebergs were scattered through the pack. As we got farther into the pack, some of the pans were six or seven feet thick.

We managed to keep under way by fits and starts into the night of July 4th, but the next morning the ice tightened, and after that we drifted, utterly helpless in its grip, for one long week.

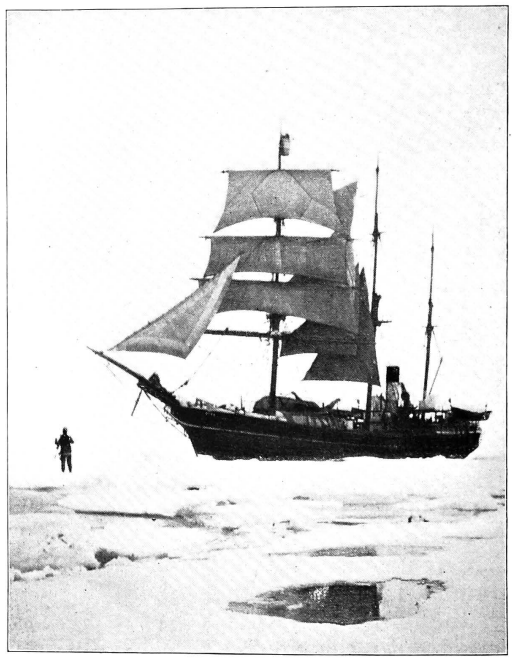
The "Fourth" was ushered in by firing the ship's cannon, and the flags that had been run up were dipped and greeted with a volley of small-arms. We joined in a toast to the Stars and Stripes, and the expeditions posed for their picture on the ice, with the *Kite* as a background. At dinner we had a special spread of roast eider-duck, plum-duff, and Melville-Bay Roman punch, consisting of snow, milk, rum, lime-juice, and sugar. Our celebration of the national holiday was regarded as a great success, with the exception of the punch, the rum in this being none of the best, and a little too much in evidence.

The crow's-nest was sent up soon after we entered the ice, and the chief business of life for days was scanning the ice-fields from this lofty point of vantage for some sign of a change. The white, unrelieved expanse of the pack soon ceased to be a novelty, and became very monotonous, while snow and fog contributed their part to the unpleasant situation.

On the ninth I secured an observation which gave our position as 74° 51′ N. Lat., and an approximate longitude of 60° W.

Pools were forming on the surface of the floes and the ice was melting rapidly and growing more

rotten. The temperature averaged 31° F., the lowest being 28° F. Often the masts, spars, and rigging were covered to windward with a thick coating of hoar-frost, giving a beautiful but wintry aspect.



BESET IN THE MELVILLE-BAY PACK.

Our imprisonment gave everyone a chance to stretch himself upon the floes, but after a time some of the party began to have forebodings of spending a winter in the Melville-Bay pack, not an alluring prospect, particularly as the commissary department had not been fitted out with that contingency in view.

At five P.M. on Saturday, July 11th, without any apparent reason, the ice slackened, steam was hurriedly gotten up, and the *Kite* forged ahead and began a slow, laborious run that continued until about midnight Sunday.

Periods of ramming the ice alternated with intervals of waiting, and the total advance for the day was small.

About eight o'clock on Saturday evening, July 11th, the *Kite* being then engaged in ramming a passage through some comparatively heavy ice, I stepped to the stern rail as she was backing for another blow, to watch her behaviour. Just as I reached the rail a large cake of ice struck the rudder, jamming it hard over, and tearing the wheel from the hands of the two men on duty. One of them was thrown clear over the wheel and across the deck. The next instant the iron tiller had caught my leg between it and the house and snapped both bones just above the ankle. I spoke to the men at the wheel, asking them to send Drs. Sharp and Cook to me, and the next instant they and Gibson were carrying me to the cabin, where I was stretched out on the table. My leg was set and I was stowed on a long seat across the head of the cabin, where I was destined to remain till I was taken ashore at our winter camp. Thanks to the professional skill of my surgeon, Dr. Cook, and the unwearying and thoughtful care of Mrs. Peary, my complete recovery was rapidly attained.

Before this accident occurred, I had improved the days that we were fast in the ice, to cut and fit all the frames of our house, so that, when we reached our destination, the work of putting up the structure was expeditiously performed.

Annoying as was the delay from the ice, my now crippled condition made it doubly irksome. Nearly

all the week following was a continual round of ramming the ice and waiting for opportunities to make a little headway. It was a red-letter occasion when one evening, after we had been fighting the floes for nearly a fortnight, someone announced that a bear was approaching the *Kite*. In a moment everyone except myself was on deck, crouching behind the rail, rifle in hand, awaiting the bear's approach.



MELVILLE BAY, JULY 4, 1891.

In a few minutes I heard a protracted fusilade, and a little later was informed that the bear had been killed.

The animal measured seven feet one inch, and his estimated weight was six hundred pounds. The two

hind quarters, dressed, weighed about two hundred pounds. Through the carelessness of a sailor, both hind quarters were lost overboard in hoisting them in over the rail.

Not very long after, a family party, consisting of an old bear and two cubs, were sighted and a number of men jumped on the ice in pursuit, while the *Kite* started in another direction in an attempt to head them off. The bears were too wary, however, and,



POLAR BEAR.

rapidly retreating, were soon out of sight. The rumour was afloat that one gentleman in his eagerness went over the side of the vessel and started in pursuit without his rifle, and, returning from the chase, had to be hoisted on board.

We saw birds in millions, and eider-ducks, ivory gulls, and seals were among the game whose capture

now and then varied the monotony of life in the ice-pack.

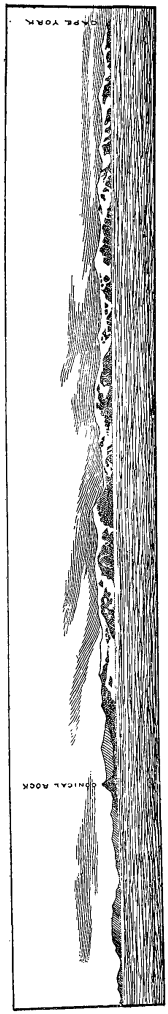
On the evening of the 16th, the *Kite* was nipped between two big floes, and all other efforts to free her failing, holes were drilled in the ice, in which bottles of gunpowder were placed. They were simultaneously exploded, blowing out a large piece of ice, and the ship, being put astern, was soon relieved from her dangerous situation. At midnight of the 17th, the ice opened up and the *Kite* was able to steam for nineteen hours, with such excellent results that when we were stalled again Cape York was in sight.

Monday morning, July 21st, land was only six or eight miles away and the coast was in sight from Cape York to Conical Rock. On the 23d, just three weeks from the time we entered the ice, the *Kite* was once more free of it and fairly in the north water off Conical Rock. She seemed as delighted as we at regaining her freedom, and bowled merrily along northward in ice-free water past Petowik Glacier, Wolstenholm Island and Sound, then rounded Cape Parry into Whale Sound.

I had hoped to enter this inlet and secure a winter camp on the north shore of Inglefield Gulf. At Barden Bay, on the south side of Whale Sound, we stopped at a settlement of Arctic Highlanders, containing a population of seven adults and five children. We obtained here some specimens of native handiwork and then steamed on to Herbert Island. We found no natives there, and at once shaped our course up Whale Sound to reach the proposed site of my house near Cape Tyrconnell on the north shore of Inglefield Gulf. The ice, however, extended unbrokenly from the east end of Herbert Island, south-east to Cape Powlet, and our progress was soon stopped. Turning about, the *Kite* steamed up between North-

umberland Island and Herbert Island and attempted to get eastward into Inglefield Gulf through Murchison Sound. Again we were defeated by the unbroken ice, for the winter ice had not yet come out. So the *Kite* was run into the inlet a little farther west, known as McCormick Bay, and here my party had its headquarters for the following year.

The site finally selected for the house was bright with flowers, and there were numerous traces of reindeer, foxes, and hares. Seals and walrus were abundant in the waters of the bay, and traces of natives were more numerous than I had anticipated. Although we had found but one inhabited village, others we visited were evidently only temporarily deserted; and wherever we made a landing we found baited fox-traps and caches of meat and blubber. I had therefore the earliest assurances that my expedition would not suffer for lack of an abundance of fresh meat.

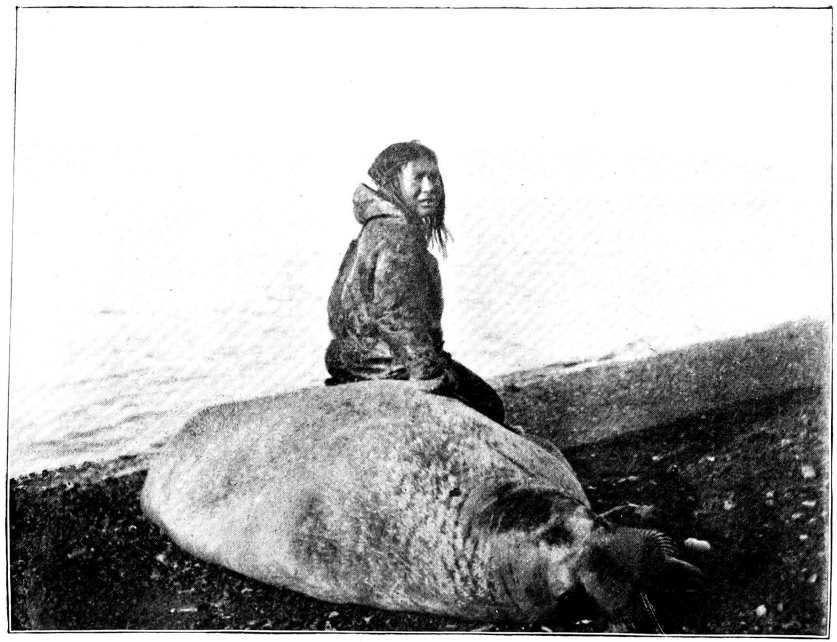


PANORAMA OF COAST FROM CAPE YORK TO CONICAL ROCK. By EIVIND ASTRÜP

CHAPTER II.

PREPARING OUR NORTH-GREENLAND HOME.

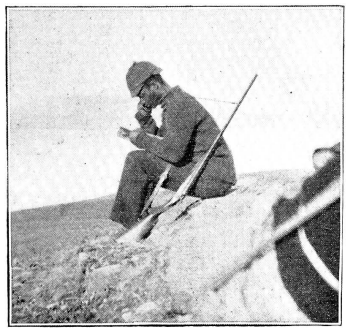
THE WORK BEFORE US—SUMMER SCENE ON AN ARCTIC SHORE—SELECTING THE SITE FOR OUR HOUSE—LANDING THE STORES—ALL MY YOUNG MEN TURN CARPENTERS—DESCRIPTION OF THE HOUSE—AN ABODE THAT BADE DEFIANCE TO KING WINTER—GOOD-BYE TO THE *KITE*—LOVELY AUGUST WEATHER—MILLIONS OF BIRDS AND MANIFOLD PHASES OF ANIMAL LIFE—WE NAME OUR HOME RED CLIFF HOUSE—RED-LETTER DAYS—FIRST ESKIMO GUESTS—IKWA AND HIS INTERESTING FAMILY—KILLING DEER AND WALRUS—RECONNOITRING THE INLAND ICE.



WALRUS.

CHAPTER II.

PREPARING OUR NORTH-GREENLAND HOME.

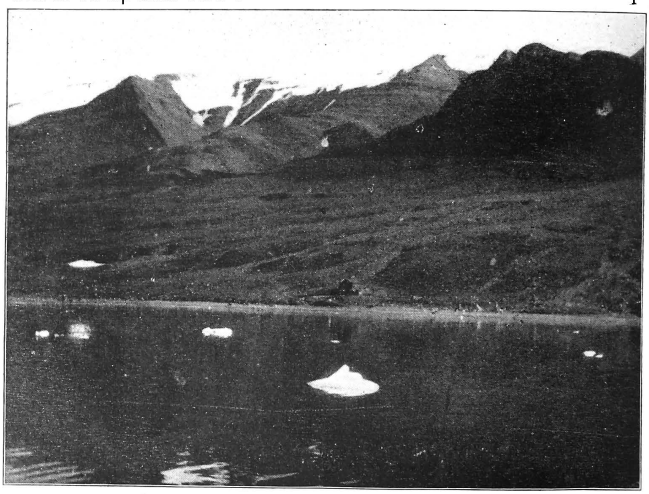


MY struggle with the Melville-Bay ice had been more severe than that of most of my predecessors in North Greenland exploration, due partly to the comparatively small size of my ship, partly to the early date at which I attacked it.

The three weeks' long conflict with the floe ice had cost me just that amount of time which I had hoped to devote to the large amount of work preliminary to carrying out the main purposes of my expedition. About three months, however, yet remained to us for outdoor work, before settling down to the comparative inactivity of the long winter night.

The first thing to do, of course, was to select a suitable site for our camp, put up the building, and settle my arctic household to rights as soon as possible. Then, unless the Eskimos came to my headquarters, it was essential to communicate with them. I had reason to believe that one or more of their hunters would be of great advantage to us. More-

over, I wanted them living near us. I wished to become well acquainted with these most isolated and northerly of all peoples, and, for purposes of studying this interesting tribe, I hoped to induce not a few of them to spend the winter months at or near our camp.

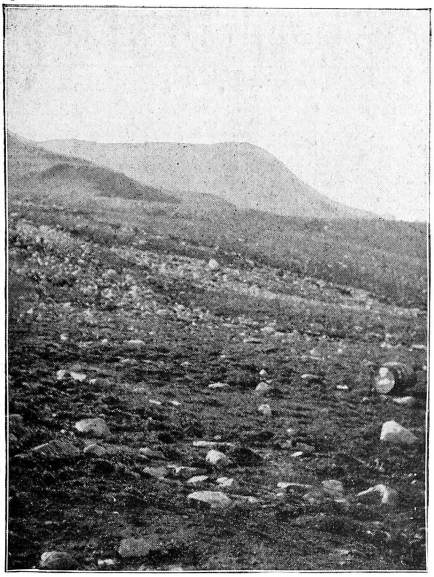


SITE OF RED CLIFF HOUSE.
On the South Shore of McCormick Bay.

Then the next twelve weeks would be a busy time for my hunters, for we had the winter supply of fresh meat, and also the deer- and sealskins needed for a part of my arctic outfit, to procure. I hoped, too, that we should find some of the native women useful in sewing our skin garments. I wished also, if possible, to send a sledge party on the Inland Ice across Prudhoe Land to the north, to establish one or more caches of supplies for the use of the party to the north coast in the following spring. Handicapped as my little party was by my temporary disability for all

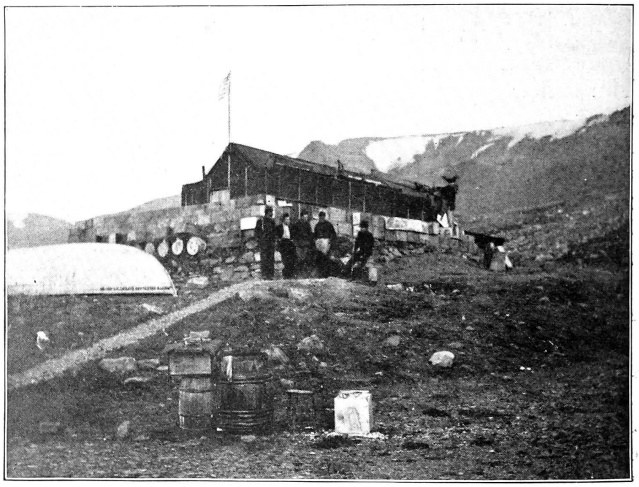
physical activity, I felt that the duties before us would demand the best energy of all.

The eager desire to get about our work possessed my mind as I lay helpless in the cabin; but my party was prepared to enjoy with the keenest zest the beautiful arctic summer day and the glorious scene as we steamed into McCormick Bay. The sun was just rising from the lowest part of its nearly horizontal course above the ice-capped cliffs that line the north shore of the inlet. All was warmth and light and exuberant life. A deer or two browsed leisurely on the slopes, covered with moss and flowers, that stretched along the south shore between the water's edge and the dark brown and red-brown cliffs that frame the inlet and uphold the Inland Ice. Down the valleys, worn by water out of the sandstone and basaltic walls that bound the bay, leaped brooks looking in the distance like silver ribbons. Flocks of snow-buntings twittered and chirped, and millions of little auks kept the air alive with querulous cries and the rapid beat of their whirring wings. The ice still



THE RED CLIFFS.

filled the greater portion of the bay. A broad river of gleaming water ran close to the shore. Every glistening iceberg floated in an open lake in which sported seals, narwhals, and schools of white whales, and narrow lanes of water ran in every direction through the rotten ice, cutting it into great floes which floated slowly back and forth with the tide.



RED CLIFF HOUSE.

The bay was found to be about nine miles wide at its mouth and some fifteen miles long. Like most of this coast line, it was incorrectly charted. Its shores, according to the chart, might be called the east and west, while, in fact, they are more nearly the north and south boundaries of the bay. It narrows very gradually towards its head, where it is about four miles wide. At the head of the bay a large glacier was plainly seen, and from it came icebergs that were sprinkled over the surface of the inlet.

I immediately sent my party ashore, first on the south and then on the north side of the bay, to reconnoitre for a site for the house. It was not an entirely easy matter to select a suitable location, because many things were to be considered, and he upon whom the decision rested was obliged to see with the eyes of others. The house must not be too far from the shore, it must be where no landslide or falling rocks from the cliffs could crush it, where the torrents from the melting snow of early summer could not sweep it away, and yet it should be sheltered from the furious blasts of winter, and be so placed as to get all the sunlight possible.



LOW TIDE.
Mrs. Peary Leaning against a Block of Ice Stranded by the Receding Tide.

The ice made it impracticable to consider the northern shore, though I should have preferred to winter on that side of the bay as offering better protection from northerly winds. Mrs. Peary accompanied the exploring party, and her good judgment finally cast the deciding vote for the location.

She selected a little knoll on the south shore, between two brooks, about one hundred feet from the waters of the bay. The soft earth of this little grass- and flower-covered eminence gave an opportunity to set the house level with very little digging, while the descent in every direction ensured dryness, and the slight elevation gave a good outlook over the bay. The only objection to the location was that the cliffs to the south would shut off the sun early in spring and late in autumn, but this could not be helped.

Sunday, July 26th, was beautifully clear and warm. Early in the morning the men of my party went ashore with pickaxes, shovels, and lumber, and began work on the excavation for the foundation of the house. A foot below the surface the ground was found to be frozen. A day sufficed for this work. Then came the putting up of the frame, which, having been cut and fitted in Melville Bay, had only to be nailed together and erected.

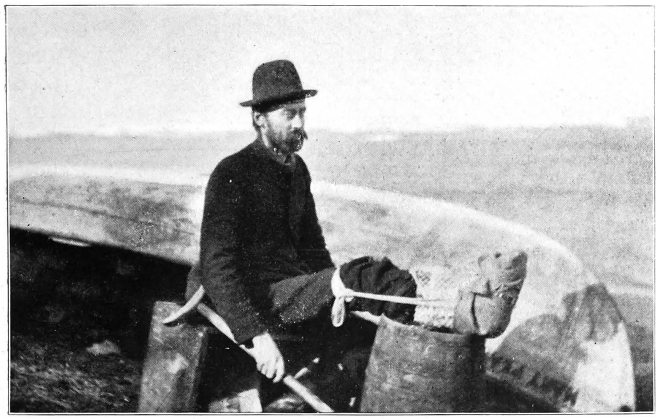
The construction of my house had been the subject of much study. I wished to attain a minimum of weight and size with a maximum of strength, warmth, and comfort.

The interior dimensions of the house were to be twenty-one feet in length, twelve feet in width, and eight feet in height from floor to ceiling.

Though its construction was commenced anon and pushed with great energy till it was entirely enclosed, it was not completed until several weeks later, work upon it being done from time to time in the interims between other more immediately pressing work.

As finally completed, the house consisted of an inner and an outer shell, separated by an air-space, formed by the frames of the house and varying from ten inches at the sides to over three feet in the centre of the roof.

On the outside of these frames was attached the outer air-tight shell, composed of a sheathing of closely fitting boards and two thicknesses of tarred paper. To the inside of these frames was fastened the inner shell, composed of thick trunk boards, and made air-tight by pasting all the joints with heavy brown paper. This inner shell was lined throughout with heavy red Indian blankets.



"THE DAYS WERE VERY LONG."

This made the interior as warm and cosey in appearance as could be desired, amply comfortable for summer and early-fall weather. It was still, however, not in a condition to protect us from the indescribable fury of the storms of the arctic winter night, and temperatures of half a hundred degrees below zero.

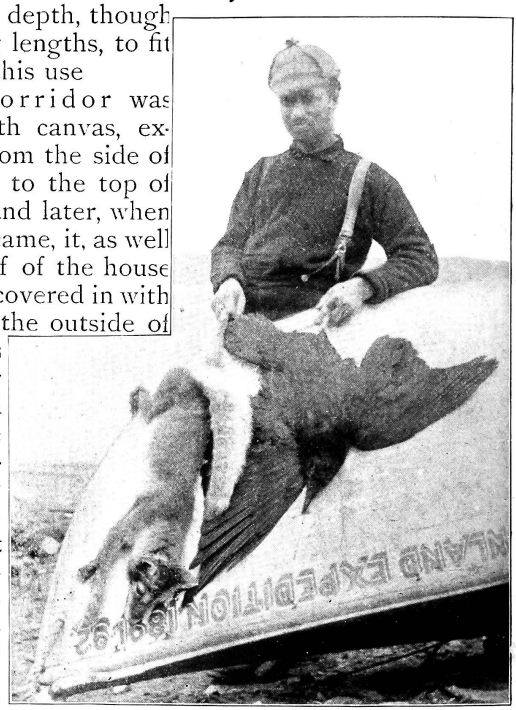
To render it impregnable to these, a wall was built entirely around the house, about four feet distant from it.

The foundation of this wall was stones, turf, empty barrels; its upper portion built of the wooden boxes

containing my tinned supplies, piled in regular courses like blocks of stone.

The boxes had intentionally been made of the same width and depth, though of varying lengths, to fit them for this use

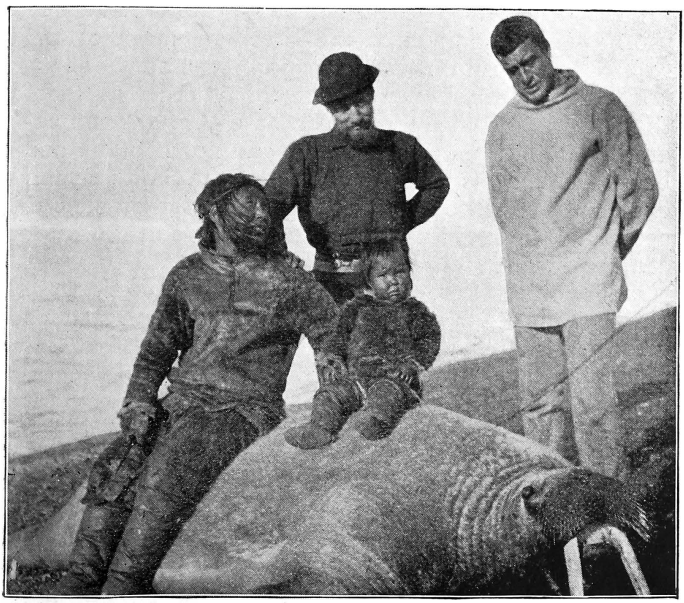
This corridor was roofed with canvas, extending from the side of the house to the top of the wall, and later, when the snow came, it, as well as the roof of the house itself, was covered in with snow and the outside of the walls thickly banked with the same material. By this arrangement of the boxes I avoided the necessity of using any portion of the house for storage; the contents of every box was immediately and conveniently accessible, as if on the shelves of a cupboard, and the rampart thus formed protected the house in a surprising degree from the stress of the winter's cold.



HENSON WITH RAVEN AND BLUE FOX.

While my party was at work on the house, the ship's

crew was busy bringing off my stores and coal. This task filled four days with hard work. The drifting floes made it impossible for the *Kite* to anchor, and she steamed slowly up and down the shore, while the stores and materials were landed in my whale-boats.



VICTIM AND VICTORS.

On Monday afternoon, July 27th, I was taken ashore, strapped to a plank, and stowed in my little tent, which had been put up just back of the house, where I could supervise the work. My men kept at their task, in which they were kindly assisted by Mr. Ashhurst of Professor Heilprin's party, till nearly mid-

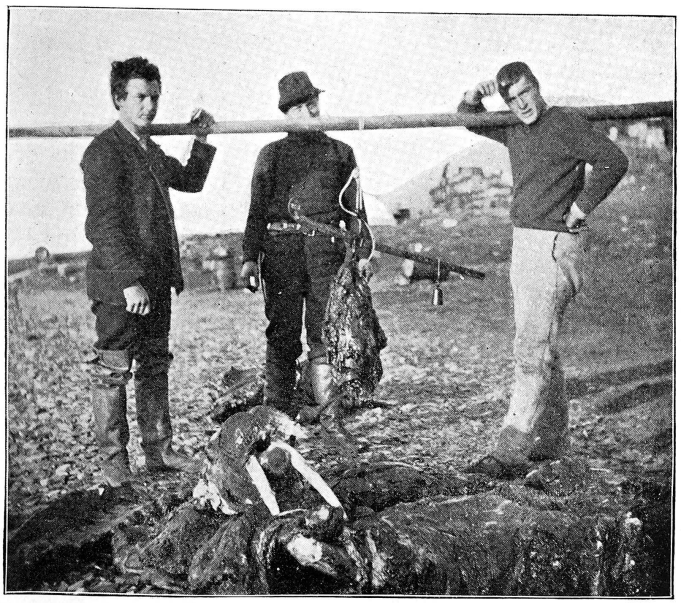
night, when the frames were all up. Then they went back to the *Kite*, leaving Mrs. Peary and myself in the tent. A school of white whales came puffing and grunting close to the beach in front of the tent, but they and snow-buntings were our only visitors.

Our camp was two and one third miles a little north of east along the beach from Cape Cleveland, the seaward terminus of the southern shore of the bay. Our position was 77° 40′ N. Lat. and 70° 40′ W Long. We were over thirty miles north of the latitude in which the unfortunate *Jeannette* foundered. Within a degree of latitude north of us had been enacted much of the history of the Smith Sound expeditions. Two or three days by boat or sledge, according to the season, would take us to the winter camp of Kane, Hayes, and Buddington, or to bleak Cape Sabine, where most of Greely's party perished. From our beach we could look out upon islands whose names had been made famous in the annals of exploration. Just past the western end of Northumberland Island, rose sharp and clear in pleasant weather the cliffs of "Hakluyt's Isle," which had sheltered brave Baffin in his tiny ship almost three centuries before.

We were to spend the winter night within 740 geographical miles of the North Pole.

Mrs. Peary and I said good-bye to our friends of the West-Greenland Expedition and the *Kite* on the evening of July 29th, for it was expected that the *Kite* would sail during the night or early next morning. My party remained on the *Kite* writing letters to be sent home. All night the wind and rain beat in fitful gusts upon our little white tent on the desolate Greenland shore. Towards morning we fell asleep, but I was awakened about 5:30 o'clock by the *Kite's* whistle. I heard cheering, the slow beat of the *Kite's* propel-

ler, and then the sound of oars in the rowlocks. My party were coming ashore and the *Kite* was moving away from us to sunny southern lands. Mrs. Peary, tired with her long watching, was fast asleep and I had not the heart to wake her, particularly as the



WEIGHING UP A WALRUS.

sight of the little craft that had been her home so long, vanishing among the icebergs, was not likely to be cheering.

The whale-boat soon reached the beach, and almost immediately I heard the lively tattoo of hammers upon the rafters and sides of our yet roofless home. I knew

the merry racket masked more than one sober thought that followed the *Kite*. The boys laboured earnestly and well, but the work was new to them all, and the stormy weather interfered seriously, so that two nights more were passed in the tent, though each night we thought it would be carried away bodily by the furious squalls that fell upon it from the cliffs. Every day the boys piled more and more stones upon it and attached more guy ropes.

Finally the roof, floor, and sides were completed, and just as everything in the tent was saturated we moved into the house, and I was transferred to a pile of patent fuel boxes in one corner. Then the stove was set up, the stovepipe being pushed through the nearest window after the style of architecture recognised in squatter town, and gradually our equipment was brought under cover and dried.

No part of our household equipment required more careful consideration than our stove, but by sinking it in a pit in the floor so that the firepot was below the floor level and carrying the stovepipe through a double window, two of the panes of glass in which had been replaced by sheets of tin, thus keeping the pipe throughout its entire extent entirely away from contact with any woodwork, the two great desiderata were accomplished: of warming the air in the room clear down to the floor level, and of obviating any possibility of an accidental fire.

The next matter of vital importance in our household economy was that of sufficient and equable ventilation. This was accomplished by suitably arranged and proportioned air-shafts, through which all of the moisture and bad air escaped.

When the weather was extremely cold, the condensation from the warm air escaping through the shafts was like thick white smoke. Rude but comfortable

bunks were constructed for everyone, and these, with a number of chairs, table, and several boxes of books, completed the furnishing of the house. Our library included a large number of works on Arctic exploration, novels, and other reading matter, and also an Italian dictionary which some kind friend had sent us without accompanying it with any literature in that language.

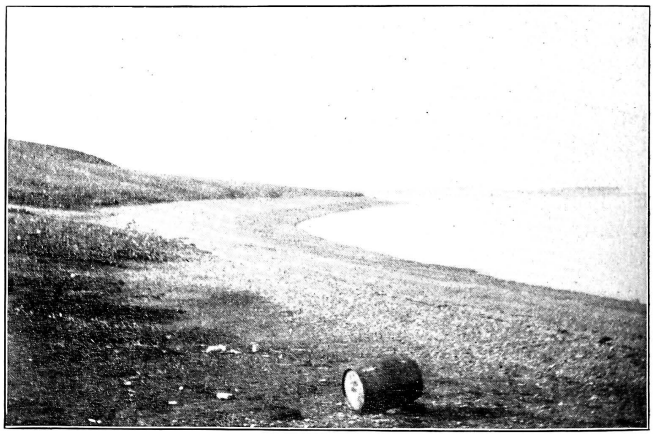


UNTOLD WEALTH.
See Knife and Mirror in the Woman's Hand.

When the snow came, the wall all around was heavily banked with snow, and a foot of snow was piled on the canvas roof of the corridor or passage-way between the house and the wall around it. Then, with blocks and slabs of hard snow, a thick wall was built to protect the gable, and with more blocks and slabs a long, narrow, low snow entrance to the corridor was built. Our fortress was then completely fortified against the severest assaults of the arctic winter.

On the whole, with the exception of the first ten days, we had very beautiful weather for a month after the *Kite* left us. Day after day, the sun shone brightly. The water of the bay was blue and sparkling and the icebergs gleamed in the genial sunlight like marble, while the wind blew soft and warm. I think the weather we enjoyed during August must

be exceptional in that far northern region ; or perhaps it was the Indian summer of the arctic lands. Forewarnings of approaching winter came to us, however, before the end of the month. In the latter part of August we had considerable fog and threatening weather. On August 28th, it began snowing and the snow fell rapidly for an hour or two. Next day the mountains on both sides of the bay were covered with snow to within about 400 feet of the sea level. Rain alternated with snow and the day was very



CRIPPLE BEACH.
My Promenade.

disagreeable. We spent it overhauling one of the sledges for the approaching sledging season. On August 29th, it snowed again, and at midnight the ground for the first time was white down to the water's edge. It melted, however, next day, and no snow was seen at a lower elevation than 300 to 400 feet above the sea. On the last day of August, it

was evident that summer was at an end. The little brook near the house had already been frozen over for two or three days.

Soon after the *Kite* left us, I was able to get around on crutches, and one of the delights of life was to sit in front of the house, taking sun-baths and enjoying the invigorating air. Before the middle of the month,



ARCTIC HOUSE BUILDING.

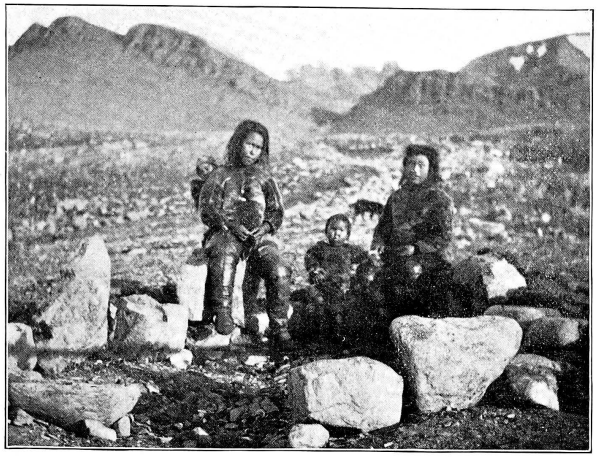
the ice was almost entirely out of the bay, but numerous small bergs from the glacier at its head were scattered over its surface, and frequently we heard the loud reports as they broke to pieces. On August 15th, I observed that the snow on the ice-caps surrounding McCormick Bay was melting quite rapidly, and the ice could be plainly seen bluish-green in colour. Most of the days were very delightful as I sat in front

of the house against the whale-boat *Mary Peary*, enjoying my sun-bath. The little brook beside the house babbled merrily, the flocks of little auks flew past just off the beach, uttering their garrulous cries, and every few minutes I could hear the crash and thunder of a sundering berg rolling across the bay. The mosses and scant vegetation of the rock slopes along the shore were taking on a purplish hue as if it were the autumn foliage.

On August 11th, when I assigned the various members of the party to their bunks in the house, I settled upon the name of our lowly home, calling it Red Cliff House, after the red cliffs behind it, which were the most prominent object in view as our steamer had brought us into the bay. Red Cliff House began early to have its gala occasions. To vary the routine of life, we proposed to especially distinguish anniversaries that were of particular interest to the members of our party. The first of the fêtes in our new home was on August 8th, which was the birthday of my coloured boy, Matt. After the boys had had coffee in the morning, they went off on a hunt and came back early in the afternoon with our first deer, which had been shot by Astrüp on the plateau above the cliffs back of the house. Their exercise gave them splendid appetites for the birthday dinner. Matt had made out the bill of fare, taking anything he chose from the stores, and he had a more than usually fine spread. The third anniversary of the wedding of Mrs. Peary and myself occurred on August 11th, and while the boys were off in the boat after seals, Mrs. Peary got up a little extra dinner. The luxurious feast was served on a bare-board table in tin mess-pans. It consisted of little-auk stew, hot biscuit, apple-pie, pears, and coffee, with a cocktail to start with and a glass of Haut Sauterne all around.

The bill of fare was declared by our party to tend to make wedding anniversaries popular.

During the hours I spent in the sunlight in front of the house or on the slopes between the house and the cliffs back of it, I was greatly entertained by watching the manifold phases of animal life that were to be seen at all times. Flocks of kittiwakes fished along the shore, and white whales sported in the waters,



REST AFTER LABOUR.

their antics giving us much amusement. Jäger and burgomaster gulls passed over the camp in small numbers. On August 14th, I saw a blue fox passing along the beach in front of the house. When he saw me he stopped, but before Mrs. Peary could bring my rifle he had trotted slowly away up the beach. I whistled to him and he stopped again, and, calling Matt, I gave him the rifle and told him to go after

the animal. Matt found that whistling would make him stop and look around, and so walking and whistling he got within range and shot him. The fox had hazel eyes, was in poor condition, and weighed just seven pounds. His teeth were badly worn, and as he loped along the beach he had a very spidery, long-legged appearance. As Matt was bringing his prize back to the house, a raven circled over and I dropped him with my three-barrelled gun. He weighed three pounds and was also in very poor plumage.

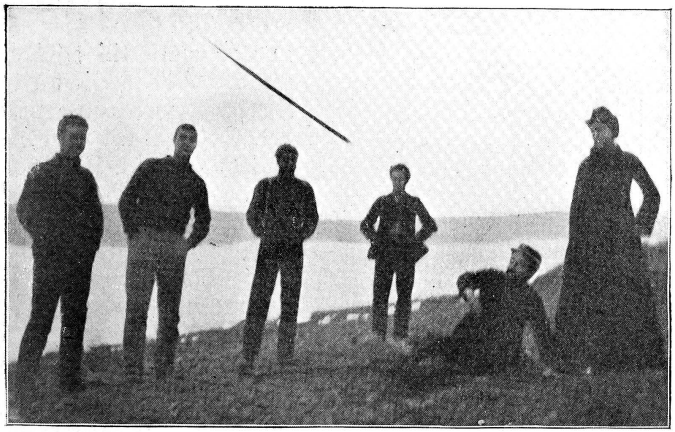
Little auks were to be seen by the million, and I spent hours watching them fly over our camp. One afternoon about the middle of the month, there was a continued succession of flocks numbering from a half-dozen to two hundred or three hundred birds. They were passing steadily down the bay. One series of flocks would fly only three or four feet above the water, from one hundred to two hundred yards from the shore. Another division would pass high in the air over the house, and still other flocks were higher yet and scarcely visible. Most of them flew in more or less regular triangles or crescents, the apex or convexity always in front. By August 29th, the little auks had practically left us, though an occasional straggler was to be seen. The guillemots had also disappeared, but the burgomasters had been more numerous for a few days, twenty or more passing at a time. On August 28th, I saw a Greenland falcon at Cape Cleveland.[1]

My broken leg was mending nicely. On August

[1] From the 12th to the 18th of August, Mrs. Peary, Matt, and myself were alone at the house, the rest of the party being away in the *Faith*, on a voyage to the islands. An account of this trip is contained in the next chapter.

During their absence, Mrs. Peary and I stood the night watch; Mrs. Peary took charge of the culinary department, while I read the instruments at the regular hours. Matt stood the day watch, and occupied himself with the foundations of the wall which was to surround and protect the house.

15th, with the aid of my crutches, I took my first walk since the accident happened. On the 16th inst., I hobbled up the hill back of the house, and began putting my foot on the ground a little. It was just five weeks since I had broken my leg; five weeks of most valuable time, but I did not feel like complaining, for my leg was doing well and there was no doubt but that in time it would be as good as ever.



HARPOON PRACTICE UNDER DIFFICULTIES.

I spent most of the time on August 13th with the small transit determining the meridian. On the 16th inst., I took another set of circum-meridian altitudes, and, a few days later, I secured good observations for latitude and rate of watch.

At 3:30 o'clock on the morning of August 18th, Matt came to our room, crying "They are coming, sir," and in a few minutes after rounding the point, the boys landed in front of the house with 130 Brünnich's guillemots and an Eskimo family, consisting of a man, his wife, and two children, with a kayak and harpoon,

a sledge and a dog. The party had shot a small walrus near Herbert Island, which they had towed to Cape Cleveland and made it fast there. They had been very successful in their trip and had made good time, for they had been absent only six days. All had lunch, turned in and slept till nearly noon. After dinner, leaving Verhoeff and Dr. Cook at the house, and taking the Eskimo man with us, we went down to Cape Cleveland to cut up the walrus. The native performed the operation very quickly and expertly.



ANNADORE.
Three-Year-Old Eskimo Girl.

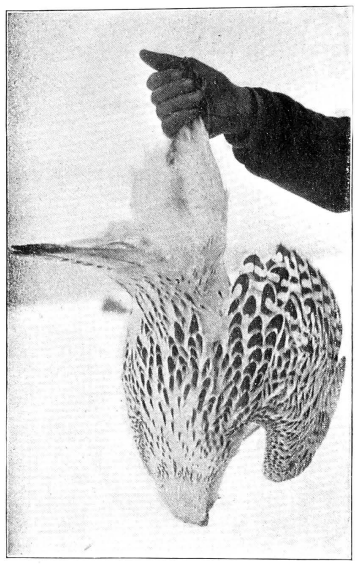
The Eskimo family pitched their tent near the house. Their dog was tied to a stone close by the little stream and all were apparently content. Though the *Kite* stopped at Nettiulume, a native settlement on the south side of Whale Sound, on her way to McCormick Bay, I was not able to see any of the natives on account of my accident, and so the first Eskimos whom I saw were this family that my party had brought back from Northumberland Island. They were Ikwa, Mane his wife, Annadore the little girl, and the baby, Noya. This family remained

constantly with me until my departure from Red Cliff, with the exception of a few short visits to their home, in order, as we afterwards learned, to air their importance and exhibit the wealth they had newly acquired from the white men. They became very much attached to us, as we did to them, and Ikwa's patience and tenacity, assisted by one of my Winchesters, added many a fine deer to the Red Cliff storehouse; while Mane became Mrs. Peary's eager and faithful servant.

Our hunting made fair progress in August, though we needed the tuition that we obtained later from expert native hunters, to make us most efficient in the field. I have already recorded that we got our first deer on the bleak plateau back of the house on August 8th. Soon after the boys returned from Northumberland Island, they had an unsuccessful chase after white whales; but next day, just before noon, Ikwa came running to the house, crying "Awick, awick!" ("Walrus, walrus!") and pointing down the bay. Sure enough, there were three or four walrus coming rapidly on, and the boys, jumping into the *Faith*, were soon out near them, and in a few minutes (after a volley of twelve or fifteen shots) they had a dead walrus in tow, two or more others having been wounded. The walrus weighed 1569 pounds, estimating the blood and internal organs at 125 pounds. The skin weighed 220 pounds, and the length of the animal was nine feet. Ikwa used the skin for covering his winter habitation, the walls of which he had begun building the day before. He carried stones for quite a distance, some of them weighing as much as one hundred pounds.

On August 27th, soon after midnight, Gibson, Matt, and Ikwa went out and got a female walrus and a young one. The young animal, which was also a female, was brought ashore and it barked about the beach much like a hoarse bulldog until it was shot

to put it out of its misery. We also killed a good many burgomaster gulls, auks, and other birds near the camp. Late in the month, we saw the sun set, a phenomenon that had not occurred before since we reached the arctic regions. On the night of August 29th, a light was needed for the first time and the watch burned candles for several hours. The long summer day was at an end, but winter was not yet upon us.



GREENLAND FALCON.

Monday, August 31st, dawned clear and calm, and I started Astrüp with his ski for a twenty-four-hour reconnaissance of the Inland Ice, east of McCormick Bay. He returned at midnight after a sixteen-hour absence. He had travelled an estimated distance of seventeen miles, but had not rounded the head of the bay. The greatest altitude he attained was 2645 feet and the lowest temperature was +25° F. He reported that the travelling on the Inland Ice, as far as he was able to see it, was perfection. He saw no crevasses, rivers, or ponds. His observations, however, tended to show that our start for the spring sledging on the Inland Ice must be made from the north-east side of the bay, as a deep valley seemed to cut through from the valley at the head of McCormick Bay southward to Whale Sound.

CHAPTER III.

BOAT VOYAGE TO THE ISLANDS.

INSTRUCTIONS TO GIBSON, DR. COOK, VERHOEFF, AND ASTRÜP—GIBSON'S REPORT—DR. COOK'S REPORT—DESCRIPTION OF HAKLUYT ISLAND BY VERHOEFF.



THE FAITH.

CHAPTER III.

BOAT VOYAGE TO THE ISLANDS.



ON the afternoon of August 12th, Gibson, Dr. Cook, Verhoeff, and Astrüp, Gibson in command and Dr. C[illegible] second, left in the whale-boat *Faith*, provisioned for fourteen days, for Herbert, Northumberland, and Hakluyt Islands, to obtain birds from some of the loomeries, to make plans of Eskimo houses and villages, to communicate with the natives, obtain from them furs and clothing, inform them of the location of our house, and, if possible, induce a family to come and settle near us. The *Faith* was thoroughly equipped with oars, sails, anchor, so on, and the boys were supplied with compass, chart, oil-stove, rifles, shot-gun, and some five hundred rounds of ammunition. All the forenoon was occupied in packing tea, coffee, sugar, and other articles, and personal outfits for the journey, and the start was made with a light favouring breeze and with the cliffs of Northumberland Island showing clearly.

The following instructions to Gibson, the com-

mander of the expedition, together with a narrative of the voyage in his own language, and extracts from the reports of other members of the party, cover the incidents and results of the trip.

RED CLIFF HOUSE, NORTH GREENLAND,
Aug. 12, 1891.

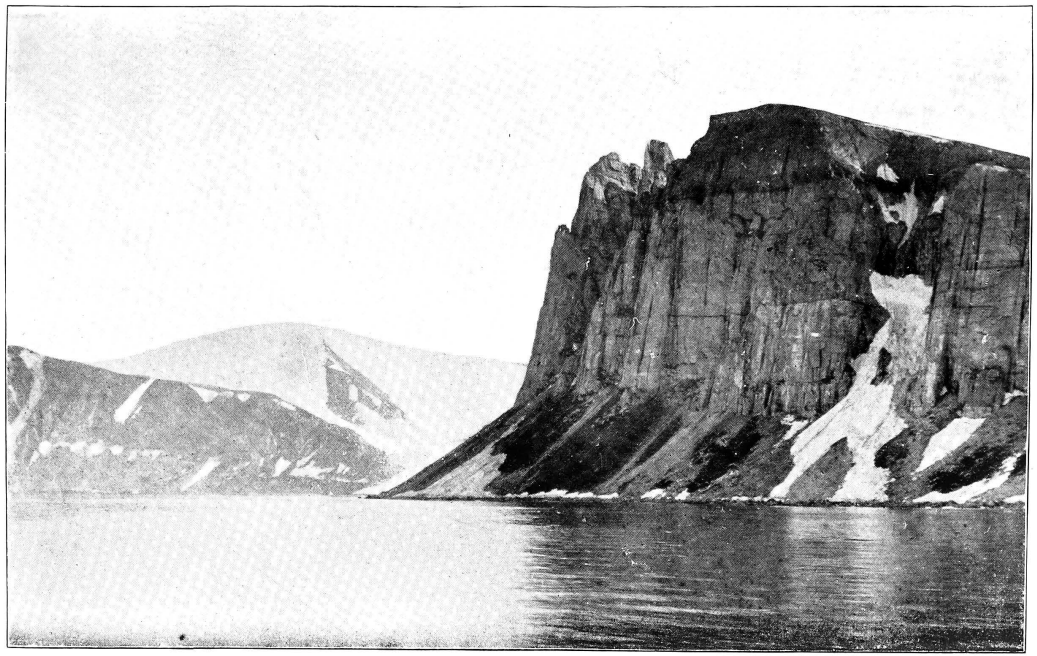
SIR :—You are hereby placed in command of the boat expedition to Hakluyt, Northumberland, and Herbert Islands, and possibly the south side of Whale Sound.

On leaving here you will proceed to Hakluyt Island, and endeavour to locate the loomery of guillemots supposed to exist there. If successful in so doing, you will obtain as many of the birds as possible, and then proceed to the settlement at the south side of Herbert Island visited by the *Kite* on her way here, and at that time unoccupied. Should you at any point *en route* to Hakluyt Island discover a loomery, it will not be necessary to continue to Hakluyt.

You will remain at the Herbert Island village long enough to permit complete plans and sketches of the village to be made by Astrüp, and, in case the inhabitants of the village have returned, to enable Dr. Cook to complete the negotiations in regard to which he has instructions.

This work completed, you will examine as much of the shores of Northumberland and Herbert Islands as practicable without prolonging your absence from camp beyond ten days, and then return to camp.

In case no natives are found on Herbert or Northumberland Islands, you will exercise your own judgment as to proceeding to Ittibloo. While it is desirable to communicate with the natives and obtain furs and clothing from them, your trip must under no circum-



HAKLUYT ISLAND, WITH NORTHUMBERLAND IN THE DISTANCE.

stances be prolonged beyond a period of two weeks, nor are you to take any risks whatever in crossing the Sound.

While sailing you will avoid icebergs, and when at anchor or camped on shore you will never fail to have a man continuously on watch.

When in the neighbourhood of natives you will always leave one man to guard the boat and its contents.

You will keep a full journal during your absence, and on your return submit it to me.

In conclusion, I will call your attention to the necessity for the utmost care and attention to every detail of equipment and methods, as upon this will depend your success and the comfort of your party.

Very respectfully,

(*Signed*) R. E. PEARY, U. S. N.,
Commanding Expedition.

Mr. LANGDON GIBSON.

RED CLIFF HOUSE, NORTH GREENLAND,
Aug. 12, 1891.

SIR:—You will be second in command of the boat expedition to Herbert, Northumberland, and Hakluyt Islands, and, in the event of serious accident to Mr. Gibson, will assume the command.

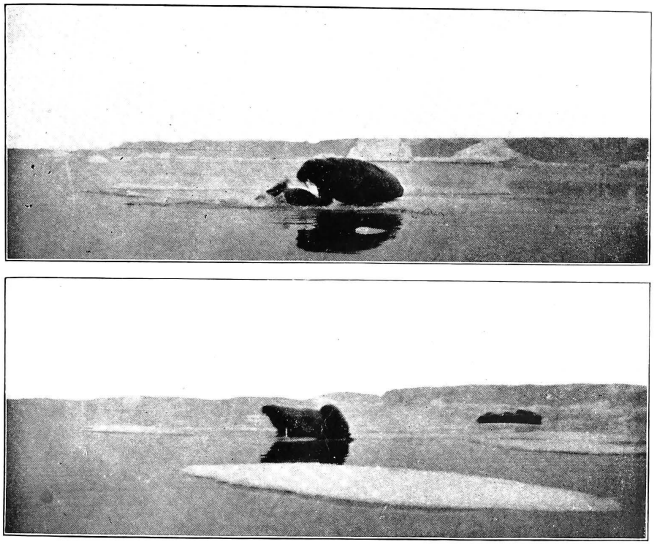
During the absence of the expedition you will note carefully the location of all Eskimo houses and villages on the shores visited, and will take full descriptive notes of them, mode of construction, size, material, etc.

Should you find natives you will endeavour to obtain from them reindeer, and bear, and blue-fox skins, and especially kamiks.

You will endeavour to make the natives understand

the location of the house and the fact that they can find there desirable articles in exchange for their furs and implements.

If practicable, induce a man and woman (possessors of a kayak and accessories) to return with you and settle for the winter near the house.



WALRUS IN MURCHISON SOUND.

If you do not succeed in this you may be able to bring a man with his kayak back with you.

As an inducement you can perhaps convey to him the idea of his having a gun to use.

(*Signed*) R. E. PEARY, U. S. N.,
Commanding Expedition.

Dr. F. A. COOK,
Surgeon and Ethnologist.

RED CLIFF HOUSE, NORTH GREENLAND,
Aug. 12, 1891.

SIR:—During the absence of the boat expedition you will make as complete a mineralogical and topographical examination of localities visited as possible, and whenever practicable obtain with compass and aneroid a careful vertical cross-section normal to the



THE FIRST NATIVE.
Photo. by Dr. Cook.

shore, extending from the water level to the crest of the cliffs.

You will also keep a general record of the weather.

Very respectfully,

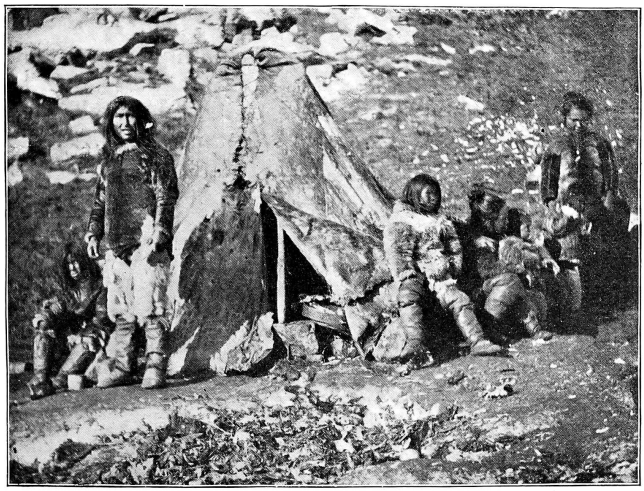
(*Signed*) R. E. PEARY, U. S. N.,
Commanding Expedition.

JNO. M. VERHOEFF,
Mineralogist.

Astrüp was requested orally to make sketches and plans of the Eskimo dwellings and villages.

REPORT OF LANGDON GIBSON, IN COMMAND OF BOAT EXPEDITION.

August 12th.—Having received our sailing instructions, and all being in readiness for starting, with a boat's crew of three besides myself, comprising Dr. F. A. Cook, Eivind Astrüp, and J. M. Verhoeff, we set sail from Red Cliff House this afternoon at 4:10.



ESKIMO FAMILY AND TENT, NORTHUMBERLAND ISLAND.
Photo. by Dr. Cook.

We proceeded as far as Cape Cleveland, aided by a light wind from the east, which was also accompanied by a light rain. When abreast of the cape, the wind failed us altogether, and we were compelled to use the oars. At seven o'clock, we all rested and had supper, consisting of baked beans, corned beef, crackers, and coffee. Ahead of us we could see, in the direction

of Herbert Island, considerable ice, which seemed, though, to be much broken up. At eight o'clock, a light breeze from the south-east helped us along, and we were enabled to lay our course north by west (mag.) for the northern point of Herbert Island. We soon came up with the ice, which seemed to be covered with innumerable dark objects, and which, on closer inspection, proved to be a large herd of walrus. Taking in our sails, not caring to be bothered with them in so light a wind, and placing our oars in position, we rowed cautiously to within about fifty feet of a cake of ice which, by actual count, contained fourteen of the brutes. Here we paused long enough for the Doctor to obtain some snaps at them with the kodak, and then, at the word, we all fired ; our bullets seemed to have but little effect on their tough hides, for, with sullen roars, they one by one rolled into the water, and the floe on which they were, relieved of the great weight to which it had been subjected, arose at least a foot more out of water. We then stood ready to row or shoot as circumstances might require. They soon came to the surface some distance away, and after trying a few more shots, which I found to be a useless waste of ammunition, we proceeded once more on our journey. By this time the wind had increased to a whole-sail breeze, and setting sail once more we went along at a good speed and found no trouble in passing through the ice, which, on first inspection, seemed to be a barrier of no little importance. At ten o'clock, we passed the sound dividing Herbert and Northumberland Islands and soon found ourselves sailing along (at good speed) the coast of the latter island, whose shore presented a most desolate appearance, being utterly devoid of vegetation. At eleven o'clock, I turned in with Dr. Cook, leaving Astrüp at the helm, and Verhoeff to tend sheet.

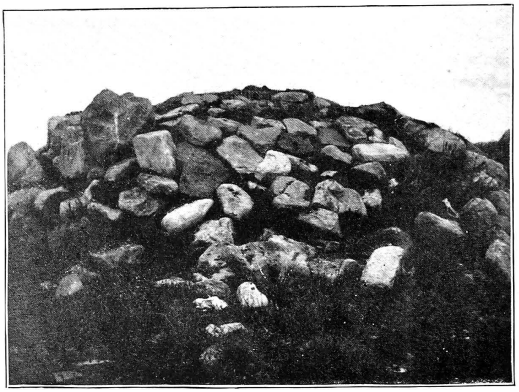
August 13th.—At three o'clock this morning, we changed watches. Hakluyt Island now appeared very plainly ahead of us, and about six miles distant. The wind had increased to almost a gale, and there was a heavy sea running, in which the *Faith* behaved most admirably. Guillemots were seen flying in the direction of the island, each carrying something in its beak. This I took to be fair evidence that we would find their



ESKIMO IGLOO, NORTHUMBERLAND ISLAND.
Front View. Photo. by Dr. Cook.

loomery. At five o'clock, we reached the island and found the waves breaking so high on its steep and rocky shore that it was impossible to land the *Faith* with any degree of safety to her. So sailing around a point we came upon some perpendicular cliffs which in some places seemed to overhang. These cliffs faced the west, and it was in the clefts here (with which the walls were well furrowed) that we found the guillemots resting in large numbers. We stopped here long enough to procure a few birds, but found much difficulty in picking up the birds, which would

fall at the foot of the cliffs, on which the waves were breaking with much force. So I decided to look for a suitable camping spot, when I could lighten the boat, and then return for more birds. We found such a place around the point where the cliffs terminated, and on a smooth, shelving rock facing the south-west. We unloaded the *Faith* and proceeded to cook breakfast, after which we returned to the loom-



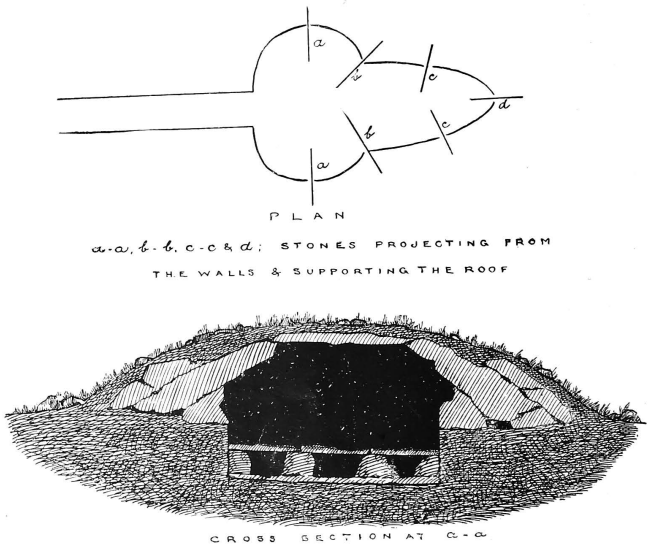
ESKIMO IGLOO, NORTHUMBERLAND ISLAND.
Rear View. Photo. by Dr. Cook.

ery. By eight o'clock, we had gathered about forty birds, averaging more than one bird to the cartridge, in spite of the fact that we were unable to get much over seventy per cent. of the birds killed, as they would fall on the little projections of rock on the cliffs and there lodge. Our method of picking the birds up after they had fallen in the water was as follows: after having dropped as many as we could keep track of, the gun was put down, and two men would then back the boat up to the cliffs, while another would stand by to fend off with a boat-hook, and the fourth

would pick up the birds. In doing this, we (several times) came nearly striking the rocks, as the waves were still running very high. We returned to camp and had an early lunch, after which Mr. Verhoeff started to take a cross-section of the island, while Dr. Cook and Mr. Astrüp took a walk alongshore in search of signs of natives. It rained in the afternoon, and by four o'clock the Doctor and Astrüp returned, having seen nothing, except a few fox-traps. The wind having moderated considerably, we made one more trip to the loomery, and returned to camp two hours later with sixty-two birds. We waited supper for Mr. Verhoeff, who did not return until eight o'clock, he having been to the highest point on the island, whence he obtained a good view of Smith's Sound, comparatively free of ice, and Grinnell Land appearing in plain sight on the other side. On his return, he saw two young foxes of a dirty-grey colour, who came quite close to him, evidently attracted by a piece of seal blubber which he had taken from a fox-trap and was carrying in his hands. This trap, which seemed to be of recent construction, he found at an altitude of eleven hundred feet. After supper, we turned in under the lee of an overhanging rock, Mr. Verhoeff and I taking the watches for the night.

August 14th.—This morning, in a drenching rain, we made our final attempt at the loomery, and returned to camp at nine o'clock with thirty more birds, making our entire catch one hundred and thirty-two. On this last trip I observed a pair of puffins which evidently had their nest along with the guillemots. Other birds which we have seen while here are the raven, eider-duck, black guillemot, and little auk, kittiwake gull, and burgomaster. The ravens were very tame, as well as numerous, some of them venturing within the limits of camp to obtain the bones

of birds that we had discarded. We had another early lunch, and by eleven o'clock started for Northumberland Island, stopping for a few minutes at the eastern end of the island to examine a small loomery of little auks. We soon crossed the Sound which



PLAN AND SECTION OF NORTHUMBERLAND ISLAND IGLOOS.
Drawn by Eivind Astrüp.

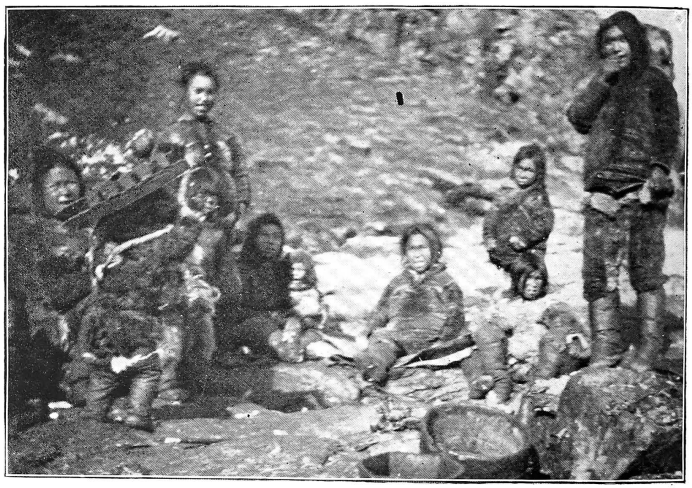
separated the two islands, in which we found a strong current settling to the westward. The tide was there about half high and rising. There was no wind, and rowing along slowly we came upon some Eskimo huts (at seven o'clock). They proved to be deserted and much dilapidated. But here we camped for the night.

Supper over, we turned in after a stroll on the beach. Dr. Cook and Astrüp having the night watch, gives them ample time to take drawings, photographs, and measurements.

August 15th.—At eight o'clock this morning, we once more started on our cruise, keeping close to the shore. We were compelled to row, losing what little wind there was, as it came from the land. We saw three foxes at different times, running and dodging along the beach, making ineffectual attempts to catch the burgomaster gulls, who would only fly when the foxes seemed almost upon them. At about twelve o'clock, we came to three more stone igloos, and as we were about to land we were surprised at hearing a shout. Looking farther up the hill, we perceived a native coming towards us. He was soon followed by his wife and two children, the younger of which she carried in her hood. We had lunch, which we shared with them. They liked coffee and crackers, but did not seem to fancy baked beans or tomatoes. In the afternoon the woman made us a pair of kamiks, and later on we tried as well as we could, by making signs, to show that we wanted them to accompany us back. Ikwa, for such is the man's name, seems to understand, but we do not quite make out his answer. Mr. Verhoeff and I take the night watch. It has stopped raining, and looks as though it were going to clear.

August 16th.—This morning, after breakfast, it being Sunday, we had a vote as to whether we should travel or rest, and as all the boys seemed anxious to return to Red Cliff House to enjoy the luxuries of home life, I decided to move along. After the boat had been reloaded and ready, we made one more attempt to induce Ikwa and Mane, his wife, to come with us, which they decided quite suddenly to

do, and with apparently no preparations whatever. He brought his dog, a female, also his kayak, which we towed behind us. Shortly after leaving, we came into sight of a discharging glacier, whose surface was discoloured a deep brick-red. The colouring matter was only superficial, however, for icebergs only recently detached seemed to contain nothing but clear



ESKIMOS ON NORTHUMBERLAND ISLAND.
Photo. by Dr. Cook.

ice. A little farther on, we found floating a seal spear, which we picked up, and soon after this we came around a point and found ourselves quite near an Eskimo settlement. We could see natives running from one tent to another, and one took a kayak and came to meet us. There was considerable heavy ice at this point, and happening to strike the right lane of water, we were soon landed, and the boat was

surrounded by natives, who would have got in it had we allowed them to. Here we decided to spend the remainder of the day. Dr. Cook started in, and soon had traded for many valuable ethnological specimens. We also obtained two more pairs of kamiks. The harpoon which we found was claimed by one of the natives, and consequently turned over to him. The south side of this island shows a marked contrast to its northern side. Here the vegetation is luxuriant, the whole slope of the hills appearing green, save where it is hidden by semi-pyramidal piles of rock, out of which project perpendicular walls of considerable height. In these walls the burgomaster gull breeds in large numbers, and lower down, in the loose rocks, which vary in size from a man's head to that of his body, the little auks have their nests.

August 17th.—When all was ready for a start this morning, we found our friend Ikwa and his family had decided to go no farther with us, and no amount of persuasion on our part could persuade him to change his mind. So we were soon on our journey without him. Shortly after leaving the settlement, we passed another discharging glacier, just past which were seen some more igloos. Stopping here to make some drawings and to take measurements, we suddenly remembered that some deerskins which we had traded for had been left behind. So we returned, leaving Astrüp to make the drawings. The distance being only about a mile, we were soon there and got our two skins, and then we thought of once more trying Ikwa. This time he seemed quite willing, and it was a very short time before he was in our boat, his only additional baggage consisting of a borrowed tent, and a piece of narwhal blubber which he swung over the bow. When we stopped to get Astrüp, Ikwa walked back from the shore a little distance, and soon returned

with an Eskimo sled, which we also placed in the bow. Here also we replenished our water breaker from a stream, and were once more on our way. As there was no wind, we were compelled to row, in which exercise we made Ikwa take his turn. We had passed through the Sound dividing Northumberland and Herbert Islands by five P.M., and could once more see the

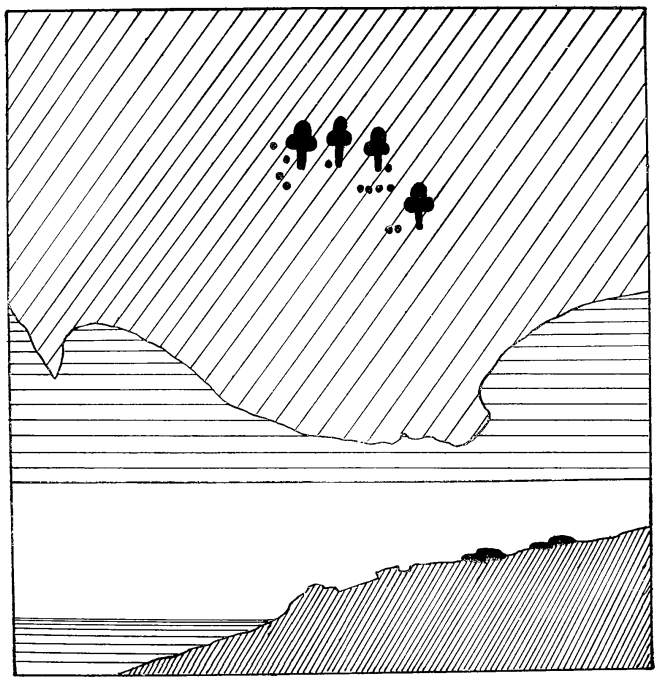
Astrüp. Dr. Cook.



NATIVES AND FOREIGNERS.
Photo. by Gibson.

red cliffs in McCormick Bay very distinctly. When about two miles from Herbert Island, we fell in with apparently the same belt of ice we had encountered on our outward journey, also the walrus, which seemed quite as plentiful as they were before. Ikwa apparently being anxious to tackle them, I steered in the direction of a hummocky cake on which one animal was sleeping. Ikwa waited until we were within about

ten feet of the cake, when he plunged his harpoon into its side. At the same instant, a shot from Astrüp's rifle practically settled it. The walrus came to the surface but once, towed us a little distance, and then the line



ESKIMO VILLAGE OF KEATE, NORTHUMBERLAND ISLAND.
Plan and Elevation, Drawn by Eivind Astrüp.

suddenly tightened, this time pointing directly down. While this excitement was going on we had been exchanging random shots at other walrus, inflicting only occasional flesh wounds. While engaged in pulling in

the dead one, a big bull walrus, apparently more bold than the rest, rose within a few feet of our boat, and I was fortunate in lodging a bullet from my rifle in his vertebra, killing him instantly. Ikwa fastened his other harpoon point in him and we soon had them alongside of us. Ikwa proceeded (as I at first supposed) to bleed them, but I soon discovered he intended only saving the heads. I let him cast the carcass of the big one adrift, saving only the head and ivory, but the other one I made fast to the stern, and we commenced what proved to be a most laborious task, towing it home. During the heat of the excitement, Mane had been placed in the bottom of the boat, where she sat huddled up with her two children, who were crying at the top of their lungs. At about seven o'clock, we got our walrus, and at 4:30 A.M. the next morning, a much-tired crew hauled the body of the walrus up on the shore at Cape Cleveland, where it was left, and a half an hour later we arrived at Red Cliff House, after an absence of five days, none the worse for wear, having enjoyed a very pleasant cruise.

LANGDON GIBSON.

RED CLIFF HOUSE, NORTH GREENLAND,
Dec. 30, 1891.

SIR:—In pursuance to your instructions of August 12, 1891, I submit to you the following report on the duties you assigned me on the boat cruise around Hakluyt and Northumberland Islands, from August 12th to August 19th.

Hakluyt Island presented few signs of Eskimo habitation.

We found fox-traps all along the south-west coast, but only one was set.

Near the south point, just below the little auk loomeries, I found another place where two tupeks

had been placed amid a large bed of beautiful green moss.

There were several places where stones had been arranged as fireplaces, shewn by the blackened stones.

The sole food of these people while here must have been either birds or hare. I found no large bones, such as seal or walrus. Bird feathers and bones were scattered in every direction. I found one small cache of little auks, evidently quite old. They were considerably decomposed, and covered with the germs of decomposition.

Lines of stones of nearly equal size were stood on end in a regular order on several places at elevations of not less than six hundred feet.

Fox-traps and these hare-traps we also saw all over the south-west coast of Northumberland Island. But few of the fox-traps were set, and none of the hare-traps had lines on.

Many of these fox-traps were placed on high rocks below loomeries where birds would be apt to light.

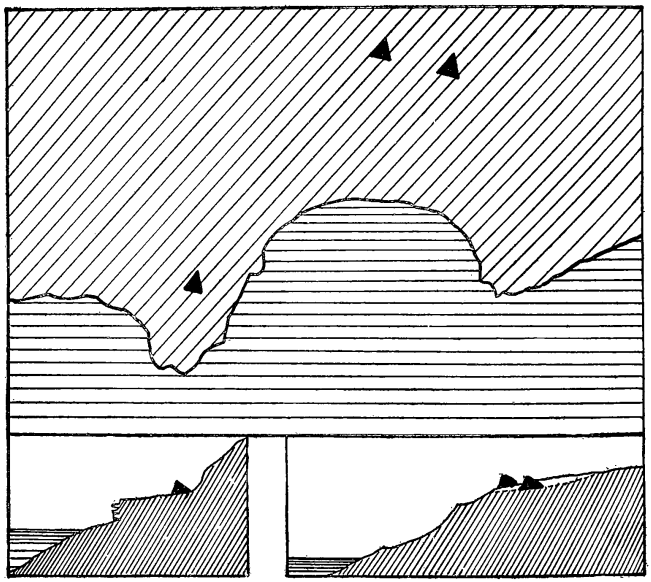
The first indication of Eskimo habitation that we discovered on Northumberland Island was in a bay and to the west of a large glacier. Between the village and the glacier was quite a large stream of water.

The deserted village was made up of two stone igloos, six dog-houses, and eight bird and blubber caches. All entrances of both the igloos and dog-houses opened directly on the south. The roofs of the igloos and the *toschue* were either removed or fallen in. The general mode of construction was precisely the same as others that we examined, but large bones, such as whale, walrus, and narwhal, skulls, scapulæ, and vertebræ, formed a large part of their walls.

The measurements of these dwellings will appear in Mr. Astrüp's report, which accompanies this.

We found no graves, but large heaps of bones and debris, mostly those of walrus and seal.

The next Innuit houses we found in a large bay. Here we found three stone igloos, two with the roofs removed, and one recently fixed for winter habitation.



TENT VILLAGE, NORTHUMBERLAND ISLAND.
Plan and Elevation, Drawn by Eivind Astrüp.

When we first saw these igloos from a distance, we could see no signs of life, but as we approached nearer and were about to land, we saw a man coming down over some hummocks, at a short distance.

His general appearance approached nearer that of a wild animal than a human being. He expressed no

fear, but came right down and helped us with our boat, and smiled, and talked for minutes at a time.

We of course knew not a word of what he was saying. Soon a woman with two children also appeared on the scene. We had lunch, and offered them some of it. They seemed pleased at our generosity, ate what we gave them, but apparently did not enjoy any of our foods except the coffee and biscuits ; and this was also true of the people of the next settlement.

After this pleasant entertainment, I tried to convey to them an idea of what I wanted. I had already examined the stone igloos, but found there absolutely nothing of value to us.

The woman disappeared for a half-hour, then returned with a sealskin. She began immediately to make a pair of kamiks, for which I gave a knife.

The man said that that was all the skin he had, and the appearance of his clothes and those of his wife seemed to bear out his statement.

While the woman was making the kamiks, Gibson visited the loomeries with the man, and found that he had a tupek just below them.

Before we went to sleep, I tried to tell them that we were to sleep there once, then we wanted them to come in our boat with us.

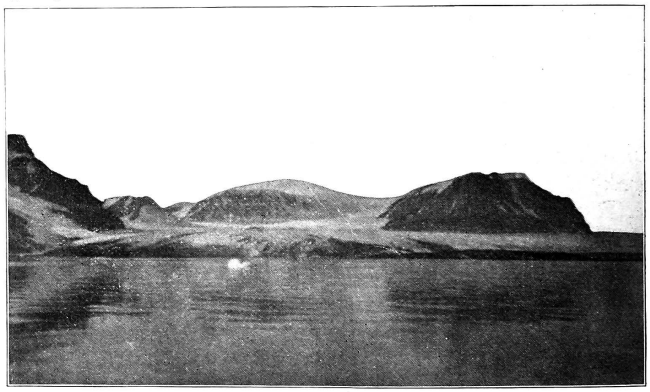
The next day, I examined the igloos. There were two natural fireplaces where the soot on the stones showed that they had used these places for that purpose.

The usual collection of bones and debris surrounded these stone igloos. The one fixed up for winter had been cleaned out thoroughly, re-covered with moss, and light stones on the outside of the moss.

There were a number of bird and blubber caches to the rear of each of the houses, but no dog-houses. The caches were all empty but one, which contained a small amount of blubber.

I found three graves about fifty yards to the rear of the igloos, but the bones were so much destroyed that one could hardly find them.

As we got in our boat and ready to start off, they did not seem inclined to come with us, but after a little gentle persuasion the man got his kayak, the woman and her children got in, then the man went after his dog. We now thought that we had these people secure, and would bring them home, but he



JOSEPHINE GLACIER, NORTHUMBERLAND ISLAND.

soon told us that there were more "Osikees" around the cape.

As we got around the cape, we saw a tupek, and a man in a kayak came out to meet us.

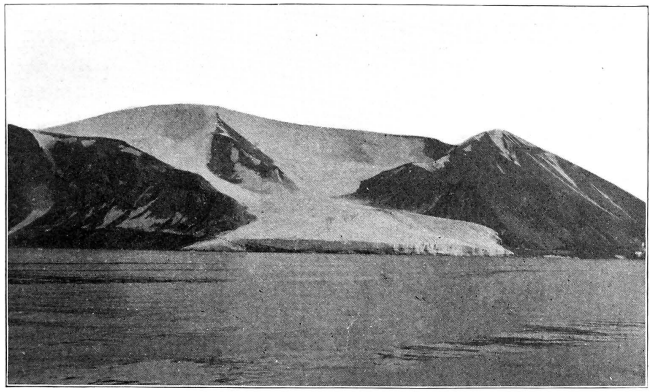
This kayaker seemed more than pleased to see us; his face was all aglow with smiles. He piloted us to the settlement, which had by this time all assembled, the men on the beach, the women and children in a row on the rocks in front of the first tupek.

Our friends from the other settlement left us here. We had lunch and again shared part of it with these

people. One of the men got a boiled burgomaster gull, and offered it to us.

After lunch, I took a census of the village, the population of which numbered thirteen.

Each man possessed a kayak, a harpoon, a lance, and a bird net; and two possessed bows and arrows, a number of rolls of line and narwhal sinew. Their blubber and meat supply seemed to be all cast in one general heap, the lean meat being on lines to dry.



WESTERN GLACIER, NORTHUMBERLAND ISLAND.

The lack of fear in these men and their confidence in white men were clearly shewn the first night we camped there. At about ten o'clock, all the men suddenly started out in their kayaks after narwhal, leaving their women and children unprotected. At about five o'clock, they returned with a narwhal in tow.

I noticed here what I have repeatedly noticed since, that they have frequent and prolonged hemorrhages from the nose, due, I think, in most cases, to excitement or active physical exercise.

There are two very prominent and important

physiological characteristics that attracted my attention here. These seem to be peculiar to these people. The first—a very free and rapid subcutaneous capillary circulation. The second—a complete envelopment of areolar tissue, not unlike the seal or walrus.

The care of their hunting outfit, the attention to details, the economy of wood and iron, were very marked in this village.

They all told us that they heard the whistle of the *Kite*.

We tried to inform these people where our camp was, and that we had plenty of wood and knives.

As we were about to leave, we tried to persuade Mychotia to come with us, but he hesitated considerably. Finally Mychotia and Angodoblachu followed us in their kayaks. Ikwa and his wife evidently misunderstood us, and did not intend to come any farther.

We went as far as the winter settlement of these people, when we discovered that we had left some of our things behind.

Mr. Astrüp went ashore here to take the measurements of the igloos, while the rest of us went back to get what we had left. In so doing, our kayakers left us.

I again tried to persuade our former friend to come with us. He hesitated, but suddenly made up his mind, took his belongings and all he could borrow, put them in our boat, and came with us with his family.

As we reached the place marked 5 on the map, we saw two stone igloos, but did not dare to go ashore to examine these for fear of losing our prize, the Eskimo family.

These igloos are also situated in a small bay. One is a double and the other a single igloo, both deserted. Its native name is Kayati.

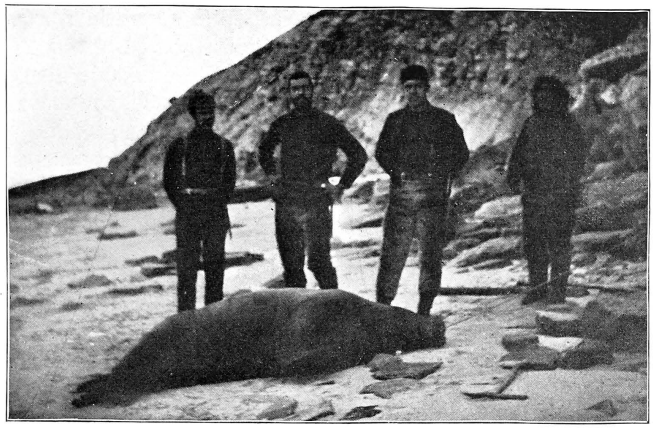
Ikwa told us before he came in our boat that his wife and children would get seasick, but when we

crossed the Sound she and the children went asleep —and in this condition we brought them safely to Red Cliff. Respectfully submitted,

F. A. Cook, M.D.,
Surgeon to North-Greenland Expedition.

R. E. Peary, U. S. N.

Henson. Gibson. Astrüp. Ikwah.



AT CAPE CLEVELAND WITH THE WALRUS.

DESCRIPTION OF HAKLUYT ISLAND BY VERHOEFF.

Hakluyt Island is about three or four miles long, north-west to south-east, and a mile wide in widest part, separated from Northumberland Island by a strait apparently about two miles wide. Highest point, about 1320 feet elevation, is about two miles from west end, and on north side of island. Island ascends from west end by a gradual slope till reaching highest point. On top is a table-land probably a mile long.

It also slopes from north to south. Cliffs on north side near end, while on south side there is low land, the cliffs being farther back and not so precipitous.

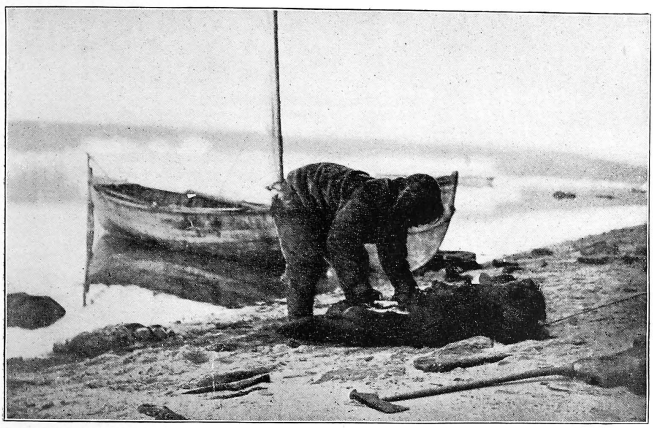
On east part of island is an indentation; at farthest inland part is highest point on island. The sides of the indentation are very precipitous cliffs, where guillemots flock in throngs.

Approaching the end of island towards Northumberland, the ground becomes steeper than on northwest side. A cairn about four feet high is built about a quarter or half-mile from this coast. There is also a cairn on the table-land. When on summit there was a very brisk wind and the ground seemed to shake.

About two miles from summit, on south side of island, 300 or 400 yards from south-east extremity, are two peaks, probably of basalt. They are about 150 yards apart, and visible for some distance away from island. One is accessible, and about 980 feet high, as shown by aneroid barometer. The other is about 50 feet high, and is inaccessible. It is nearer the coast.

Apparently, glacier flows down from north to south part of island, almost dividing island. On the table-land at south-east part of island is much grass and flowers, about 80 or 100 acres, a veritable flower-garden, appearing very much like spring. Near by, about 80 yards from cairn, was a fox-trap baited with old-smelling seal blubber. Returning to camp, I kept mostly on southern part of island, going over many loose stones, and having water flowing beneath oftentimes. After returning about a mile from the twin peaks, I reached the bottom of a hill, and about three quarters of a mile more brought me to the glacier, at an elevation of about 300 feet. About a mile or more of walking brought me to comparatively level rocks, from which place the ground was somewhat level the remainder of the distance to camp.

On the table-land near centre of island were what appeared to have at one time been Eskimo stone huts, but at this time stones fallen. Also two empty mound remains of a fireplace. Many of rocks are red and white, granite and quartz abounding on the island. In many places rocks are covered with bird-



IKWA CUTTING UP THE WALRUS.

lime. Near our camp there were huge rocks, some lying in such positions as to afford a natural shelter to man or beast.

Water here was continually flowing down the rock to the sea, and it made an excellent place for a camp.

On the return from other end of island, two foxes, probably very young, being attracted by a piece of blubber I had taken from the fox-trap, came within eight feet of me, so if rocks had not covered the ground I might have caught one. Had no rifle with me.

Temperature on summit 46°, like a spring day, but at one time rain.

J. M. VERHOEFF.

CHAPTER IV.

BOAT AND SLEDGE TRIPS.

Our Excursion to the Head of McCormick Bay—A Sledge Party Mounts to the Inland Ice—The Attempt to Make an Advance Supply Depot Fails—Boat Journeys to Murchison Sound and across the Bay—Exciting Battle with a School of Walrus—Our First Sledge Journey from Red Cliff—The Birth of an Iceberg—Deer in Plenty—Many Natives Visit us—Their Snow Huts Reared around our House—Our Bright Native Seamstress—The Winter Night Enfolds us.



WANING OF THE SUMMER DAY.
(Enlargement.)

CHAPTER IV.

BOAT AND SLEDGE TRIPS.

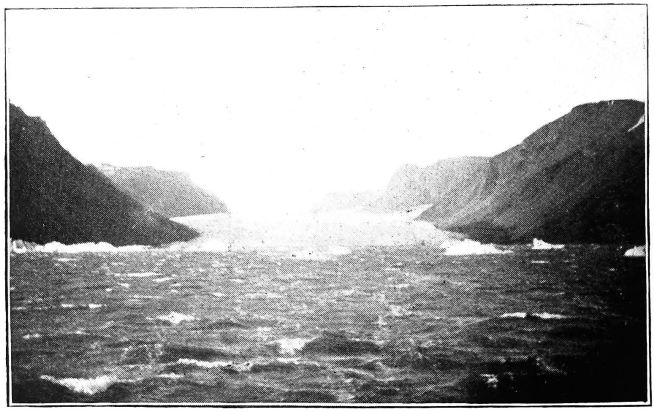


THE first days of September were very busy ones, in preparing for the first sledge journey upon the Inland Ice. I intended to start in the *Mary Peary* for the head of McCormick Bay on the morning of Wednesday, September 2d, but on that morning the east wind was whistling out of the bay, raising such a sea that the voyage would have meant the thorough wetting of the party and equipment. I therefore postponed the trip till the wind should moderate, and we were compelled to wait till Friday morning, September 4th.

Friday came, bright and clear. I took Ikwa with us and the entire party except Matt, who remained at the house. Coffee was served at five A.M., so that we might make an early start. The *Mary Peary* was loaded and everything was ready, and wind and tide were favourable, when it was suddenly discovered that the boat's rudder was missing. It had been left where the tide floated it away. Vainly it was sought for up and down the beach. I set to work to fit the *Faith's* rudder to the *Mary Peary* and at eleven A.M. we got

under way. For a mile or two, a favouring wind helped us along, then it failed, and the oars were run out, but the tide was now against us and we made slow progress.

At three P.M., we landed just below the first hanging glacier, about eight miles east of Red Cliff House. Its massive front, about one hundred feet high, rising and falling with the undulating surface of the slope on which it rested, hung far down the hillside. Here we prepared lunch, but just as the tea was boiled, we



"THE EAST WIND WAS WHISTLING OUT OF THE BAY."
Sun Glacier in the Distance.

were compelled to hurry aboard and push out from the shore, to prevent the falling tide from leaving us fast on the flats, which would have delayed us for hours. Once outside the shoal water, the grapnel was thrown out till we finished our meal.

Getting under way, we pulled against a brisk headwind, and, when near the head of the bay, saw a herd of reindeer feeding on a grassy slope. I landed Astrüp to get a shot at them, while the boat went on

in search of a camping-place. At the head of the bay I found a continuous sea-wall of boulders parallel with and about one hundred yards from the shore, which, across the entire head of the bay, was a steep, gravelly bank six to twenty feet high, strewn with boulders. Outside the sea-wall the water was deep, but the presence of boulders showing above water inside indicated very shallow depths there.

Pulling across the head of the bay, past the mouth of a muddy glacial river entering nearly in the centre, a narrow opening in the sea-wall was found. I steered the boat through this and beached her, at seven P.M., where the bank was lowest. We were nearly at the north-east angle of the bay.

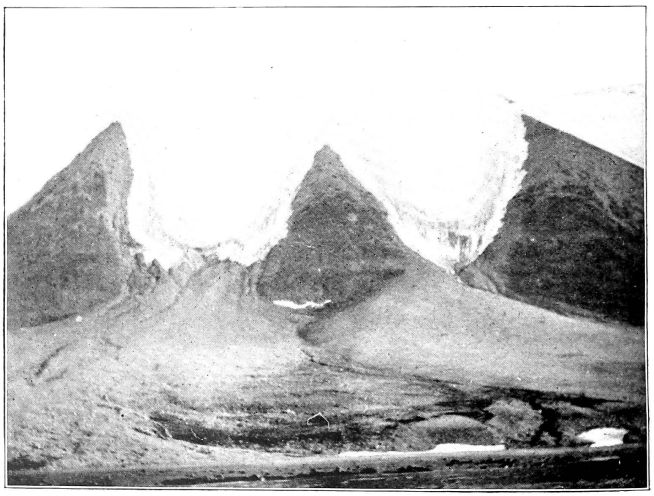
We had just carried our supplies up the bank and kindled a fire in the oil stove, when several shots were heard from Astrüp. Dr. Cook and Ikwa started with their rifles to join in the sport, leaving Gibson and Verhoeff with me, Mrs. Peary having wandered up the valley soon after we launched. As both these men had been up nearly all the night before, I told them to get into their bags and I would stand watch. Hobbling about as best I could, I rigged up the big tarpaulin as an impromptu "tupic" or tent. About midnight, the hunting party returned, reporting one deer shot. We ate our supper lying or sitting upon the ground about the little oil stove, without discomfort. The thermometer registered +16° F. I named our resting-place Camp Tooktoo (the Eskimo word for deer), and here I wrote my instructions for the Inland Ice party, appointing Astrüp, the most experienced snow and ice traveller of my party, leader of the little expedition.

The object of the party, consisting of Astrüp, Gibson and Verhoeff, was to establish a depot of pemmican, biscuit, and milk, across Prudhoe Land near the

southern angle of the Humboldt Glacier. This depot was for the use of my advance party of next spring, and was to be located preferably upon a nunatak if such could be found in the neighbourhood.

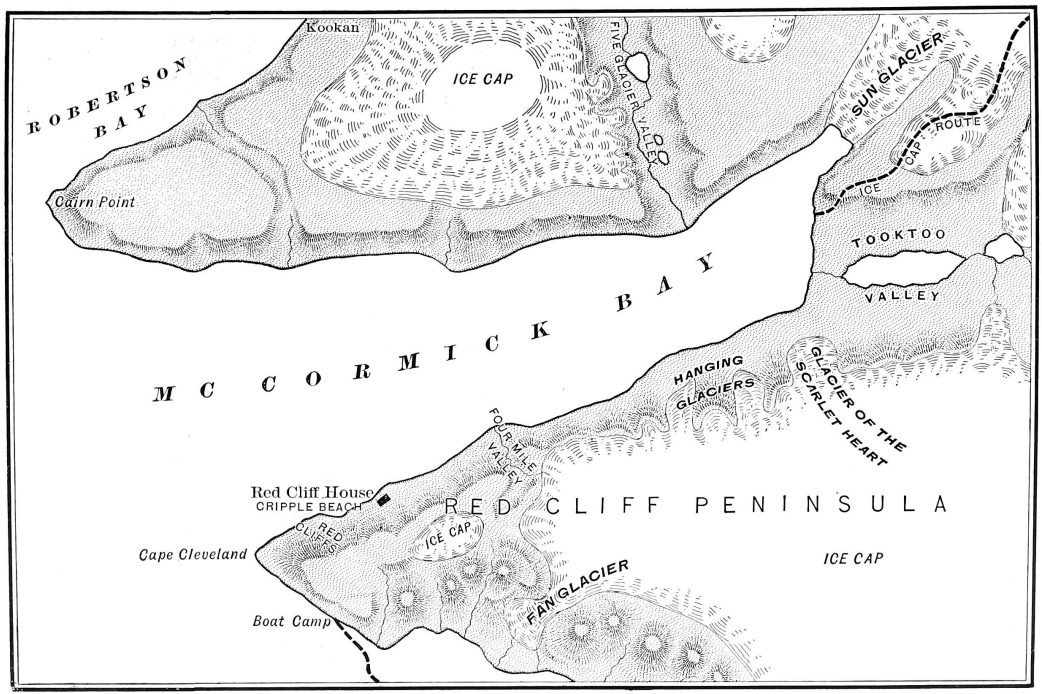
Astrüp and his party were to have ample rations for twenty days for their own use, and I thought they could probably advance the depot one hundred miles in this time—*i. e.*, cover the same distance that I had in '86.

Saturday morning, after our first night in camp, Astrüp went up the slopes to the ice-cap to select the best route for carrying up the provisions. The rest of



FOETAL GLACIERS.
South Shore McCormick Bay.

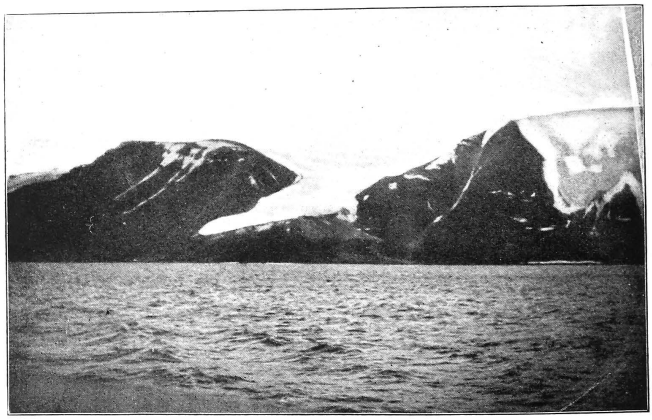
the party went after the deer killed the night before, and returned with it and another. Astrüp returned in about six hours with a favourable report. He estim-



MAP OF McCORMICK BAY.

ated the distance from the camp to the edge of the ice-cap at less than four miles.

That night it looked very threatening down at the mouth of the bay, and Sunday morning was raw and disagreeable, the outer half of the bay hidden in falling snow. The Inland-Ice party and Dr. Cook started up the bluffs with loads varying from fifty-two to fifty-eight pounds. They returned in four or five hours, and I had the boat turned bottom up and sent them into their bags under it. About four P.M., I



FIRST HANGING GLACIER.

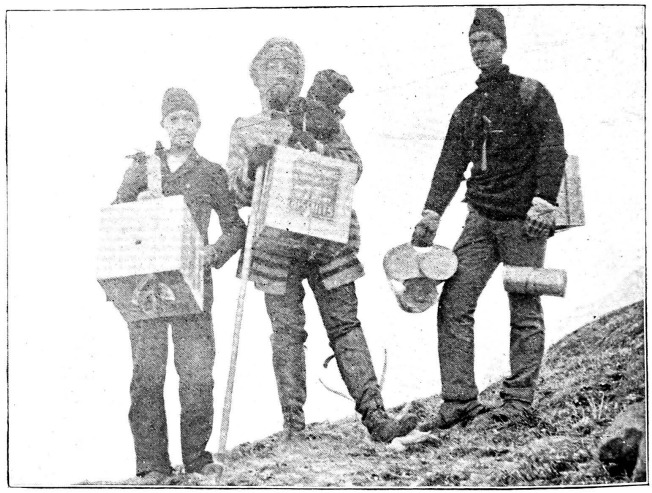
turned them out and started them up the bluffs with a second load. Returning from this trip not long before midnight, thoroughly tired, they all turned in under the boat. Meanwhile, Ikwa had obtained another deer. Throughout the day it snowed at the entrance of the bay.

Monday was a repetition of Sunday's stormy weather. I let the boys sleep during the morning, and not until

eleven A.M. did I tell them to get their last loads ready, break camp, and put the boat in the water for my return to Red Cliff House. By the time this was done and the boys had filled themselves with venison, roasted at a fireplace which I had improvised under the bank, with an old box for fuel, it was nearly four P.M., and the wind was whistling over our heads and down the bay at the liveliest rate. Dr. Cook went with the three Inland-Ice men to carry a load, and I told him to return as soon as possible, so that we could start for the house and get out over the dyke of rocks before the tide fell too low. Hardly had the four men, with their loads, disappeared over the ridge, when the excitement began. I was a cripple hobbling around on crutches, and had with me, besides Mrs. Peary, only an Eskimo who understood no word of English.

Before starting away, the boys had placed the boat in the water, and had carried the masts and sails down and put them into her. She was now lying at the foot of the bank in front of our camp, fastened by the painter tied round a stone. We commenced stowing the various articles about camp in her so as to have everything in readiness to start for Red Cliff as soon as Dr. Cook came down from the bluffs. While we were engaged in this work and were all three up by the camp picking up a few last things, a furious and sudden squall swept down the valley, and catching the boat drove her several yards away from the shore, dragging her stone anchor after her. As luck would have it, also, Ikwa's kayak had been tied to the boat, and it, too, was beyond our reach. The masts having been stepped by the boys, as I feared this operation would be rather difficult for Mrs. Peary and Ikwa, the boat offered considerable surface to the wind, and each succeeding gust, sweeping down the valley with

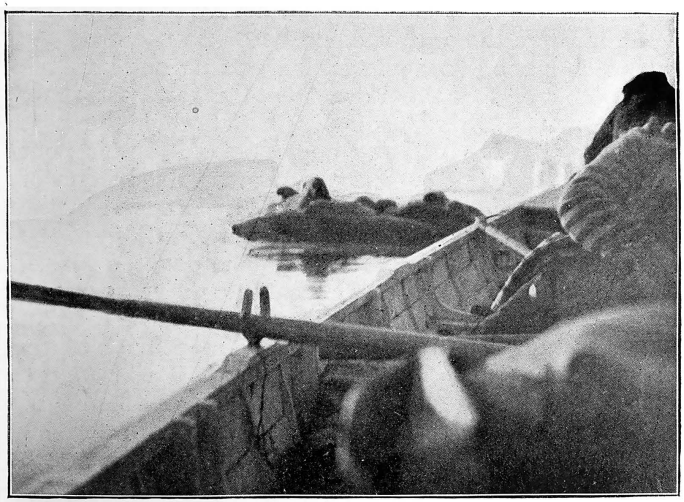
the fury that only arctic squalls from the ice-cap can attain, was gradually driving the boat, anchor and all, farther and farther from shore. If the boat passed across the narrow lagoon between the shore and the dyke of the glacier moraine, I knew her anchor would hang like a plummet at the end of the painter, and the boat, with nothing to hold her, would disappear through the driving snow, to be dashed to pieces on the rocks of the northern shore of the bay, or driven out into mid-sound.



PACKING SUPPLIES TO THE ICE-CAP.

The prospect was not a pleasant one, as the boat had on board everything, and the fifteen-mile journey to Red Cliff House along the rocky shore would have been a work of days for me in my crippled condition. Although the water in the lagoon was now only perhaps waist-deep, Ikwa, with the well-known Eskimo

dislike for this element, refused to go into it, but instead, endeavoured, with his rawhide walrus line, to lasso the boat and thus drag her in. Unfortunately the distance was too great, and cast after cast of the line was made, without success. The boat all this time was being gradually dragged farther and farther away from the shore.



DASHING UPON THE WALRUS.

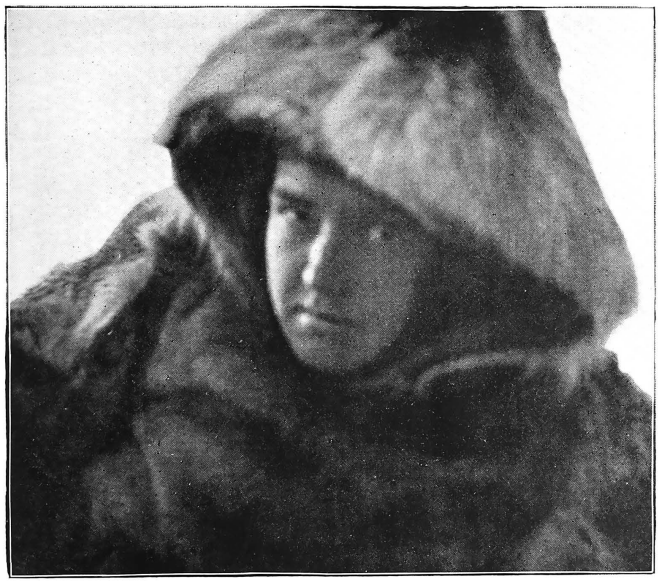
Suddenly the idea occurred to Mrs. Peary of putting on the Doctor's long-legged rubber boots, and clad in these she rushed out into the water as far as possible, and, after two or three unsuccessful attempts, was fortunate in getting a loop of the line round the stem of the whale-boat, which she and Ikwa then dragged in to the shore and made fast. Not until this was done did I learn that the presence of holes in each of the Doctor's boots had rendered them no

protection whatever, and that she had practically been standing there nearly waist-deep in the freezing water, with the snow whistling about her, while she lassoed the truant boat.

After the boat had been recovered and the wind had apparently subsided, we all got into the boat and I let her drop outside the lagoon so as not to be caught in it by the falling tide. Scarcely, however, were we in deep water, where the anchor could be of no use, than the wind fell upon us again and drove us out into the bay. I tried to have Ikwa step the foremast again (both masts having been unstepped when the boat was dragged ashore), so I could get sail on her; but after two or three unsuccessful attempts, in one of which he let the mast fall across my broken leg, the effort was given up, and he and I settled down to the oars, with Mrs. Peary at the tiller, and devoted our utmost energies to working the boat into the comparative shelter of the cliffs guarding the eastern side of the Sun Glacier, and then, inch by inch, we crept back to the shore until we could drop our anchor just inside the moraine dyke. I shall not soon forget my feeling of relief when I found that we were secure after our three hours' struggle with the gale. Those who have not had the experience will probably have difficulty in understanding the sensations of one who, having always been accustomed not only to feel the utmost confidence in his own powers to extricate himself from a disagreeable predicament, but also to feel that he had a reserve force which could be devoted to the assistance of others, finds himself not only helpless to assist those near and dear to him, but almost entirely unable to take care of himself.

We were just beginning to get very chilly when we heard the Doctor's shout from the bank above us, and looking up through the blinding snow, saw him

returning from the bluff. He was speedily on board. Then, hoisting the *Mary Peary's* foresail, we went dashing down the bay towards Red Cliff House, leaving a wake of foam through which Ikwa's kayak bobbed and tumbled like a sportive alligator. Everything went well until we reached the Hanging Glacier, when, after a few moments' calm, the wind fell upon



MRS. PEARY.

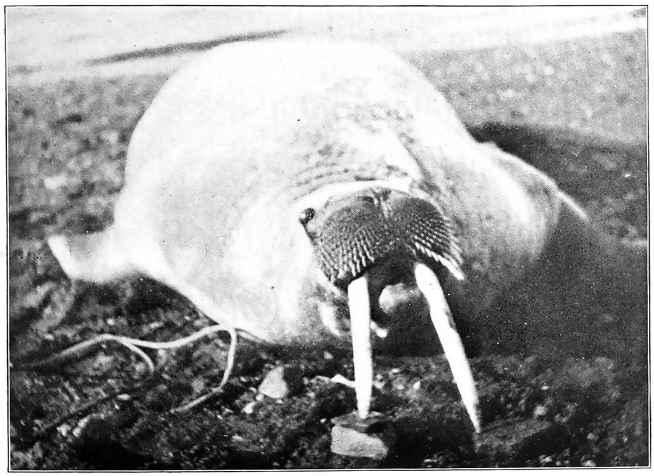
us from dead ahead, and threatened to drive us back to the head of the bay in spite of our utmost efforts. Sheering the boat in to the shore, we cast anchor, and crouching under our rubber blankets, put up to break the force of the furious wind, we waited till

nearly morning, when the wind subsided sufficiently to enable us to take to the oars and gradually work the boat down to Red Cliff House.

As I slowly hobbled, with the Doctor's assistance, from the boat up through the snow to Red Cliff House, I promised myself that I should never leave it again until in full possession of my wonted physical energies, yet the inaction at the house was worse than possible mishaps, and two days later I was again in the boat bound for the head of the bay, after the remainder of the herd of deer which we had seen on our first trip. Mrs. Peary, Dr. Cook, Matt, and Ikwa accompanied me this time, leaving only Ikwa's wife and her two children at Red Cliff House. Landing at the Hanging Glacier for our lunch, for a moment I was startled by seeing footprints on the beach, which Ikwa, without a moment's hesitation, pronounced Verhoeff's. Following these tracks, however, for a short distance, I found them accompanied by two others, but as all the tracks showed no indications of injury or even fatigue, I at once came to the conclusion that the boys had simply returned after having encountered some obstacle on the Inland Ice. On this trip fortune smiled upon us, and in two or three days Matt and Ikwa had brought to camp nine fine deer. Returning with my load of venison and skins to Red Cliff House, I heard the boys' story of their experience on the ice-cap, and then sent them to the head of the bay in the *Faith* to bring back their equipment.

The attempt to establish an advance supply depot had not been a success. The sledge party returned to Red Cliff on September 12th, reporting that soft snow made sledge-hauling very arduous work. They could drag only one sledge at a time, and being compelled to double on their tracks, they made only one mile on September 8th, reaching an altitude of 2300 feet. A

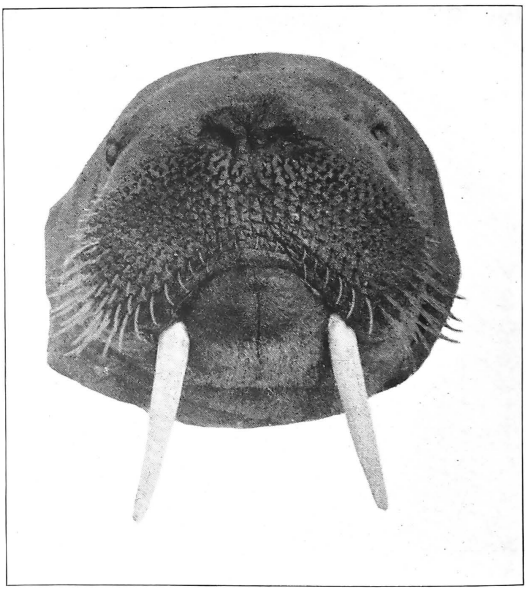
snow-storm and high wind kept them in camp on September 9th. The next morning, the hauling was worse than ever, and they made only a mile by noon. After reconnoitring three miles ahead and finding no prospect of better sledging, they deposited one of the sledge loads on a nunatak at an elevation of 2600 feet above the sea, and returned home without their sledges or sleeping-gear.



WALRUS.

On September 22d, I sent Astrüp and Gibson to the head of the bay again, to attain the Inland Ice, and study the condition of travel as far north-east as possible. After dragging their sledges for five days and attaining an altitude of about 4600 feet, they decided to return, owing to snow-squalls, high winds, and hard hauling. The thermometer was broken on the third day out, and the lowest temperature recorded up to

that time was 2° F. Astrüp estimated they had made about thirty miles inland. They turned back the day after they lost sight of land. They were warm enough when walking, and Astrüp believed the lowest temperature was not more than — 10° F., and it was higher in their snow huts.



WALRUS HEAD.

As a result of this futile attempt upon the Inland Ice, my sledge party the following spring travelled to the north-east coast of Greenland and back, over 1200 miles, entirely without depots, and carrying their entire supplies, except the musk-ox meat obtained on the shores of the Arctic Ocean.

While the sledge party was away on its second

journey, Mrs. Peary, Dr. Cook, Matt, Ikwa, and myself started in the *Mary Peary* on September 23d, for Inglefield Gulf, provisioned for a week, to learn the prospects for game in that direction, and introduce ourselves, if possible, to more of the Eskimos. Rounding Cape Cleveland, the north shore of Murchison Sound stretched away before us, a broad trap-dyke running up the slope, and a long, steep bank of detritus forming the shore. A few eiders were flying about, and new ice was forming in the Sound. We pushed on until nearly two P.M., when we were stopped by new ice a half-inch in thickness. As the ice was too thick to pull through, we skirted it to the southwest in the direction of Herbert Island; but did not succeed in finding an opening through which we could advance farther eastward. It was not long, however, before we had plenty of excitement to divert our thoughts from the difficulties of navigation.

On a large cake of ice we saw fifteen walrus enjoying the air. I lost no time in making for them. They did not seem to mind our approach, and did not wake up to the expediency of vacating their fragment of ice until we had fairly run our boat upon the cake. Then the shores reverberated with the unwonted sound of rifle-shots, and Ikwa, poising his harpoon a moment, hurled it deep into the side of a female, who, with her young, tumbled into the water.

We barely escaped capsizing, as the prow of my boat was jerked off the ice by the now desperate animal, and, before we knew it, we were in tow, scudding through the water at a lively pace, behind the harpooned walrus.

It was a picture full of action. The frightened and infuriated walrus, dashing here and there among the icebergs and cakes of ice that covered the surface of the Sound; the *Mary Peary* in tow, her sharp bow

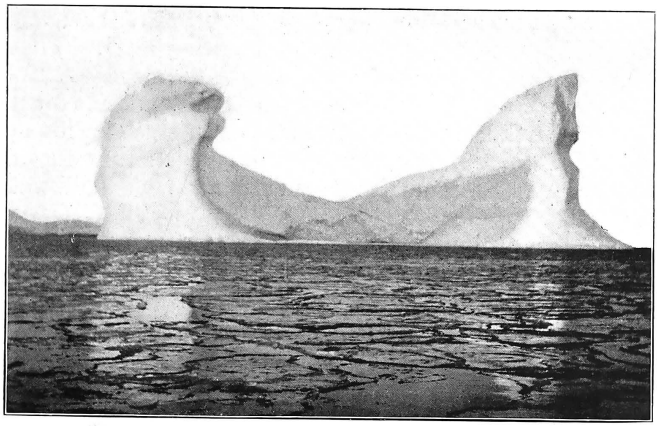
crunching through the crust of new ice; Dr. Cook standing in the bow of the boat over the singing line, ready to cut it should the animal make a dive under one of the bergs or cakes of ice; and Matt and myself endeavouring, as best we could, from the motion of the boat and the erratic movements of the animal, to get a bullet into its head and stop its career. It was a long tow in spite of our efforts to bring it to an end, but finally we killed both the wounded brute and her young, and, turning about, we went back to the ice-cake, where we secured the heads of the two walrus we had left dead there.

Our appetite for sport had been only whetted by this adventure, and we had a new and still more exciting experience a few minutes later. We suddenly ran into a school and, blazing away, we killed two of the animals. The rest of them resented our intrusion, and we suddenly became the hunted instead of the hunters. There were, perhaps, one hundred of the enraged brutes, and we had the hardest kind of work to keep them away from the boat. Our repeaters blazed continuously, and to add to the din, Ikwa beat a lively tattoo on the boat with his harpoon and emitted the most startling yells. Mrs. Peary was very cool through it all, and slipping down from her seat beside me in the stern into the bottom of the boat, where she could with her body shield my injured leg, now knitting in the splints, from the excited movements of the others, she steadily filled the magazines of our Winchesters as they were emptied, and enabled us to keep up such a continuous fire that the huge brutes, though fiercely and repeatedly led to the charge by a big bull, could not stand the uninterrupted blaze and crash from our repeaters, and at last we gladly witnessed their departure, and then counted the spoils of battle.

We had four walrus heads in the boats and at least four more animals had been killed and sunk out of sight. We were glad to land and camp for the night.

Next morning, Dr. Cook and Matt started to walk east along the shore to the house of a native who, Ikwa said, lived near Cape Ackland. They were gone twelve hours, and I put in the time taking bearings and photographic views around the Sound.

The Doctor and Matt returned at ten P.M., and



AMPHITHEATRE BERG.
Young Ice just Forming.

thought they had walked nearly forty miles. They had seen no natives, but had found four stone igloos, larger than others we had seen, only one of which seemed to have been recently used. They found the young ice farther up the Sound strong enough to walk upon.

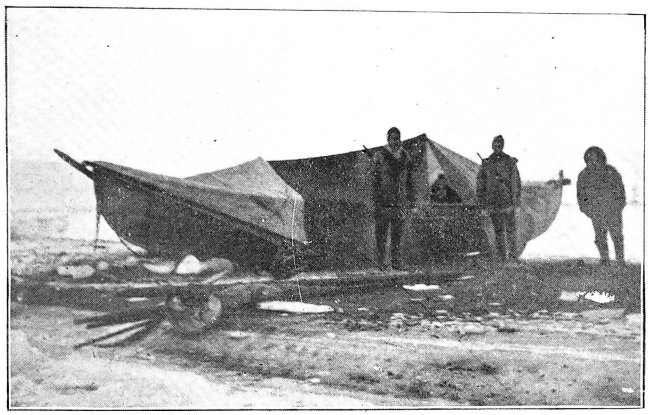
As the new ice prevented farther progress, and we had found no traces of deer along the shore, we re-

turned the next morning to Red Cliff House, and the day following, September 26th, set out early to cross McCormick Bay, and reconnoitre for deer in two valleys on the north side. Soon after leaving Red Cliff House in the *Mary Peary*, we met new ice, and were three hours pulling through it to the north shore. After landing, I sent Dr. Cook and Matt to reconnoitre the upper valley. Mrs. Peary, Ikwa, and myself put up the camp, and I took a round of views and bearings. About eight P.M., the boys came back with two deerskins and one deer, trophies of Matt's rifle, and after a hot meal they brought in the other deer. They were unable to reach the upper valley on account of the steep shore, and they reported the young ice much heavier farther up the bay. It was a calm, clear, lovely day; and, in our boat tent on the beach that night, we enjoyed the sound, refreshing sleep we had well earned.

Next morning, Dr. Cook and Matt went out for the skin of a seal Matt had shot, and when they returned we launched our boat, homeward bound. The ice was much heavier than when we crossed it the day before. With my crippled leg in the boat's bow, and the other hanging over the side, I broke ice with my heavily booted left foot during the seven hours' journey. The boat was forced along sometimes by boathooks, and sometimes by oars driven into the ice. A day later could not have taken the boat across. We saw numerous walrus, *oogjook and netsook* seals. We were very tired, but dinner never tasted better than the glorious repast we soon spread in our little cabin.

The days were growing short apace, and, having successfully started the hunting campaign, we gave much attention to getting the house ready for winter. On Monday, September 28th, the stove was put up,

and Ikwa manifested the first sign of astonishment at anything he had seen. When the fire was kindled in the stove, and the flames went roaring up the pipe, the spectacle startled him into shouts and antics indicating unbounded surprise. The novelty allured him for some time from his seal and walrus spears and sledge, which he was putting in order for the winter campaign. In two minutes after I started the fire, the temperature in the house had run up to +90° F. Next day, the ventilating shafts, double



THE BOAT CAMP-EXTERIOR.

windows, and other details about the house received attention.

On October 1st, I established our camp routine. Four-hour watches were appointed, Dr. Cook, Verhoeff, Gibson, and Astrüp taking turns.

The day this routine went into effect, I had the satisfaction of counting fifteen reindeer in my larder; and a few days more would see hunting fully re-

sumed, for the bay ice was rapidly thickening, the ice-foot along the shore was forming fast, and weeks of good sledging would come. The sun was soon to leave us, and the first day in October we had the benefit of its rays only for a few hours late in the afternoon. On October 3d, for the first time, I walked nearly a half-mile along the beach, with neither crutch nor cane.

Henson. Dr. Cook. Ikwah.



THE BOAT CAMP-INTERIOR.

Before the winter night came, we made our first sledge trip from Red Cliff House. It was on the morning of October 7th that we started for the head of McCormick Bay, to hunt deer and bring back the remainder of the baggage the Inland-Ice party had left. The party comprised Mrs. Peary, Gibson, Astrüp, Matt, and myself. We had three dogs and two

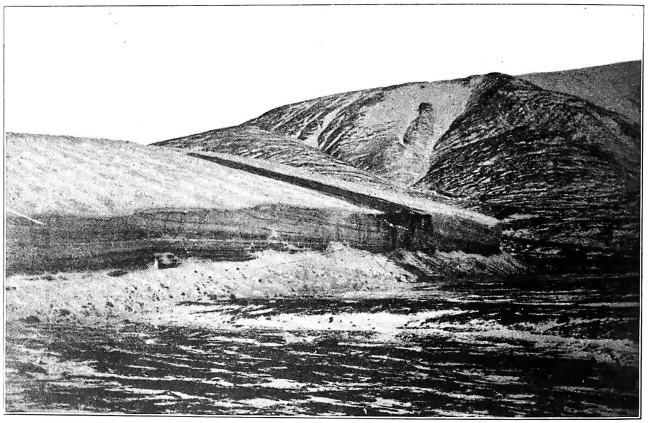
sledges. Near the first Hanging Glacier we picked up the sleeping-gear the boys had left, and after jumping the sledges across one or two narrow leads, and travelling at top speed over lanes of thin ice which surged and buckled beneath us, we reached the ice-foot again, about a mile from the head of the bay, then followed it to "Boat Camp," an eight hours' journey from the house. Putting up our tent, we were soon ensconced in it, wrapped in our furs.

Next morning the boys went out for reindeer, while I lay in camp all day with a tired leg. On Friday, the 9th inst., the boys brought the sledges and other impedimenta of the Inland-Ice trip down from the plateau, and made another search for deer, while I remained useless in camp. We were having a few spurts of snow, but I observed that there was not so much snow at the head of the bay as at the time of my previous visit. On the 10th inst., the boys made another unsuccessful raid after deer. As the quest for deer was so little successful, I determined to return to Red Cliff. Before we went, though, we were entertained by the calving of the big glacier at the head of the bay, which I afterwards named the Sun Glacier.

The glacier face had a precipitate front about a hundred feet high. Far up the wide fjord bordered by steep black cliffs that rise a thousand to fifteen hundred feet above the big ice river, we could see the Inland Ice that incessantly feeds the glacier and by its resistless force pushes it forward into the sea. The ice-front had advanced to deep water and, as we looked, our attention attracted by ominous sounds from the glacier, a great mass broke off with a thundering report, dashing water and spray high into the air; and the new-born berg went teetering through the young ice, which it shattered far around.

On one of the lesser glaciers back of my camp was

a big blotch of red colour, sharply contrasting with the white surface, and streaming down the glacier face. So vivid was this colour that I named the glacier the Glacier of the Scarlet Heart.



GLACIER OF THE SCARLET HEART.

We reached Red Cliff House after a five hours' trip from the head of the bay. The Eskimo dog and Jack pulled Mrs. Peary, myself, and the load, aggregating about five hundred pounds, the entire distance with comparative ease. I determined that this should be my last trip for the season, as I found I was in no condition to undergo severe physical exertion. The three months' confinement with my leg had affected my endurance, and the leg itself gave me trouble if I overexerted.

At nine P.M. on Sunday, October 11th, Gibson, who was on watch, reported an aurora. It was a pale, wavy curtain extending nearly north and south across the bay, and apparently not far distant. It finally dis-

appeared,—but next night we had another aurora, appearing at eleven o'clock and disappearing three hours later. Although our hunting trip to the head of the bay for deer had not been successful, we were all much elated by the splendid results of an excursion on October 13th to Five Glacier Valley on the north-east side



THE FIVE-GLACIER-VALLEY PARTY.
Starting.

of the bay. Gibson, Astrüp, and Dr. Cook formed the party, and they did not return until five days later, when they arrived at the house with ten deerskins, a fox, and a hare. They had cached the meat. The Doctor had covered himself with glory. Up to this time he had been unfortunate in not shooting a deer. Now he had made the record of the entire expedition by bagging five in an afternoon.

The *Mary Peary* was now pulled up well above high-water mark, turned over, supported on pillars of ice, and a snow wall built around her, thus converting her into a storehouse.

Monday evening, October 12th, Matt discerned a light directly across the bay. The appearance of this light, flickering on the far-off opposite shore, startled us into strange fancies, and we could hardly rid ourselves of the idea that we saw before us the fantastic lantern of some arctic Will-o'-the-wisp. Unimaginative Ikwa declared, however, that this faint and unsteady beam undoubtedly came from an Innuit's lamp and that he would probably arrive the next day. Sure enough, after lunch next afternoon, Mane came running into the house with the cry of "Innuit," and through my glass I saw a man with a sledge and three dogs coming across the bay, and before long the lively team dashed over the ice-foot and was at our camp. The visitor's name was Nowdingyah, and we called him Jumbo, because he was one of the giants of his people. Standing five feet seven inches and weighing over 175 pounds, such a man would be a large person in any costume, and in Eskimo outfit he loomed up like a Colossus. Nowdingyah had a moustache and goatee, and was clad in a fox-skin jumper and bear-skin trousers. My visitor seemed to be favourably impressed with what he saw, and next day, accompanied by Ikwa, he hastened away to spread the news among his neighbours; and only three twilight days elapsed before Nowdingyah returned, bringing with him two fellow tribesmen, Kahunah and Arrotoksuah, with their sledges and six dogs. The latter was an old man, whose placid, benign face, and throat fringe of white bear-skin elicited from my irreverent young men the nick-name by which he was always afterwards known, "Horace Greeley." They soon returned to their

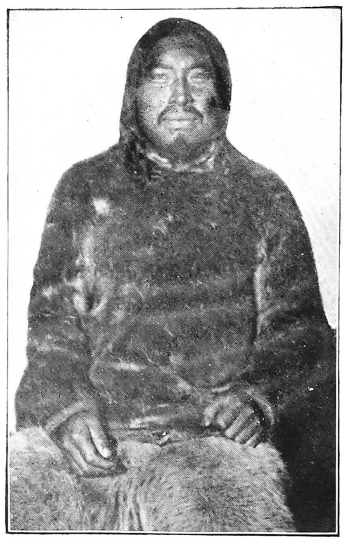
igloos to the north-westward, but on October 25th, Kahunah with his wife and three children and Arrotoksuah with his wife and one child came over the ice to me with two sledges and only two dogs, the entire party, excepting the infant, walking. I permitted the newcomers to sleep on the floor of the house.



THE FIVE-GLACIER-VALLEY PARTY.
Returning Oct. 18th.

We found that "Horace Greeley's" wife was a character. Gaunt and tall in figure, brown and wrinkled of face, she went into hysterics of laughter at the sight of Mrs. Peary, and when seated beside the stove at Red Cliff, she fell into such a paroxysm of volubility, regardless of the fact that none of us understood a word she was saying, that she at once

received the endearing name of "Sairey Gamp." This old couple had been at Polaris House and still possessed some articles given them by members of Dr. Hall's party. Among these were a sextant box and a string of beads.



NOWDINGYAH.

Late on November 1st, another family arrived, Annowkah, his wife Megipsu, and their baby, from Nerke, far to the north-west towards Cape Alexander, where they were living in their solitary hut nearer to the Pole than any other human beings in the world. They were a clean, well-dressed, good-looking young couple; the woman particularly intelligent and bright in appearance.

We called Megipsu "The Daisy." The little wo-

man was shrewd enough to perceive at once the advantages of becoming an attaché of my mansion, and she proved such a fine seamstress and worked herself so completely into our good graces, that I finally closed a contract with her to settle down in a snow igloo close to Red Cliff and remain with us until the return of the sun, making up our fur clothing and sleeping-bags.

Annowkah went to work with a will upon the construction of a snow igloo, and soon had it roofed in. Then the interior was upholstered with a rubber blanket, an overcoat which The Daisy's winning ways had obtained from Matt, a blanket contributed by Gibson, and some pieces of tarred roofing paper. Pieces of blubber from my stock furnished the oil for an impromptu lamp made from the side of a cracker tin, and my seamstress and her husband were made entirely comfortable until he, with the assistance of my dogs, could bring over from their distant home their household utensils and supplies of food. Here they lived until the warm May sun threatened to tumble their house in upon their heads, when they moved to their skin tent, or tupik.

The first Eskimo to reach my camp with a team of dogs found an eager purchaser for the animals, and for some trifling presents he parted with his dogs and went home on foot. Both Ikwa and Nowdingyah said the Eskimos had a good many dogs, and the prospect seemed favourable for obtaining an excellent dog team for the spring sledging. As the result of a systematic series of interviews with the natives who came to Red Cliff, I had, when the spring of 1892 dawned upon us, in my possession information as to the location and ownership of probably every dog in the tribe, and knew also the financial rating of their owners (if such a term may be

used); in other words, I knew just what each one's possessions were, and also what each one most desired, and what would be most effective in bartering for the dogs.

Occasionally snow-squalls visited us during October, though the weather was generally pleasant. On October 3d, the young ice was strong enough for



"HORACE GREELEY" AND "SAIREY GAMP."

Ikwa to walk half-way across the bay. Cape Robertson, on the opposite shore, was clad in a goodly mantle of white. November 3d, the ice in front of the house, 150 feet from the shore, was seventeen inches thick. Ice was still floating in the strait between Herbert and Northumberland Islands and Netiulume on the south shore of Whale Sound.

All through October the sun was sinking nearer

and nearer the horizon, till it sank out of sight. October 10th, it appeared from behind Cape Cleveland at 3:10 P.M., very low and much distorted by refraction. On the 19th, sunlight illumined Cape Robertson across the bay about 2:30 P.M., and we observed a beautiful effect of the sun's rays tinting the white icebergs in Omenak Sound, and illumining for a short time the hills across the bay. Owing to cloudy weather, we did not observe the actual time of the sun's disappearance. The 1st of November found us well started on our winter night. At seven A.M., however, on a clear day, I was still able to distinguish the mountains at the head of the bay. The moon, when at the full, was very brilliant.

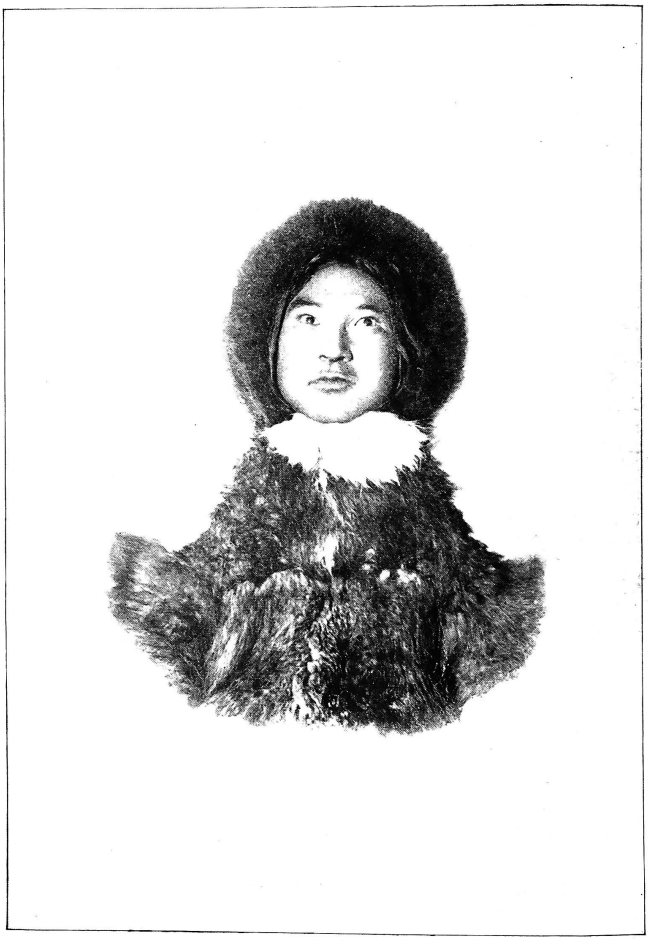
On November 7th, there were seventeen men, women, and children besides our party at the camp, and the howling of twenty-one dogs made the night lively. My little city was growing nearly every day. It could not preserve its cosmopolitan character without some sort of a substitute for a hotel. So on November 11th, a snow hut, 6 x 10 feet in size, was built as a hospitable guest-chamber for my visiting friends.

Meanwhile, all through the darkening days we were working about the house. I fitted up my library shelves, made a writing-desk, and busied myself with many odds and ends that were likely to add to our comfort during the winter night. Mrs. Peary decorated our room with flags, producing quite a pretty effect. The boys began making sledges from timber I had brought along, odometers to measure the distance travelled on our coming sledge journeys, and pumps for use in the whale-boats during the next summer's homeward voyage; and I spent considerable time putting in order my little arsenal, the usefulness of which had become somewhat impaired through accidents.

CHAPTER V.

THROUGH THE GREAT NIGHT.

My Priceless Deerskins—First Impressions of the Winter Night—Our Thanksgiving Dinner—The Natives Vanquished in Feats of Strength—"Open the Door" the Common Cry at Red Cliff—*Piblockto*—Daily Routine—Recording the Arctic Tide—Experiments with Sledges and Sleeping-Bags—Arctic Literature—Our Busy Native Seamstresses—Taking Flash-Light Photographs—Modesty of the Native Women—Brilliant and Beautiful Winter Days—Ski Practice.



AHNGODOBLAHO.

CHAPTER V.

THROUGH THE GREAT NIGHT.



THE hunting season ended when darkness came upon us, and we settled down in our small quarters for the winter.

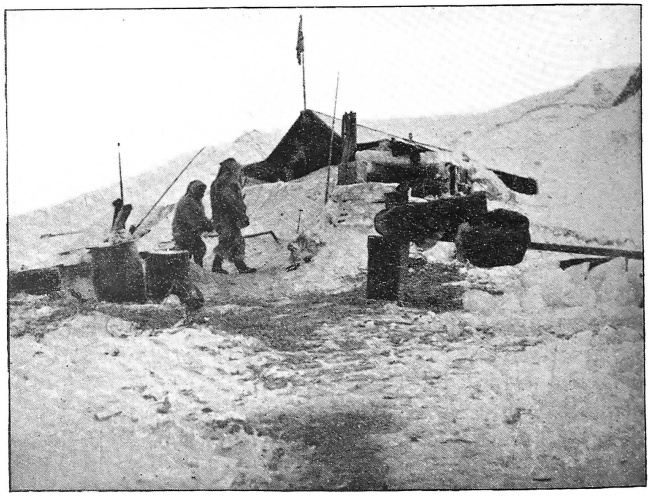
I regarded the deer-skins we had secured as of the highest value. Before I left home I had said that nothing but the impervious integument of animal skin would keep out the searching wind of the Inland Ice, and every day spent here only strengthened me in my belief, and made me prize more highly the exquisitely soft, light, velvety autumn pelts of the reindeer, the best of all furs for clothing and sleeping-bags.

It was a part of my plan to obtain this material from the Whale-Sound region, and my hopes were fully realised. My men shot all the deer we needed, the skins were stretched and dried at Red Cliff, I devised and cut the patterns for the suits and sleeping-bags, and the native women sewed them.

The work of preparing the skins for clothing in-

volved a great deal of chewing on the part of my native seamstresses.

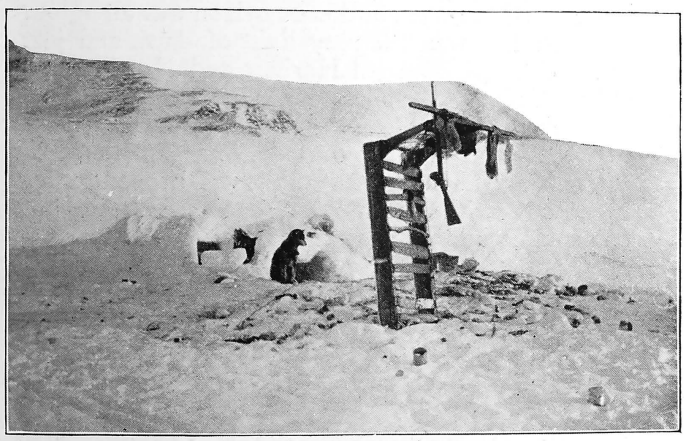
The skin is folded once with the hair inside and then the operator chews back and forth along the edge until the fold is thoroughly soft and pliable, when another fold is made and the process repeated until the whole skin has been carefully chewed; after this it is scraped and worked with a blunt instrument and then, if necessary, chewed again. It took two of my workers about a day to chew a big buckskin.



RED CLIFF IN THE WINTER NIGHT.

It was not easy at first for us to accustom ourselves to the absence of sunlight. By November 23d, there was really no difference indoors between day and night. Our lamps burned constantly through the twenty-four hours. Some of us often thought in the first few days, "Oh, we won't do this by lamplight,

but we'll wait till to-morrow," forgetting that the morrow would bring no sun. Still, we did not find the darkness oppressive, which was fortunate, for we were not to have our darkest day for a month to come. The darkest day of winter would reach us about December 22d, and we would not see the sun again until about February 13th. At nine A.M. now, the dawn-light was very distinct over the cliffs back of the house, and at eleven o'clock the icebergs beyond the shadow of Cape Cleveland showed a pronounced light.



IKWA'S MANSION.

We had many reasons to be thankful for the good fortune that had thus far attended us, and I thought we could, with peculiar propriety, observe the day that at home is set apart in recognition of our national and domestic blessings. The following proclamation, therefore, was issued at Red Cliff House on November 25th:

"Thursday, November 26th, is hereby designated as Thanksgiving Day at Red Cliff House and will be observed as such. The preservation of our isolated little party thus far in good health, a larder well stocked with game, and a house well fitted to keep its inmates comfortable in severest weather, are reasons for the day to be something more than a mere form to us.

"R. E. PEARY, U. S. N.,
"*Commanding North-Greenland Expedition.*"

Thanksgiving Day, Mrs. Peary and I walked to Cape Cleveland to see as much as possible of the noon twilight. The temperature was $-12\frac{1}{2}°$ F. It was light enough for comfortable walking, and when we reached the Cape, the southern horizon was all aglow.

On each side was the rosy light of dawn and just over the channel between Herbert and Northumberland Islands hung the silver crescent moon.

In the evening, with the temperature outside at $-16\frac{1}{2}°$ F., we sat down in our comfortable little cabin to a tempting Thanksgiving dinner of broiled guillemot dressed with green peas, a venison pie, hot biscuit, plum-pudding with brandy sauce, apricot pandowdy, apple-pie, pineapple, candy, coffee, whiskey cocktail, and Rhine wine. The party all appeared in their civilised attire, though the gentlemen were not in dress-suits, a phase of costume that some of the newspapers at home had included in our equipment. Astrüp's wardrobe was deficient in shirts and he improvised a shirt bosom from a towel. A silk flag was fastened over the table. Later our Eskimo friends shared in our good cheer and the boys and the natives amused themselves with games of strength until far into the evening.

December 1st found us in first-class condition, busy and content. As yet we had undergone no serious hardships. The month was ushered in with a brisk wind and a snow-storm that lasted for twenty-four hours, half burying Red Cliff House in drifts. In-

doors, however, we were burning but sixteen cans of coal, averaging 1¾ pounds each, in twenty-four hours. I do not know that any arctic house was ever comfortably warmed before on so small an amount of fuel. The constant cry from the inmates was not "Shut the door!" but "Open the door!" Our little cabin was a great success, and under its shelter the fiercest blasts of the arctic Storm King could not reach us.



MEGIPSU.

Two auroras were seen on December 8th, and the moon was coming back to us again. After eleven days' absence, we saw her silver glow over the cliffs back of Red Cliff House, and her light fell on the north shore of the bay. Two days later, she was with us again in full brilliancy.

On December 19th, we had drifting snow, and a strong wind that lasted all night until late the following afternoon. The wind drifted, and packed the snow until it was almost as firm as marble. This I thought augured well for our sledging trip on the Inland Ice in the spring. On December 21st, we saw a brilliant meteor in the north-eastern sky, descending vertically, and a little later a meteor with red and green trail was seen over the cliffs back of the house, travelling west, about half-way to the zenith and with a slight downward angle. December 21st was the

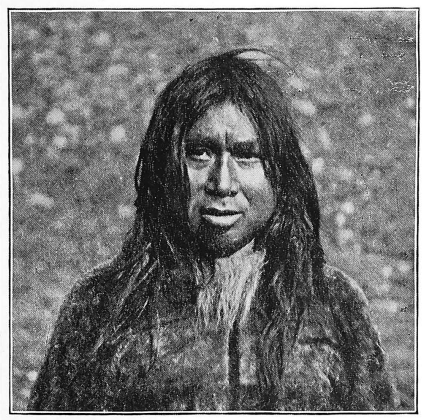
shortest day of the year at home, and the boys gave three cheers by way of encouragement to the sun, which was now beginning to return to us.

We did not quite escape the *piblockto* or Greenland dog disease, a dread disorder that at times has threatened to rob the poor natives of one of their most valuable resources. It was prevalent in South Greenland over thirty years ago, and when it attacked the dogs of the Arctic Highlanders, Dr. Hayes was unable to buy the sledge teams he required. No remedy has been discovered for the disease, though fortunately its ravages are now small. Its victims betray their derangement by howling and snapping, and refusing all nourishment. They often die of convulsions on the day of the attack. Annowkah's dog went wild with the malady, and before the fact was discovered, and the dog killed, she had bitten and mangled two of my younger dogs so terribly that in spite of Dr. Cook's best endeavours we lost them both. Dogs had a most important part in my plans, and I was very sorry to lose the two animals. Their skins, however, gave me material for a nice pair of trousers.

Before December arrived, I had quite a colony of native workers. Megipsu and other women were busy chewing and sewing skins. "Father Tom" and Annowkah were scraping skins. "Father Tom" also made himself very useful about the house, sweeping the floor and putting things in order. He often remarked that he wished to go home with us when we returned, but he changed his mind before summer. "Father Tom," on the whole the most remarkable native we met, deserves more than a passing word.

He was Ikwa's brother, and his name was Kyoahpádu. We called him "Kyo" for short, and I nicknamed him "Father Tom." His brother brought him to us from his home in Omanui late in November,

and he at once became a fixture at Red Cliff House. Active and willing, eager to be of service, readily understanding us when other natives failed to comprehend, he soon worked his way into our good graces. He took upon himself the care of the large room, sprang for the broom whenever he saw the least dust or litter, and told the other natives they must not bring dirt into the palace of the "Great White Man." He said his brother's igloo was uncomfortable for him because it was so small; moreover his brother talked too much, and his verbosity was a weariness to the flesh. So Kyo asked if he might sleep on our floor, and I accordingly gave him a couple of blankets and let him curl himself up at night in a corner of the big room. In the morning he would carefully fold his blankets and deposit them in an empty box outside.

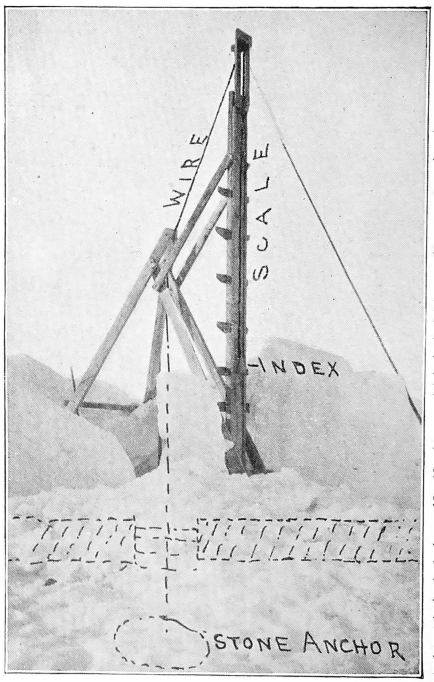


KYOAHPA'DU.

One day there came to us from a little settlement to the north, a widow, Klayu, and her three daughters. They were with us only a few days, but this was long enough for Kyo to become enamoured of the widow; and one star-lit December noon, Kyo suddenly discovered he had business south, and went away with her. He told us he was going for his deer-

skins and that he would return after ten *sinnipahs* (sleeps).

It was nearly ten times ten *sinnipahs* before we saw his oily face again. He seemed very ill at ease when he re-appeared at Red Cliff House on a blustering March day; and a little later the widow, now Kyo's wife, reached the camp with her daughters. They settled down at Red Cliff and made it their home until we departed on the *Kite* in August.

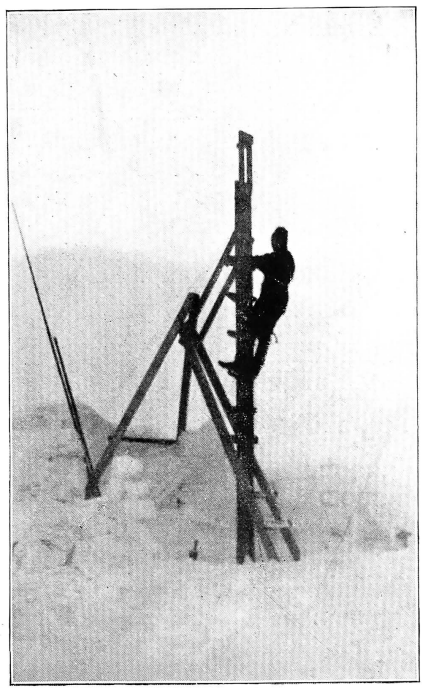


THE TIDE GAUGE.

While Kyo was away we heard some remarkable stories about him. Few spoke well of him. By most of the natives he was hated and feared. It was said that he had murdered a man and that he had twice been a widower, having killed his wives; also that he was an *angakok* or medicine-man of great power.

He was not the same man after his return to us. Perhaps it was because he thought he had lost my confidence by remaining away so long. We dis-

covered that he was subject to fits of uncontrollable anger, when he seemed almost insane. Once or twice in these paroxysms he severely cut his wife. Yet, later, as my driver on my two-hundred-and-fifty-mile sledge trip around Inglefield Gulf, he was most obedient and very attentive to the wants both of Mrs. Peary and myself.



VERHOEFF READING TIDE GAUGE.

While Astrüp and I were away on our ice-cap journey to the Arctic Ocean, Kyo, as became a mighty *angakok*, often went into trances and saw visions, during which the great expanse of the Inland Ice was spread before his spiritual gaze; and after he had returned to his fleshly tabernacle he would regale Mrs. Peary with stories of having seen, far to the north, a solitary *koblunah* (white man) plodding slowly and painfully southward, and that this wayfarer was not the *kapitansoak* (myself). His reputation as a mighty *angakok* was damaged beyond repair when I re-

turned in spite of his predictions of disaster. Just before I came back, he had threatened to kill his wife and her nearly grown daughter, and the poor women were so terrified that they fled to a distant settlement, and he did not find and induce them to return to him for several weeks.

To return to our work in Red Cliff House. Dr. Cook experimented with seal-oil lamps for melting ice with excellent results; and every day brought him other tasks, if indeed he did not have his hands full photographing and measuring his "Huskies," as the boys familiarly called the natives, while Verhoeff, Gibson, and myself built and put in commission a self-registering tide gauge which, on November 30th, was erected out in the dark and silent cold to record the resistless rise and fall of the Arctic Ocean.[1] At this time, the thickness of the ice in the bay at the tide-gauge hole was twenty-six inches. When a light was shown at the hole, myriads of shrimps came to the surface, and as the light was turned away and the water stirred, phosphorescent flashes appeared.

Saturday was designated as general cleaning day.

[1] My device for registering the winter tides was erected at our "fire-hole," an opening in the bay ice just outside of the ice-foot. This hole was kept open throughout the winter to afford a supply of water in the event of fire.

The tide gauge consisted of:

First, a rigid tripod of spruce scantlings erected over the hole, its feet frozen into holes cut in the ice. To one side of this was attached a vertical plank some twenty-two feet long, with feet and tenths marked upon it.

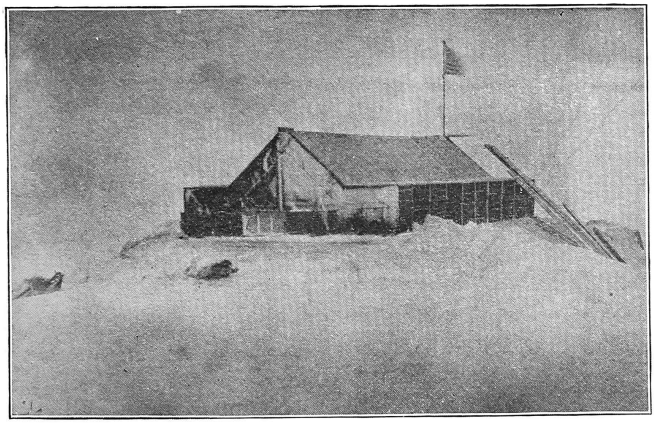
Second, a heavy stone lowered through the hole to the bottom, and from it a stout copper wire passing up through the hole over a pulley in the top of the tripod, then over another at the top of the graduated plank, thence down the face of the plank to a lead counterpoise, to which was fastened an index and guide playing upon two wires strung from top to bottom of the plank.

The anchor and wire being fixed, and the framework rising and falling with the ice under the influence of the tide, the movement was indicated with precision by the index passing over the graduated scale. Cleats attached to the scale enabled Verhoeff, who made the tidal observations, to read the highest range of the spring tides with ease.

This device gave thorough satisfaction, though in very low temperatures it required constant care to keep the rapid deposition of frost from the vapour of the open hole from clogging the pulleys and index. (See cut, p. 166.)

On that day, immediately after coffee, the stovepipe, stove, and stove-hole were thoroughly cleaned. All bedding was then taken from the bunks, and, when the weather permitted, carried outside to air. The entire room was overhauled, and the floor thoroughly swept. Every Saturday night each member of the party was required to take a bath.

On December 3d, I cut out the first sleeping-bag, and in a day "Daisy" (Megipsu) had it nearly finished. Verhoeff and I devoted ourselves to keeping the tide gauge in running order. The slope of the bottom



"RED CLIFF WAS SINKING INTO A HUGE DRIFT."

was a little less than one inch per foot, and apparently the motion of the ice was more rapid here than it was at Fort Conger.

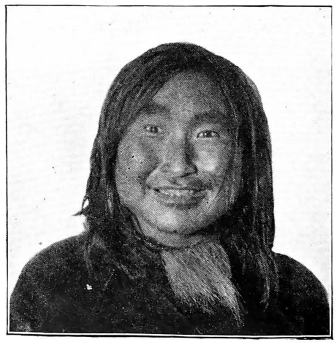
Red Cliff was sinking into a huge drift that almost buried it from view. On December 9th, my seamstresses began work on the first deerskin *kooletah*, or jacket. The last skin in my stock had now been

chewed, and all the skins were ready to be made up into garments. I completed a sledge, December 17th.

We took a good deal of outdoor exercise, practising on snow-shoes and ski, visiting the iceberg for ice, which was melted for the water we used, and attending to the fox-traps.

Astrüp and I made two or three odometers and these were used in measuring distances about Red Cliff.

The natives were coming and going all the while. My boys irreverently applied nicknames to quite a number of them. Three, for instance, were known as "The Priest," "The Villain," and "The Smiler," owing to physical peculiarities. The Villain, it should be said, was perfectly harmless. Then there was Ahningahnah (the moon), a poor weak-minded fellow. These native gentlemen one evening had an athletic contest with their white friends, which showed the members of my party to be superior to the Eskimos, both in strength and agility.



THE SMILER.

Megipsu and Annowkah, who early in the winter made a short visit to their home at Nerke, returned with a young girl named Tookumingwah. Megipsu told us that a bear had visited their hut and eaten one of their seals. Tookumingwah, whom we now saw for the first time, was a twelve-year-old girl and one of the prettiest young women among the natives. Her father had recently been drowned by an *oogsook*

(bearded seal). She went to work sewing under the guidance of "Daisy," and was married before we returned home.



AHNINGAHNAH.

We really had no time during the winter night to grow tired of the darkness or to weary of our surroundings. During the winter all the men of my party emulated one another in the effort to produce the best practical sledge. Modelling the sledges in a general way on the McClintock pattern, I found we could safely reduce the weight two-thirds or more. While McClintock's sledges weighed one hundred and twenty-five pounds or more apiece, I found we could turn out sledges of an equal carrying capacity, weighing only thirty-five to forty-eight pounds. Experiments with sleeping-bags, too, resulted in a complete change of equipment in this respect. Our sleeping-bags were evolved from actual experience in sleeping out-of-doors during the winter night. My assistants entered heartily into the work of preparation. Each was eager to work, and all made suggestions of value. Every minute



TOOKUMINGWAH.

detail of our preparations was scanned, discussed, and criticised. The activity of mind and expenditure of physical energy which all this called for, helped to keep us well in body and cheerful and sanguine in temper. We did a good deal of reading. I had a very complete arctic library, and this was chiefly in demand. The fact that we were living under arctic conditions, whetted the appetite of my boys for records of Arctic exploration. All these books were eagerly devoured for the story they contained, the adventures they recorded, and the useful hints we might derive from them. Somehow we could not make our ideas of the country, the natives, the winter night, the cold, the storms, or the hardships agree at all with those of some predecessors who had spent a season not very far from McCormick Bay. Viewed in the light of our own experience, some things we read seemed to us unjust, particularly in respect of the happy, simple-minded natives, with whom our relations were so friendly and who were so helpful to us; some things seemed exaggerated; and some, in spite of our willingness to believe, took on the aspect of pure romance.

Aside from our study of the natives, they afforded us considerable diversion. Ikwa, my chief Eskimo hunter, derived intense delight from imitating the sounds of our language, and his use of English was very amusing. Megipsu, or "Daisy," was particularly bright, and gave us much information as soon as we were able easily to exchange ideas with her.

Megipsu was the head seamstress by virtue of her superior skill and rapidity. Discarding her clumsy sealskin thimble for one of American make, she deftly plied the shiny implement of her trade. Any garment of her manufacture was honestly made. The seams were warranted not to rip, and they were neatly made,

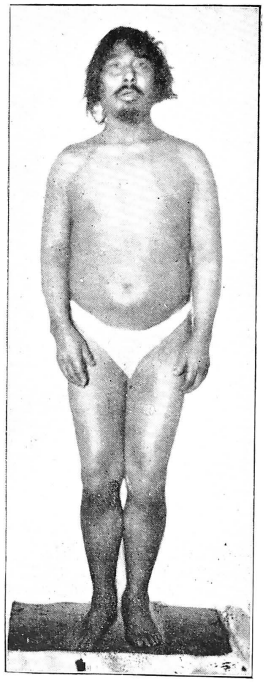
the stitches being even and so close together that the thread entirely hid the skin beneath them. Tookumingwah, the twelve-year-old beauty of the tribe, was also an industrious little seamstress. No thoughts of the coming matrimonial event, which was to give her a walrus hunter and an igloo of her own, impaired her efficiency as assistant tailoress. Old Sairey Gamp's eyesight was none of the best, but we made her useful repairing garments, and other miscellaneous work; and her garrulity seemed to help beguile the hours of labour. Altogether I gave employment to seven seamstresses, including Ikwa's wife Mane, and Kessuh's wife of the same name, who, however, was with us only a short time. The women had never heard of an eight-hour law, and cheerfully acquiesced when our necessities required them to sew from ten to twelve hours a day and even longer. It was the busiest winter they had ever spent, for, besides our sewing, they had the work of their own households to perform. Patches were needed on the garments of their husbands and little ones, and, though their culinary methods were not elaborate, food had to be prepared. Megipsu, "The Daisy," however, was my most regular and constant seamstress, and as she was with us nearly all the time, the larger part of the sewing was done by her.



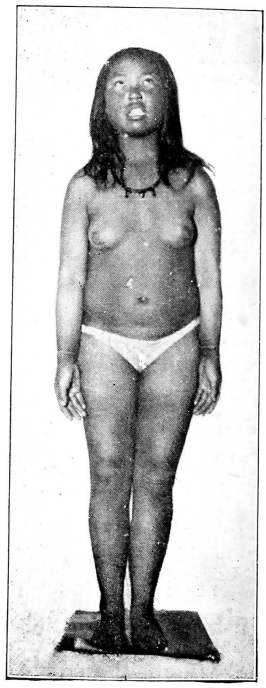
SAIREY GAMP.

My photographic work was confined during the darkness almost wholly to ethnological subjects. As

soon as my Innuit friends began to come to us, we set about taking measurements and photographs of them. Dr. Cook, who had special charge of the ethnological researches, made anthropometrical measurements, dur-



ADULT MAN.
Flash-light.

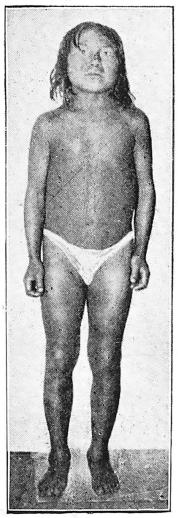


ADULT WOMAN.
Flash-light.

ing the winter, of seventy-five individuals, and I took a complete series of photographs of the same persons, comprising portraits, and front, side, and rear elevations in the nude, of each subject.

On one side of the stove, near the partition separating Mrs. Peary's apartment from the main room, I stationed myself to handle the camera. On the other side was Matt manipulating the flash-light. Dr. Cook would pose the subject at the other end of the room, and near at hand was a table at which he recorded his anthropological measurements.

It was interesting to observe the modesty both of the women and the men. They could not understand at first why I desired to take their pictures in a nude condition, and I am not sure that they ever got a very clear idea of the matter. I told them that we wished to compare their bodies with those of other people in the world, and it was not long before some of them grasped the idea so far as to decide that our work was in the interest of a perfectly laudable and proper curiosity. At first, however, some of them asked Dr. Cook if I wanted the information he obtained for the purpose of making other people!!



BOY.
Flash-light.

The flash-light work never failed to be a subject of lively gossip in the native community. All the fresh arrivals were told what was before them almost before they had unhitched their dogs, and as soon as a native was photographed, he would invariably tell of the experience to an admiring group, narrating every minute detail.

When the sky was clear, and we had the moon with us, the arctic night was one of remarkable beauty. In that dry atmosphere, the moon and stars seem to shine with a degree of power and brilliancy unequalled in temperate latitudes. We saw many auroras, but

they were comparatively faint, and not so pronounced in outline and brightness as those observed in South Greenland.



GIRL.
Flash-light.

November 14th was a fine day, and in the afternoon and night the moon was very brilliant. The temperature rose to several degrees above zero, and the house was oppressively warm all day. On the 16th, a full moon circled, and the scene was intensely brilliant, the moon hanging in a cloudless sky, and Arcturus, Aldebaran, and the Great Dipper shining with remarkable brilliancy. The ice-blink at the head of the bay was plainly visible in the moon's rays, and the new ice at the edge of the water, formed by the overflow of the recent spring tide, skirted the shores of the bay in a band of silver.



CHILD.
Flash-light.

Many of our winter days were like this, and they were the heydays of our arctic experience, when we enjoyed with the keenest zest our out-of-door work and exercise. At

these times foot-races and ski and snow-shoe practice were the popular amusements, and it would have been worth while, had it been possible, to obtain a good photograph of the party on some occasions when coming down the slopes behind Red Cliff on their ski; one of them now and then burying his head in the snow, while his ski-shod feet were flourishing in the air.

Astrüp was our professor of the art of ski travel, which he had learned in Norway, the home of ski-running. The members of the party made good progress under his able tuition, though they did not become experts in coasting or climbing. It was much easier to get the knack of snow-shoeing than to master the art of ski travel, though on the level we were all soon able to handle the ski fairly well.

The weather was pleasant about two-thirds of the time throughout the long night. Storms and a low temperature marked not more than one-third of the arctic winter.



CHAPTER VI.

THROUGH THE GREAT NIGHT (*Continued*).

RED CLIFF IN HOLIDAY ATTIRE—OUR CHRISTMAS DINNER—BANQUET TO THE NATIVES—A LITTLE TWILIGHT AT NOON—VISITORS FROM DISTANT CAPE YORK—MRS. PEARY'S NEW YEAR'S RECEPTION—LONGEST SNOW-STORM OF THE WINTER—RED CLIFF NEARLY BURIED—A MOONLIGHT LANDSCAPE—AN ALARM OF FIRE—NATIVE STORY OF BLACK SNOW—BUSY TIMES—EXPERIMENTS WITH FUR CLOTHING—COLDEST DAYS OF THE YEAR—A SCOUT TO THE ICE-CAP.



ANNAHWEE.

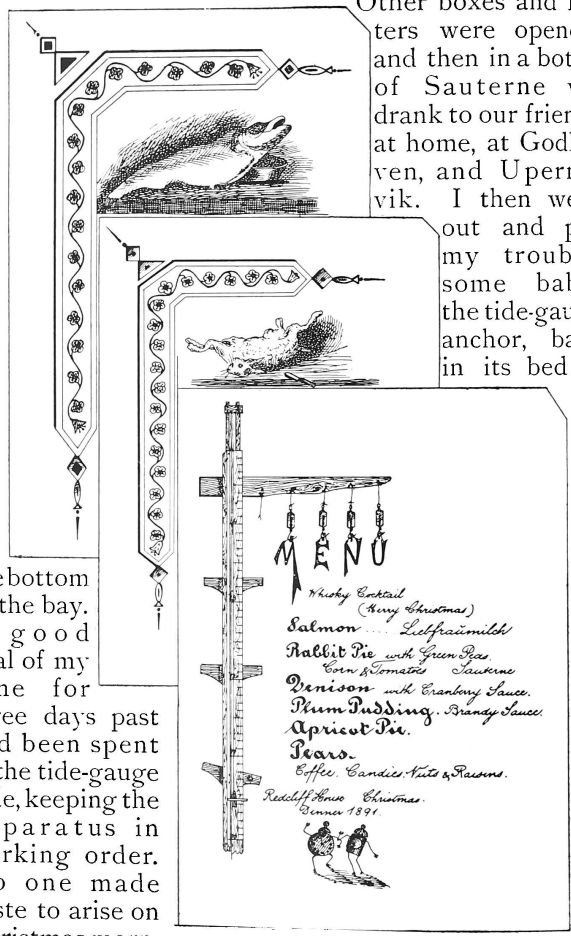
CHAPTER VI.

THROUGH THE GREAT NIGHT (*Continued*).



OUR resources did not permit us to make the merry Christmas time a particularly brilliant event, but there were genial warmth and light, kindly feeling and merry-making at Red Cliff House as well as in other parts of the world. On the day before Christmas, Astrüp and Dr. Cook cleared up the large room, put up two Union flags and one of the sledge flags, festooned the ceiling with mosquito-netting, and made wire candlesticks and placed candles all about the room. At nine o'clock, Christmas eve, I concocted a generous milk-punch, and this with cookies, nuts, raisins, and candies made a very acceptable evening lunch. After the punch, the Christmas numbers (of the previous year) of *Harper's*, *Frank Leslie's*, *Life*, *Puck*, the *London News*, and *London Graphic* were brought out, and we filled the evening with conversation and such music as our talent afforded. At midnight, Mrs. Peary and I opened a box the Danish Governor at Upernavik had given us, and found it filled with Christmas com-

fits and devices packed by the Governor's fair wife. Other boxes and letters were opened, and then in a bottle of Sauterne we drank to our friends at home, at Godhaven, and Upernavik. I then went out and put my troublesome baby, the tide-gauge anchor, back in its bed at the bottom of the bay. A good deal of my time for three days past had been spent at the tide-gauge hole, keeping the apparatus in working order. No one made haste to arise on Christmas morning, and it was



CHRISTMAS MENUS.
Designed by Astrüp.

noon before Red Cliff House was astir. From that time until 4.30 P.M. we were occupied in preparing the Christmas dinner. Then we sat down to our holiday spread and discussed a bill of fare which, with arctic hare and venison for *pièces de resistance*, would not have disgraced a table at Delmonico's.

Two dozen candles in their wire candlesticks beamed mildly upon us, and these with our *mickaninny sukkinah* (baby sun), as the natives had christened the Argand burner, gave us a cheerful degree of illumination. Astrüp had a very pretty surprise for us in the shape of cleverly drawn menu cards, each appropriately designed to fit a member of the party. The cards of Dr. Cook and Mr. Verhoeff were particularly apropos. Dr. Cook's card was graced with the presentment of a long-haired person with hands on his hips, critically examining the pose of a poor nude "Husky," as the whalers call the natives, imprisoned in a white screen; the tail-piece was a bottle with skull and cross-bones. On Verhoeff's card appeared the tide gauge and several spring balances supporting the menu, while at the bottom, the alarm clock and bull's-eye lantern, personified as two dancing imps, hit off happily the lively dance which they led our faithful meteorological observer. Gibson was seen bringing a deer into camp, and Matt was "shooting" a row of Huskies, this being his favourite expression when my dogs gave notice of a new arrival.

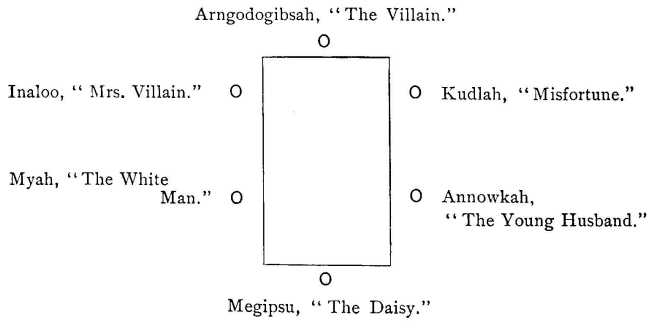
With the cocktail that inaugurated our good cheer, there was naturally but one toast—"Merry Christmas to all!" but when the Sauterne was broached I proposed two toasts: one, "To the flag over us, the brightest that waves, with the hope that our little party may be so fortunate as to add something to its lustre"; the other, "To the loving and perhaps anxious hearts

at home, with the hope that some of those mysterious occult agencies, which we do not as yet understand, may inform them how comfortable we are."



KUDLAH ("MISFORTUNE").

These toasts we drank standing. At seven P.M. we rose from the table, and, as soon as the dinner debris was cleared away and a venison stew could be made, I invited our Husky friends to a Christmas dinner. Arngodogibsah, otherwise "The Villain," did the honours in my place at the head of the table. Megipsu, otherwise "The Daisy," poured tea in Mrs. Peary's place. The company was arranged as follows:



I doubt if anywhere a more unique or joyous party ever sat down to their Christmas dinner. A free use of soap and water, under the skilful direction of Dr.

Cook, had removed all dirt from the visible portions of their bodies; and an evening dress of sealskin coats and bearskin trousers for the gentlemen, and foxskin jackets and trousers for the ladies, made all look very presentable. Considering their limited experience at Christmas dinners, they acquitted themselves very well. The Young Husband, it is true, was a little boisterous; and Myah endangered the integrity of his eyes by persisting in holding his knife and spoon both at once in his right hand, and then using his fingers for conveying food to his mouth. He also was so rude as to stand up and endeavour to harpoon with his fork some choice pieces in the stew. He desisted, however, when he was reproved by The Villain, who, perhaps, was not so much offended by Myah's gross breach of etiquette as desirous that all should have a fair chance at the stew. The Villain bore up bravely under his responsibility and served the stew very creditably. The Daisy also sipped her tea with considerable grace.



MYAH ("THE WHITE MAN").



"THE VILLAIN."

Tuktoo (venison) stew formed the first course, biscuit and coffee the second, and candy and raisins the dessert. Then the boys amused themselves at games with the Eskimos until a late hour. Altogether we had a very enjoyable Christmas.



INALOO.

The next evening I went with Dr. Cook and Matt to visit some of the fox-traps. We found one sprung and covered with blood, and one deprived of the bait, but not sprung. Three others were not disturbed. We had a race coming back, and I thought I acquitted myself very creditably, considering that it was my first foot-race since the breaking of my leg.

After Christmas, it was clearly apparent that the noonday twilight was increasing. Only those who have lived for many weeks in darkness, or whose brightest days have been illumined only by the cold, reflected beams of the moon, can realise with what eagerness and pleasure every indication of the sun's returning light and power was welcomed at Red Cliff House. At nine A.M. on the 28th, the cliffs back of the house were outlined in the twilight, and at noon the opposite shore of the bay was illumined by the reflection.

On the evening of December 29th, it began snowing and kept it up till early next morning, when a foot more of snow had been added to Red Cliff's winter covering. There was a fresh breeze from the head of the bay and the thermometer rose rapidly. At nine P.M., it was $11\frac{3}{4}^{\circ}$ F.

Thursday the 31st was a wild squally day, the wind falling in heavy gusts from the bluffs behind us. The temperature, however, was high, rising to $+16\frac{1}{2}°$ F. Everyone was busy in various preparations for New Year's. Mrs. Peary sent out invitations to an "at home" in the south parlour of Red Cliff House "from ten P.M. December 31st, 1891, until 1892." While at dinner, the unmistakable barking of my two Newfoundland dogs announced the arrival of more Eskimos, and when dinner was over they were admitted. I found them to be our old acquaintances: Kessuh of Netiulume, with his wife Mane and their child; Kyowito, an ugly giant from Narksarsomi; Ootuniah, his brother, only a trifle smaller and less ugly; and Tahtarah and Akpaliasuah, two young men from Cape York. Our New Year's preparations gave me but little time for these visitors, though the giant promptly informed me that he had a fine narwhal horn, several reindeer skins, and other articles to trade, and that he expected to carry away a gun.

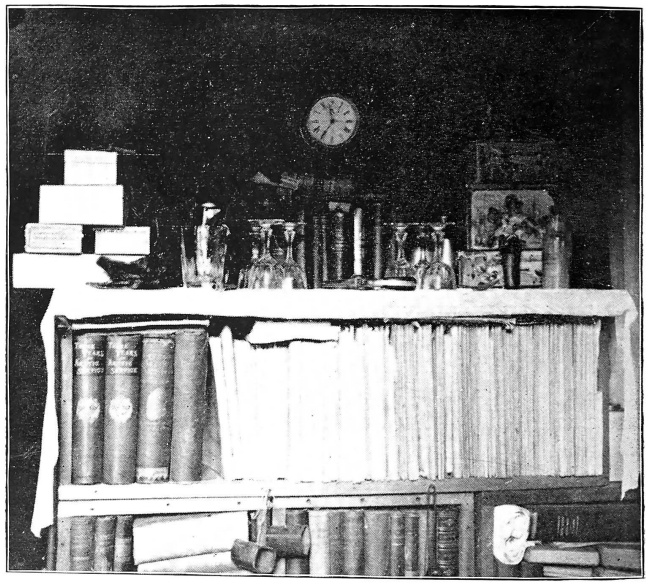


OOTUNIAH.

It may seem surprising to some of my readers that during the winter night we should have visitors coming from their homes nearly two hundred miles away. As a matter of fact, quite a number of Eskimos from Cape York and vicinity came to Red Cliff House during the winter and spring.

Promptly at ten P.M., our guests began to arrive and a very pleasant evening was enjoyed. The young

men from the United States seemed greatly to appreciate a lunch of cookies, doughnuts, and ice-cream; and as the clock rang out the midnight hour, a generous cocktail sparkled and seven glasses clinked to a happy New Year.[1]



THE LIBRARY.

Mrs. Peary, in a black-and-yellow tea-gown, plying a palm-leaf fan, was an object of silent, open-mouthed wonderment to our Eskimo friends, who

[1] Lest the reader should, from my description of our various fête-days—Thanksgiving, Christmas, and birthdays—gain a very erroneous idea of the quantity of stimulants used by my Expedition, it is necessary for me to state the facts clearly.

Personally, as a matter, not of conscientious scruples, but of judgment and taste, I am neither a drinker nor a smoker; and I have always selected men for

were looking on and listening from the other room. As if in envy of all this light, warmth, and enjoyment, the wild wind outside howled and shrieked, and the snow swirled in blinding sheets about my nearly buried house; and yet the thermometer registered +3° F. to +12° F. No such picture as this had ever before broken the dark and cold of the arctic night.

Our New Year's morning coffee was served an hour late, and then Gibson and Verhoeff laid out a course for our athletic games, which came off in the midst of a furious wind.

These games consisted of a hundred-yards' dash, a hundred-yards' race backwards, and a hundred-yards' four-legged race. They were hotly contested, but owing to the fact that the starter, Matt, and the judge at the finish (myself) were particularly interested in trying to keep warm, and also that I had much difficulty in recognising, in the pitch-black darkness, the different contestants, the actual time of these events is still very uncertain. I believe that one event was awarded to each of the contestants to prevent any unpleasant feeling.

At three P.M., we had our New Year's dinner, and we made the occasion a joyous one for my Eskimo dependants, by feeding them on eider-ducks and reindeer legs. The next day, the storm abated somewhat,

my parties who, as far as their word of honour could be relied upon, used neither tobacco nor spirits. Liquor should have no place in an arctic ration, either for camp or field.

Yet on such special occasions as those above noted, nothing gives more zest to the feast, or helps to lift the day out of the even monotony of the days on either side, than a mild cocktail or a glass of light wine.

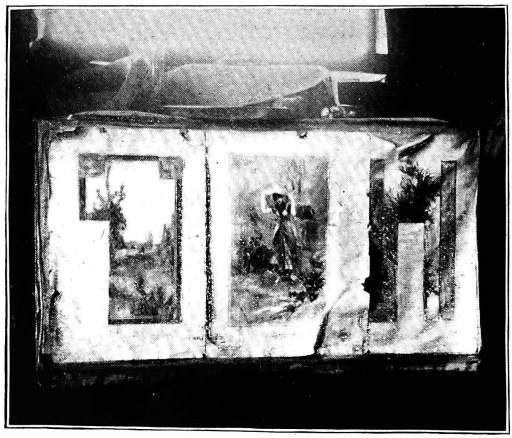
The liquor supply of my Expedition consisted of half a dozen bottles of brandy and whiskey, and a dozen pints of Sauterne.

Some of this supply was used externally, and some was taken back on board the *Kite* at the end of twelve months.

Tobacco is equally or more objectionable in arctic work. It affects the wind endurance of the individual, particularly in low temperatures; adds an extra and entirely unnecessary item to the outfit; and vitiates the atmosphere of tent and house.

the temperature began to fall, and my visitors departed.

Before Kessuh went, he told me the latest hunting story. It seems that, even in the darkness of the winter night, he had harpooned a big walrus in a crack in the ice near the open water off Netiulume, and after a protracted struggle lasting for hours, had succeeded in killing the monster and making him fast to the ice; after which Kessuh returned to the village



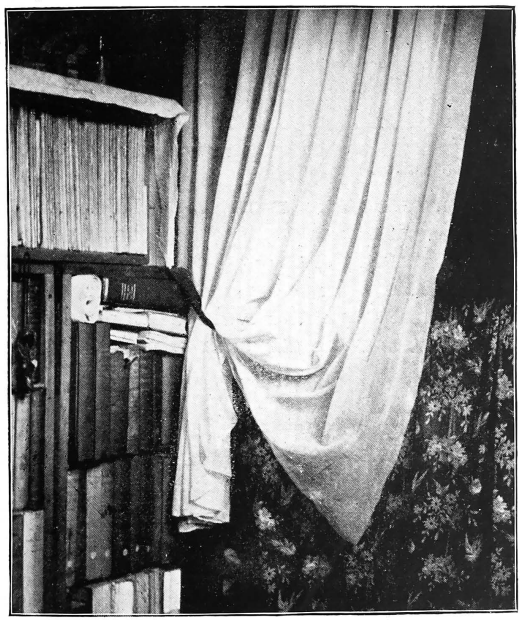
THE WRITING-DESK.

for assistance, and many willing hands got the animal out of the water, and added the welcome store of fresh meat to their supply. In proof of his story Kessuh, Othere-like, showed me the fresh and bloody tusks of the walrus.

I find this entry in my journal of January 2d:

"The holidays have come and gone at Red Cliff House and we have entered on the new year. Will it bring a fruition of my hopes? The year itself will tell. It seems to me as if everything is favourable.

This afternoon Mrs. Peary and I walked to our western fox-traps, and as we moved along over the crisp, level surface of the bay and thoughts of the experiences of my party came crowding upon me, I could not help wondering if we had really hit upon the most



THE BED.

favoured locality or an especially mild season, or both; or if all my predecessors had unconsciously exaggerated their hardships and the rigours of the climate."

Industry knew no pause in my arctic workshop. Astrüp was splitting ash runners for the second dog sledge. Dr. Cook and Ikwa were busy on the uprights and cross-bars. I was ripping a narwhal horn

into four strips, roughing it into shoes for the sledges, and cutting deerskin trousers to keep "Daisy" busy with her needle. Ikwa and Gibson were making ivory and horn knees to brace the sledge. Annowkah was fashioning ivory rings for the dog harnesses, "Daisy" was sewing, Mane was scraping a skin, and Mrs. Peary was working and softening my kooletah.

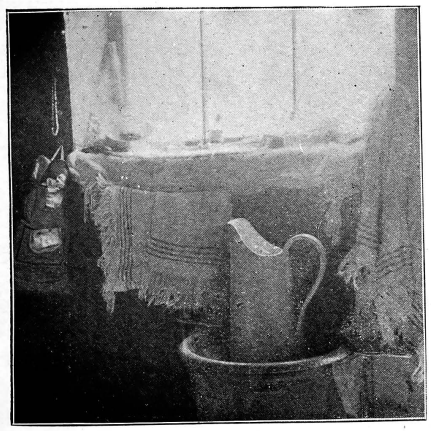
On Monday, January 11th, the weather had cleared completely and the result was almost indescribable. The snow landscape bathed in the brilliant light of the nearly full moon, the silvery, misty distances, the low stratum of vapour over the bay, reminded me of moonlight-scene effects in mother-of-pearl. The southern twilight at noon was bright, and in the evening the temperature fell to $-35\frac{1}{4}°$ F. Red Cliff House smoked in the icy air from every ventilator. The humbler dwellings in the village were completely snowed in. Work on the skin clothing progressed well, and I finished a sample sleeping outfit weighing only ten pounds.

The next day the temperature fell to $-40\frac{1}{2}°$ F., and the dazzling effect of the full moonlight on the great white expanse of snow was beautiful beyond description.

January 13th was diversified by a small fire scare. Astrüp knocked a box of matches from a shelf on to and around the stove. They immediately took fire in every direction, and Dr. Cook, who had the night watch and who was asleep in the bunk nearest the stove, sprang out in his sleeping-bag and fell, half-awake, on the matches on all fours, just in time to encounter, full in the face, a pailful of water which I had thrown from the opposite direction. The second pailful following fast upon the first, convinced Dr. Cook of the efficiency of the fire department and caused him to retreat in confusion. The third application of water extinguished the blaze.

January 15th, the noon twilight was reflected from the southern faces of the bergs, and Cape Robertson across the bay had a steely light that was not from the moon. The temperature was still holding its own at −40° F.

Megipsu told me of a heavy fall of black dust or soot during an east wind at Cape York about a year ago which frightened the natives seriously. In this



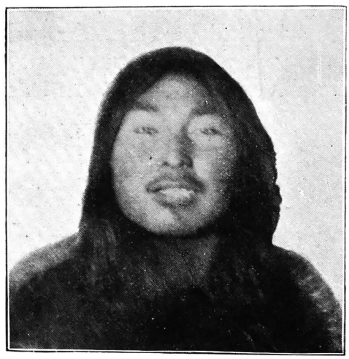
THE WASHSTAND.

neighbourhood the fall was lighter. I could get no further particulars, but as to the general truth of the story I have little doubt. It seems strongly to indicate the possibility of volcanic dust having reached that region, perhaps from some northern area still unexplored.

January 26th, the south-west sky glowed for hours with rose and saffron tints. Arcturus and the Great Dipper, however, were still visible at midday. After lunch, Mrs. Peary and I went out on snow-shoes to

the grand Amphitheatre Berg, about one and a half miles distant, in the direction of the Five-Glacier Valley.

Over the ice-cracks along the shore and around the bergs, the frozen water vapour, rising through the cracks, was making wreaths of mist.



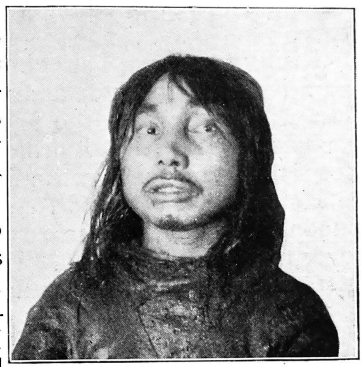
NIPSANGWAH.

In the evening, Arngodoblaho's three dogs, and another I did not recognise, came into our village with a rush, their traces dragging behind them. About an hour later, Nipsangwah of Keati, and Tahwana from the head of Inglefield Gulf, came in with three more dogs. Tahwana had fallen into the water and their sledge had been left behind on the ice. I gave them both a hot rum punch and they turned in on the floor.

Nipsangwah was the brother of Annowkah, the "Daisy's" husband. Tahwana lived with his family and one other far up the head of Inglefield Gulf. Nipsangwah was a powerful, quick, athletic man, while Tahwana was a queer, pigeontoed, little fellow with a defect in his eyes, and a walk like that of a bantam rooster.

I learned from my visitors that there was still open water in the neighbourhood of Hakluyt Island and between it and Northumberland Island; and also that the ice in the Sound between our camp and Northumberland was very thin and in places dangerous, the thick snow protecting it from the low temperatures

and the water wearing it away beneath. At Keate and Netiulume there was little snow and high winds had prevailed. At the head of Inglefield Gulf there was a good deal of snow. Merktoshar, the one-eyed hunter of Netiulume, and Kudlah had killed a young bear near Cape Parry. It was encouraging to see seven fine dogs at the door and to know that the dreaded *piblockto*, or dog disease, had done practically no damage to the animals in our neighbourhood.



TAHWANA.

Friday morning, February 12th, Astrüp and I started with our ski and snow-shoes and fur suits to take a look at the ice-cap beyond Four-Mile Valley.

We left Red Cliff House at 9:30 A.M., and took at once to the bay ice. As the three spirit thermometers were reading −44° F., −43° F., and −44° F., I wore my kooletah with the hair inside. Only a few hundred yards from the house, however, I began to find it too warm, and, pulling it off, stood nude above the waist and turned it with bare fingers. The sleeves gave me some trouble, and when the job was completed, my fingers had lost sensation, but otherwise I was warm enough.

After reaching a height of about two thousand feet, Astrüp stopped for a rest and I went on ahead to the ice-cap. I kept on to an elevation of about three thousand feet. Then, as it was getting dark, I threw myself down in my furs with my head pillowed upon Jack, who had followed me, and lay for ten or fifteen

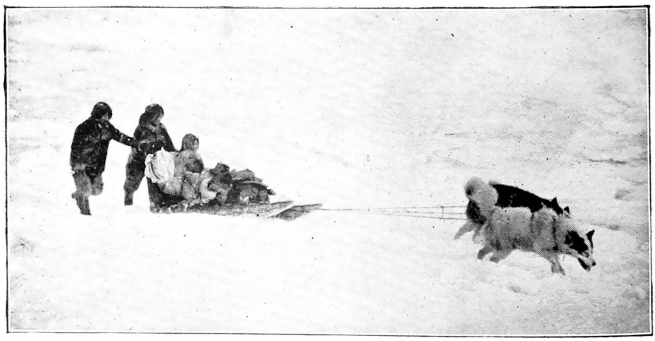
minutes, with the rustling of the ice-cap wind—by that strange contrariety of suggestion which I have frequently noted in the Arctic regions—bearing me far away to the ledges of brown cliffs familiar in youth, with the waves of summer seas murmuring at their base.

Rising to return, I drove my alpenstock with comparative ease through about two feet of snow (the last winter's fall) to the icy surface of the previous summer. Into this I drilled about one and a half feet and then could get no deeper.

Returning, I rejoined Astrüp, and as the big yellow moon, surrounded by a rose-coloured halo, climbed over the cliffs, we reached Red Cliff House at seven P.M., after a fifteen-mile tramp.

A few days more and the sun would rise.

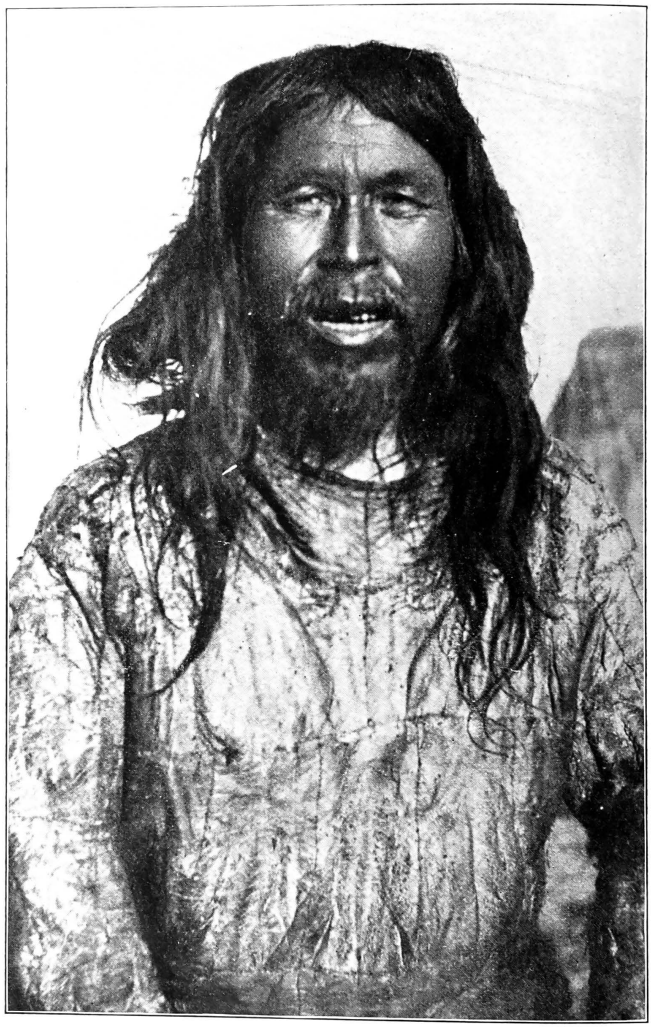
Constant occupation, first in the little fittings about the home, then in the construction of ski and sledges, daily exercise out-of-doors, the visits of the natives, the pleasant breaks of Thanksgiving and the Christmas holidays, congenial companionship and the best of food, had carried us quickly through the sombre darkness.



CHAPTER VII.

IMPRISONED ON THE ICE-CAP.

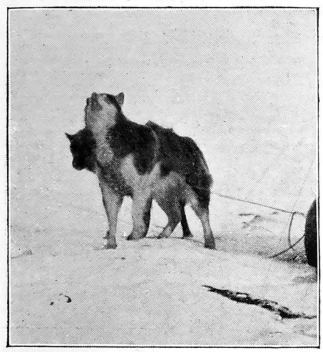
BUILDING A SNOW IGLOO ON THE ICE-CAP FOR THE SUNRISE PARTY—CLIMBING TO THE ICE-CAP, OVER 2000 FEET ABOVE THE SEA—A FURIOUS STORM—AWAKENED BY THE ROAR OF THE WIND AND DRIFT—OUR SNOW HUT EATEN AWAY—EXPOSED TO THE ELEMENTS IN OUR SLEEPING-BAGS WITH NOTHING ON BUT UNDERCLOTHING—OUR FUR GARMENTS DEEP UNDER THE DRIFT—UNABLE TO STAND AGAINST THE GALE—A DAY AND A HALF BEFORE WE CAN EXTRICATE OURSELVES—SUNRISE—RETURN TO RED CLIFF—THE CAMP NEARLY WASHED AWAY BY THE FURIOUS FÖHN—TORRENTS OF RAIN IN FEBRUARY—PUTTING THINGS SHIPSHAPE AGAIN.



KAMONAHPIK.

CHAPTER VII.

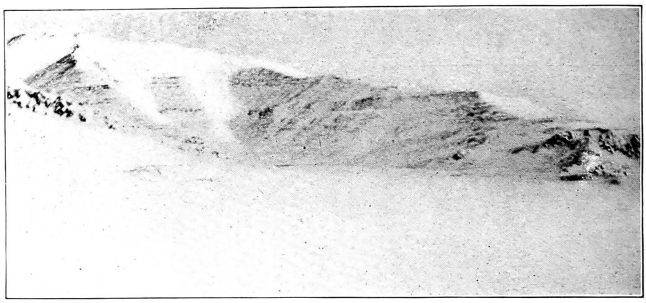
IMPRISONED ON THE ICE-CAP.



THE ice-cap beyond Four-Mile Valley being too far away for my contemplated outing to see the sun's return, I sent Gibson and Verhoeff, on Saturday, February 13th, as I have already mentioned, up to the ice-cap this side of the valley, to build a snow igloo, for the sunrise party. They returned at night, reporting the walls of the igloo finished, but they were unable, after repeated attempts, to construct the roof. Gibson reported seeing sunlight, to the west, on the highest peak of Northumberland Island. The barometrical determination of the height of the igloo above sea-level was 2050 feet.

At 9:20, the next morning, Dr. Cook, Astrüp, and I started, dressed in our furs, the Doctor and Astrüp with deerskin kooletahs and trousers, and I with deerskin kooletah and dogskin trousers. We all wore kamiks and woollen socks. The Doctor and I took snow-shoes, and Astrüp his ski. Our impedi-

menta consisted of reindeer sleeping-bags and hoods, pemmican, cranberry jam, biscuit, tea, sugar, and condensed milk, for two days; alcohol lamp and boiler, canteen of alcohol, two spoons, wind matches, shovel, snow-knife, hunting-knife, alpenstock, camera, note-book, aneroid and compass, swing thermometer, maximum and minimum thermometer, candle and watch, the Dahlgren and Academy of Natural Sciences flags, and Mrs. Peary's and Mayde's sledge banners. The morning was gloomy and cloudy, and looked so



THE PATH TO THE ICE-CAP.

unpromising that I thought it hardly probable that we would spend the night on top, but more likely that we would carry our packs up and return to sleep at the house, going up again Monday morning.

We crossed the snow-covered terraces between the shore and the foot of the bluffs, on our snow-shoes. Then removing them we clambered, on hands and knees, sometimes over bare rocks and snow patches, to the knife-edge crest of one of the eroded trap buttresses springing from the main bluffs. A firm and gradually ascending snow-drift capped this crest, just wide enough at the top for one to walk. It was broken in

two places by nearly vertical trap ladders. We brought up at last against the face of the abrupt snow cornice of the main line of bluffs, some seventy-five feet below its top. Up this marble steep the Doctor cut steps with his shovel, and following him, we reached the thermometer cairn at noon.

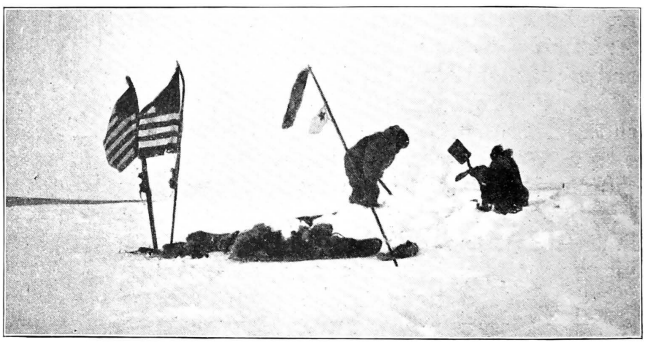
When about half-way up my swing thermometer had shown +12° F., and the current temperature of the spirit thermometer at the cairn was +12° F. I reached the top, clad only in my boots, trousers, and light guernsey. My kooletah was slung across my back. I was more than glad to find my broken leg all right again. Although I could not spring from it quite as quickly and vigorously as with the other, it gave me no pain.

At the thermometer cairn, we put on our snow-shoes and stretched out across the snow-field. At 1.50 P.M., we reached the igloo. At two P.M., the swing thermometer registered +16° F., the temperature of the snow being −4° F. We immediately proceeded to roof in the igloo, which was nine by six feet with a recurving entrance, the walls about 4½ feet high, and the floor the last summer's icy surface of the ice-cap, about eighteen inches below the present surface. The ski were placed lengthwise on the end walls, supported in their middle by snow-shoes, interlaced and resting on the side walls.

Then a flat roof of snow blocks was laid upon them, and the roof and walls chinked. At three P.M., our house was finished. The temperature at this time was +22° F. and the temperature of the snow still −4° F. The entire sky was a heavy lead colour. The outlines of Herbert and Northumberland Islands were barely discernible, and the lifeless light about us was of such a character that it was impossible to form any judgment of the size or distance of objects. A single snow block could be taken for a snow house, and our

igloo itself at a little distance loomed up like an iceberg.

The house being completed, our packs were passed in, the sleeping-bags spread out, and I immediately started the lamp for our pot of tea. Before six P.M., we had eaten our supper and were snugly stowed in our bags, wearing only our underclothing. Our fur trousers were folded and laid under the upper portion of the sleeping-bags, and our kooletahs were pulled over the foot of the bags. We could hear the in-



DIGGING OUT.

creasing rush of the wind, which had begun blowing just as we got our packs inside, and was now beginning to drift the fine snow into the entrance. At nine P.M., the temperature in the igloo was +22° F. and the barometer read 24.40.

When I awoke, fine snow was drifting in my face. Lighting a candle, I saw that it was four o'clock Monday morning, that our entrance had drifted full, and that the wind had forced a small hole through the end wall of the igloo, through which the drift was pouring in a stream that had already covered to

a depth of several inches the foot of my sleeping-bag, and the head and shoulders of the Doctor, who was lying in the opposite direction. The Doctor turned out in a hurry, plugged up the hole with snow, and then reversed the head of his bag so as to lie the same as Astrüp and myself.

Again I fell asleep, only to be again awakened by the roar of the storm and the snow driving in my face. Looking over the foot of my bag, I could just see, in the faint light of day, that the cutting drift had eaten



SUNRISE CAMP

off the angle of the igloo where roof and end wall met, had completely filled that end, and was rapidly covering us. As I watched it, roof and wall melted away as fine sand before a water jet; and by the time I could arouse Dr. Cook, adjust my hood, and tighten my bag, it required a good deal of effort to force myself up through the superincumbent weight of snow. The Doctor also succeeded in liberating himself, but Astrüp, who was lying on the other side of the igloo, could not get free.

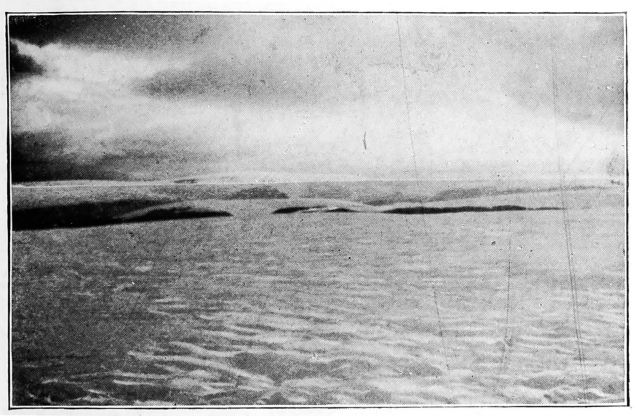
Telling Dr. Cook to keep a breathing hole open for Astrüp, I rose up in my bag, forced the ski apart, rolled out over the wall, bag and all, and reached the shovel at the entrance, then rolled back to the end of the igloo, and crouched against the wall on the outside to get my breath. Then I crept around to the side where Astrüp was, and crouching before the howling wind, tore a hole through the side wall and freed his head and body, and with the Doctor's assistance, pulled him out.

Here we were in our sleeping-bags, clad only in our underclothing and with our fur garments and foot-gear buried deep under the snow. We could not have stood up before such a gale if we had tried. All we could do was to crouch, half sitting, with our backs to the storm, in the breach I had made in that part of the igloo wall which was still standing. We sat there hour after hour until nearly night, when the Doctor and Astrüp were again both fast, and needed assistance to release them from the drift. While performing this work of necessity, we managed to dig from under the snow a little pemmican and a few biscuit, and ate them. Astrüp then wriggled alongside me, and the Doctor rolled a few feet to leeward of where the house had been, and thus night settled down upon us.

We were lying out on the ice-cap over 2000 feet above sea-level, wholly without shelter, on the top of the drift, beneath which our snow hut was buried. The snow flew past us with such a roar that I had to shout at the top of my voice to be heard by Astrüp, who was lying partly upon me. After an hour or so, his weight and that of the snow became oppressive, and I worked myself loose and crawled a little to one side and to windward, into the wind ditch alongside the big drift over the house. Here in a sitting posture,

with back to the wind and side against the drift, I sat out the night. By lowering my chin upon my breast, I could keep most of the drift out of my face, and by raising my head I could feel rather than see the two dark prostrate objects close to me to leeward, and at intervals shout to them to inquire if they were warm enough.

Occasionally I dozed a little, but most of the time



MOONLIGHT ON THE ICE-CAP.

I was studying how we should extricate ourselves from our predicament if the storm continued for several days. My greatest source of anxiety was the fact that the suddenness with which we were compelled to free ourselves from the drift had left our outer clothing and foot-gear deep under the drift, my dog-skin trousers being the only thing that was brought out. These, however, and the shovel, I had close to me. I knew that we were good for at least twenty-four hours longer in the bags, but if the storm con-

tinued longer than that, I should have to try and dig out a kooletah and pair of kamiks, and get to the house for clothing.

Dozing again, I suddenly awoke to hear a rattling as of hail against my hood, and putting my hand out through the sleeve of the bag, great drops of rain drove against it, freezing as they struck. Moving in my bag, I felt that it had stiffened greatly, but fortun-



SUNRISE ON THE "GREAT ICE."
February, 1892.

ately was not yet frozen down. Calling to the boys, I told them to roll their bags gently from side to side every few minutes to prevent their freezing down, and then anxiously waited developments. The continuation of the rain would, I knew, make the digging out of our clothing impossible, and if I had to go down to the house, I should have to wear the upper part of my bag cut off for a kooletah, my dogskin trousers, and a pair of reindeer-skin sleeping-socks which I

had in my bag cover. I was worse off than either of the others, for they had on complete suits of underwear, including stockings, while I wore only an undershirt.

To my infinite relief the rain did not last much more than an hour, and then the snow resumed its sway. Very soon, too, the wind ceased its steady, monotonous roar, and began to come in intermittent squalls. This, I hailed with delight, as a sign of the near breaking of the storm. I fell asleep again. When I next awoke, I found the opening of my hood closed with balls of ice, but the wind was much less violent, and the intervals between the gusts were longer. Putting out a hand and tearing away the ice, I looked out, and to my delight found moonlight flooding the Inland Ice, the moon having just broken through a rift in the black clouds over Herbert Island. It had stopped snowing, but the wind was still whirling the fine snow along the surface.

I immediately conveyed the pleasing intelligence to the boys, and learning from the Doctor that he was cold, I got over to him as well as I could in my sleeping-bag and curled myself around and against the head of his bag, to windward. This expedient did not succeed in making him more comfortable, and as the temperature was rapidly lowering I rolled back, got the shovel, and succeeded in digging a hole, down into the snow. I then got the Doctor's bag loose, pulled the sleeves out of the frozen crust, adjusted his hood, and helped him to wriggle to the hole, into which he tumbled and curled himself up. I then placed my trousers over his head to keep the drift off, and curled myself round the windward edge of the hole above him. I was very glad to find that the complete protection from the wind thus afforded him, together with the exercise of moving, restored his temperature and rendered him entirely comfortable.

In this way we lay for several hours, the wind gradually dying away, and the light of day increasing. Then as Astrüp was more completely dressed than any of us, I requested him to make the attempt to dig out our clothing. I was obliged, however, to go to his assistance, and break his bag free, clear the ice from the opening of his hood, adjust it, and help him



THE DENUDED CLIFFS.

to a sitting posture. In doing this, one of the sleeves of his bag was unfortunately torn off, and when he began to shovel, his arm was so cold that he could do no effective work, so I told him to lie down, and I took the shovel. It was now 8:45 A.M., Tuesday, and after a long time, and with much trouble, owing to the hard snow, the coldness of my hands, and the difficulty of working hampered by my sleeping-

bag, I dug out a kooletah, a pair of trousers, and a pair of kamiks. Astrüp then got out of his bag into these, and after a brisk run to limber himself up, took the shovel and continued the work of excavation. The temperature at this time was +3° F., with a light breeze blowing.

As soon as Astrüp had dug out another kooletah, a pair of trousers, and a pair of kamiks, I sent him to help Dr. Cook put them on. The Doctor was now thoroughly chilled again, and anxious to get out of his bag, so that he could warm himself with exercise.

While he did this, I excavated my corner of the igloo and got out the stove, tea, sugar, and milk, and lit the lamp for a pot of hot tea. It was now 11:45 A.M., and the southern sky was a mass of crimson, rose, purple, and green clouds. There was one dazzling yellow spot where the sun was about to burst into view. I pulled the Dahlgren and Academy ensigns and the sledge banners from my bag cover, shook them out, fastened them to the ski and alpenstock as flagstaffs, and then drove these into the firm snow. At that moment the wind freshened and the bright folds of our banners, the fairest in the world, flew out into the sparkling air.

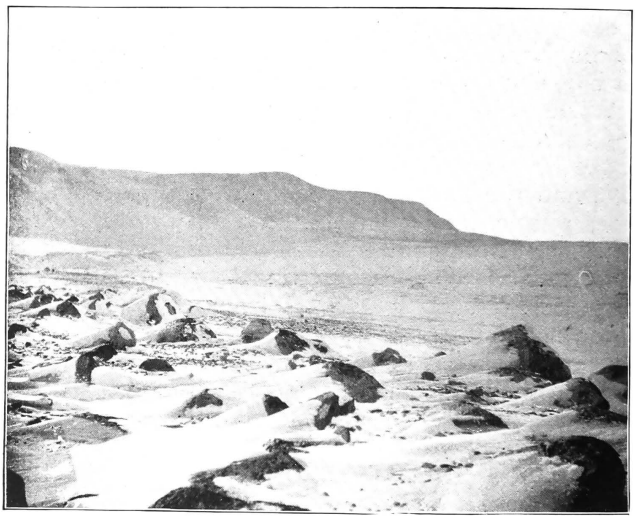
Then the yellow sunlight fell upon the highest bluff of Northumberland Island west of us. A minute later Cape Robertson, to the north-west, blazed with a crown of glory,—and then the great yellow orb, for whose coming we had so longed, peered over the ice-cap south of Whale Sound.

In an instant the snow waves of the Inland Ice about us danced, a sea of sparkling, molten gold. Neither gold, nor fame, nor aught can purchase from me the supreme memory of that moment when on the ice-cap, far above the earth, with the rustling of the Stars and Stripes in my ears, I laughed with the laughing waves

of the great white sea, in greeting to the returning sun.

Never before from the desolate heights of the Great Ice had man or flag welcomed the breaking of the longed-for dawn which ends the Great Night of the north.

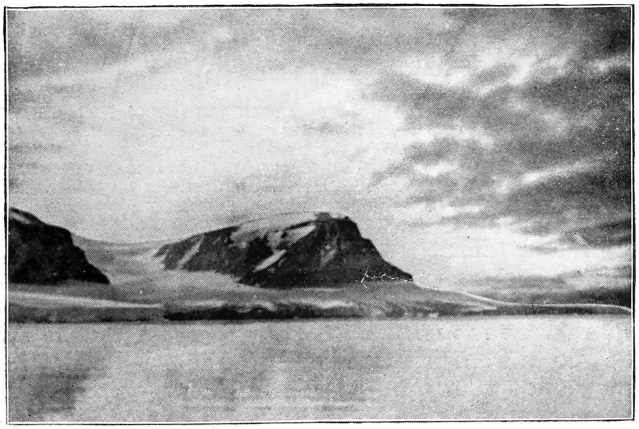
For many minutes we watched the glorious God of



EVERY BOULDER CASED IN ICE.

Day roll along the southern ice-cap. Then we turned to our hot tea, and the completion of the work of digging out our impedimenta. As soon as I had finished my tea, I transferred myself from my bag to my travelling suit. The reader may imagine the pleasure of this performance. My dressing-room was the Inland Ice, with the wind blowing and the thermometer standing at 3° above zero. In this airy and expansive

dressing-room, I had the felicity of emerging from my sleeping-bag, clad only in an undershirt, and pulling on a frozen pair of drawers and socks, a fur coat and trousers, which were driven full of snow, inside and out, and a pair of kamiks, which had to be gradually thawed as I forced them upon my feet. Still I did not feel the cold very much, probably because having been perfectly warm in my bag all the time, I got out



"JOSEPHINE HEADLAND SWIMMING IN PURPLE LIGHT."

of it in a glow of animal heat, and with sufficient reserve of strength and warmth to carry me through the ordeal.

When once the fur garments are on, the sensation of warmth is instantaneous. As far as my own observation goes with reindeer- or dogskin outer clothing, no matter how wet the underclothing or inside of the fur clothing may be, the wearer does not, even while motionless, feel the cold or wind in any ordinary temperature of not lower than −25° F. to −30° F.

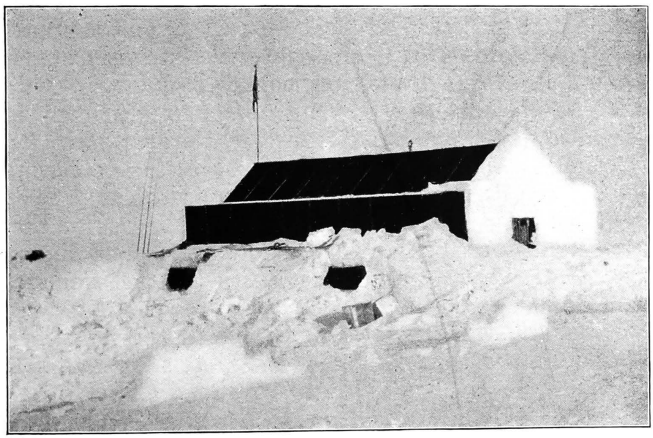
The work of excavation completed, we tied up our packs and started for the house by way of One-Mile Valley. The snow was so firm that it easily supported me with a forty-pound pack on my back. The force of the wind had been terrific, as was shown by the way it had scooped and carved the surface of the ice-cap, in many places down to the ice of the previous summer. My swing thermometer, which I had buried in the snow on Sunday afternoon, was scoured out by the force of the wind until only two inches of it remained in the snow; and the windward side of the thermometer, the alpenstock, and the Doctor's snow-shoes, which had been driven down into the snow, had a coating of tough, perfectly transparent ice, a quarter of an inch thick. From the head of One-Mile Valley, the surface of the table-land, all the way down to Cape Cleveland, had been swept clean of snow, and the upper portions and sides of Herbert and Northumberland Islands, Cape Robertson, and the north shore of our bay were nearly denuded.

We went rapidly along to the head of the valley, and down the firm, steep snow-drift in its centre. When not quite half-way down I was surprised to find the snow covered with a crust of opaque, cream-coloured ice. The surface of this ice-crust had been beaten by the wind into the form of amygdaloid, or furnace slag. A little farther down, where the rush of the wind had been apparently still more furious, the snow had been scoured away entirely, and the windward side of every boulder, rock, and pebble was cased thickly in ice, slightly yellow-tinted with the fine detritus the storm had scoured from the cliffs.

When I reached the surface of the bay, the change was startling. Instead of the deep, level covering of soft snow which was there four days before, there was now over only a portion of it a ragged conglomerate

of ice and snow six inches thick at most, while over fully a third of the expanse of the bay the snow had been washed and scoured away completely, leaving the surface of the ice entirely bare. But my attention could not be claimed long by these things, for the glory of the scene around and overhead overpowered everything else.

To the north and east, the sky was purple-black,



RED CLIFF HOUSE AFTER THE STORM.

shading to exquisite blue at the zenith. Overhead a few dainty, feathery clouds glowed with the iridescent hues of the humming-bird's breast and mother-of pearl. The western and south-western sky was aflame with dazzling yellow shading into pale rose and green. Against this rose, *en silhouette*, the majestic cliffs of Josephine Headland swimming in purple light. Misty purple and green lights floated over the far-stretching expanse of ice, giving the countless glistening emerald icebergs an indescribable softness.

Even a mile away, I could see that Red Cliff House stood out more prominently than it had since October. It was evidently denuded of its snow covering.

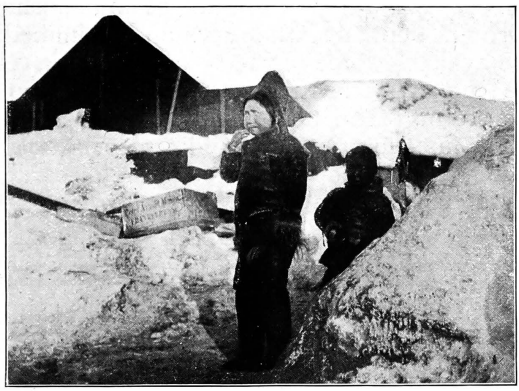
Half-way home Mrs. Peary met me and told me of the frightful storm and deluge. Nearly all day Monday, the rain had fallen in torrents, washing away the snow-covering of the house, destroying the covered snow entrance, and coming through the canvas roofs of the additions till it ran into the house. The wind all the time hurled itself from the cliffs upon the house with such force that the boys could scarcely stand against it. The doors and windows quivered with the assault, but the house itself, strongly framed, frozen to the ground, and braced and protected by its surrounding walls of stone and frozen turf, stood firm, nor did the wind anywhere effect an entrance.

The covered snow entrances to the igloos of the settlement were beaten down and the igloos themselves were very near destruction. Verhoeff went to the tide gauge in his long-legged rubber boots, and the maximum thermometer registered the unprecedented temperature of $+41\frac{1}{5}°$ F. The snow igloo at the tide hole was beaten down, and Red Cliff House, as I approached it, stood out so bare and black that it looked as if it had been visited by a fire. I think no such phenomenal war of the elements, no such wild freak of the Arctic föhn, has ever before been observed in this latitude in the month of February.

We had experienced an accentuated instance of the Greenland föhn,—a word borrowed from the meteorology of Switzerland, to designate the most remarkable of the local winds of that country, a south, warm wind that occurs in the Alps, most frequently in the spring.

I expected to hear later of our February föhn in other parts of Greenland, and I was not disappointed.

Lieut. Ryder was living for nine months at Scoresby Sound, on the coast of East Greenland, while we were at McCormick Bay. He was about four hundred and fifty geographical miles south of us. The maximum temperatures he recorded occurred in February and May. He says (*Petermann's Mitteilungen*, xi., 1892, page 265) that these high temperatures were due to severe föhn storms, one of which, in



AMONG THE RUINS.

February (date not given), suddenly raised the thermometer to + 50° F., 8½° higher than my instruments had recorded. Like us, also, he had experienced his lowest temperature in February. Rainfall in the neighbourhood of McCormick Bay during February, or in other words during the sunrise period, is, according to native reports, almost unprecedented.

The experience upon the ice-cap, in its actualities of discomfort and possibilities of worse, was the most serious incident in all the ice-cap work of the Expedition of 1891–1892. To me it was an old story. I had twice been through similar experiences in 1886.

To my two companions it was a stern and serious initiation into ice-cap work, and an emphasised warning of what they might expect on the long march.

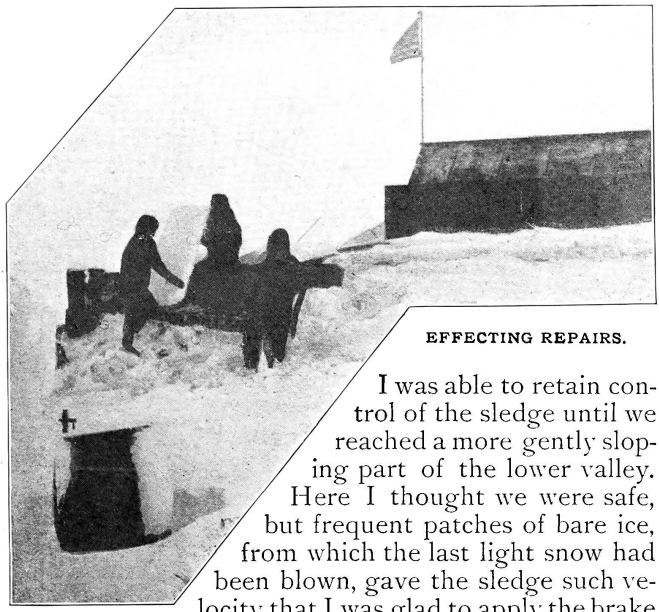
The day after our return from the ice-cap the temperature rose again above the freezing-point. The day was spent indoors, drying our bags and other equipment, which had been blown full of damp snow and sleet.

Thursday was a day of brightness and sunshine on the northern shores of the bay, and I immediately got the available force of the village at work, rebuilding the long covered entrance to the house, demolished by the storm. The now solidly frozen snow crust furnished fine quarries for building blocks, and after collecting all the empty boxes and the discarded ice-melter to build up the wall, Astrüp, Dr. Cook, Ikwa, Annowkah, and myself hewed great slabs, two to three feet wide and six to eight feet long and six inches thick, of semi-ice, and roofed our entrance better than before. I was very glad to get this done so quickly, for we had yet to meet the wild storms of March.

The more pressing repairs upon the house being completed, my faithful servants Ikwa and Annowkah set about the restoration of their own half-wrecked dwellings; and to expedite their work, I gave them a shovel, snow-knife, and hatchet. Then Dr. Cook, Astrüp, and I betook ourselves to our ski, and coasted merrily down the hill back of the house, with many a ludicrous tumble. Even the Eskimos became infected with the spirit of merriment, and got out a Greenland sledge and coasted with us. Mrs. Peary, in the meantime, watched the sport and caught us with the camera. In the afternoon, Annowkah and I rebuilt the snow gable on the south end of the house. The next day Matt and I, with my Greenland sledge and the two

dogs, went up to One-Mile Valley after my pack, which I had left near its head on Tuesday. Some distance below the pack I had to leave the sledge and dogs on account of the steepness of the ascent, and bring the pack down to them on my back.

When we started back, I drove the point of my alpenstock between two sledge cross-bars, three or four inches into the snow, and with this as a brake,



EFFECTING REPAIRS.

I was able to retain control of the sledge until we reached a more gently sloping part of the lower valley. Here I thought we were safe, but frequent patches of bare ice, from which the last light snow had been blown, gave the sledge such velocity that I was glad to apply the brake again. Even then, we travelled like the wind, the dogs at their liveliest gallop, unable to keep the traces straight. Suddenly, the iron point of my alpenstock broke short off, and in a moment the sides of the valley became a roaring mist, and the poor dogs,

howling and yelping, were rolling and bounding through the air in tow of the shooting sledge.

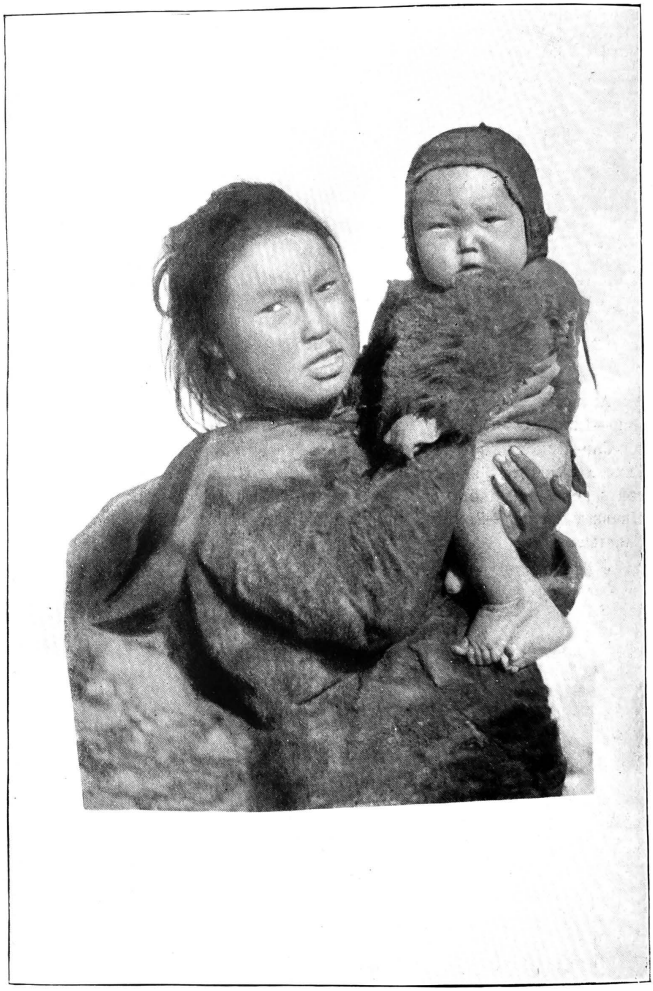
I did my best to make the end of my alpenstock bite into the snow, and just as everything was becoming invisible in our mad rush, I succeeded, with the result of hurling Matt, who was behind me, over my head upon the snow in front, and bringing the poor dogs up with a thump and a yelp in a breathless mass against the upstanders. After this, we went on more carefully and soon reached the house.



CHAPTER VIII.

PREPARING FOR THE ICE-CAP CAMPAIGN.

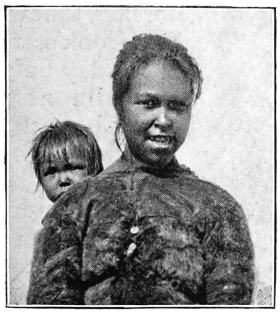
An Anxious Episode—Jack Rescued at Last—Wild Weather—The Grip—Ikwa Ices his Sledge Runners—Spring Hunting—A Trip to the Ice-Cap—Lunching in Comfort in a Temperature of −32° F., 3825 Feet above the Sea—New Visitors from Cape York—Weather Reports from all along the Coast—A Mild Winter—Sledge Trips to Herbert Island—Sending Supplies to the Ice-Cap—My Eskimo Mail Carrier



WOMAN AND CHILD.

CHAPTER VIII.

PREPARING FOR THE ICE-CAP CAMPAIGN.



AFTER lunch, on Friday, February 19th, Astrüp and Dr. Cook started off to build some cairns on the brow of the bluffs from Cape Cleveland to Three-Mile Valley. They thought they would make the ascent at Cape Cleveland and started in that direction. Old Arrotoksoah and his wife left us at eight A.M. for Netiulume, and a little later, Ikwa started with his sledge and my one remaining Eskimo dog. This day, for the first time, we ate our lunch by daylight, the lamps being put out from one until two P.M.

While we were at dinner, Ikwa came back and said that in passing Cape Cleveland he had heard a small snow-slide. I thought nothing of this at the time, but about nine P.M. Arrotoksoah and his wife returned, having found the travelling over the Whale-Sound ice too rough for them. Old Sairey Gamp said she had heard Dr. Cook shouting and Jack barking as they were passing Cape Cleveland. I did not like the looks of this, and immediately told Gibson to get

ready to go down to the cape with me, and putting a flask of rum in my pocket, and taking my alpenstock in one hand and a bull's-eye lantern in the other, I started off with him.

We made good time to the cape, and just before reaching it, heard Jack bark well up the cliff in answer to my shout. Then we left the sledge track, and went directly to the signal flag, following Dr. Cook's track of the day before.



JACK.

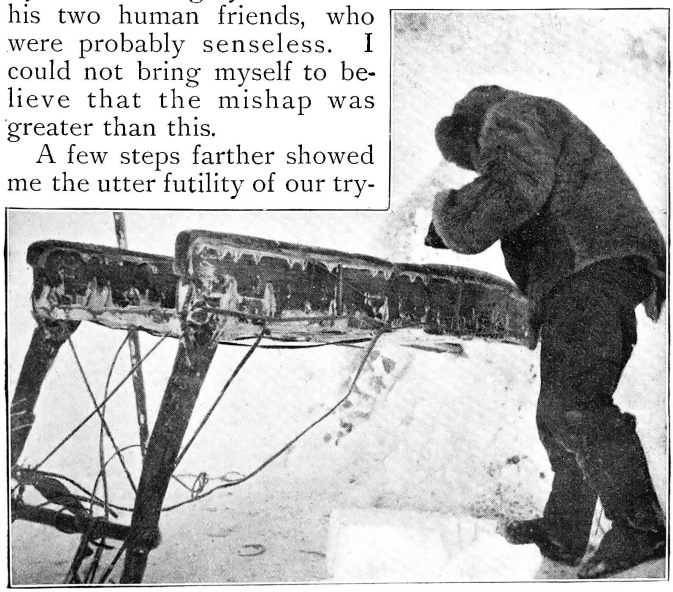
While at the signal staff, a mournful long-drawn-out howl broke through the gloomy, starless night, from the darker gloom of the bluff above us, and filled me with forebodings. I shouted Dr. Cook's name again and again, without answer, except Jack's dismal wail.

A few steps from the signal, we found the boys' tracks leading straight up the steep snow-slope towards the trap ledge, which I knew projected from the bluff about half-way up. Following the tracks as well as we could through the gloom, we found two or three places where the boys had slipped and slid some distance; and then, just as a particularly mournful howl came from Jack, I saw one of Dr. Cook's snow-shoes

lying on the snow, where it had fallen from above. A little above it, breaks in the snow looked as if made by the spent debris from a slide arrested some distance up, perhaps at the trap ledge.

Again my shouts elicited no answer, save Jack's doleful howls, and the rustle of the biting wind. The whole thing seemed clear to me. The boys, in going up, had detached some of the rotten masses of trap, which had fallen upon them and either pinned them down or crippled them so that they could not move. Dr. Cook was still able, when the old couple passed, to call to them, but now he had fainted, or become numb with cold; Jack, with a dog's instinct of calamity, was howling by the side of his two human friends, who were probably senseless. I could not bring myself to believe that the mishap was greater than this.

A few steps farther showed me the utter futility of our try-

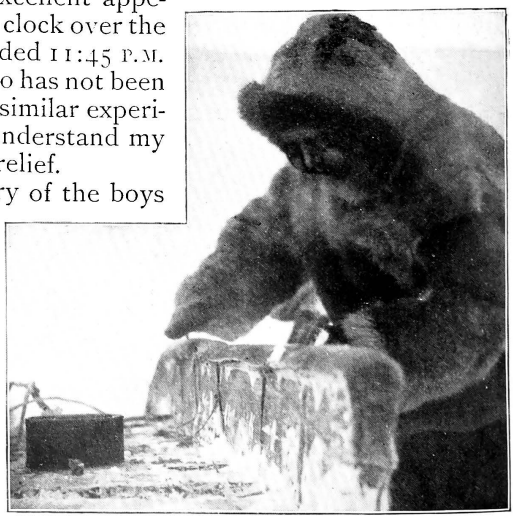


SHOEING A SLEDGE WITH ICE.

ing to go up in the darkness without lines or hatchets. The cold alone, I felt sure, would not endanger the boys, as the temperature was comparatively mild ($-3\frac{1}{2}°$ F.), and both were clad in complete reindeer suits.

The proper way was to return to the house with all possible speed, and come back with the three natives, Verhoeff, sledges, lines, sleeping-bags, lights, and everything necessary to get the boys down without delay as soon as we reached them. I need not say that I led the return to the house at a half-run, and long before reaching it, had decided what every man should do, so that we could start back in less than ten minutes. I pushed open the door with the first order on my lips, but the spectacle before me left it unuttered.

There sat the two boys at the table eating their supper with excellent appetites. The clock over the table recorded 11:45 P.M. No one who has not been through a similar experience can understand my feeling of relief.



SHOEING A SLEDGE WITH ICE

The story of the boys was soon told. They had had much trouble in getting up the slope, and it was already getting dark when the old couple

passed the cape, the boys being less than half-way to the summit. The ascent was so steep, however, that to return was impossible, and so, laboriously cutting steps with the heels of the Doctor's snow-shoes, the only implement they had, they climbed slowly up, hanging on by tooth and nail, and finally reached the plateau at the top. Jack, who had followed them, had gone part way up the cliff and then could not go farther. Travelling along the plateau to Mile Valley, they descended there, and returned to the house over the bay ice.

This incident perhaps seems trivial. Possibly without my being aware of it, the gloom of the Great Night had rendered me abnormally susceptible. Yet the memory of that time when Jack's mournful howl fell through the gloom of the sombre starless night upon my ears, and I pictured my comrades lying up there crippled or dead, and thought of the crushing possibilities of the catastrophe, always comes back to me as a nightmare.

There was reason for my fears. Six months later, another of my party, young Verhoeff, passed to the unknown in the full light of the long summer day, under circumstances which previous to the catastrophe seemed less fraught with possibilities of danger than those here described.

The next day, with Mrs. Peary and Astrüp, I went down to the cape to rescue Jack, who had not been able to get down, but before we could get steps cut up the bluff to him, night compelled me to give up the attempt.

Sunday night, February 21st, all my family, four-footed as well as biped, were again safe within the precincts of Red Cliff House. During the day Dr. Cook and I had rescued Jack from his unpleasant perch up the Cape-Cleveland bluff, in the midst of a succession of violent snow-squalls which blinded and

half-suffocated us, and almost tore us from our precarious position, where, flattened against the bluff, we clung with hands and feet to shallow steps which we had cut with hatchets in the snow and ice.

It was with a feeling of relief that I finally reached the foot of the cliff with the whining and trembling brute, my face stung almost to bleeding with the snow, and arms and legs aching from the continued grip upon the steps.

On our return, we met Mrs. Peary, who had started to bring us some lunch, but had been blinded and bewildered by the snow, and actually hurled from her feet by the fury of the wind, which obliged her, bruised and breathless, to creep for shelter among the blocks of the ice-foot.

It had been a savage week. The wild rush of the föhn, with its phenomenal high temperatures through this region, had transformed the atmosphere into a tumultuous cauldron of fierce winds which even the returning cold had not yet fettered.

The week beginning Monday, February 22d, introduced a surprising experience in arctic regions. Some of us were attacked by an ailment that was unmistakably the grip, and we did not recover from its effects for several weeks. On Tuesday, Mrs. Peary was violently ill, and the ailment soon became epidemic at Red Cliff. We thought the outbreak was traceable to the extraordinary storm of the previous week. Mrs. Peary, Gibson, and both of my Eskimo women, with their babies, were the first victims, and none of us entirely escaped, though my share of the infliction did not come until March 28th, when I was confined to the house for several days.

Of course the Red-Cliff colony celebrated Washington's birthday. We spread an appetising banquet, and our usually simple fare gave way to a bounteous

supply of broiled, guillemot breasts, venison pasty, pandowdy, green peas, corn, liebfraumilch, and chocolate. Gibson set out with his rifle to look for the seals I had seen off Cape Cleveland, and Annowkah went up the bay to hunt for seal holes. Gibson returned without seeing any seals, but Annowkah reported a seal hole and saw a deer in the neighbourhood of Mile Valley. Ravens were flying over the house, and other signs of returning animal life were increasing. At noon on March 2d, the thermometer registered −43° F.

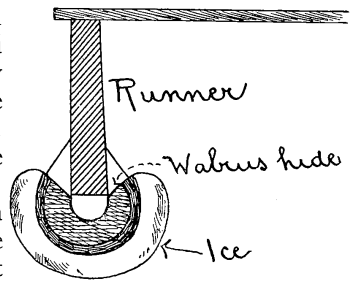


MATT AND ANNOWKAH RETURNING FROM THE DEER HUNT.

I drilled through the bay ice east of the tide gauge and found its thickness to be three feet eight inches. The February thaw, together with a blanket of snow, had stopped all increase in the thickness of the ice for

several weeks. The snow on the ice weighed it down till the water rose nearly to its surface. The low temperatures resulted in numerous mist-wreaths along the shore of the bay and the icebergs, and our ice for melting purposes, when brought into the house and dropped into the pails of water, snapped, crackled, and fell to pieces. The sound reminded me of the crackling of wood in pleasant fireplaces in the home land.

The low temperatures also led Ikwa to give his sledge shoes of ice, a process that interested me very much. First, he covered the bottoms of the runners with a continuous strip of thick walrus hide, $2\frac{1}{2}$ inches wide, with the hair on. This was fastened on by rawhide lashings passed through slits cut in the edges. When this was frozen hard, a coating of snow dipped in warm urine was applied and shaped and pressed with the hands, until the entire length of the runner was covered three-fourths of an inch to an inch thick. This, in turn, was allowed to freeze solid, and then chipped and smoothed with a knife, and finally rubbed down with the hand dipped in water. Here is a section of the finished runner.



SECTION OF ICE-SHOE.

On the night of March 2d, with the temperature —35° F.—Kennan's limit of comfort in Siberia—I took my reindeer bag and slept outside on the snow. Leaving the house, dressed in my complete fur travelling suit, I took a walk on the bay, and then returning, undressed in the open air, to my undershirt and a

pair of reindeer socks, got into my bag, arranged it all without the stimulus of food or hot tea, and in a few minutes was comfortable, and slept well through the night.

Thursday morning, March 3d, Matt and Annowkah started after deer to the head of the bay, with the *Princess* sledge, sleeping-gear, and five days' provisions. Jack, my Newfoundland dog, easily dragged their sledge, weighing over 150 pounds, along the ice-foot. Next day, Ikwa, who had gone around Cape Cleveland after deer, returned with a fine animal, and this opened the spring hunting season.

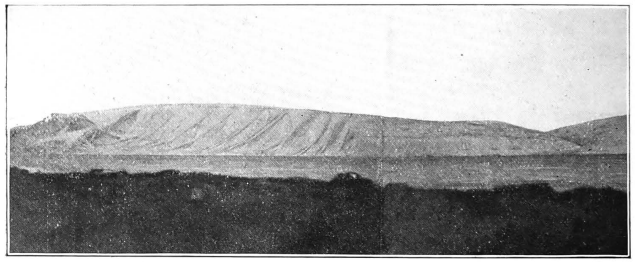


ESKIMO BITCH AND PUPPIES.

From noon until sunset on March 4th, there was a parhelion, of which only the upper and right-hand images were visible, the rest of the phenomenon being hidden behind the cliffs, and the sun being too

low for the lower image. After the sun got past Cape Cleveland, there was a bright pencil of light streaming upward from the orb and about eleven degrees long. The angular radius of the parhelion circle was 22½° F. For the appearance of the parhelion, see page 243.

After lunch, Sunday, March 6th, Matt and Annowkah returned, having shot four deer. They had slept in a snow igloo and suffered no discomfort, though the outside temperature had been from −40° F. to −50° F. at Red Cliff House, and possibly lower where they were. It should be remembered that one of these men was of African descent, and his only experience of tempera-



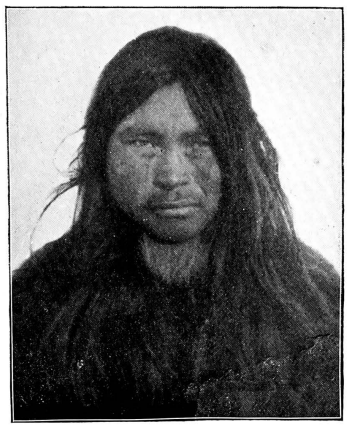
ICE-CAP BEYOND FOUR-MILE VALLEY.

tures away from his home had been gained in the tropical climate of Central America. The season had opened very auspiciously. Our total record now was thirty-six deer. The spring deerskins were quite different from those secured in the fall, being much lighter and thinner as to the leather. The fur was as heavy, but seemed to have no adhesion to the skin, and we were unable to make any use of them.

About 4:30 P.M., on March 8th, the sun, just before setting, shone, for the first time, on the house, and on the 14th, it shone for the first time on the window of my room.

Late on the afternoon of March 12th, Gibson and Annowkah returned from a hunting trip to Five-Glacier Valley with two deerskins on the sledge. Gibson had left the house with a formidable equipment to protect him against the cold, but had never opened his clothes-bag, and had left it on the bay ice all the time he was hunting. He said the temperature in their snow igloo was from +40° F. to +45° F.

Saturday, March 19th, my Eskimo bitch gave birth to a litter of nine pups, only one of which was a male. Later I observed, frequently, this disproportion of the sexes among the dogs, and noted the same peculiarity in the proportion of the sexes among the natives. The female children are considerably in excess of the males. This seems a wise provision of nature to continue the species. I completed my sledge the same day, and was much pleased with it. It weighed twenty pounds, was twelve feet five inches long, thirteen feet one inch long from tip to tip of runners, and sixteen inches wide.



KOKO.

Monday, March 21st, I started early for the ice-cap east of Four-Mile Valley, to observe the conditions on the Inland Ice, which was soon to be my route to the far North. The morning was clear and calm. I took with me my lunch, a rifle, an aneroid, thermometer, and snow-shoes. My costume consisted of a very light

woollen undershirt, a pair of light woollen socks, a pair of blanket foot-wraps, a light woollen skull-cap, a reindeer-skin kooletah, a pair of dogskin trousers, a pair of kamiks, and a pair of deerskin and blanket mittens—a total weight of about twelve pounds—less than that of a winter costume at home.

On leaving the bay, I put on my snow-shoes and kept them on until I reached the ice-cap. In the narrow part of the valley, most of the surface was covered with ice, formed after the February rainstorm, and in places the bed of the valley torrent showed that there had been a considerable stream running there during the storm.



THE WIDOW NUIKINGWAH.

On the ice-cap a fresh breeze was blowing, and though the sun was shining brightly, and there was blue sky overhead, all the upper part of McCormick Bay was hidden by lead-coloured cumulus clouds, and Inglefield Gulf lay invisible behind a dazzling white mist. I took off my snow-shoes, the surface being so hard that my feet made no impression on it, and walked along briskly over the marble pavement. Every inequality had been formed by south-east winds; and it seemed to me that on the ice-cap proper the wind must blow almost invariably from a direction between south and east.

On the top of the first swell of the ice-cap, at an elevation of about 3000 feet, I was surprised to find coarse, granular ice similar in appearance to places on the bay where the wind had scoured the snow away.

Beyond this there was hard snow again. At an elevation of 3825 feet, I surmounted the second swell and had before me, apparently, an extensive level, although the snow-drift may have been deceptive.

Here I took my lunch, seated upon the snow, with my back to the wind; and although it was blowing a gale, and the air was thick with drifting snow, while the swinging thermometer read $-32°$ F., I ate my lunch deliberately and in comfort. So much for reindeer clothing. Had I been clad in woollens I could not have remained quiet an instant.

Turning back and scudding before the gale, it did not take long to reach the head of the valley. I was fairly blown down the gorge and out into the bay, where I found the faint sledge trail and followed it through the blinding drift by feeling, rather than by sight, till I reached the house. I was much pleased to attain the elevation of 3800 feet on the Inland Ice, so easily and quickly. I was also interested in these meteorological notes[1]:

Temperature on the bay in the shade	$-31°$ F
Temperature on the bay in the sun	$-29°$ "
Barometer	29.98 "
Attached thermometer	$+52°$ "
Temperature in the valley at an elevation of 1400 feet	$-25°$ "
Temperature in the valley, thermometer exposed to the sun against a rock	$-15°$ "
Barometer	28.50 "
Attached thermometer	$+72°$ "
Temperature at the summit	$-32°$ "
Barometer	26.07 "
Attached thermometer	$+40°$ "

The temperatures shown by the attached thermometer of the aneroid are interesting, as giving the

[1] The thermometer was a mercurial swing (H. J. Green, No. 6651). The barometer was a Keuffel and Esser 1¾-inch aneroid reading to 8000 feet.

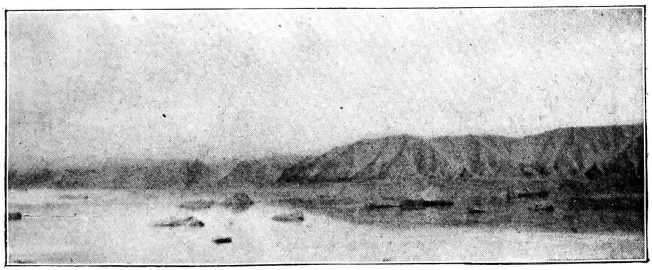
temperatures inside my kooletah. The barometer was carried suspended from a string about my neck and hung on my chest between my kooletah and undershirt. The temperature of +52° F. was the comfortable warmth produced by brisk walking on the bay; the high temperature of +72° F. was caused by the exercise of climbing up the steep valley in the sun; and the low but not uncomfortable temperature of +40° F., by my cessation of exercise while eating lunch in the thirty-two-degrees-below-zero gale on the ice-cap.



THE WIDOW'S MITE.

March, on the whole, was a blustering month, with many snow-squalls and very low temperatures during the first part. The week following my reconnaissance of the ice-cap was one of continuous blustering weather. The wind howled over the cliffs and about the house, like a pack of wolves, and the air was constantly full of a blinding drift of snow. No phase of the weather, however, interrupted our busy preparations for the coming campaign. As soon as we could see to work out-of-doors, in the latter part of February, we were busy with sledge-making and other articles of our outfit, in temperatures of −19° F. to −25° F. In these temperatures I usually worked in my dogskin trousers, an undershirt, and a guernsey. Saturday afternoon, March 26th, it cleared, and Northumberland and Hakluyt Islands were visible for the first time in six days.

There was, however, no doubt in my mind that the winter, as a whole, had been mild ; that there had been an unusual amount of open water in Smith Sound ; and that the heavy, and I think exceptional, snow-fall had kept the ice comparatively thin, which would facilitate its breaking up early in the summer. The month went out like a lamb, with occasional sunshine and a little light snow. On the side of the roof exposed to the sun, the thermometer, laid on the tar red paper, read $+32\frac{1}{2}$ ° F. The snow was disappearing in the form of vapour, and there were little tricklings of water down the tarred paper.



EASTERN END OF HERBERT ISLAND.

On Monday, April 4th, our old friends, Klayu, the widow, with her two daughters, Tookumingwah and Inerleah ; Nuikingwah, another widow, with her child, whom we had not seen before, and two men, came in from a little north of Cape York. They said there had been much wind there during the winter. The prevailing wind at Cape York had been from the south, but all along the north coast the wind had come from off the shore. There had not been much snow, nor had it been very cold. Off Akpani (Saunders Island) there was open water and the ice was thin. One of the men put his hands about fifteen inches

apart, to show the thickness of the ice. During the forenoon a very affectionate couple came in on foot, the man with an old rifle with the stamp, "Tower, 1868," on it. I was up till after midnight, taking photographs of the new subjects.

On Tuesday, April 5th, I sent Gibson with Kessuh and his five dogs, to take Inland-Ice supplies to the head of the bay, and then go to Five-Glacier Valley, to hunt deer for several days. I hired three fine dogs for the Inland-Ice trip, and immediately started with them for the east end of Herbert Island, partly to get

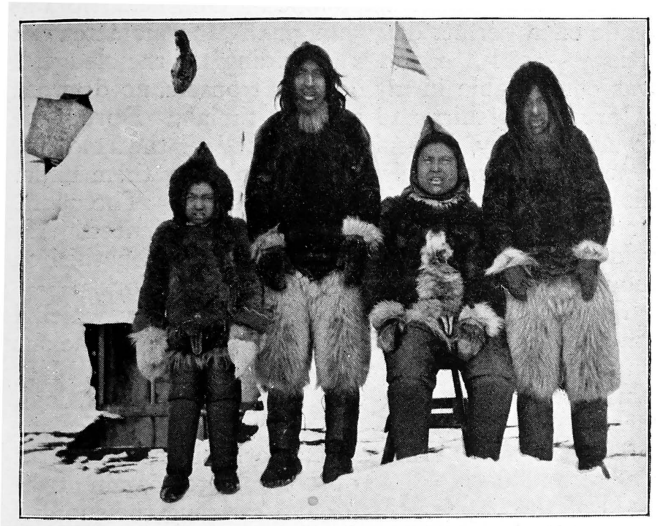


THE FIRST LOAD FOR THE ICE-CAP.

some blubber cached there, for Megipsu and her family, and partly to try the dogs. Astrüp and Annowkah accompanied me, and I took my long sledge. We left Red Cliff House at 10:15 A.M., passed Cape Cleveland at eleven o'clock, and reached the east end of Herbert Island at three P.M. There we found several ruined stone igloos, two of which had been fixed up and made habitable. They were built of large red sandstone slabs.

The extreme east end of Herbert Island is a fine bold cliff of dark red sandstone, with a cap one hundred

to one hundred and fifty feet thick of lighter sandstone. The entire end of the island is unscalable. I stopped long enough to make tea and take our lunch in one of the igloos, dig out the blubber from its pile of stones and get it down to the sledge. Then, at 5:30 P.M., we started on the return. With a gross load of about three hundred pounds, the dogs went along very well for some time, but getting tired, and I having broken my whip, they shirked their work, and Astrüp



TALAKOTEAH AND HIS FAMILY.

and Annowkah had to take turns pulling with them. At 11:15 we passed Cape Cleveland again, and at 11:55 I entered Red Cliff House, having been absent $13\frac{3}{4}$ hours, of which $11\frac{3}{4}$ were spent travelling.

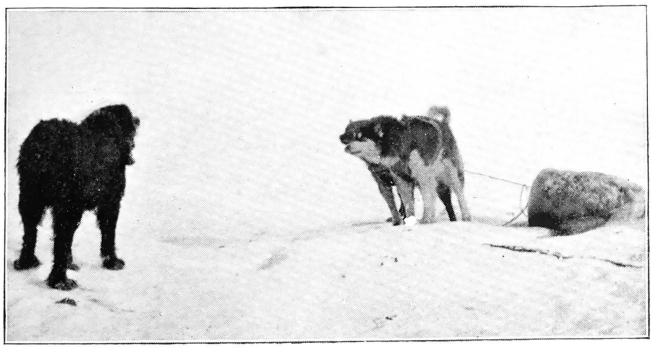
Friday, April 8th, Gibson and Kessuh returned in the afternoon, having had no luck hunting. I

purchased all five of Kessuh's dogs. Next morning, I started again with Kessuh, six dogs and sledge for the east end of Herbert Island. We reached the island at three P.M., got a little dog meat, travelled along the north shore of the island, dug out two cached seals, and reached home at 11:45 P.M. The distance from Red Cliff House to Kioktoksuami, at the east end of Herbert Island, and return, by odometer, is 28.12 miles, so that my new sledge on the two trips had travelled about sixty miles. Our last trip was made on a perfect day, though the thermometer was below −20° F. Even while riding on the sledge, I was comfortable in my dogskin trousers, no drawers, a Jaros undershirt, and sealskin timiak. During the return journey, Kessuh complained of the cold and repeatedly warmed his hands by placing them under his foxskin coat upon his bare stomach. The operation gave me the first shiver I had experienced. He told me he knew of large iron rocks (probably the iron mountains of Sir John Ross) near Cape York.

Sunday, April 10th, was a beautiful day, which I gave up entirely to reading and basking in the sun on the roof. On Monday, April 11th, Astrüp, Matt, Kuku, and Kyo, with one sledge and eight dogs, started for the head of the bay with supplies for the Inland-Ice trip. Matt returned at eight P.M., with the sledge and dogs. The others were to remain at the head of the bay for three days, carrying the supplies up on the Inland-Ice and hunting deer. Mrs. Peary and I were busy preparing pea soup and bacon-fat briquettes for the ice-cap journey.

Tuesday, April 12th, Kessuh started off with a gun in the forenoon after seals, and while we were at lunch he returned with a family consisting of Talakoteah—father, Arrotingwah—mother, Ooblooah—son, and Nettuh—daughter, from Cape York. Return-

ing behind their sledge was poor old Frank, one of my Newfoundland dogs. He always seemed to prefer native society to ours, and had strayed away with a departing company of Eskimos about three months before. He returned poor in flesh, scarred, limping from many battles with the wolf-fanged Eskimo dogs, and scarcely able to move, but he showed the same curled lip by way of a smile as of old, when I spoke to him, as he struggled up the path and threw himself down. The poor old veteran had had a hard winter of it. Some one had tied around his neck a bearskin collar, whether as charm or token of reverence I do not know.

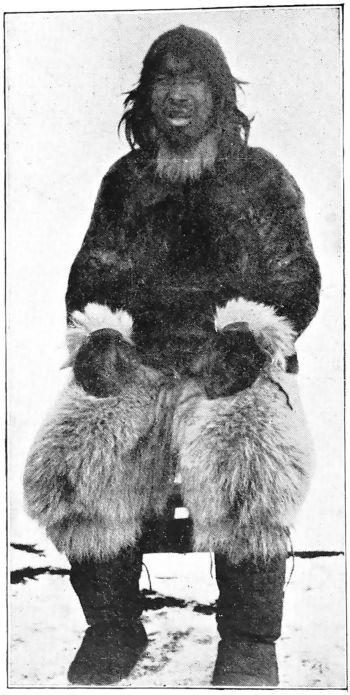


FRANK, THE RETURNING PRODIGAL.

Thursday, April 14th, I sent Matt to the head of the bay with 145 pounds of pemmican. The other party returned at dinner time from their work at the head of the bay. Astrüp had secured one deer, and taken six loads up the bluff to the ice, leaving nine loads on the shore. Matt returned at eight P.M., having left his load of pemmican at Hanging Glacier, on account of the snow. Saturday about midnight, an-

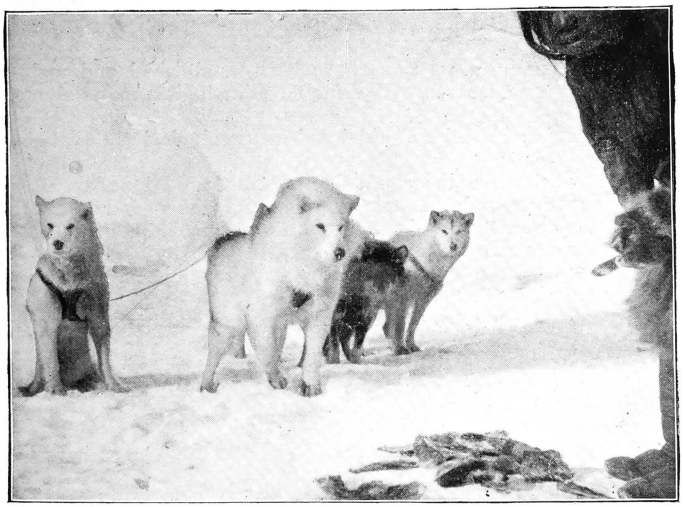
other family of Eskimos, a man, woman, and little boy, and, best of all, four dogs, arrived. The dogs were immediately purchased.

In the morning, Talakoteah, his wife, boy, and girl, with Kessuh and Klayu's little girl, left us. Talakoteah took letters which he promised to give to any whaling captain whom he might see at Cape York. It was a novel sensation to see him leave us carrying a mail. This native was about to return to his home, over two hundred miles south of us. It was the first time that an explorer had confided to any of the Arctic Highlanders mail matter intended for civilised lands. I believed that the Eskimo, some time during the season, would have an opportunity to give the letters to the captain of one of the whalers which every year reach the neighbourhood of Cape York and then cross over to their whaling grounds in Lancaster Sound. If we were not able to communicate otherwise with civilisation that year, I thought there was a strong probability that this mail, in the course of the year, would reach America and inform our friends how things had



MY ESKIMO MAIL CARRIER.

gone with us during the long winter night and up to the time that we were about to begin our sledging work. I gave my mail carrier a hatchet by way of postage, and he faithfully carried out the trust. He gave the package of letters to Captain Phillips of one of the Dundee whalers and in due time they reached London. When forwarded to the United States, the package bore the date, "London, December 7th, 1892." The letters reached their destination about three



SOME OF MY DOGS.

months after my return home. One of them, addressed to "The Philadelphia Academy of Natural Sciences," was as follows:

"RED CLIFF HOUSE, WHALE SOUND, April 15, 1892.

"I send this letter by an Eskimo returning to his home at Cape York, with the expectation that he will hand it to the cap-

tain of one of the whalers. Although I expect to be home before this can reach you, I send it in view of possible contingencies.

"I am very glad to say that the programme of the expedition has, with one exception, been carried out to the letter up to date. The one exception is the failure, after two attempts, to establish an advance depot at Humboldt Glacier last fall.

"My party has passed through the ordeal of the dark night without injury and is now in good condition. I have a complete equipment for the Inland-Ice trip, obtained partly by trade with the natives, but mostly through our own exertions. My party has obtained forty-one reindeer, eleven walrus, four seals, one *oogsook*, and some three hundred guillemots and little auks to date.

"The friendliest relations have been established and maintained with the natives, and valuable ethnological material obtained.

"A continuous series of tidal and meteorological observations have been taken.

"I shall start for the south side of the Sound Monday, after additional dogs, and, if successful in obtaining them and the snow is not too deep, shall make the round of Inglefield Gulf, returning in time to start on the Inland Ice May 1st.

"A large portion of my supplies have already been carried up to the ice-cap at the head of the Bay.

"The winter has been a mild one and marked by great snowfall.

"In the middle of February a furious, two days' rain-storm denuded portions of the country of snow and threatened Red Cliff House with inundation.[1]

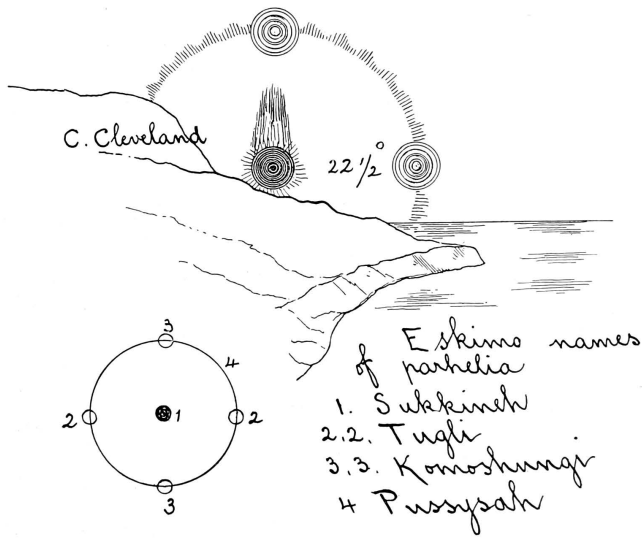
"(*Signed*), R. E. PEARY, U. S. Navy."

[1] By a singular coincidence, this letter and a personal one to Gen. I. J. Wistar, the President of the Academy, thanking him for his powerful assistance in obtaining leave for me to undertake a second expedition, were both read at the same meeting of the Academy. In the interim between the letter leaving me, tucked in the corner of Talakoteah's sealskin bag, and its arrival at its destination, I had made my trail across Greenland's icy ice-boss, to within eight degrees of the Pole, had returned to Red Cliff, had steamed from there southward some three thousand miles, had had a two months' rest, had seen that the time and the occasion were ripe for another blow at the White North, had, through the influence of Gen. Wistar and powerful friends, obtained the necessary leave, and was already busy with preparations for the next trip.

Easter Sunday, April 17th, was an exquisite day, but a busy one, for we had many preparations to make for our start next morning on the sledge journey around Inglefield Gulf, which Mrs. Peary and I were going to make.

I gave Kyo a gun and sent him out after seal, and he soon returned, having shot the first seal of the season.

I now had fourteen serviceable dogs, not counting old Frank, and this meant much for the Inland-Ice trip. Everything looked bright for the long journey into the unknown, towards which all these months of work and waiting had constantly tended; and I was happy in the thought that at last we were on the very threshold of the undertaking that had brought us to the "White North."



CHAPTER IX.

AROUND INGLEFIELD GULF BY SLEDGE.

THE START—OPEN WATER—A SNOW VILLAGE—OLD FRIENDS AND NEW—A RICH HARVEST OF SEAL—SLEEPLESS NIGHT IN A NATIVE IGLOO—MERKTOSHAR, THE ONE-EYED BEAR-HUNTER OF NETIULUME—PURCHASES OF DOGS AND FURS—ITTIBLOO AND ITS GLACIER—MY WOLF TEAM—INACCURACY OF THE CHARTS—REMARKABLE PANORAMA OF MOUNTAIN AND GLACIER AT THE HEAD OF THE GULF—AN INVOLUNTARY BATH—HOME AGAIN.



ESKIMO SLEDGE-TRAVELLER AND DOGS.

CHAPTER IX.

AROUND INGLEFIELD GULF BY SLEDGE.



AFTER three weeks' postponement of my proposed trip around Whale Sound and Inglefield Gulf, due first to thick weather in the latter part of March, then to my own inopportune attack of the grip, the effects of which clung to me after the original attack was over, and succumbed finally only after two vigorous tramps to Herbert Island and back to Red Cliff, I at last got under way at noon on Monday after Easter, April 18th. The purpose of the trip was threefold; to complete the necessary complement of dogs for the ice-cap march; to purchase furs and materials for our equipment; and as far as practicable map the shores of the great inlet. The day was clear and bright, with a mild south-westerly wind, the temperature about 11° above zero. The party consisted of Mrs. Peary, Gibson, Kyo (Father Tom), my driver, and myself. I had two sledges and ten dogs. The supplies for a week's journey about the Gulf and sleeping-gear and miscellaneous equip-

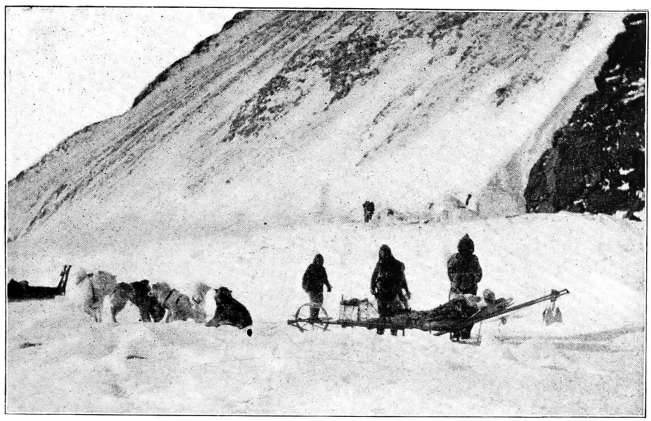
ment were packed upon the larger of the two dog sledges which I had myself built at Red Cliff during the winter. To this sledge were attached seven dogs, with Kyo as driver, Mrs. Peary and myself tramping beside or in the rear of the sledge, as fancy or the condition of the snow dictated. Gibson had the second sledge, which was like the large one, though lighter and smaller, and three dogs for his team, as he had practically no load. He was not to make the entire round of the Gulf with us, but simply to accompany us as far as Keate, where I expected to purchase a load of walrus meat for my dogs, and have him take it back to Red Cliff. Panikpa, with his wife Irkolinea and their dwarf child, with a sledge and four dogs, started with us, intending to accompany us part way.



PANIKPA AND HIS FAMILY.

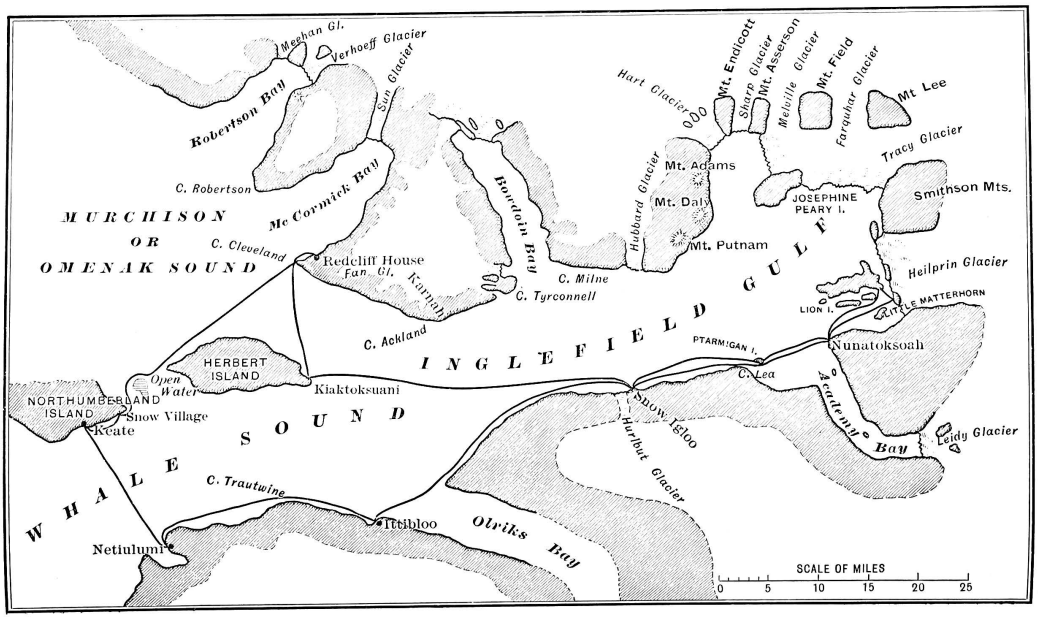
As we passed down over the ice-foot and out upon the surface of the Bay, the northern shores of Herbert

and Northumberland Islands stood out sharp and clear against the blue of the south-western sky. Looking south-west to Cape Robertson and the distant cliffs of Peterahwik beyond, I was reminded very strongly of the view northward along the western shore of Disco Island as the *Kite* began to swing into a northerly course after leaving Godhavn. Passing rapidly along the now well-beaten highway to



AT THE SNOW VILLAGE.

Cape Cleveland, I was again very forcibly impressed with the great similarity between the northern shore of Herbert Island and the south-eastern shore of McCormick Bay, and the sharply marked difference of character between Herbert and Northumberland Islands. Northumberland is evidently a part of the same dark granite formation that walls Robertson Bay in towering grandeur, while Herbert Island is a part of the same crumbling, disintegrated sandstone and drift formation which reaches from Cape Cleveland to Bowdoin Bay in Murchison Sound.



SLEDGE TRIP AROUND INGLEFIELD GULF.

At Cape Cleveland we separated, Panikpa with his equipage keeping along the beaten path which wound away through the bergs to the deserted igloos of Kiaktoksuami, under the vertical walls of the eastern end of Herbert Island, while I, with the rest of the party, branched out on a new road, an air-line for the channel between Herbert and Northumberland Islands. A short distance away from Cape Cleveland we encountered disagreeable going in the shape of a broad zone of snow with underlying water, caused, undoubtedly, by the overflow from the tidal crack stretching from Cape Cleveland in the direction of Cape Robertson. After the first few steps in the freezing slush, Mrs. Peary, Gibson, and myself slipped on our snow-shoes, and as the sledges easily kept upon the surface of the snow, this threw the brunt of the disagreeable situation upon Kyo and the poor dogs, who struggled and floundered through the arctic morass, until at last we reached dry snow beyond it.

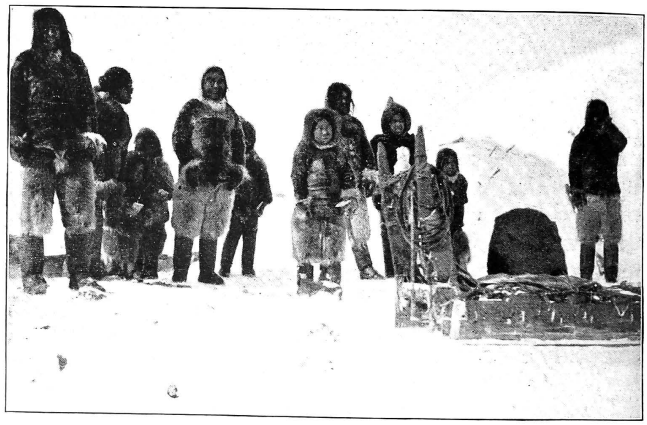
After this the travelling could be called quite fair, the white expanse of the frozen Sound stretching smoothly eastward into the recesses of Inglefield Gulf. Arriving at the western end of Herbert Island, seven hours from Cape Cleveland, I found a decidedly searching wind drawing through the narrow pass.

Stopping here for a few bearings, I had a good opportunity to observe the inaccuracies of all the charts in regard to this region. The charts place Hakluyt Island to the south of the western point of Northumberland Island, when, in reality, the island is open past the northern shore of Northumberland to an observer on the western end of Herbert.

At this point we came upon sledge tracks, and following them they led us across the channel towards the eastern end of Northumberland Island. As we neared the shore of Northumberland, the sledge tracks

became more numerous, and then we came, much to my surprise, upon an opening in the ice, perhaps two hundred yards wide, across which the black water was boiling swiftly, though not so swiftly as to prevent the playful gambols of several seals, that kept bobbing their heads up and treading water to have a good look at us.

The reason for all the sledge tracks was now evi-



INHABITANTS OF THE SNOW VILLAGE.

dent. Kyo was at once all excitement, and begged for my rifle to shoot a seal. He crept to the edge of the hole and then lay flat upon the ice, but with the peculiar Eskimo disinclination to waste a priceless bullet unless absolutely sure of the game, he waited and waited, throwing away chances that any other than an Eskimo hunter would take, until at last my patience was exhausted, and calling him back we resumed our journey. The presence of this pool of water would seem to lend colour to the statement ap-

pearing upon some charts, that there is open water in this channel throughout the year.

After leaving the open water, we found the surface very firm, the wind, which is always whistling through this narrow channel, having packed the snow or swept it away. So we were all able to ride upon the sledge.

We had been going on merrily in this way for some time when, as we neared the sharp point of rocks at



NETIULUME.

the south-eastern extremity of Northumberland Island, my team suddenly, without a movement of the whip, broke into a wild gallop and chorus of yells, and before Mrs. Peary and myself could recover from our astonishment, they had whirled us round the rocks, and dashed us up to the ice-foot in front of an Eskimo snow village.

By the time we could step off the sledge we were

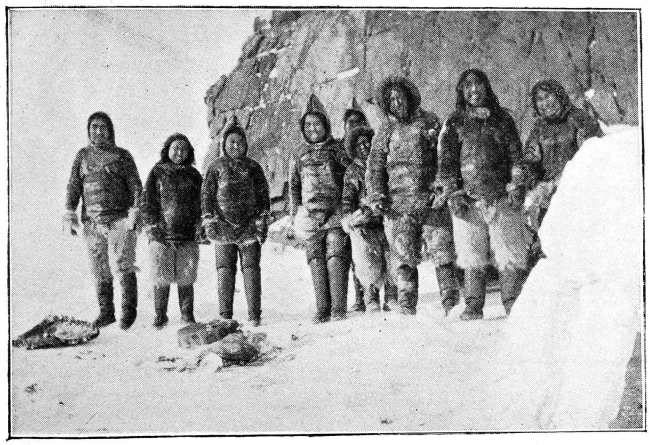
surrounded by the inhabitants, among whom we found several of our winter visitors from Cape York, also Ikwa and his family, and several natives whom we had not before seen. They had been attracted here by the open water and the seals, and the numbers of frozen seals lying about the houses and on the ice-foot showed that they were reaping a plentiful harvest. It was ten o'clock when we reached this village, and though still daylight, a fierce wind was sweeping down Whale Sound, whistling about the cliffs and gathering its forces for the approaching midnight.

Tahtahrah (the kittiwake gull), rather a pleasant-faced young fellow, who had been at Red Cliff during the winter, and who was now living here with his wife, father and mother, brother and brother's wife, placed his snow igloo, the largest one in the village, at the disposal of the *kapitansoak* and his *koonah* (wife), and the increasing violence of the wind made us glad to accept the proffered hospitality.

Our rest in this igloo, however, was neither sound nor refreshing. Mrs. Peary experienced constant and flagrant offence to every known and unknown sense, while I was still uncertain and a little distrustful of the natives in connection with my dogs, remembering my experience of the previous fall, when after purchasing dogs I loaned them to their original owner for a day and never saw them again. Consequently I was keenly alive to every sound from my team tethered out on the ice-foot, and frequently found excuses to go outside and see that the dogs were all right.

When the sun rose above the cliffs from his short midnight dip, Whale Sound, between us and Netiulume, on the mainland across the Sound, was a whirling mass of golden spray. The flying snow of the interior ice-cap swept down over the great glaciers at the head of Inglefield Gulf, then through Whale Sound,

and passed us, to be deposited at last out in the open North Water. Even the Eskimos shook their heads dubiously about going out in this blinding drift, and as we were not obliged to hurry, I waited at this village until ten A.M., when the wind subsided, and we started westward along the south shore of Northumberland Island, for the permanent settlement of Keate, about five miles distant. We were accompanied on this march by every man, woman, and child in the snow

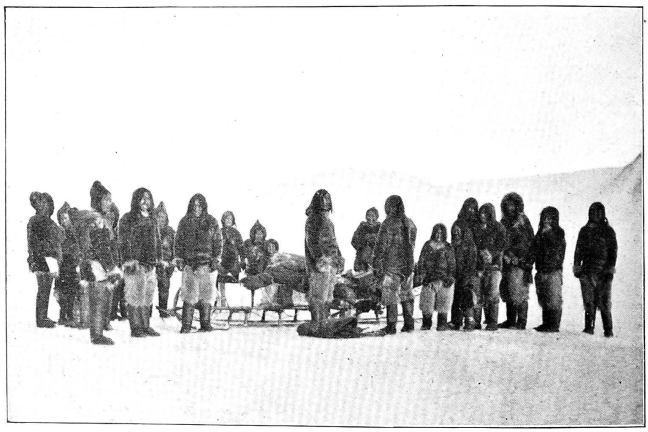


KEATE PEOPLE.

village that was able to walk, and as we moved along with the men beside or close behind our sledge, the women behind them, and the old men and children straggling along in the rear, I could think of nothing but a circus being escorted out of a country town by its admirers.

At Keate we found Ahngodoblaho, or "the dog man," as we called him, because we had first known him as the proud possessor of three magnificent Eskimo

dogs, trained to fight the polar bear, quick and powerful as wolves, yet apparently willing to be friendly. Here also we found Mahotia, or the "Comedian," as he had been nicknamed. These two men, with their families, were domiciled in stone and turf igloos, banked in now with snow, and still further protected by long, narrow, snow entrances, the houses built upon a little gently sloping plateau, a hundred feet or so above high-water line and beside a fair-sized glacier.

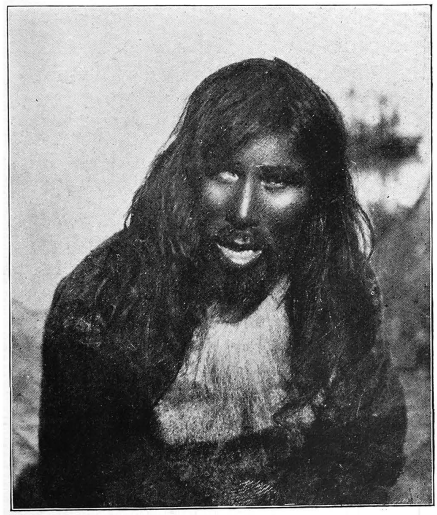


THE POPULATION OF NETIULUME.

Presents of smoked-glass goggles to the men, needles to the women, and biscuits all round to the numerous children, put our relations with the natives upon the most amicable basis, and in a very short time I had purchased the three fine bear-dogs from Ahngodoblaho, and a generous load of walrus meat for my dogs from the "Comedian." Within an hour after we had touched the ice-foot at Keate, Kyo's whip was cracking merrily as we dashed rapidly southward across the frozen surface of Whale Sound on a bee-

line for Netiulume, faithful Ikwa, with a scrub team of young dogs, following us; while Gibson, with his load of meat, and the rest of the natives, went back to the snow village on his way to Red Cliff. Four hours and a half later we dashed at the ice-foot in Barden Bay, above which are the houses of Netiulume.

Our coming had been seen by the sharp eyes of the natives long before we arrived, and everyone was out ready to greet us. We found here some forty-odd natives, comprising, in addition to the regular inhabitants of the place, some who had come up from Cape York, and were on their way to Red Cliff House, and some who had been at Red Cliff and were now resting here on their way south. Among these were Talakoteah, my mail carrier, Kessuh, the Cape-York dude, the widow and her swain, and Ahheyu with his little wife. Here, too, we found quaint old Arrotoksoah, or "Horace Greeley," and his wife, "Sairey Gamp."



MERKTOSHAR.

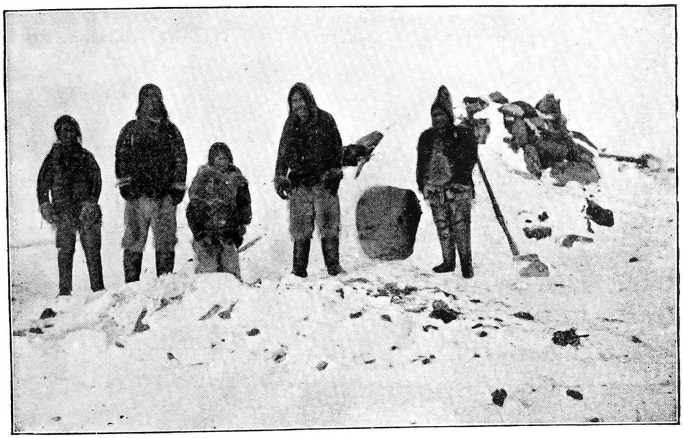
Most interesting to me of all these natives was Merktoshar, the one-eyed bear hunter, of whose exploits every native visiting Red Cliff had had something to say. And yet, though Merktoshar had an old rifle, for

which, of course, he must want ammunition, and though he lived but a day's sledge ride from Red Cliff House, he had never been to our home, and had never sent any message in regard to trading for ammunition. I was curious to see the man and find out whether he considered the white man an interloper, or whether he himself was too independent to call upon him. I found him extremely inoffensive in appearance, with his long black hair straggling in disorder over his one eye. I was soon on the best of terms with him, and had no trouble in negotiating for the two best dogs in his famous bear-pack. Merktoshar was actually stupid in appearance, and moved as if half asleep, and I made up my mind that his prowess had been very much overrated by his comrades in the tribe, and laid the fact of his not having come to Red Cliff House to inherent laziness. Later I knew him better, and found that that one eye of his, behind its veil of black hair, saw as much as any other two eyes in the tribe; and when I saw that same eye snap and glitter, and every nerve and fibre in his frame flash into quivering yet restrained excitement, at the sound of a singing harpoon line, with a huge walrus struggling to get free, I easily imagined him in a hand-to-hand struggle with his favourite game, the polar bear, the "tiger of the North."

Two hours and a half at Netiulume, only long enough for supper, and then we swung out upon the ice of the Sound again, and started on a trot eastward for Ittibloo, with Merktoshar's two dogs snarling and snapping like untamed wolves at one side of the team, and white Lion taking every opportunity to attack them and assert his supremacy as king of the team.

We passed a striking trap monument just east of Netiulume, and then glacier after glacier, until, at two

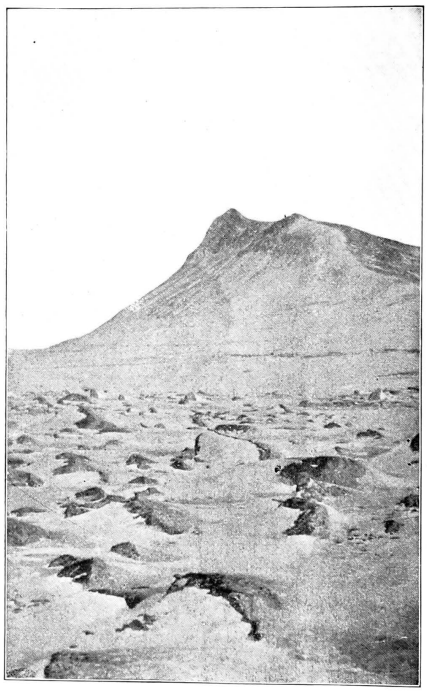
o'clock in the morning, we reached Ittibloo, situated upon a point jutting out from the south shore at the mouth of the Olriks Bay. Ittibloo is confounded on some charts, as, for instance, the Arctic chart of the United States Hydrographic Office, with Netiulume, or Netlik, as it is called on some maps, the Eskimo village in Barden Bay. At one time, Ittibloo was quite a settlement, there being six stone igloos on the



PANIKPA'S IGLOO.
Type of Permanent Winter Habitation.

point, and a very considerable burial-place. At the time of our visit, however, but one of these igloos was inhabited, and this afforded shelter to its owner, Panikpa, and his wife, Irkolinea, with their one child, and Panikpa's father, Komonahpik, with his third wife, Nooyahleah, and a young son of Tahwana, the Eskimo living at the head of the Gulf. The last three were visitors. Having been sixteen hours on the march, and having had no rest to speak of

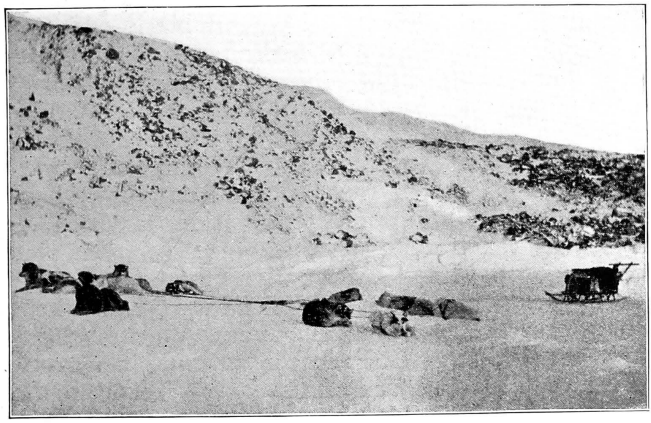
the previous night, we were, as can easily be imagined, good and ready for sleep. But even under these circumstances the proffered hospitality of Panikpa's igloo had no charms for us, and with the assistance of Kyo and old Komonahpik, I half built, half excavated, a small igloo in the deep snow just above the ice-foot, and we placed our sleeping-bags in it and turned in.



KIRSIRVIARSU.

After a good rest in this igloo we turned out, and after breakfast climbed to higher ground, which enabled me to get a good view into Olriks Bay. Here I set up my transit, and took a round of bearings and angles. This work completed, I made a brief reconnaissance of the neighbourhood and of the Ittibloo Glacier, which comes down through a narrow, vertically walled gorge in the mountains, just west of the village, then expands into a broad, fan-shaped extremity confined by a continuous terminal moraine.

My reconnaissance was not an extended one, owing to the extremely difficult character of the travelling. The furious föhn of the middle of February, with its burden of sleet and rain, as it descended over the southern cliffs of Whale Sound, had fallen with unrestrained fury upon the Ittibloo shore, had scoured every bit of snow from the land, and had left the rocks covered with a thick coating of ice, which seemed almost as if it had been fused to them, so firmly was



MY SLEEPING TEAM.

it attached. This fact and the extremely rough nature of the region made travelling a constant menace to feet and limbs.

At eight o'clock in the evening we were again under way, having added to my team four additional dogs which I obtained from Panikpa. One of these, I soon found, was in the advanced stages of the dog disease, and it was detached from the sledge and left behind before we had gone a hundred yards. This left me a team of twelve, and it was worth a long

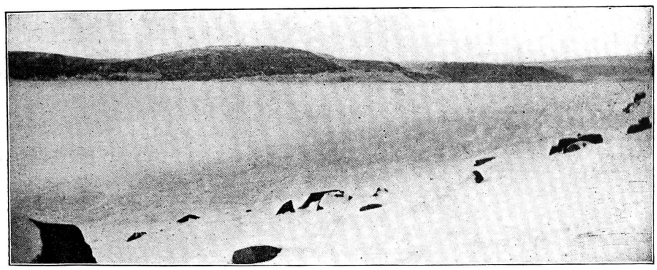
journey to see those twelve magnificent beauties, with heads and tails in the air, dash out upon the wind-hardened surface of the Sound in their long, wolfish gallop, a veritable pack of wolves in full cry after a deer.

Rapidly we dashed away across the mouth of Olriks Bay for the bold bluffs opposite, and I cast frequent and longing glances up the unknown recesses of that arctic fjord. Never had old Norse saga greater attractions for me as a boy than have these magnificent Greenland fjords, winding between black cliffs, receiving from every side the white tribute of the glaciers, and ending at last against the sapphire wall of some mighty torrent from the interior ice-cap, a torrent which no eyes but those of the reindeer and the arctic falcon have ever seen. Never have I passed the mouth of one of these fjords but that, without volition on my part, the determination has been recorded to penetrate its farthest recesses. But time was lacking now, and I was obliged to keep on.

After crossing the mouth of Olriks Bay, we kept along near the shore, finding very good travelling, until about three o'clock in the morning, when just as we rounded the face of the only glacier on the south side of Inglefield Gulf, between Olriks and Academy Bays, we came upon a temporary snow igloo, which we found to be occupied by Tahwana, with his *ipungah* (companion) Kudlah and their families. These Eskimos had left their common igloo at the head of the Gulf, and were on their way to Red Cliff, and it being now the season of the year when the seals bring forth their young in their snow houses near the icebergs, they were travelling leisurely, and living upon the fat of the land in the shape of both young and old seals, which they surprised in their retreats.

Stopping here just long enough to acquaint the two

men with the fact that I wished to purchase from them such material for clothing as they might have, we kept on our course to the head of the Gulf, the two men accompanying us, running alternately behind and alongside of the sledge. All the way up to this point from Ittibloo, I had been able to look directly into a very considerable bay on the north side of the Gulf, a bay extending about due north to the ice-cap, where it ended at two or three great glaciers, separated



LION ISLANDS.
Looking from Nunatoksoah.

by black nunataks. This was evidently the bay which Astrüp, in his ice-cap reconnaissance during August, had reported as cutting across his path, and which he and Gibson had reported as having seen, during their September and October ice-cap journeys, extending from near the head of Tooktoo Valley southward to Whale Sound. Now, as we proceeded up the Sound from Tahwana's temporary igloo, the panorama of Inglefield Gulf began to open out before me, and I recognised as a certainty what I had for some time surmised, that such maps as we have of

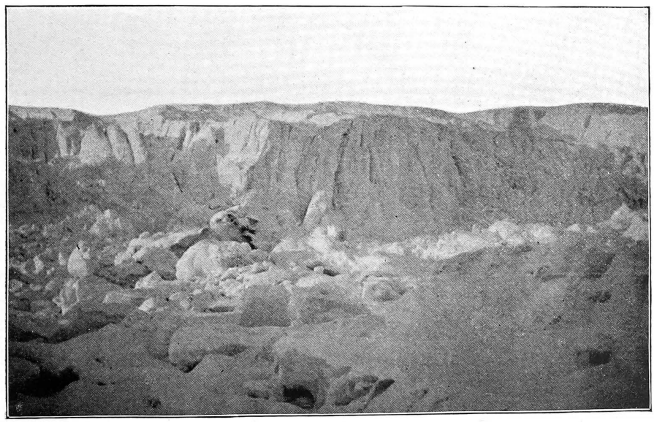
Inglefield Gulf and the upper portion of Whale Sound have been drawn entirely from the reports of the natives, and that no explorer's eye has seen this region beyond the range of vision from the eastern end of Herbert Island.

About six o'clock in the morning, we reached Academy Bay, and starting across it for the point on the opposite side where we were told Tahwana's igloo was situated, we reached, a short distance out in the Bay, a little gneissose island. As we had been travelling now nearly twelve hours, I decided to make our next bivouac here, which we proceeded to do by spreading our sleeping-bags upon a sheltered ledge at the foot of a vertical rock face exposed to the sun. Awaking several hours later rested and refreshed, we ate our breakfast and then climbed to the summit of the island, where I set up my transit, and took a complete round of angles and a continuous series of photographic views. From this little



ROCK STRATIFICATION.
North Side of Little Matterhorn.

island, which I named Ptarmigan, from the numerous tracks upon it, our course lay straight across the mouth of the Bay to Tahwana's igloo. Arriving here, I made no stop except to unload my sledge, and then, with Kudlah for driver, kept straight up the Gulf eastward for the great glacier, whose gleaming face we could distinctly see from the igloo. It was just after midnight when we left Tahwana's, and we found the snow much deeper and softer beyond here, and the travelling was conse-



FACE OF HEILPRIN GLACIER.

quently more laborious. Two or three miles before reaching the glacier itself, we passed a small island of rock, which, seen from the west, is such a perfect counterpart, on a small scale, of the Matterhorn, that I named it at once the Little Matterhorn. My objective point was one of the rocky islands, half buried in the face of the glacier, and probably destined soon to become a nunatak. Reaching the shore of this island and telling Kudlah to look out for the dogs and sledge, Mrs.

Peary and I put on our snow-shoes and climbed to the summit, over the rough rocks and across the deep drifts of snow. From this point we commanded the entire width of the great glacier, from the main shore of the Gulf to the south, and comparatively near us, northward to the distant Smithson Mountains.

An archipelago of small islands here is evidently a serious obstacle to the great glacier, and has resulted in deflecting the ice-stream north-westward, so that practically its entire outflow is north of the islands and between them and the Smithson Mountains. It is a mighty ice-stream, exceeding in size the glaciers of Jacobshavn, Tossukatek, or Great Kariak, and I christened it the Heilprin Glacier.

I was anxious to get northward into the north-eastern angle of the Gulf, and on descending to the sledge told Kudlah to drive in that direction. He said it would be very difficult and slow travelling, as the snow was always deep over there, and the sharp blocks of ice were troublesome. However, as I insisted on going, he cracked his whip and started the team in the desired direction. It was not long, however, before I found that Kudlah was right. As we got away from the south shore of the Gulf, I found the snow increasing in depth and lightness, and the sharp fragments of ice from the glacier, which had been caught in the new ice when it formed, and which we now found thickly scattered along our course, their sharp edges completely hidden beneath the soft snow, threatened almost constantly the destruction of my sledge runners. Under these circumstances I was constrained to halt at the most northerly island of the group, and while Mrs. Peary curled herself on the sledge in the sun for a nap, Kudlah and myself climbed to the summit of the island for another round of bearings.

On this island we found deer tracks so fresh that I have no doubt one or two of the animals were on the island at the time of our visit; but I had no time to chase them, and, descending to the sledge, we started back for Tahwana's igloo, and reached it again after an absence of ten hours.

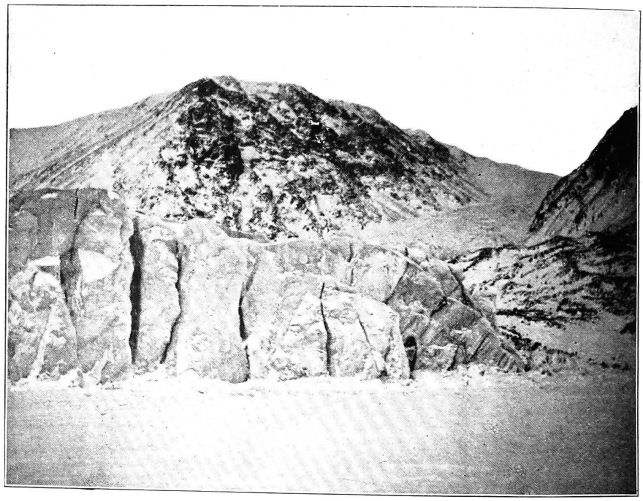
Again we resisted the seductive luxury of a native igloo, and spread our bags upon the bay ice on the



TAHWANA AND HIS FAMILY.

sunny side of the ice-foot; but, as it was our first, I think it will be our last selection of such a place for a camp. After sleeping I know not how long, I was awakened by unpleasant sensations, and found my sleeping-bag full of water, and the site of our camp transformed into a pool of semi-liquid slush, caused by the overflow of the rising tide through a crack in the ice-foot near us. Jumping out of my bag with

the utmost celerity, I found that Mrs. Peary's head and the mouth of her bag were just on the shore of the little pond, and the water had evidently as yet neither reached the mouth of her bag nor soaked through the bag itself, for she was still calmly sleeping. Knowing that any movement on her part would be likely to let the water into her bag, I seized her, bag and all, and stood her on end, in the same irrever-



FACE OF HURLBUT GLACIER.

ent manner that a miller ends up a bag of meal; then, before she was fairly awake, she was carried out of the water, and deposited upon the dry snow.

This experience was a very emphatic illustration of the serious discomfort and inconvenience to Arctic travellers resulting from getting their equipment wet. My sleeping-bag and some few articles of clothing that did not escape the inundation were not thoroughly

dried until after we reached Red Cliff, three days later. While Mrs. Peary, now thoroughly awakened, beat and scraped as much of the frozen slush from our furs as she could, and then spread them out to get all possible benefit from the sun's rays, I looked over the sealskins and other articles that Tahwana was willing to let me have, and soon effected a trade, as the result of which he became the happy possessor of a long-coveted saw, a hunting knife, a hatchet, and several minor articles.

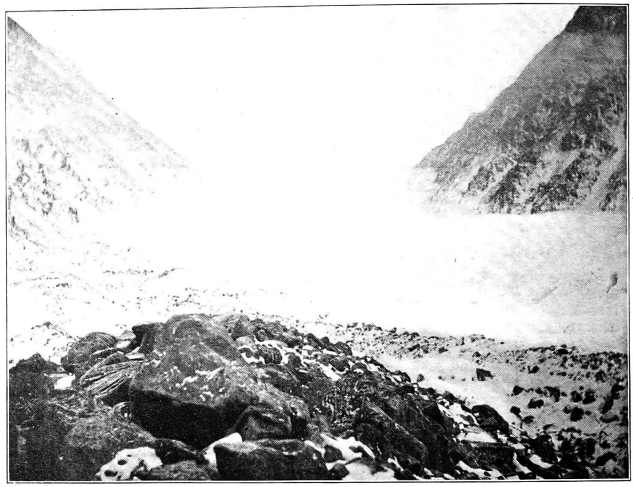
After completing the trade and loading my purchases upon the sledge, with a number of young seals, we started on our return down the Gulf.

Crossing the mouth of Academy Bay from Tahwana's igloo, we stopped again at Ptarmigan Island and I climbed once more to the summit to fix precisely the bearing of one or two points across the head of the Gulf. Returning to the sledge, I was fortunate in securing two of the beautiful white birds after which I had named the island. Perfectly white, and strutting about the little rock with slow steps and erect heads, they acted as if they were indeed the Lords of the Isle. From Ptarmigan Island down the Gulf our progress was rather slower than during our upward journey, as my sledge was piled high with seals and sealskins obtained from Tahwana.

We did not stop until we reached the temporary snow igloo at which we had first found Tahwana. Here the dogs were unfastened from the sledge and we made preparations for our bivouac. The weather still being perfect, as it had been throughout our entire journey, I simply excavated a rectangular pit in a convenient snow-drift with a wall of snow-blocks ranged across the windward end and part way down two sides as a wind guard. Here, after our evening cup of tea was made, we turned in in our sleeping-bags

and had the most enjoyable and in fact the only uninterrupted sleep during our entire journey.

Rising rested and refreshed as the sun rolled round into the west, I started with Mrs. Peary and the twelve-year-old Eskimo boy Sipsu for an examination of the glacier near us. Scaling the seaward end of its eastern lateral moraine, we reached the sharp ridge of the moraine and then climbed up its rapidly



GORGE OF HURLBUT GLACIER.

ascending gradient towards the narrow gorge in the cliffs through which the glacier forced its way from the interior ice-cap.

This glacier, which I christened Hurlbut Glacier, though not of the first magnitude, was particularly interesting from the almost liquid manner in which the ice seemed to hurl itself through the gateway of the gorge. Several photographs of the glacier did not

prove as effective as the actual view, owing to the deep covering of snow, which hid the lines of demarkation between the ice and the rocks.

While we were making this reconnaissance of the glacier, one of the peculiar frost showers of the arctic spring came sweeping up the gulf from Herbert Island, in the shape of a blinding white wall, which hid everything that it passed over. As it reached us, the sun was surrounded by a prismatic halo, and the minutest needle-like crystals of frost fell lazily through the air. This shower passed almost as rapidly as it had come up, only to be followed by others which swept up the Gulf, obliterating, as they passed, the northern shore, even as summer showers alternately hide and reveal the opposite shore of a broad river.

In the midst of these showers we got under way and continued down the Gulf, saying good-bye to Tahwana and his family, who, however, were already breaking camp and packing their sledge to follow us. Without dogs, however, and encumbered by women and children, their progress would be slow as compared with that of the *kapitansoak* with his team of twelve magnificent dogs. I should be at Red Cliff in two marches, while they expected to be five or six days on the way.

Keeping eastward close by the shore for several miles from the snow igloo, we then left the now southerly trending shore and struck out as the crow flies down the centre of the Gulf for the eastern end of Herbert Island, rising far westward above the white expanse, like the bastion of some great red fortress. It was a long and tedious pull for my dogs, as the snow in many places was quite deep and had not been sufficiently wind-beaten to support them. Still they kept bravely to their work, though nothing is more disagreeable to the Eskimo dog than a slow,

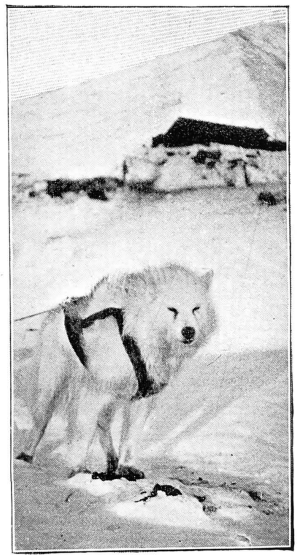
steady drag. In the forenoon of the next day, we reached the ice-foot, in front of the deserted igloos, on the easternmost point of Herbert Island. Unfastening the dogs and giving them their dinner, we then prepared and ate our own; and then Kyo crept into one of the igloos and curled himself up for sleep, while Mrs. Peary and myself spread a few seal-



BACK TO RED CLIFF

skins upon the snow, crept into our sleeping-bags, and went to sleep in the sun. Here, after some four hours' sleep, we were joined by Tahtahrah and Koolooting-wah, two young Eskimos, who had come out from Red Cliff on one of my sledges, with one of my Winchesters and their own dogs, after seals. They had already obtained two, and loading these upon their sledge they started off over the now well-travelled road

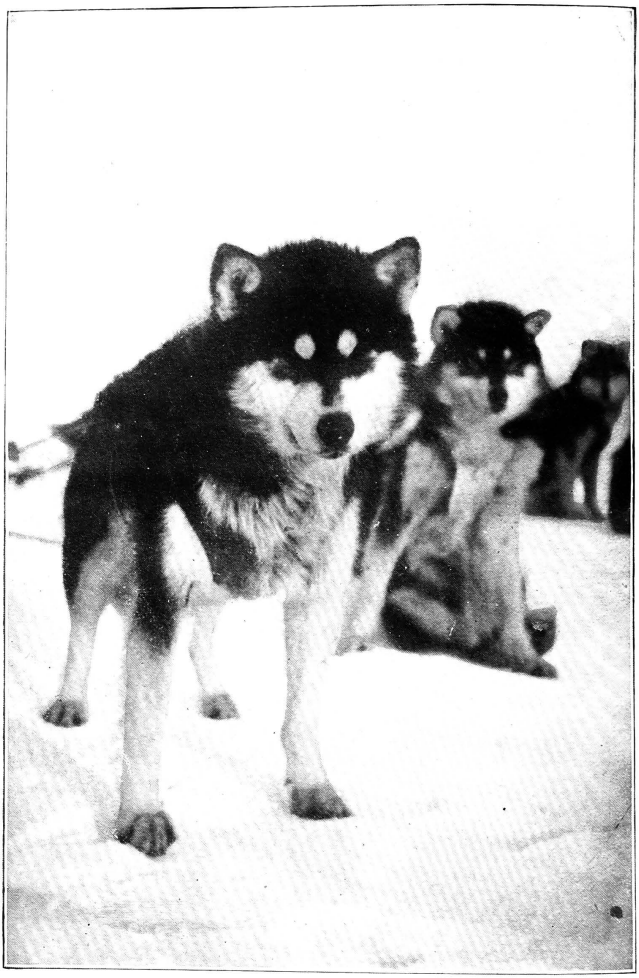
to Cape Cleveland. We soon followed them, and a little before midnight on Sunday, April 24th, we came dashing over the ice-foot in front of Red Cliff, after a sledge journey of some two hundred and fifty miles, and an absence of a week from our Greenland home.



CHAPTER X.

EQUIPMENT, ROUTINE, AND BEGINNING OF THE WHITE MARCH.

At Sea as to Conditions to be Encountered—Equipment—Dogs—Clothing—Provisions—Instruments—Routine of March—The Start—Stormy Weather—Incorrigible Dogs—Sleepless Work—My Leg Troubles me—Reach Edge of True Inland Ice at Last—Over the First Divide—Into the Humboldt-Glacier Basin—A Storm—Camp Separation—Gibson and Dr. Cook Start Back.



DOGS.

CHAPTER X.

EQUIPMENT, ROUTINE, AND BEGINNING OF THE WHITE MARCH.



MY equipment for the march across the Great Ice was the result of continuous study and experiment on every detail throughout the winter.

The art of travelling upon the Inland Ice was in its infancy compared with travel over the sea ice along an arctic shoreline, and the journey I proposed to take was one which, in distance traversed without caches or depots of supplies, was unprecedented.

Lightness and strength were the two prime factors which ruled with iron hand in the working out of every detail, because for every ounce of weight which could be saved in equipment, an ounce of food could be substituted, and on an arctic sledge journey pounds of food and miles of travel are practically synonymous.

As regarded conditions to be encountered, I was more or less in the dark: it could not be taken for

granted that these would be the same from 78° N. Lat. northward, as they had been found from 69° N. Lat. southward.

As to the probable altitude to be reached, there was nothing to guide me. It might not be over 6000 feet; it might be 15,000. I could only devise my equipment in such a way that it would meet, as far as possible, every contingency and every extreme.



THE START FROM RED CLIFF.

Both Norwegian ski and Indian snow-shoes were included in my equipment, as each has its advantages, and under the varied conditions of the ice-cap both are needed. I did not take a tent.

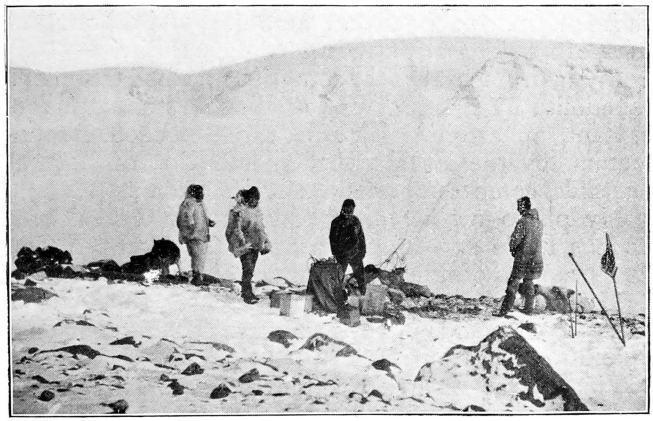
As to dogs, I started from Red Cliff with twenty, but one was already in the grasp of the fatal *piblockto* and died at the edge of the ice-cap. Two others died at the first camp on the ice-cap, and two days later a fourth escaped and returned to the house. Two others returned with the supporting party, leav-

ing me with fourteen, one of which was used up and died at the next camp, so that I really left the supporting party with thirteen, and only eight of these reached Independence Bay.

On the return, three more gave out, so that I reached McCormick Bay with five left out of the original twenty.

Of this original twenty, twelve were first-class ani-

Henson. Cook. Astrüp. Gibson.



THE CAMP ON THE BLUFFS.

mals, hardy and powerful, trained sledge-dogs and bear hunters, the others bitches and inferior dogs.

Our clothing may be said to have been entirely of fur, a light suit of woollen underclothing, a flannel shirt, a jersey, and light woollen socks being the only articles of civilised make.

The provisions for an arctic sledge journey must possess the important desideratum of a minimum weight and bulk for a given nutritive value.

Pemmican[1] is the mainstay of a sledge ration. Next in order of importance come tea, condensed milk, biscuit, compressed pea soup. Other articles of which small quantities were carried, simply on trial, were experimental pemmican put up by Parke, Davis, & Co., of Detroit, with beef meal as a basis, chocolate tablets, composed of equal parts of beef meal, chocolate, and sugar, also prepared by Parke, Davis, & Co., and Mosquera's food.

My dog food consisted of pemmican, eked out by those of their number that we killed, and a bountiful feast of musk-ox meat at Independence Bay.

My instrumental outfit comprised a small traveller's theodolite by Fauth & Co., of Washington, a pocket sextant, an artificial horizon, three pocket chronometers by the E. Howard Watch Co., of Boston, aneroids, compasses, odometers,[2] thermometers.

My photographic outfit consisted of two No. 4 kodaks made expressly for me by the Eastman Co., and two rolls of films, one hundred negatives each.

My medical stores were very modest yet sufficient. The only demands upon them were for an occasional opium pellet for our eyes.

For firearms I carried a Winchester, '73 model, 44-calibre, carbine with full magazine, and one box of cartridges.

The routine on the march for at least nine-tenths of the time was as follows: As soon as the sledge was lashed in the morning, the dogs attached to it, our

[1] Pemmican is a concentrated meat food, composed of lean beef dried until friable, then ground fine and mixed with beef suet, a little sugar, and a few currants.

[2] Previous to this expedition, the odometer had never been used in arctic work. The idea of its use in ice-cap work occurred to me during my reconnaissance in 1886, and during the winter at Red Cliff two or three light, strong wheels had been constructed by Astrüp and myself, after my designs. For the ice-cap journey one of these wheels was fitted in a light frame and attached to the rear of the sledge. It worked well and proved invaluable.

snow-shoes and ski strapped on, and everything in readiness for a start, I stepped out to the front with the little silken guidon my wife made for me in my hand, and took the proper course, while Astrüp tramped along beside the sledge, keeping each dog up to his work. In the event of an accident, or trouble with the dogs, we both worked to straighten things out.

Peary. Cook. Astrüp. Gibson.

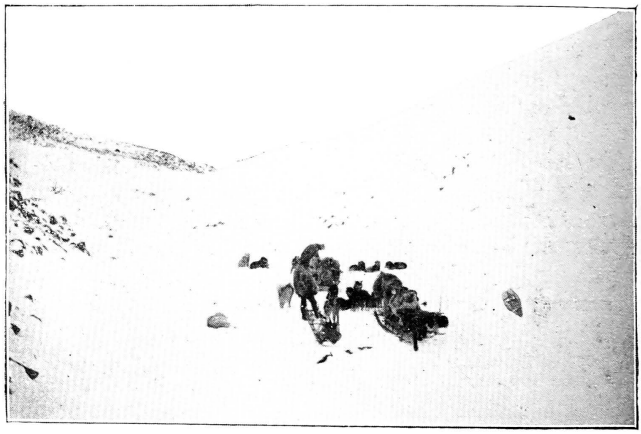


PACKING.

We had to get into harness ourselves and help the dogs haul almost invariably after a fresh fall of snow, and also during the climb up the slope of the ice-cap, both from McCormick Bay and Independence Bay. At these times, a long walrus-hide line was run out from the front of the sledge over the dogs, so that I could attach it to my shoulders and pull while still keeping in advance of the team. Astrüp, with a short line attached to the side of the sledge, was able

to pull and at the same time attend to the dogs. We came to the rescue in this way during about ten days of the entire trip. When camp was pitched, the sledge end of the traces was unfastened from the sledge and then tied to a steel-pointed alpenstock, driven deeply into the snow just beyond reach of the camp and sledges.

The care of the dogs—that is, detaching them from the sledges at night, making them fast to their stakes,



UP THE RAVINE.

feeding them once a day at the conclusion of the march, and attaching them to the sledges in the morning—was my personal charge. When the march commenced, the dogs were in Astrüp's charge as driver until we camped at night, except on occasions when, to relieve the wearying monotony, we alternated during the march, first one and then the other setting the course and driving the dogs. Astrüp always built the snow shelter, or kitchen, as we called it. The

duties of cook were taken by each of us on alternate days, and these duties covered the entire time at a camp. The man on duty as cook slept in the kitchen and was always prepared to turn out at an instant's notice to capture any dog that had broken loose. The one off duty slept under the sledge cover in the lee of the sledge. We made but little use of our sleeping-bags, and at the end of three weeks threw



FIRST IGLOO ON THE ICE-CAP.
Sun-Glacier Gorge in Background.

them away. It is perhaps needless to say we did not disrobe on retiring.

Our preparations for sleep were very simple. As soon as supper was disposed of, we rubbed our faces with vaseline to ease the intense burning from the sun and wind, applied a drop of opium solution to our eyes to relieve the pain from the blinding snow-glare, tied something over them to exclude the light, closed all openings in our fur clothing, and then lay down.

Invariably in the morning we found the dogs in a sorry tangle, and some time would be required to loosen the Gordian knot in which they had involved their traces. When the animals set earnestly to work to tangle these traces into an almost inextricable knot, they succeeded; and the work of undoing the mischief with hands bared, the wind blowing a gale, and the temperature at its lowest was a very thorough test of patience and good-humour.

One of the most conclusive proofs in my mind that the ancients never had any actual knowledge of the Arctic regions lies in the fact that they called their worst knot the Gordian knot. Any well-regulated Eskimo-dog team can in one night discount a dozen Gordians.

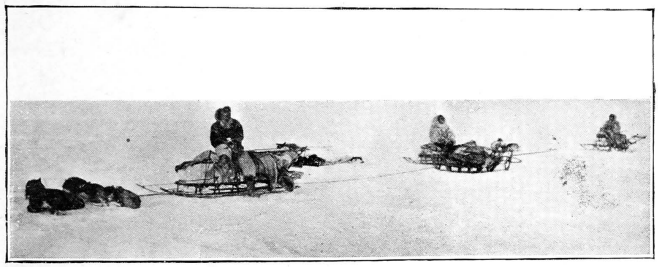
After the experiments of the first few weeks, while the supporting party was with me, the daily working ration of Astrüp and myself settled down to from three-fourths of a pound to one pound of pemmican, with biscuit, condensed milk, compressed pea soup, tea, and alcohol (fuel) to bring the ration up to two and one-half pounds per man per day.

We had three meals a day, one before leaving camp in the morning, a lunch at the midday rest, and the third after reaching camp at night.

Our only beverages were compressed tea put up in one-fourth-pound cakes, and Borden's extract of coffee, which was issued for breakfast on Sunday morning during the first half of the journey.

On the last day of April, in magnificent bracing weather, the cliffs at the head of McCormick Bay clear-cut as cameos through the frosty air, Dr. Cook, Gibson, Astrüp, Kyoahpahdu, Tahwana, Kookoo, and two Eskimo boys, opportune arrivals of the night before, left Red Cliff with two sledges and twelve dogs dragging the last of the Inland-Ice sup-

plies. Three days later, when I had put my house in order and completed the thousand and one little things which always crowd the last moments of preparation for a long journey, I followed, with Matt, my remaining eight dogs, and the big eighteen-foot dog-sledge. The start was made at half-past eight in the evening, as during the next three months the usual order of things was to be reversed, and we were to travel by night and sleep by day. Four hours after the start, my dogs were scrambling over the ice-foot at the head of the Bay, and a few moments later

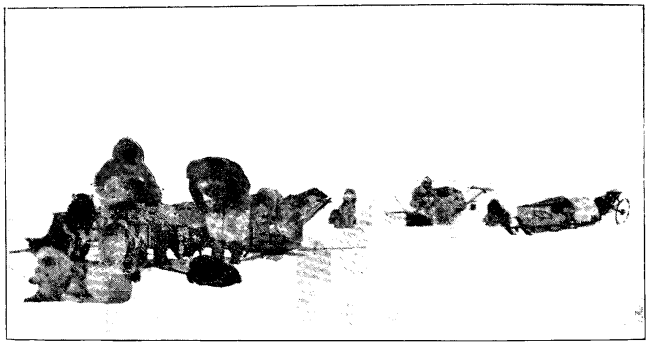


THE CARAVAN IN LINE.

my Inland-Ice sledge, which I had brought up on the big dog-sledge, was on my back, and with Matt following at my heels with a couple of 25-lb. tins, I began climbing the bluff. Sharp rocks, with the spaces between them filled with snow, made travelling laborious and slow, and it was about three in the morning when I rose over the edge of the bluff, and stumbled upon my boys asleep in the snow with their dogs picketed near. I did not intend to disturb them, but as I put down my sledge and turned to descend, the Doctor awoke with a start and very soon all were awake. I found all of the supplies had been backed

to the ravine half a mile above the camp, and everything was in readiness to start with the dogs from that point. Returning to the ice-foot, Matt and I brought up another load, and then, leaving Matt to get a little sleep with the other boys, I went down again and turned in as I was, in my furs, in the remains of a snow hut near the Bay.

When I awoke a few hours later, the boys were at the door of the igloo, and I found, on looking up the valley, that my old friend the Inland Ice was evidently

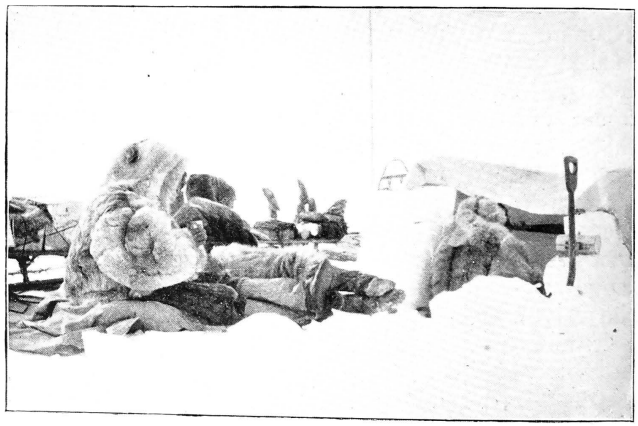


A HALT FOR LUNCH.

preparing its usual reception for me; the leaden-grey clouds massing above it giving every indication of an approaching storm. Curiously enough, both in 1886, when I went on the Inland Ice, and twice again this year, when I climbed the ice-cap, I had been met by furious storms, but eventually everything had turned out well, and so I accepted this as a good omen. Again I climbed the bluff, this time with my big dog-sledge on my shoulders, the other boys bringing the remainder of the load. Carrying everything to the ravine, the sledges were loaded there, and we began the

transportation from the ravine to Cache Camp at the edge of the ice, two and one-half miles from camp and 2525 feet above sea-level. Several steep slopes in the ravine and on the plateau above required all the dogs' and our own best efforts on each of the larger sledges. Two days were consumed in bringing everything up to the Cache Camp, where Matt and Gibson had built a snow igloo, and where we cooked our meals at a fireplace among the rocks of the nunatak close by. During all this time, there were signs of coming atmospheric disturbances of more than usual intensity : a precipitation of fine frost crystals, with transient snow-squalls ; exquisite cloud effects formed and vanished in and over McCormick Bay, while over the Inland Ice wicked-looking white cumuli grew against a dark lead-coloured sky The night temperatures at this time were —1° and —2° F. At Cache Camp, our supplies and miscellaneous equipment were sorted and distributed to the different sledges, and here began our serious trouble with our wild wolves, called by courtesy dogs. Restless under their new masters and fighting constantly among themselves, these brutes gave us not a moment's peace. Hardly an hour passed when not at work that one or two did not manage to break their harness or eat off their traces and free themselves, and sometimes four or five would be loose at once. To capture and re-secure one of them was always a work of time and more or less ingenuity, and frequently resulted in a general muster for the Doctor's services in patching up the wounds from their wolf-like teeth. Here, too, Matt's frozen heel began to trouble him, and I deemed it best to send him back to Red Cliff House. This precluded all possibility of my taking with me more than one companion on the long journey. On the 8th, I attempted to make the next stage from

Cache Camp up the lower slopes of the ice, but a strong wind blowing down from the interior and driving the loose snow in the face of my dogs, discouraged them so completely that we could do nothing with them, and were obliged to await the pleasure of the weather. Finally we got under way and succeeded in advancing a short stage round the north side of the first big hummock. Here a second igloo was built, but the snow being unsatisfactory for house



SUPPER IN CAMP.

construction, only a small one was practicable, and, leaving Astrüp and the Doctor to occupy this, Gibson and I went back down to the igloo at Cache Camp to sleep. Tired in every muscle and with no sleep for sixty-four hours, I think I must have fallen asleep the moment I tumbled into the igloo. Twelve hours later I awoke to hear the rush of the wind over our shelter, and the hiss of the drifting snow against its side. This continued for twenty-four hours, when I

could stand it no longer, and Gibson and myself started for the upper igloo. Fierce as was the wind, which sometimes nearly upset us, and stinging as was the driving snow, we did not feel the cold, as our fur clothing kept us in more than a glow of warmth. Slowly we struggled up the slope, frequently stopping to turn our backs to the wind and get our breath, and at last came in sight of the upper igloo. It is impossible to describe my feelings of discouragement at the sight that met me. The igloo was almost completely buried in the snow ; its occupants had not been able to expose themselves to the wind. The dogs, restless



GIBSON, TEAM, AND SLEDGE.

as always in wind, had fought with each other and chewed at their harnesses and traces till half of them were loose and running at will about the sledges, with their stores of provisions, while the rest were nearly buried in a huge drift which had formed about them, and as I got nearer I saw that three out of the twenty were victims of the dreaded dog disease, and were almost dead. As the wind was still blowing with such force that it was impossible to do anything, Gibson and myself crouched in the lee of the igloo, and while waiting for the storm to cease, learned from the Doctor that they had been unable to get out of the

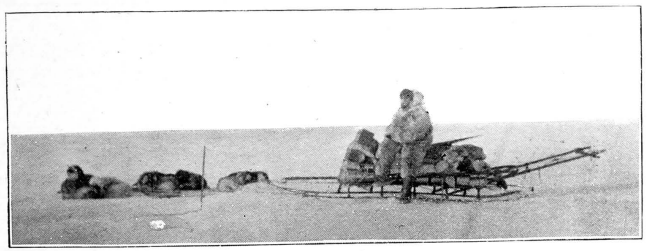
igloo; in fact, had all they could do to save it from destruction by the resistless sand blast of the driving snow; that several tins of provisions, set in motion by the dogs tearing at them, had been driven down the steep slope into the glacier below; and that the dogs had eaten or destroyed everything that they could get at. Fortunately this latter item was not large, as all of my stores were in substantial tins. As soon as the wind ceased, I had the dogs that were fast to dig out, the frozen tangle of their traces to unloosen, and then the other dogs to catch and re-harness. As Gibson said, you may talk about lassoing wild steers in Texas, but it does not compare with rounding up Eskimo dogs. The usual mode of procedure was to entice a dog by judiciously thrown morsels of meat to within reach, and then make a rapid grab for him, throwing our fur-clad bodies upon him and forcing his head into the snow as quickly as possible. This, if skilfully done,—and constant practice rapidly taught us,—could usually be accomplished without receiving more than two or three bites. With one or two of the dogs, however, it was different: these it was necessary to double lasso and choke into insensibility, before the harness could be replaced. From this igloo we proceeded by double banking about three miles farther, before we were obliged to camp. Here we dispensed with an igloo, as it took too much time to construct, and we were so tired that we could sleep anywhere that we could lie down.

So the work went on, under many discouragements, until the 15th. I had been led to believe, as the result of the reconnaissance made the previous fall, that after the first slope had been accomplished a nearly level route would be found. It seems that the deceptive light of the autumn twilight had misled Astrüp and Gibson, and I found that I must drag my sledges

and their loads up one snow slope and down another for a distance of about fifteen miles, before reaching the easy, gradual slope of the true Inland Ice.

During the first ten days, my broken leg gave me some trouble, and rendered the scant hours of rest which the exigencies of the work permitted, less refreshing than they might have been.

The excessive and incessant demands upon it from snow-shoeing, lifting on the sledges, running after loose dogs, etc., would have taxed it under the best of circumstances, and now with the muscles still slightly atrophied from disuse, and the ligaments



DR. COOK, TEAM, AND SLEDGE.

stiffened from the healing process, the result was a constant dull pain which I was only too glad to have reach at times the stage of numbness.

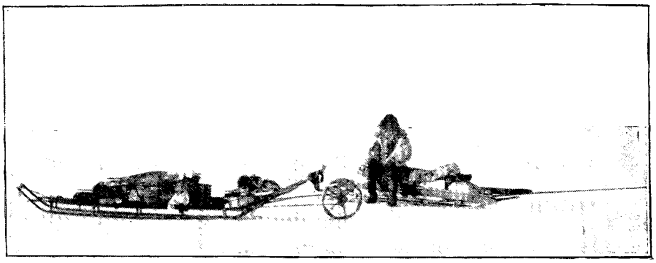
This wore off gradually, and the ultimate result was undoubtedly advantageous, as the exercise demanded and obtained from ligaments and joints the full range of flexure they had ever had before the accident, perhaps more.

The fact that within less than ten months after the fracture of both bones in my leg, I was able to undertake and go through with a 1200-mile tramp on snow-shoes without more serious results than a few sleepless

hours, is an emphatic proof of the healthiness of the climate, the professional skill of Dr. Cook, and the tender care of Mrs. Peary. At last, on the 15th, I found myself looking up that long, easy, white slope which I knew so well, and in regard to which there could be no mistake, and the next day our real journey upon the ice-cap may be said to have commenced.

My course was north-east true, which, assuming the charts to be correct, should enable me to clear the heads of the Humboldt, Petermann, and Sherard-Osborn indentations.

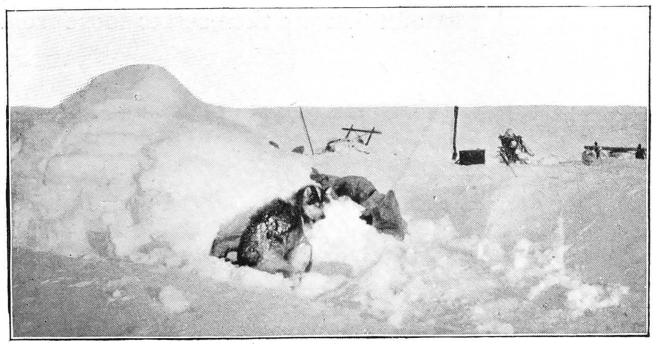
At this time, I had but sixteen dogs out of my



ASTRÜP, TEAM, AND SLEDGE.

twenty, another one having succumbed to the dog disease. As a result, we all of us settled into the traces and did our share of the hauling. Two short marches of five and seven miles brought us to an elevation of five thousand feet, and early in the third march the highest summits of the Whale-Sound land disappeared, and I found to my surprise that we were descending, having already passed over the divide between Whale Sound and Kane Basin, and being on the descent towards the basin of the Humboldt Glacier. By this time, both the dogs and ourselves had gotten more used to the work, our sledges had been better

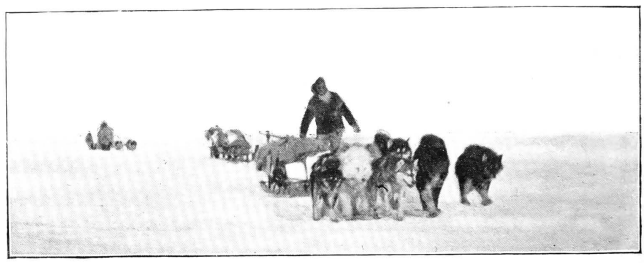
adjusted, and this with the down grade enabled us to make better time. Our third march having been twelve miles, our fourth was twenty, and before we went into camp the misty mountain-tops of the land between Rensselaer Harbour and the south-eastern angle of Humboldt Glacier rose into view in the distant north-west. The next day we tallied twenty miles over a gently undulating and gradually descending surface, but on the following day the surface became much more hummocky, and just about midnight we



SNOW IGLOO AT HUMBOLDT GLACIER.
Buried Sledges in Background.

came out upon the ice-bluffs marking the boundary of the glacier basin opening down towards Mary Minturn River. My north-east course just cleared these bluffs, but fearing others ahead I deflected about five miles to the eastward, and then resumed my course. The rough nature of the ice made this day's march comparatively short, and the atmospheric indications being those of a coming storm, I halted early to permit the construction of an igloo to shelter us. The blue-black sky with angry lead-coloured clouds

massing beneath it, the ghastly whiteness of the ice-blink, and the raw, cutting south-east wind could not be misunderstood, and before our igloo was complete everything was blotted out by the driving snow. Poor Gibson, I pitied him that night, for it was his turn to do the "costume act," as we called it; in other words, it was his turn to sleep fully dressed outside, so that he could attend instantly to a loose dog before he had done any damage. Our dogs were always bad enough in wind and storm, but this time, as the storm continued, they seemed as if possessed of devils, howling, fighting, and tearing themselves loose from



ON THE MARCH.

the stakes to which they were fastened, and when finally Gibson, weary with his efforts at re-capturing, fell asleep for a few moments reclining against the entrance of the igloo, one of them ate the bottom off his sleeping-bag, while another bolted about six pounds of cranberry jam, nearly half my entire stock for the long journey. Forty-eight hours of incessant wind and snow, and then the storm passed over north-west into Kane Basin, and left us in peace. As we crawled out of our igloo into the brilliant sunshine and looked over that unbroken expanse of snow, stretching to the horizon in every direction, carved and scoured by

the wind into marble waves, there was one of the party who could hardly realise that the church bells were ringing through the scented atmosphere of June fields and forests in thousands of far-distant home towns and villages. Our sledges were invisible, completely buried in the drifts which in storms on the Inland Ice grow around and over the slightest obstruction. Several hours were occupied in the work of excavating our sledges and reloading them, of catching and harnessing the dogs, and straightening out the tangles of the traces and harnesses.

But once under way, we found that the storm had in one sense been our friend, and had proved a glorious road-maker for us. Sledges and dogs slipped merrily over the firm *sastrugi*, and with comparatively little difficulty we made another twenty-mile march. This time we slept behind our sledges, and another twenty-mile march the following day brought us to the camp at which I had determined the supporting party should leave me. We were now one hundred and thirty miles from the shore of McCormick Bay, and though the road back was perfectly straight and free of obstacles, yet the descent from the Inland Ice might be dangerous if those returning did not make the land at just the right point, and so I did not feel that I could take the supporting party any farther. When we camped, I told the boys that this was our last camp together, that after we had slept two would return and two go on. Then after dinner, as we sat about our little kitchen before turning in, I reminded them of what I had said early in the spring, that when we reached Humboldt Glacier I should call for volunteers for the long trip, and from these volunteers should make my selection. I told them they had now been on the ice-cap long enough to know what it was like, and to understand that it was no child's play.

I told them that once started there could be no turning back. I also told them that to many it would seem a dangerous, perhaps foolhardy thing for two men to strike out into these unknown regions, dependent only upon their own resources and health for a safe return; that for myself I did not consider it dangerous, but that each man must decide for himself. The Doctor was the first to volunteer, but Gibson and Astrüp were close behind him. I then made my detail as follows: Astrüp to go with me,

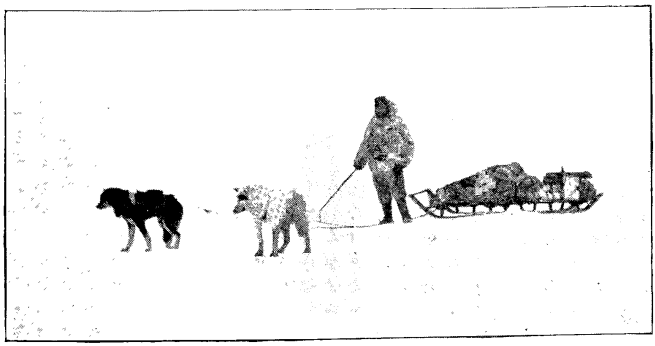
Gibson. Dr. Cook.



GIBSON AND DR. COOK STARTING BACK.

Gibson to return in command of the supporting party, and when he had reached Red Cliff House to devote his entire time to obtaining ornithological specimens and supplying the party with game. Dr. Cook, upon his arrival at Red Cliff, was to assume charge there, and remain in that capacity until my return from the Inland Ice. In a few moments, all but one of the inmates of Camp Separation were sleeping the sleep of the tired and healthy. The next morning early, the relashing of the sledges was undertaken and soon ac-

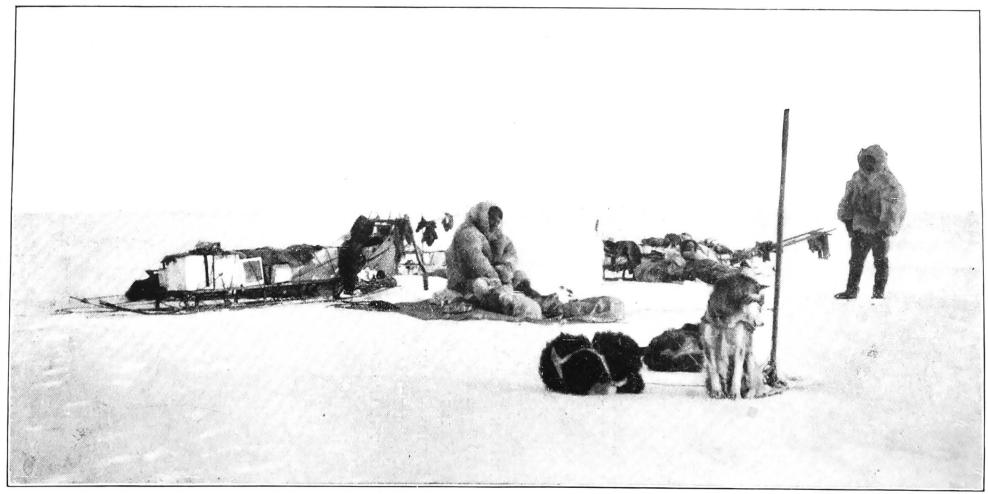
complished, the loads carefully re-stowed and secured, so that the work which had hitherto been done by four, and which would now devolve upon two, might be as easy as possible. Gibson and the Doctor took their personal equipments, with one of the lighter sledges, two dogs, and rations for twelve days ; then I gave Gibson an extra compass, one of my chronometers, a chart, and careful instructions as to making the land at McCormick Bay, and we were ready to separate. Little was said, but I think we all felt much as we quietly shook hands, and then Astrüp and myself started out, leaving the Doctor and Gibson looking after us. In a little while we saw them under way, and in a few minutes more the inequalities of the "Great Ice" hid them from view.



CHAPTER XI.

OVER THE "GREAT ICE" TO THE NORTHERN END OF GREENLAND.

A Wrecked Sledge—Out of Humboldt Basin—On the Ice-Bluffs Overlooking Petermann Fjord—Deep Snow—My Dogs—Giant Crevasses—Over the Divide into Sherard-Osborne Basin—Climbing out of a Trap—Loss of Nalegaksoah—Heavy Going—The Evil Eye—Over the Continental Divide—Land—Northern Edge of the "Great Ice"—The Fjord Barrier—South-East—Down to the Red-Brown Summits—Reconnaissance of the Land—Birds, Flowers, and Traces of Musk-Oxen.



THE HOUR BEFORE SUPPER.

CHAPTER XI.

OVER THE "GREAT ICE" TO THE NORTHERN END OF GREENLAND.



AS I had already found that it was impossible to drive and guide our dogs over the unbroken ice-blink without a pilot ahead, the problem of how the sledges and dogs could be so arranged as to be managed by one man, had given me considerable food for thought. I finally decided to try the following tentative method: three of my best dogs, Nalegaksoah, Pau, and Tahwana, who had become attached to me and were always eager to keep close to me, were harnessed to the light sledge built by Astrüp, carrying a load of about two hundred pounds. These dogs were to follow me, and behind them would come Astrüp with the other ten dogs attached to the big dog-sledge, with the second dog-sledge in tow, the total load on both amounting to about one thousand pounds. This method worked fairly well during our first march, which was but a short one, made simply with the

object of getting the separation over with, and getting straightened out on the long journey. The next day I found it necessary to make a change, and transferred all the dogs to the big sledge, putting the little one again in tow of the other two.

We had gone but a short distance, however, when the larger dog-sledge, as the result of the severe blows it was getting when travelling over the marble-like *sastrugi*, broke down, one side bending inward and breaking all standards on that side. The wreck



WITH THE GUIDON.

of this side was so complete that for a little while I was at a loss what to do, but finally the idea suggested itself of lashing the remains of the sledge alongside the other, making one broad, four-foot-wide sledge with three runners. This idea was quickly carried out, the sledges lashed together and reloaded, the result proving very satisfactory. The three runners seemed to make the sledge much more steady, preventing it from slatting, and seemed to very materially ease the blows in passing over the *sastrugi*. The delay incident to the accident, however, shortened our

march, and this, with the gradually decreasing firmness of the snow surface, left us with only ten miles to our credit. On our next march, the snow rapidly became softer and deeper, making very heavy travelling, but as we met with no accident we were able to cover fifteen miles. In this march we began climbing again, having kept a nearly constant elevation of 3500 feet across the Humboldt-Glacier Basin. The next day the snow was even worse than before, the sledges sinking in it nearly to the cross-bars, and this, together with an up grade, made the hauling so heavy, that after a few hours my dogs refused absolutely to work any more, and I was obliged to go into camp. As the weather seemed rather threatening here, we made our third igloo, and while Astrüp was engaged in this, I tried to study out some plan for making our load drag more easily. The result of this was the construction of an impromptu sledge from an extra pair of ski, and the transfer to it of about one hundred and twenty pounds from the big sledge. At this camp, we commenced our regular sledge ration with a daily allowance of butter and Liebig extract. At this camp also, one of my dogs down with the dog disease was killed and fed to the others, disproving conclusively the old saying "that dog will not eat dog." I had now twelve fine dogs, almost every one of whom had tasted in savage conflict the hot red blood of their natural enemy, the polar bear, the "tiger of the North." There were Nalegaksoah the king, Pau, Lion, Castor and Pollux, Merktoshar 1st and 2d, Miss Tahwana, the Panikpas, brother and sister. The following day, the continuance of the up grade and the increasing depth of the snow compelled us to resort to double-banking, and the end of the day found us but three miles ahead of our last camp.

Ourselves tired and our dogs out of sorts, Astrüp and myself ate our dinner in silence, and were glad to lose ourselves in sleep. The morning found us refreshed and with a new stock of courage, but still I felt that if by hard work and no end of trouble I could gain ten miles I should be satisfied. To my agreeable surprise, the next camp found us fifteen miles farther on our way, and this too without a

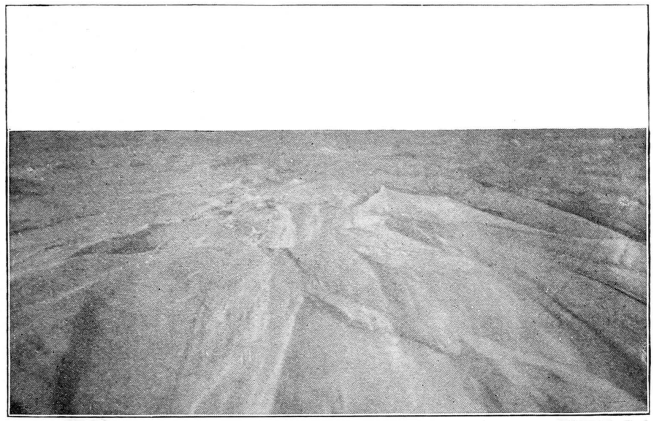


ASTRÜP AND MY DOGS.

mishap or hitch throughout the march. We were now evidently at the top of the grade, and could soon expect a slight descent on the northern side of the divide toward the basin of the Petermann Fjord. The next day proved the truth of these conclusions. The snow surface became harder and harder, the aneroid and the sledges both indicated a gradual descent, and after six hours' marching we came upon

a firm, marble-like surface, showing evidence of most violent wind forces, and scored and carved until it looked like a great bed of white lava. Two hours later, land was sighted to the north-west, and yet two hours later I called a halt, with a record of twenty miles for the day.

On the last day of May, we had advanced but five miles, when, as we rose on to the crest of a long



"LIKE A GREAT BED OF WHITE LAVA."
Sastrugi of the "Great Ice."

hummock, the head of Petermann Fjord, with its guarding mountains, and the great basin of the glacier discharging into it, flashed into sight below us. Here we were on the ice-bluffs forming the limit of the great glacier basin, just as we had been at Humboldt, but, a trifle less fortunate here than at Humboldt, I found it necessary to deflect some ten miles to the eastward, to avoid the inequalities of the glacier basin, and the great crevasses which cut the ice-bluffs encircling it.

Though it had been my good fortune to look down from the height of the Inland Ice into four of the greatest glaciers in the world, Jacobshavn, Tossukatek, Great Kariak, and Humboldt, it was with strange feelings of uncertainty that I looked upon this view. I could hardly divest myself of the feeling that the ragged, shining ice-field before me, the glistening ice-caps stretching up into Washington Land, and the dark mountains guarding the distant shores, might vanish and leave me with only the unbroken ice-horizon of previous days. The weather being so clear and our location so favourable for observation, I made no attempt to advance farther, but camped at once and began observations for determining positions and the bearings of the land. In this camp, 4200 feet above the sea, we remained thirty-six hours, with a continuance of the most perfect weather,—warm, clear, and, what was most unusual, calm. For two or three hours at midday my thermometer in the sun registered 77° F., and advantage was taken of this to thoroughly dry and air all our clothing, and by myself to enjoy the luxury of a snow bath. Leaving Camp Petermann, I kept away due east, parallel with a series of gigantic crevasses, most of which were covered with snow, though in places the drifts had fallen in, exposing the blue-black depths of the chasms. I tried repeatedly to get an idea, from the walls of these clefts in the ice, of the gradual change from the surface snow to névé, and thence to true homogeneous ice, but my efforts were thwarted by the incrustations of fine snow upon the sides of the crevasses. On the leeward side of one of the largest of these openings, was an enormous mound of compacted snow, not less than eighty feet in height, the formation of which puzzled me for a long time, though I finally saw a reason for believing that it was caused by the deposition of snow in

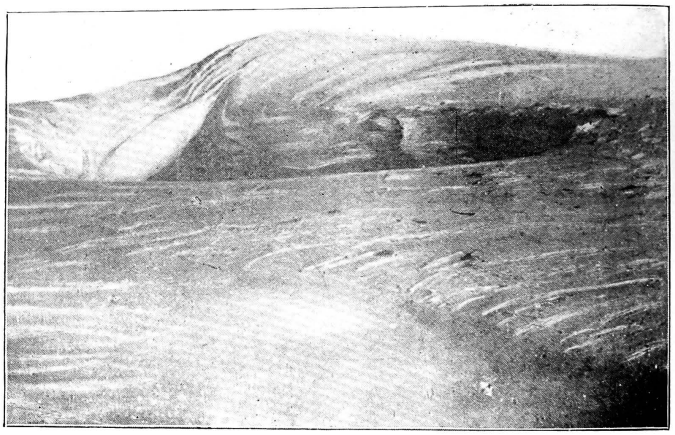
the eddy caused by the break in the crevasse. The ten miles' detour to the eastward enabled me to flank all the crevasses, and again I took up my course northeast, hoping to clear the basin of Sherard-Osborne Fjord as fortunately as I had weathered those of Humboldt and Petermann. From Camp Petermann the surface was comparatively level, and we kept the highest summits of the Petermann Mountains in sight for forty miles, then the aneroid began to show a gradual rise, the snow became softer and deeper, and I knew that we were beginning the ascent of the divide between the Petermann and Sherard-Osborne Basins.



CREVASSE OF THE "GREAT ICE."

Still we were able to make fairly good progress, and three and a half marches brought us, June 5th, to the summit of the divide, 5700 feet above sea-level. From this divide summit, as in every previous instance, we found the travelling very good,

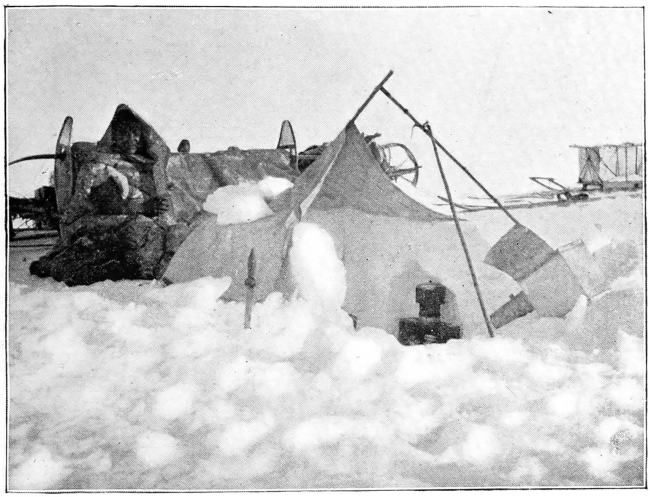
and with the wind behind us were able to make nineteen and one-half and twenty-one miles, respectively, in two successive marches, camping in view of Sherard-Osborne Fjord, as I at first supposed, on the 8th of June. I had not expected to sight land again so soon, and if the maps were correct, it should have taken about two marches more to have brought me within sight of this inlet, but I assumed that naturally the delineation of the inner portion of the



ICE MOUND, PETERMANN BASIN.

great fjord might be considerably out in latitude, and that what I saw before me must be Sherard Osborne. Future developments showed me that I was wrong, and that St. George's Fjord penetrates farther inland than had been supposed, and that this was what I saw before me. The latter part of the march of June 8th had been through threatening weather, the sky overcast, the distant land dark and indistinct, and that peculiar light over the Inland Ice

which makes it impossible to distinguish its relief. I knew, however, not only from my aneroids, but from the way the sledges travelled, that we were descending quite rapidly, and this, with the occurrence of several patches of bare blue ice, caused me to hesitate, and finally call a halt on the completion of the twenty-



A TYPICAL CAMP.

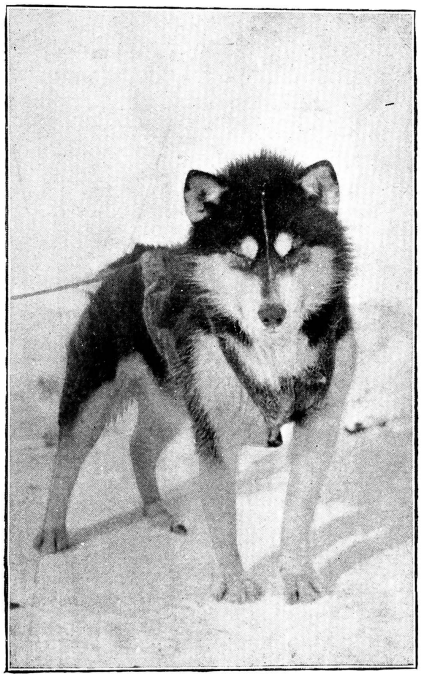
first mile, though we could easily have accomplished four or five miles more.

The experiences of the next two weeks showed the wisdom of my cautiousness, and that it would have been much better if I had had a premonition of trouble still earlier in the day. We had hardly made camp and finished our dinner, when the gathering storm broke upon us, and once more we had to put up with being imprisoned—Astrüp under the

sledge tarpaulin, myself in the little excavation half covered with a sail which we called our kitchen—for two days, with the wind howling past us down the slope towards the distant land, and the blinding drifts of snow hissing and whirling over our little shelters. When the storm ceased and we crawled out of the drifts in which we had been buried, I saw, at a glance, that we were right on the southern edge of the central trough of the glacier basin. The descent to this, consisting almost entirely of hard blue ice, swept clean by the furious wind, was so steep that our sledges would have been unmanageable, and the opposite side rose, as far as the glass could reach, in steep, crevasse-intersected terraces, unscalable for our heavily loaded sledges. Across the glacier basin to the north-east, the crevasses and patches of blue ice continued; east and south, steep icy slopes, but fortunately free of crevasses, rose above us. It was evident our only exit was by climbing those slopes to the south-east, beating to windward, as it were, out of the reefs and off the lee shore on which we found ourselves.

It took two entire days of the hardest and most discouraging work of the whole journey to extricate ourselves from the trap into which we had fallen, and at the end of the two days we had lost fifteen miles of our hard-earned northing. Steep icy slopes, which had to be scaled by zigzagging against a strong head-wind, strained the sledges and the dogs, necessitated the utmost care to prevent the sledges from being swept into the glacier below, and bruised and wrenched Astrüp and myself with constant falls. At last, however, we regained the unbroken snow-clad height of the Inland Ice, and never did I appreciate more fully the old German song, "Auf den Höhen ist Freiheit." Once more we could set our course and

keep it. In this climb, Nalegaksoah, my best dog, and king of the team, received a sprain which resulted in my losing him four days later. Nalegaksoah was a long-limbed brute, quick as a flash of light, with jaws like the grip of fate. A born fighter, he had sunk his gleaming white teeth into the flanks and throat of more than one polar bear, and in the first struggle for supremacy, when the dogs which I had purchased came together, had unaided nearly killed both of the one-eyed hunter's fierce bear dogs. Yet he was one of the most affectionate dogs in the team, and an encouraging word or touch of my hand was sufficient to bring his great paws thrusting against my chest and his fierce yet intelligent face on a level with my own. Poor fellow, I mourned the loss of a friend when, after limping along behind the sledges for two or three days with his sprained leg, he lagged behind and was lost

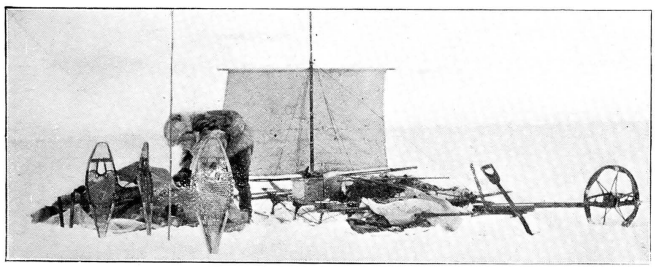


NALEGAKSOAH.

in one of the ice-cap storms. Here too I lost my spy-glass in a crevasse, and narrowly escaped the loss of Lion and Pau, two of my best dogs, also in a crevasse. Both fell till their traces stopped them, and then hung suspended until hoisted out. Once back on the upper level of the Inland Ice, and with clear weather to help me, I could make out the orography of the surface, and could see the depression of the glacier basin still sweeping away to the eastward.

Bearing away to the eastward until I could round this depression, we once more started north-east. We were soon brought up, however, by another group of enormous crevasses, fifty to a hundred feet in width, extending across our course, and, as luck would have it, almost as we reached these, a dense fog swept up the glacier basin from the coast, shrouding the crevasses and ourselves in a grey opacity which constricted our range of vision to an arm-stretch and made it dangerous to move. We could only wait until this cleared away, which was not until eighteen hours later. Then a half-hour's reconnaissance enabled us to flank the crevasses and proceed on our course again. By this time Astrüp and myself had named the glacier basin which had caused us so much trouble, the bottomless pit, and had grown to hate the sight of the land. I made up my mind now, in order to avoid further delay and annoyance from these great glacier basins, to strike still farther into the interior, so as to avoid them completely. In attempting to carry out this plan, however, I found the snow increasing so rapidly and the surface of the Inland Ice rising at such a steep grade as I advanced into the interior, that I finally steered a more northerly course. We had hardly made four miles in this direction, when once more the big sledge, strained and weakened by the rough work of the last eight days, broke down again,

and we lost an entire day in repairing and relashing it, and re-stowing its load. The next day we were able to advance six miles, and then were treated to a source of annoyance and delay which we had not counted upon. A few hours of snow-storm, followed by dark and cloudy weather and a rapid rise of temperature nearly to the freezing-point, resulted in that worst of all possible conditions of the snow, viz.: a certain stickiness which made the sledges drag as if loaded with lead. The dogs, which at other times could take both sledges along at a good pace, were now unable to move one, and required the assistance of Astrüp

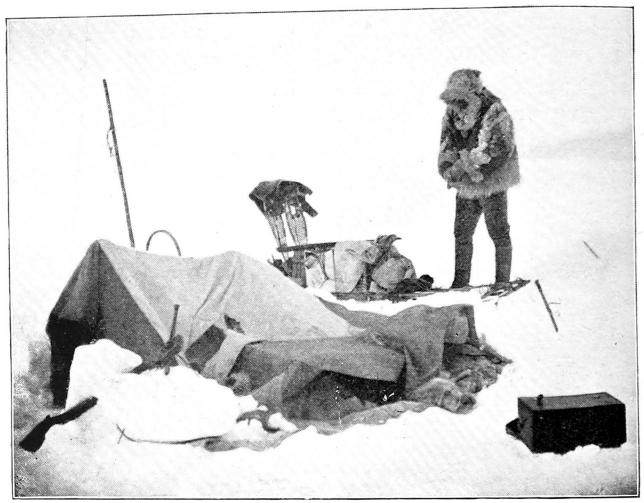


A BREAK-DOWN.

and myself, the one pulling, and the other pushing at the upstanders. Under these circumstances, nothing could be done except wait for a fall of temperature, and this did not occur for two days. The time, however, was utilised in overhauling the sledges and loads, and throwing away articles and material which our experience now showed us could be spared. The total weight thus left amounted to some seventy-five pounds.

The first drop in temperature was eagerly seized upon to advance again, and with Astrüp and myself assisting, and with all the dogs at one sledge, we succeeded with double-banking in advancing six and one-

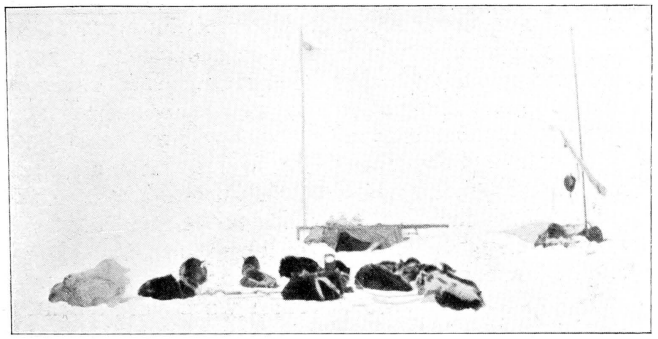
quarter miles. The following day the going was much better, but hardly had we got well straightened out, before the land, this time in reality the shores of Sherard Osborne, rose into view ahead of us, and once more I found myself compelled to deflect, first to the northeast and then to the east. Night found us with sixteen and one-half miles to our credit, and another



HARD TIMES.

great glacier basin yet to be weathered. An idea of the next day can perhaps be obtained from an extract from my journal. "Another discouraging day within sight of the baleful shores of this arctic Sahara, but we are on the heights once more, for good, I hope, and, I also trust, free from further obstacles. If there is any truth in the superstition of the evil eye, the coast of this Inland Ice surely has evil eyes. Just as

long as the black cliffs peer up at us over the round of the ice-cap, just so long are we beset with crevasses, slippery ice, hummocks, howling wind-storms, furious drifts, and fogs. The dogs seem possessed with devils, the sledge and odometer break, some item or other of our equipment is sure to be lost, and everything seems to go wrong. Once out of its sight, we find summer weather, light winds, little drift—in a word, peace and comfort. The intolerable drift last night gave us no chance to sleep comfortably, beating under



IN THE DEEP-SNOW REGION.

and through every minute aperture of the tarpaulin, and melting as it fell on our faces and clothing. This morning one of my best dogs, Castor, was dead lame in one leg, and unable to pull, and the traces were fearfully tangled and frozen into the drift at the hitching-post."

We had advanced but eight miles, when we found ourselves hemmed in by a series of huge concentric crevasses. The remainder of the day was spent in reconnoitring for safe snowbridges, by which they could be crossed. This could be done only in a

south-easterly direction, and night found us farther south than we were in the morning. Once we had two of our dogs down in a crevasse, and once the sledge, with all our biscuits and one hundred pounds of pemmican, broke through, and but for a projecting ledge of ice on the edge of the crevasse, which temporarily supported it till Astrüp and myself could pull it out of danger, we should have lost all. At night, a feeling of relief at being again out of the woods, as it were, sent me to even sounder sleep than usual, if such a thing were possible, and five and one-half hours of refreshing slumber put sleep-hungry brain and body in better trim, and gave everything a very different aspect. During this march, we covered eighteen and one-half miles over a snow surface which, as we marched along, every now and then would settle slightly beneath our weight, with a sound reminding me of the swash of the ground-swell breaking in calm summer days on the beach at Seabright or Long Branch, or on long white Caribbean beaches, backed by palms wavering under a vertical sun. The next day, although we covered nearly eighteen miles, both Astrüp and myself had a mild attack of the blues, partly because we were tired out with helping the dogs all day, but principally, I think, because our utmost exertions were unsuccessful in reaching the limit of twenty miles. The next day, however, we once more got in the swim, and closed our record, that night, with twenty miles and a half, land being visible to the north-west, north, and north-east all day. The moral effect of our better going and better speed was very perceptible both on ourselves and our dogs; at times the latter would, of themselves, break into a trot; and we had been marching but a short time, when I heard Astrüp singing merrily as he kept along beside the sledge. Dur-

ing this march, the sun seemed unusually warm, and towards morning even sultry, compelling us to throw off all outer garments.

The following day was but a repetition of the last, and we skipped merrily along on our way at a constant elevation of about six thousand feet, the land mountains visible to the north-west nearly all the time, and towards the end of the march a fjord with high sharp peaks on its northern side coming out clearly in the north-west. At the close of this march, we turned in in the best of spirits. We had again made over twenty miles, and there was every indication

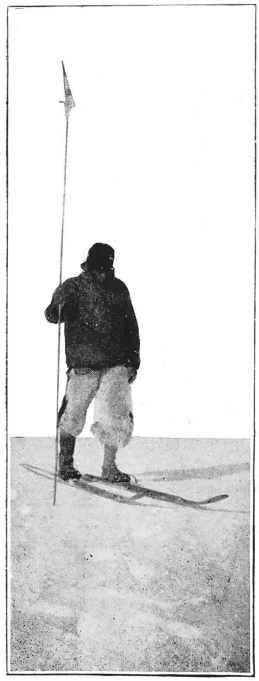


BETTER GOING.

that we now had surmounted all obstacles and would have plain sailing for the rest of our journey. Both ourselves and our dogs were in the best of condition, and our supplies were ample for a good long advance yet. The temperature had become so high that at this camp I seized the opportunity to take another refreshing snow bath and discard my dogskin and deerskin suit for my reserve suit of sealskin.

On the 26th of June we were descending slightly. In the morning, as we started, heavy white clouds covered the entire sky, except a narrow ribbon of blue south and south-west. Our course was north-east true,

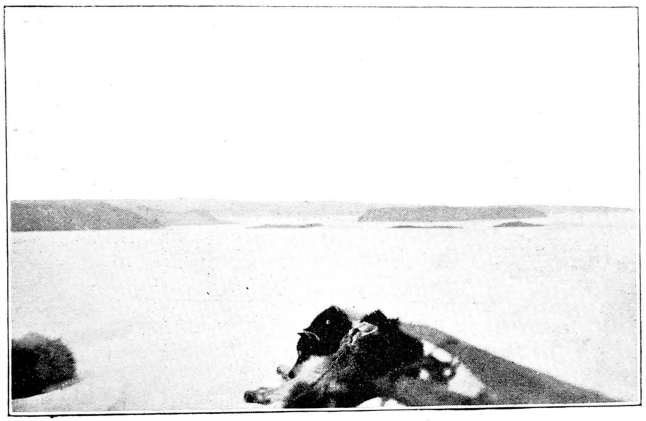
but, land appearing to the north-west, north, and north-east soon after starting, I changed the course to east true. The entrance to a fjord with precipitous black shores lay north north-west true from us. As we advanced to the east, the clouds increased in density and a light driving snow came up from the south-west, shrouding the ice with that shadowless light which makes even the snow beneath one's feet invisible. I kept on, however, still keeping my course by the wind, until the very perceptible descent warned me from past experiences to halt and wait for clearer weather. This I did after a march of ten miles. When the snow ceased several hours later, the land loomed up close ahead of us, with the depression of the fjord beyond, and had I continued blindly through the fog I should have brought up right in the head of another great glacier. Our next march to the south-east was a short one, only ten miles, and nearly parallel with the land. Dark-brown and red cliffs looked down into a grand vertical-walled cañon reaching up towards our camp and everywhere north-west, north, and east, black and dark-red precipices, deep valleys, mountains capped with cloud-shadowed domes of ice, stretched away in a wild panorama, upon which no human eyes had



SETTING THE COURSE.

ever looked before. The glorious summer calm and warmth of the last three days were now accounted for by the presence of so much surrounding land.

Assuming the fjord ahead of me to be Victoria Inlet, and thinking that I could round it, as I had already rounded Petermann, St. George's, and Sherard-Osborne Fjords, I kept away to the south-east, parallel with the edge of the Inland Ice and the shore.



THE NORTHERN LAND.
Nunataks of the Academy Glacier to the Right.

But always as I advanced, the mountains of the shore grew into view before me, keeping me constantly to the south-east, till the 1st of July. On that day a wide opening, bounded on either side by high vertical cliffs, showed up in the north-east over the summits immediately adjacent to the Inland Ice.

Through this opening could be seen neither the reflected ice-blink of distant ice-cap, nor the cloud-loom of land. I had no further time to waste in travelling

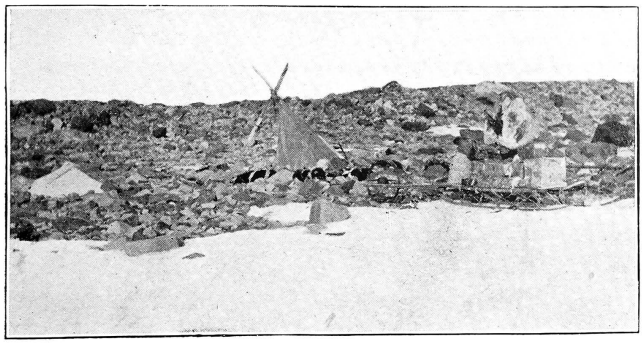
to the south-east, in which direction the coast land-ribbon still stretched away as far as the eye could reach. I must reach this opening at once and discover if it looked out into the East-Greenland Arctic Ocean, or whether there was distant ice-covered land to the north-east, which might still be reached by rounding the head of the fjord far to the south-east. Changing my course to north-east true, my elevation at the time being some five thousand feet above sea-level, ski and sledges and dogs sped merrily down the constantly increasing gradient of the ice-cap, straight for the red-brown mountains of the strange land. After several hours, the gradient grew so steep that it became necessary to descend diagonally along the slope. The land, though yet some miles away, seemed as if at our very feet, and as if we might easily throw a stone upon it.

We could plainly see the green rivers and lakes along the margin of the ice, and the murmur of roaring cataracts came softly to our ears.

I selected the highest convex of a crescent moraine, which climbed well up into the ice-cap, as my landing point, and after wading innumerable streams, and floundering through a mile of slush, which covered the lower portion of the landward slope of the ice, we clambered upon the confused rocks of the moraine, 4000 feet above the sea, and dragged the sledge up high and dry. Stopping only long enough to open a tin of pemmican and change my ski for snow-shoes, I left Astrüp to look after the dogs and turn in, and hastened down to the land for the purpose of climbing a summit some five miles from the edge of the ice, which apparently commanded a full view of the great break in the coast ribbon. A mile or more of slush, a two-hundred-foot slide down the nearly forty-five-degree slope of the extreme edge

of the ice, and my feet were on the sharp, chaos-strewn stones which cover the iceward borders of this land of rock.

The fierce July sun, though but a little past the northern meridian, beat down upon me with oppressive warmth. Before me, the warm red-brown landscape wavered and trembled in the yellow light; behind me, towered the blinding white slope of the ice. Beneath my feet, the stones were bare even of lichens,



THE NORTHERN MORAINE.

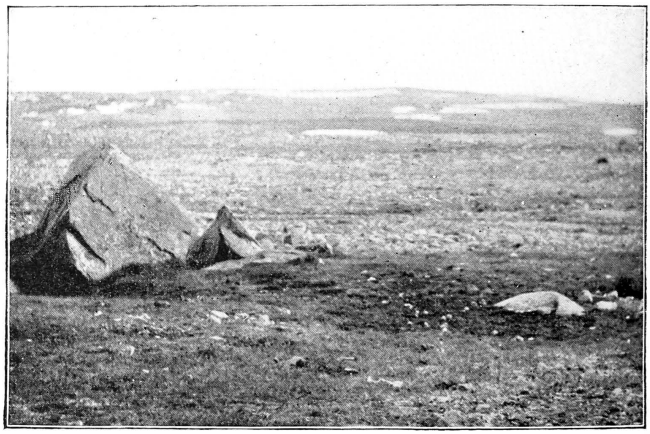
and had a dry, grey look, as if they were the bones of a dead world.

And yet I felt that with so much of warmth and richness of colouring there must be life, and sure enough, hardly had I gone a hundred yards from the edge of the ice when a beautiful little black-and-white songster fluttered up from behind a rock, hovered singing almost within reach above my head, and then settled upon a bleak stone but a few feet distant to finish his merry song.

As I went on, numbers of these snow-buntings flitted about me, and hardly had I gone a mile before

my heart beat quicker at the sight of traces of musk-oxen. As I got farther away from the ice and in the lee of the gigantic moraines and tumuli of glacial debris, flowers began to appear, purple and white and yellow, among them my ever-present brilliant yellow friend, the arctic poppy.

Still travelling along towards my mountain, with eyes constantly alert for musk-oxen, I received a shock like that of Crusoe when he spied the footprints on



MUSK-OX RENDEZVOUS.

the beach. In a little level space, sheltered on all sides, was a large angular boulder of trap, with one vertical face, and before this face were a number of irregularly arranged stones in a rank growth of vivid green grass. Throughout all the inhabited shores of Greenland, a patch of luxuriant grass is always the sign of a sometime igloo, and it was with peculiar feelings that I hastened to the spot.

A closer examination showed the place to be a musk-

ox rendezvous. Bits of their hair and wool were sticking to the rock and scattered on the ground, a weather-worn skull lay a few yards away, and the unusual growth of grass was due to the presence of the musk-oxen.

From this point on, the musk-ox trails were as thick as sheep paths in a New England pasture; and knowing the sagacity of these animals in the selection of a favourable route, I was glad to make use of their paths. But my mountain seemed to recede as I advanced, and it was eight hours before I reached its summit, only to find that two or three other summits intervened between me and the full view out, through the fault in the coast line.

The five miles of apparent distance had lengthened out to at least twelve miles of actual distance, and most men, less accustomed to estimating distance than I had been, would have called it considerably more.

I was strongly tempted to go on still farther, but the condition of my foot-gear precluded it. The soles of both kamiks were already cut through, and one or two edges of sharp rocks had even reached and cut my feet. It was even questionable whether I could fix up my foot-gear to enable me to get back without more or less serious injury to my feet.

With the assistance of a pair of sealskin mittens and a knit skull-cap, I patched up my foot-gear, and after an hour's rest, started on my return to the camp on the moraine.

Long before I reached the edge of the ice, I was obliged to add to the protection of my feet such portions of my garments as I could spare, and it was with the feelings of one who is suddenly relieved from an excruciating toothache, that I stepped from the ragged rocks upon the Inland Ice and strapped on my snow-shoes.

As I neared the moraine, I saw Astrüp perched on its summit looking anxiously for me, for I had been gone fifteen hours instead of four or five, as intended when I started.

I found my dinner, lunch, breakfast, whatever it might be called, of tea, pemmican, and biscuit, ready for me, and when I had satisfied my hunger and

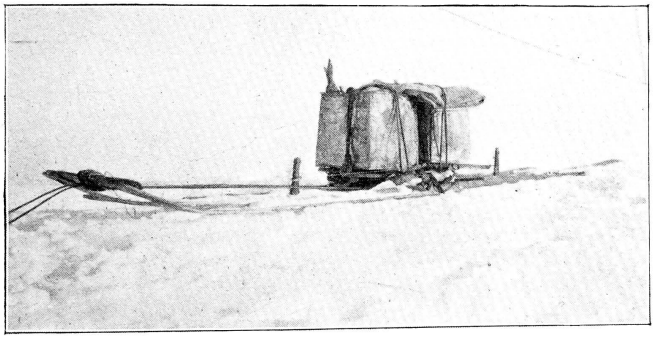


MY PADDED KAMIKS.

stretched myself out on the rocks to sleep, it seemed as if never before had I been so sore and tired. I had been travelling and climbing for twenty-three hours, and I felt, to a marked degree, the change from the dry, cold atmosphere of the Inland Ice to the moister and almost torrid atmosphere of the land. More than this, my reconnaissance had failed of its object, and it would now be necessary for Astrüp and

myself to take the dogs and three or four days' supplies and march overland to whatever distance might be necessary to give me the unobstructed, definite outlook which I must have.

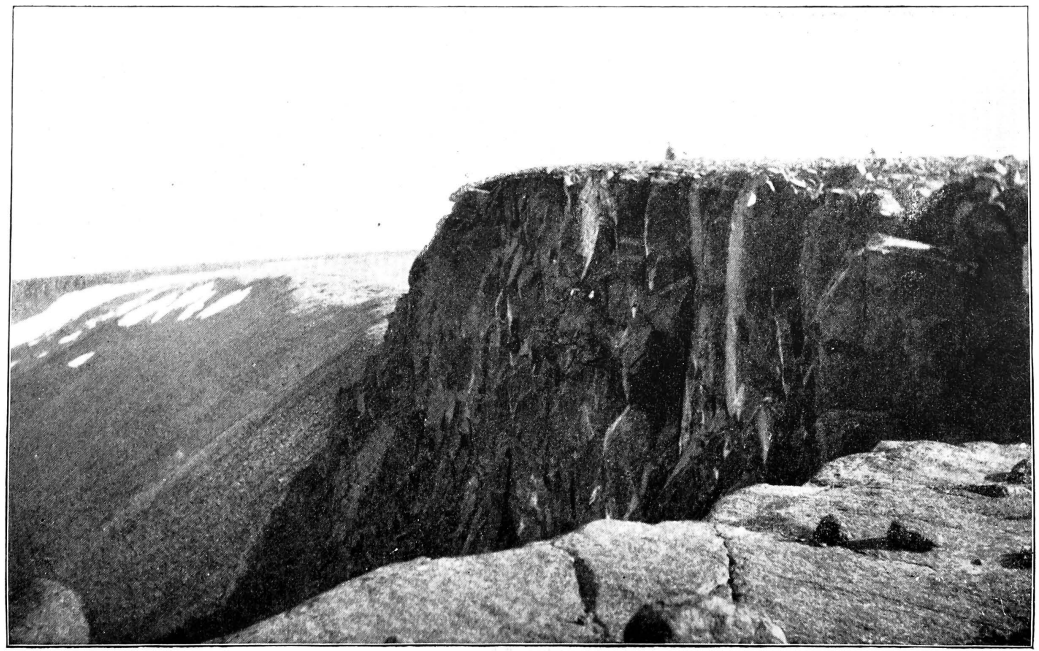
After a few hours' sleep, we made up our packs, and myself in the lead, Astrüp following with the dogs, I started once more to wrest its secret from this tantalising land.



CHAPTER XII.

NORTHERNMOST GREENLAND.

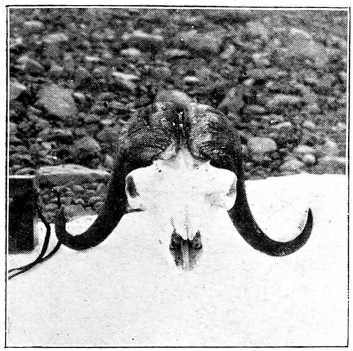
We Set out for the Red Hills and Valleys—Our Dogs Glad to Reach Terra Firma—Very Rough Travelling over the Sharp Stones—Sighting Musk-Oxen at Last—I Kill Two of the Animals and Capture One Alive—A Feast of Musk-Ox Steaks—The Last Summit between us and the Sea—A Glorious Panorama as we Emerge upon a Giant Cliff—An Ice-Covered Bay 3800 Feet below us—Eastward the Arctic Sea Expands to the Horizon—We had Traced the North Coast of the Mainland—The Bluffs and Channels Farther North—A Never-to-be-Forgotten Fourth of July.



NAVY CLIFF.

CHAPTER XII.

NORTHERNMOST GREENLAND.



IT was a bright, beautiful day when we arose on the morning of July 3, 1892. Though on the previous day I had not caught a glimpse of the sea, and the mystery of dark-red land before us was a mystery still, I felt that the next twenty-four, or forty-eight hours at most, would make all clear to us, and that we should stand on the borders of the Arctic Ocean, and, from some vantage-ground on the north-east coast of Greenland, look northward over the broad expanse of sea. Still I might be mistaken, and the coast might be much farther north—too far away for us to attain it carrying, as we were compelled to, every ounce of our provisions and equipment on our backs.

I was too anxious to enjoy the glory of the morning fully. If, as I had for some days suspected, this channel actually stretched from Lincoln Sea to the Arctic Ocean on the north-east coast of Greenland, was I to fail now to fathom its secret and take home

the news that the northern extension of the mainland had at last been found? It was certain that we had no reserve of provisions that would warrant us in making any considerable sojourn in the region to which we had attained; nor if a half-ton of supplies had been packed on our sledge could we carry more than a very few days' rations on our backs over the boulder-strewn waste before us.

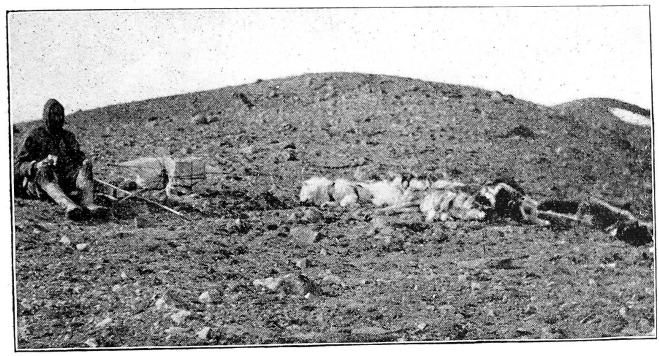


DAWN OVER THE ROCKS.

The sun was shining brilliantly upon the dazzling white of the ice-cap behind us. Its genial rays were searching out and lighting up the hilltops and the deepest valleys of the land towards which our faces were turned, and which we were about to traverse. The temperature was that of a balmy day in early April in lands far south of the Arctic circle. I knew it would be very warm below. Innumerable patches of snow dotted the landscape north of us, but they did

not cover a hundredth part of the great area we saw stretching away before us.

Our dogs were wild with delight and expressed their emotions most vociferously. They saw the land before them and were eager to reach it. They were to accompany us in our tramp, for of course we could not leave them behind. So we gave them a rather meagre breakfast and at seven o'clock in the morning we started. If the dogs had been gifted with sufficient sense I think they would keenly have appreciated the



EXHAUSTED WITH THE HEAT.

changed conditions that had suddenly occurred. We were now the beasts of burden and they were comparatively free. Our equipment and supplies for four days, with instruments, rifle, camera, and a very few extras intended to give special distinction to our Fourth-of-July dinner, made a load of about forty pounds each for Astrüp and myself.

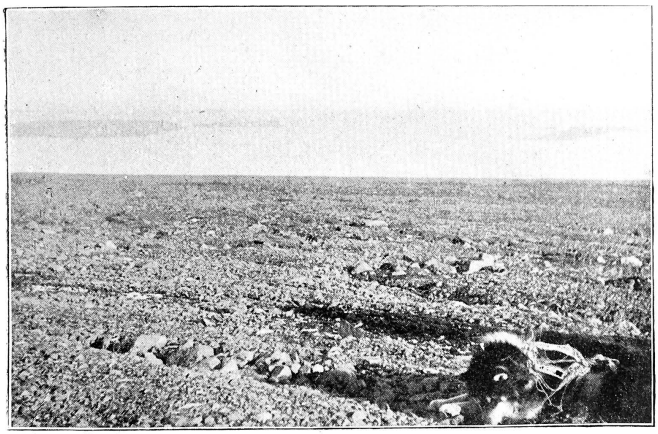
Starting out from Moraine Camp, we had to walk and slip about four hundred feet down the landward slope of the ice, which stretched away for upward of a mile before its foot rested on terra firma. We

found the travelling even more difficult than it had been the day before, partly because we were heavy-laden, and also because the sun had still further softened the snow. Azure-blue streams rushed through the semi-liquid slush, as we made our way towards the land, till we came to the crest of the immediate edge of the ice. Down this we slipped and scrambled as best we could, tripping and tangling in the traces of our dogs, which were wild to reach the land. I was surprised to see the effect of this constant July sun. Close to the land, where a few hours previous I had travelled without difficulty on my snow-shoes, there was now a rushing river which we were obliged to ford. Some glacial lake, far up the ice, dammed in by the deep snow, had burst its banks, and, rushing down to the cañon between the rocks and the edge of the ice, had swept everything clear, down to the hard, blue crystal ice. The rushing water, mid-thigh deep, the slippery ice in the bottom of the stream, and the antics of our dogs, which, hesitating at first to enter the water, would, when urged, make a rush for the opposite side, made the crossing of the stream precarious. We succeeded, however, in getting over without a thorough wetting, and scrambled up on the rocks.

My path of the day before was followed along the summits and through the little valleys, and after a march of five hours we stopped beside a beautiful shallow stream, starting from a great snow-bank far up the ravine, and emptying below us into a mirror-like lake, from which a foaming cataract dashed to the crevasses of the glacier below. After lunch, as we advanced, we saw several musk-ox skeletons. On every hill and in every valley we were finding traces of musk-oxen, but as yet we had seen no living specimens. With the utmost eagerness we scanned every new prospect for the coveted animals ; for we knew that musk-oxen

meant fresh meat for ourselves, and an abundant supply of food for our dogs.

We followed the musk-ox trails as far as they went in the direction in which we wished to go. Then, to reach the summit where I had been the day before, I decided to try a different route, and one that was apparently easier. As luck would have it, it was infinitely worse, and, burdened with our packs and the dogs, it seemed as if we never should reach the top.



SOURCE OF THE ACADEMY GLACIER.

From this summit we kept along the crest of the range of rock-strewn mountains, parallel with the great glacier east of us.

A region of such utter barrenness I never saw before. The arctic poppy was the only flower that could find a footing. Upon a surface of small, angular stones, compressed and half cemented together by the enormous pressure of superincumbent ice-fields ages ago, were strewn larger loose fragments, singly,

in piles, and in long moraines; and yet, even here, traces of musk-oxen were abundant, as if it were one of their favourite haunts. After ten hours' marching, rendered doubly severe by the enervating effect of the high temperature, we halted for rest between a mound of boulders and a snow-drift, and, throwing up a wind-guard of stones, turned in to sleep. The constant scrambling over sharp rocks of all sizes had been extremely trying to Astrüp and myself. The fatigue

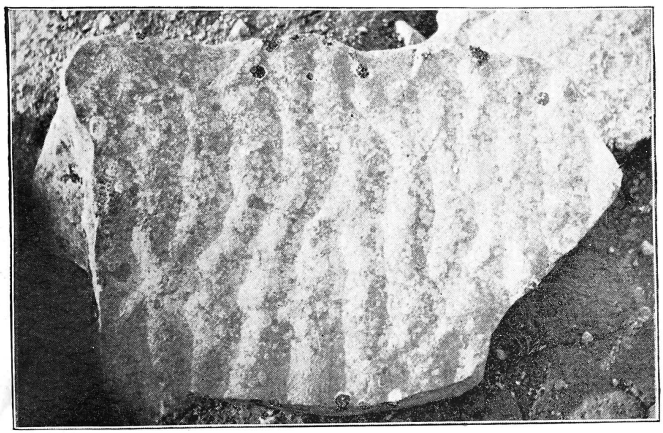


NUNATAKS OF THE ACADEMY GLACIER.

of climbing with our heavy packs and hampered by the dogs was greatly increased by the debilitating influence of what seemed to us an almost tropical temperature, accustomed as we had become to the clear, cold, searching atmosphere of the Inland Ice; and the terrible travelling over the glacial tumuli and moraines had been exceedingly severe upon our foot-gear and our muscles.

We had now advanced far enough on our way down

the valleys and over the mountains to descry very distant land beyond what appeared to be the headlands of a fjord. But we were too far away to see all this clearly. The mystery of the region still remained a mystery; and we were to sleep again before we discovered that the distant land we saw was islands beyond the mainland of Greenland. We were very footsore as we threw ourselves on the ground behind



WAVE-MARKED SANDSTONE.
Found 3000 Feet above Sea-Level.

our shelter of stones; but we were not too tired to sleep the sleep of the just, during the five hours we allotted to rest before we shouldered our packs and set out again, looking as eagerly for musk-oxen as for discoveries of geographical interest.

I was somewhat worried about my dogs. They had felt the heat even more than Astrüp and myself; and one of them, Pau, my leader and bravest dog since the loss of Nalegaksoah, was quite ill. Pau

was a little smaller than Nalegaksoah, his brother, and like him a born fighter. In all his combats, the latter stood by, and if (as rarely happened) the odds were against Pau, one shake of Nalegaksoah's massive jaws would turn the tables in his favour. Pau was an expert at slipping his harness, and more than once I have seen him, when he thought no one was watching, go through the operation as methodically as one would take off a coat. Then for a forage,—for something to eat. Never would Pau get many yards away, however, before Nalegaksoah's powerful deep voice would give notice of the fact, and with two or three powerful efforts he would break his harness or trace and be at the side of his comrade. I had now eight dogs, and felt sure of obtaining musk-oxen for them while we were down in the valley. Yet I had laid my plans, in the event of not getting musk-oxen, to sacrifice one of the dogs for the subsistence of the rest. It troubled me seriously to think that Pau, if he should continue to be sick, would, of necessity, be the victim. When we resumed our packs and started on again, the dogs were evidently much exhausted, and I had an additional source of worry in the fear that some of them would break their legs in clambering over the angular blocks of stone. Every dog was to us more precious far than the most valued pieces of horse-flesh in the land we had come from.

As we advanced, summit after summit rose tantalisingly before us, still masking from our view the coveted sight of the great bay which I now had no doubt lay before us, hidden perhaps between towering cliffs that walled it round. Still with every step as we went on we eagerly examined all the slopes and ravines for musk-oxen. Again and again, some large black boulder would give us a thrill of excitement, only to pass away again. At last, however, as

we were slowly and painfully creeping down the slope of an ancient moraine, two black objects were spied across the valley. As we looked, the space between them narrowed. There could be no doubt this time. They were musk-oxen, and I stooped to pat Pau's head and speak a word of encouragement to the noble



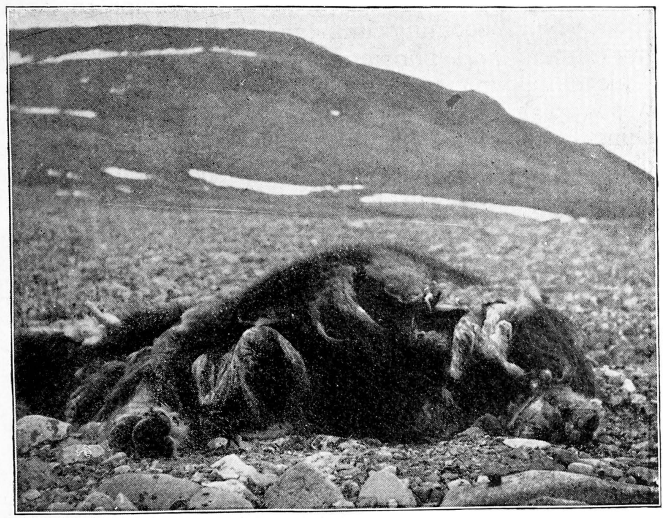
MY FIRST MUSK-OXEN.

dog, for I knew fresh meat would restore the brilliancy to his dull eyes and save his life.

As quickly as possible, we crept behind the crest of a hill, restraining every symptom of a howl or cry from any of the dogs, and then worked along towards the feeding animals. Just this side of them was a deep ravine, traversed by a glacial stream, one arm of which branched up near where we were. Once between the high banks of this, we hurried rapidly

along till within less than half a mile of the oxen. Here I divested myself of my pack, and left Astrüp and the dogs, while I crept on down the ravine to a point close to the game. Reaching this, I climbed carefully up the bank, and looked cautiously over. There they were lying down, less than a hundred yards away. One was entirely quiet, but the other turned his head in my direction as I coughed in my excitement. My crippled leg had thrown me out of all the deer hunts about Red Cliff, and lack of practice and the nature of the game before me gave me the severest kind of buck fever. As I raised my Winchester, it was with the utmost difficulty that I could keep the sight on that great shaggy head. I pulled the trigger, and heard the bullet reach the mark somewhere. Then I rose and ran forward, to be as near as possible for a snap shot should the animal run. Much to my surprise, as I appeared on the scene, he rose leisurely and advanced towards me, as if to see what might be the trouble. A second shot point-blank staggered and discouraged him, and he turned away, giving me the desired shot back of the fore shoulders. As he fell, the other rose leisurely, exposing, as he did so, the same fatal spot. I could hardly credit my good luck as I rushed forward to examine more closely the great masses of long black hair and soft brown wool lying there upon the rocks. Familiar with descriptions and pictures of the musk-ox, I had yet obtained no true conception of the appearance of these strange denizens of the farthest north. The ones before me were plump and rotund with the luxuriant vegetation of the little meadow spot in which I had found them; they were just shedding their heavy winter coats of wool, and this, as it worked out through the long coarse black hair of the summer coat, fell to the ground on either side,

giving the animal an appearance of size greatly in excess of the reality. This, with their slow, sedate movements, made an impression which I shall never forget. As I started back to bring up Astrüp and the dogs, my eye was attracted by a small black object a hundred yards or more to one side. Hastening to it, I found the strangest, queerest little object.—



MUSK-OX SHEDDING WINTER COAT.

a young musk-calf. Poor little thing, it had been taking a promenade while its parents enjoyed their afternoon siesta, and was all unconscious of the misfortune that had befallen them. I picked it up, carried it back to the others, and tethered its feet with the sling of my carbine. Then I went back to Astrüp. I found him (as well as the dogs) nearly wild with excitement. At my first shot, he had climbed out of

his place of concealment to watch the affair, and already knew of my good fortune. Childish as it may seem, I went to my dogs, patted each on the head, and told them of the feast in store for them.

Sharp stones and weary shoulders were now forgotten as we hastened to where the fallen musk-oxen lay. The dogs were fastened just below the bank and out of sight of the carcasses, in order to keep them from becoming unmanageable. Then I took my camera and photographed the new specimens. This done, we immediately began skinning one. It was but a short time before we had a huge hind quarter skinned and cut off, and I was hurrying down to my dogs with it. When I first saw them they were all asleep, exhausted with the heat and difficult travelling.

Miss Tahwana, always on the alert, was the first to see me and greet my approach with a joyful yelp. This brought Lion to his feet and wakened all the rest. For a moment they did not understand, then as it dawned upon them that I was bringing them meat—raw, fresh, warm, bloody meat, which they had not tasted for many a weary day,—the air was filled with their joyful cries of anticipation. Even Pau resumed his wonted position, and crowded to the front for the first and choicest piece. A few moments later only the bones were left, one in the possession of Pau, the other guarded by Lion.

Then I went back to help Astrüp finish the work. An hour or two later, having skinned both carcasses and removed the hind quarters and sirloins for our own use, Astrüp and myself took one of the carcasses, and, carrying it between us, took it down to the dogs. Again the same wild excitement as we approached. Stopping just outside the limit of their traces, we gave the body a swing and tossed it in among the pack. The next instant it was covered from

view by the shaggy forms and tense, straining limbs of a pack of ravenous wolves. The eager yelps and howls were silenced, and only the crunching of bones and an occasional low growl could be heard. Savage as was the sight, I sat down on a stone near by to watch the feast of my faithful companions. Wild and eager as they were, they were still amenable to my voice,



ROYAL BANQUET OF MY DOGS.

for when Lion freed himself from his harness in his violent exertions, I pulled him away from his banquet, and at a word he crouched obedient at my feet, till I replaced his harness. Lion, the thick-furred, long-maned, white leader of the Cape-York team, had been my favourite until Nalegaksoah appeared on the scene, and he was always the veteran sledge-dog and team-leader on the march. He was the most experienced

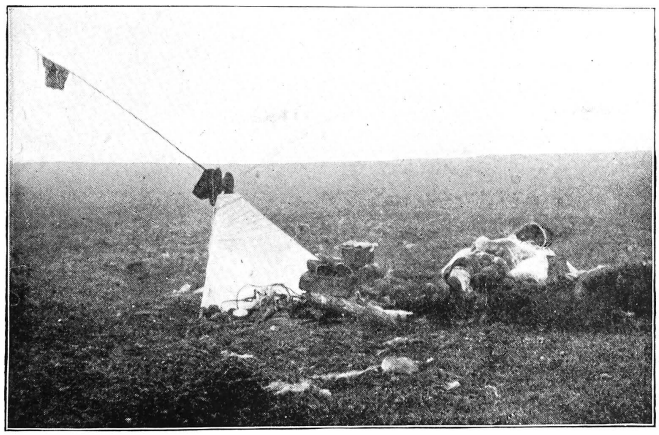
and the toughest of my dogs. Never did he get tangled in his traces. Never did he attempt to eat his harness. Never, except in this single instance during his gastronomic ecstasies over the carcass of the musk-ox, had I known him to get out of his harness. But, as Astrüp said, Lion was no enthusiast and his bump of affection was not largely developed. When my eager wolves had finished, only the white and broken bones of the musk-ox were left. Everything eatable had disappeared, and the dogs were filled almost to bursting.

In the meantime, Astrüp, boy-like and Crusoe-like, with his ever-present artistic sense of the fitness of things, had found near by a grass-covered, flower-besprinkled bit of soil, close to a little stream, and there had spread the musk-ox skins, and rigged up a light cotton sail which we carried, into a kitchen, or shelter for the alcohol stove. Here he invited me to come and stretch myself on the luxurious fur couch while he proceeded to broil some musk-ox steaks. How delicious they were! Astrüp could hardly broil them fast enough to supply the demand. Sweet and tender and juicy, they far excelled anything of the kind that it was ever my good fortune to taste. Weariness and foot-soreness, all vanished for the time under the magic of an abundant supply of fresh meat for my dogs and a fine dinner for ourselves.

It would have been suicidal to have attempted to make our dogs travel immediately after their recent feast, and as I did not wish to leave them here, it was necessary that we should wait several hours until they were in condition to move. We improved the opportunity to snatch a little sleep, and both men and beasts were wonderfully refreshed by the time we started again on our tramp. A few more summits rose before us, but at last there could be no further question.

The next one would surely give us the long-desired view.

Eagerly we climbed the ragged slope, over ragged rocks and through drifts of heavy, wet snow. The summit was reached. A few steps more, and the rocky plateau on which we stood dropped in a giant iron wall, that would grace the Inferno, 3800 feet to the level of the bay below us. We stood upon the north-east coast of Greenland; and, looking far off over



CAMP MUSK-OX.

the surface of a mighty glacier on our right and through the broad mouth of the bay, we saw stretching away to the horizon the great ice-fields of the Arctic Ocean. We had travelled twenty-six miles in a north-easterly direction from Moraine Camp, where we had left our sledge.

From the edge of the towering cliff on which we stood, and in the clear light of the brilliant summer day, the view that spread away before us was magnifi-

cent beyond description. Silently Astrüp and myself took off our packs and seated ourselves upon them to fix in memory every detail of the never-to-be-forgotten scene before us. All our fatigues of six weeks' struggle over the ice-cap were forgotten in the grandeur of that view.

Our observation point was a giant cliff, almost



VIEW FROM NAVY CLIFF.

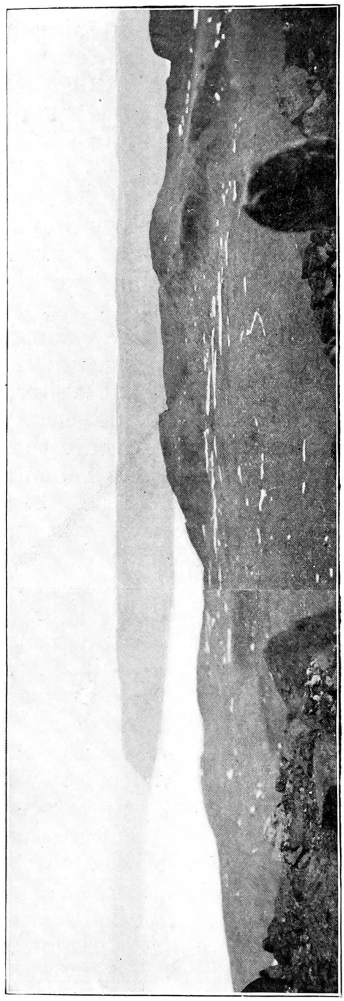
vertical, overlooking the bay and a great glacier that entered the bay on our right. We thought we had left the Inland Ice behind us, but here was a mighty ice-stream, one of the largest we had seen in Greenland, that had pushed out from the ice-cap to find the sea. Looking over our right shoulder to the south-east, we could see, beyond the thousand red boulders in the foreground, and through a depression in the hills,

the middle course of the broad ice-river glistening in the sun.

Across the glacier, bounding the fjord on the east, rose a long line of precipitous, bronzed cliffs, higher even than the one on which we stood, and projecting several miles farther out into the bay. They rose four thousand or more feet in sheer height above the glacier, and terminated in a grim promontory sloping steeply to the water. On their huge shoulders these wild cliffs supported a great projecting tongue of the Inland Ice. Some fifteen miles north-east of where we stood, these cliffs ended in a bold cape which I named Glacier Cape. Dark clouds seen over and beyond the ice-cap on these cliffs seemed to indicate that the shore-line trended rapidly away to the east or south-east.

Stretching out beyond that cape, and more than fifteen miles north of Observation Point, as I named the spot where we stood, we could trace the periphery of the big glacier, whose fan-shaped face rested at one end on Glacier Cape, and at the other on a promontory several miles north-west of us. I estimated that the periphery of this fan-shaped face of the glacier was fully twenty miles or more in length. The glacier seemed to have little or no vertical face, but almost to blend with the bay ice. This appearance may, however, have been due to our elevation and distance.

Looking to the west, we saw the opening of the fjord that had barred our northern advance. It was this fjord whose western entrance we had descried afar off days before. Now we knew that we had paralleled its course across the northern end of the mainland from Robeson Channel clear to the Arctic Ocean off the shores of north-east Greenland. For days we had kept constantly in view the mountain masses forming the southern boundary of this channel, and through rifts in the mountains we had from time



ACADEMY GLACIER AND INDEPENDENCE BAY.

to time seen this depression, and had now and then caught glimpses of the frozen channel occupying it; and we had seen beyond it mountains and fjords stretching between them. It was evident that this channel marked the northern boundary of the mainland of Greenland.

To the north-west, north, and north-east stretched steep red-brown bluffs on the other side of the bay, with a flat fore-shore reaching to the water's edge; and we could make out to the northward the entrance of a second fjord or channel extending apparently to the north-westward. The resemblance of these bluffs to that shore of McCormick Bay which formed our headquarters was very striking. Close at hand a single isolated ice-cap crested these bluffs, but disappeared in the middle distance; and, be-

yond that, the shores which stretched far away to the north-east were free of snow, and the summits free of ice-caps. On the west side of the fjord opening were numerous little islands. There is every reason to believe that to the north-west, north, and north-east we were gazing upon an archipelago whose western limits Lockwood had discovered in 1882.

At our feet, beyond the great fan-shaped periphery of our big glacier, were scattered many icebergs prisoned in the still unbroken surface of the bay ice. Beyond this, the bay ice seemed perfectly smooth and unbroken, and stretched away uninterrupted to the distant white horizon of the north-eastern Arctic Ocean. We could distinctly discern the broad expanse of the ice-covered sea, but the distance was too great for us to make out any details of the surface. The most distant land we could make out, far to the north-east, looking over the point of Glacier Cape, must have been sixty miles away. It seemed to be flat-topped and there was no ice-cap on it.

Far out in the centre of the bay, we could make out a clouded appearance, undoubtedly due to the formation of water pools upon the surface of the ice, the first signs of approaching disintegration. But we could see no signs of cracks in the distant bay ice; and we looked in vain for any signs of ice-cap on the lands west and north-west of our point of view.

I could now understand the feelings of Balboa as he climbed the last jealous summit which hid from his eager eyes the blue waves of the mighty Pacific.

As we took in this wide-spreading panorama from our point of vantage over three-fifths of a mile above the bay ice, the sound of a cataract came up to us from far below, and I was surprised to hear the familiar drone of a bumble-bee. We soon caught sight of the insect, which lingered in our neighbour-

hood for some time. The flies that buzzed around us were altogether too numerous to count. The day was delightfully warm and calm.

Our silent contemplation of the sublime view at an end, I opened the box containing my transit, and set it firmly among the rocks to make my observations for position. The interims between these observations (equal altitudes from three hours before local noon to three hours afterwards) gave time for a round of photographic views and notes upon our surroundings, and to begin the construction of the cairn, which should be in the coming years the silent record of our visit there. The result of the observations was the fixing of the position of Observation Point as 81° 37′ 5″ north latitude and 34° 5′ west longitude.



THE STARS AND STRIPES AT NAVY CLIFF.
July 4, 1892.

The observations finished, I brought out the little silver flask of brandy which



PANORAMA NORTH AND NORTHWEST FROM NAVY CLIFF.

had been brought with us for use in case of sickness, and passing it to Astrüp to take a thimbleful, I followed suit, and then christened the great bay spreading its white expanse before us Independence Bay, in honour of the date, July 4th. The great glacier at our right I named Academy Glacier, in honour of the Academy of Natural Sciences, Philadelphia; and the United States Navy was remembered in the name Navy Cliff, which I gave to the giant cliff on which we stood.

Then Astrüp and I completed the cairn on Navy Cliff. In the centre of this cairn I placed a tightly corked bottle containing an account of the expedition, its aims and objects, with portraits of all the members, taken from the New York *Sun* of June 6, 1891, and the following record:

"NORTH GREENLAND EXPEDITION OF 1891–92, ROBERT E. PEARY, CIVIL ENGINEER, UNITED STATES NAVY, COMMANDING.

"July 4, 1892, latitude 81° 37′ 5″

"Have this day, with one companion, Eivind Astrüp, and eight dogs, reached this point, via the Inland Ice, from McCormick Bay, Whale Sound. We have travelled over five hundred miles, and Astrüp, myself, and the dogs are in best condition. I have named this fjord 'Independence,' in honour of that day, July 4th, dear to all Americans, on which we looked down into it. Have killed five[1] musk-oxen in the valley above, and have seen several others. I start back for Whale Sound to-morrow.

"R. E. PEARY, U. S. N."

The back of this record contained the following printed request in several languages, being the usual request on all Arctic records:

"NORTH GREENLAND EXPEDITION OF 1891–92.
"ROBERT E. PEARY, CIVIL ENGINEER, U. S. N.

"Whoever finds this paper is requested to forward it to the Secretary of the Navy, Washington, D. C., with a note of the

[1] Two killed subsequent to first attack.

time and place at which it was found; or, if more convenient, to deliver it, for that purpose, to the United States Consul at the nearest port."

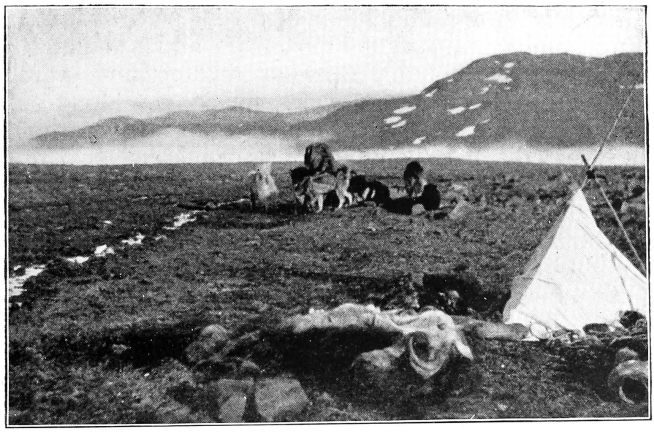
[This was repeated in French, Spanish, Dutch, Danish, and German.]

A duplicate of this same record, rolled closely and inserted in a twelve-inch brass thermometer case, was also deposited in the cairn, and then, under one of the flat stones, an entire copy of the New York *Sun* of Sunday, June 7, 1891, and *Harper's Weekly* of May 23, 1891. After the capstone was put on, the flags of the Philadelphia Academy of Natural Sciences and the National Geographic Society of Washington, presented by Miss Dahlgren, were attached to the bamboo staff of the little silken guidon (which Mrs. Peary had made at Red Cliff House and presented to me as a Christmas present), and the staff was fixed in the cairn. How gloriously the brilliant colours sparkled, as the wind from the mighty ice-cap spread them to the vivid sunlight and filled the air about the summit of the great bronze cliff with their laughing rustle!

Photographs of the cairn and of the flags were taken, a handful of flowers gathered from the rocks, and with a parting look at the scene which human eyes might not see again for years, perhaps never, we turned back towards the great ice-cap. Half a day's march brought us back to the camp in Musk-Ox Valley.

Tying our dogs so that they could feast upon the body of the second musk-ox, we flung ourselves upon our couch of musk-ox fur beside the babbling brook, and with the sky of Italy above us, bright yellow flowers peering at us from among the forbidding rocks, and soft misty wreaths creeping up the gorges from the basin of the giant glacier, we gave ourselves

up to the luxury of perfect rest and idle fancies. All care and responsibility and weariness of body, worry as to the dogs, and disappointment, were thrown to the winds. On this day I would be a boy with Astrüp, and we would celebrate the glorious old Fourth in a royal dinner. It was rather late to eat our Fourth-of-July dinner, for the fifth of the month was full grown ; but we had been too busy at Observa-



"BESIDE THE BABBLING BROOK."
A Perfect Summer Day in Musk-Ox Valley.

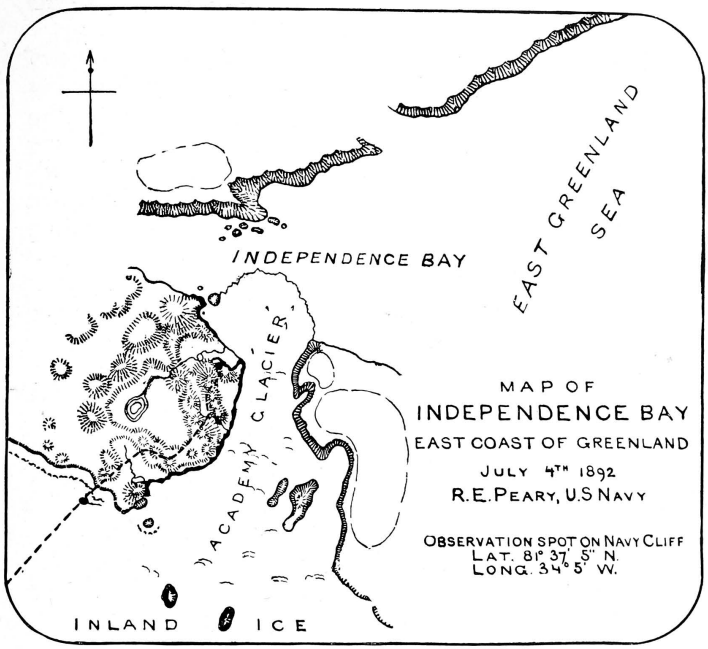
tion Point to think of spreading a banquet there, and anyway our anniversary spread was only a little belated. This was our menu :

Brandy Cocktail, *à la* Fourth of July.
Pea Soup.
Sauterne.
Sirloin of Musk-Ox Broiled, with Biscuits.
Veal Cutlets, with Biscuits.
Bartlett Pears and Cream, *à la* Tin Can.
Tea and Biscuits.

Never was a dinner more thoroughly enjoyed, and never, thought we, was sound sleep afterwards more deserved. Nothing could be simpler than our preparations for the night's rest. We simply rolled over, with our backs to the kitchen.

During our traverse of this northern land, I found flowers of numerous varieties blooming in abundance; conspicuous among them, the ever-present arctic poppy. Snow-buntings, two or three sandpipers, a single Greenland falcon, and a pair of ravens were observed. Two bumble-bees, several butterflies, and innumerable flies were also noted. Without making any search whatever, we saw about twenty musk-oxen along our route. We could have obtained all of them without the least difficulty, and as it was we killed two fine cows, a bull, and a calf. The musk-oxen were shedding their long fine wool, and the long hair on their hind quarters. We found the stomachs of the cows we killed full of grass.

Our return to Moraine Camp, at the edge of the Inland Ice, was but a repetition of our journey down, except that Astrüp and myself each had an addition of some twenty-five or thirty pounds of musk-ox tongues, hearts, and sirloin, and four of my best and strongest dogs carried upon their backs some twenty pounds apiece. Under ordinary circumstances this experiment would have been absolutely impossible; but now my dogs were so completely surfeited with food, having eaten all of two musk-oxen, except what they were now carrying, that the meat on their backs had no attraction for them. If I could have foreseen this, my anxiety for some time previous would have been greatly relieved. Now, however, I had eight well-fed dogs with which to start back to McCormick Bay. As for ourselves, we had been feasting on musk-ox veal, sirloin, and tenderloin; and, strange as



MAP OF INDEPENDENCE BAY.

(Used through the courtesy of the American Geographical Society, New York.)

it may appear, we had had a surfeit of our fresh food; and as we picked our way over the tiresome boulder fragments, on our journey back to Moraine Camp, Astrüp reiterated that he wished we were back to the camp, for he wanted a piece of pemmican.

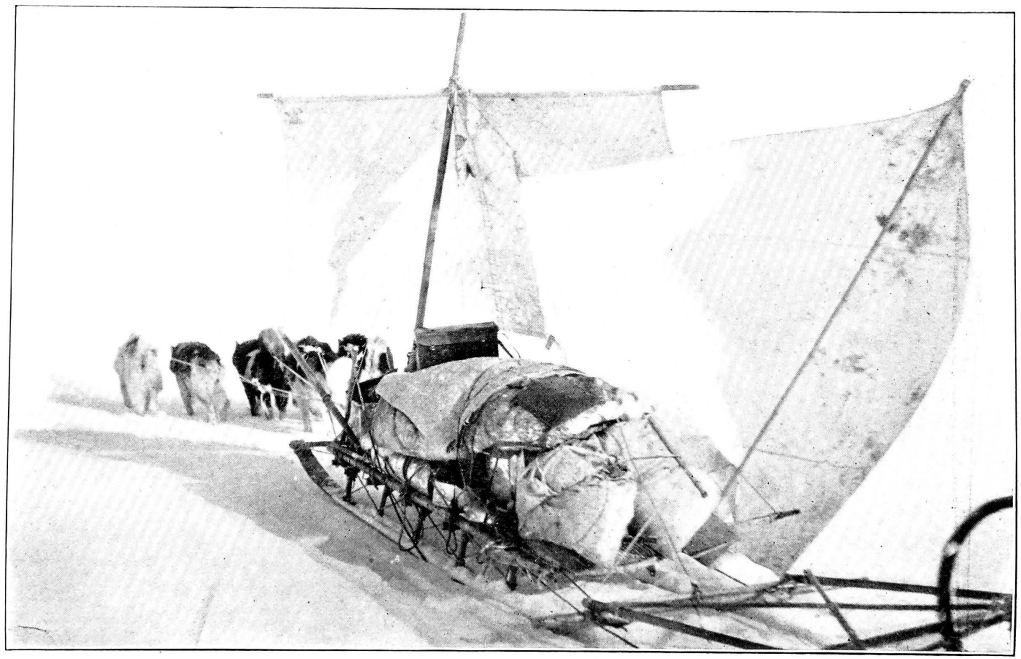
That route of ours, from Moraine Camp to Navy Cliff and back again, was a little the worst travelling we found in Greenland. We were two days getting back to the camp, and when we reached it, every dog in the team, except old veteran Lion and my favourite Pau (now entirely recovered), had cut and worn his feet on the sharp rocks until they were bleeding.



CHAPTER XIII.

EIGHT THOUSAND FEET ABOVE THE SEA.

GETTING READY FOR THE HOMEWARD MARCH—A STEADY CLIMB TO THE TOP OF GREENLAND—PRISONED IN A SNOW DUG-OUT SIXTY HOURS BY THE BIGGEST STORM OF THE SERIES—GROPING OUR WAY FOR TWO WEEKS THROUGH DENSE FOGS THAT CROWN THE SUMMIT PLATEAU—WE FIND IT VERY HARD TO KEEP THE COURSE—THE WIND OUR SOLE RELIANCE—LASSITUDE AND DESPONDENCY DUE TO THE DRIPPING MIST—WE ABANDON A SLEDGE AND THROW AWAY EVERYTHING WE CAN SPARE—ONCE MORE IN THE REALM OF SUNSHINE—MAKING THIRTY TO FORTY MILES A DAY ON THE HOME-STRETCH—MEETING OUR FRIENDS ON THE INLAND ICE—WELCOMED BACK TO RED CLIFF.



SAILING ON THE "GREAT ICE."

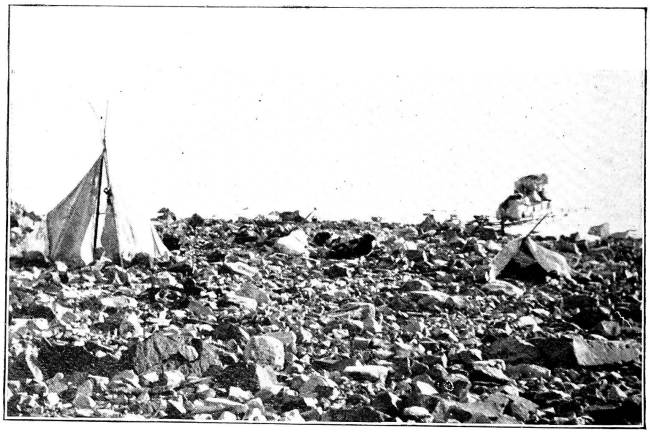
CHAPTER XIII.

EIGHT THOUSAND FEET ABOVE THE SEA.



WE had looked out upon the Arctic Ocean from land never seen before by the eyes of man. We had seen the islands rising in hills and mountains beyond the channel that marks the northern edge of the mainland. We had done all we could, and were now content to set our faces homeward. But first of all a halt was necessary at Moraine Camp, for both man and beast were sadly in need of rest. Furthermore, all our equipment needed overhauling, and we must make careful preparations for our return trip; and so, while the dogs curled themselves up in the spaces between the rocks, to nurse their wounded feet, and sleep, Astrüp and I began overhauling our impedimenta. We threw away everything we did not absolutely need. We reduced our big three-runner sledge to its original dimensions. All the sledge lashings were inspected, and renewed where necessary. Whip and snow-shoes and ski were carefully examined and put in order, and

many a rip and tear in our costumes were repaired. All our foot-gear had been damaged and some of it completely worn out during our fifty miles of overland travelling, and it required our best attention to fit it for service. When all the work of preparation was complete, I climbed to the top of the moraine to look once more upon the wild northern land below me. In the opposite direction, our route across the frozen Sahara was nearly twice as long as the dis-



PACKING FOR THE RETURN.

tance traversed by Nansen, with a fresh party, in his crossing of Greenland. There might be furious and long-continued storms, common to the southern portions of this great ice-cap, which would hold us prisoners for days and days. There might be sickness; there might be mishap. A thousand and one similar nightmares should have troubled me. Yet, such was the power of perfect health and conscious strength, such the magic of that summer sunlight, that not a

shadow would stay with me. I felt unbounded confidence in our ability and the efficiency of our equipment. The idea of sickness seemed out of the question. If my dogs gave out, we had with us the winged ski ; and with these I knew we had it in our power to cover fifty miles per day, for three or perhaps four days. Then, too, this glorious sunlight was not intended for men to die in, but to live in ; and the great Sahara itself, terrible as might be its moods at times, desolate and full of unimaginable horrors as it



STORM CAMP.

was to the poor natives and to those who knew it not, was it not our friend, had we not travelled day after day upon it, slept night after night upon its bosom, and sheltered ourselves beneath its glistening surface ? We had conquered it as we had conquered the dogs which dragged our sledge, and, like them, it was now our friend.

At last all was ready. On the eve of July 7th, while the sun was shining brightly, we turned our backs on the land and started up the slope to reach the icy heights above us. In order to avoid the cre-

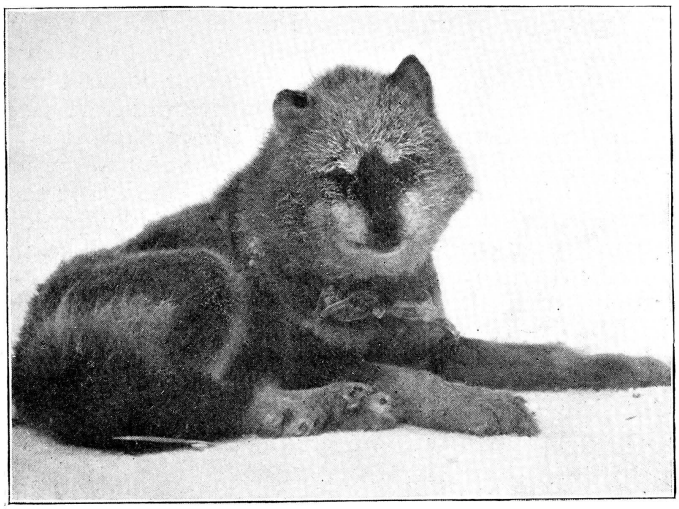
vasses and glacier basins which had so hampered us on the upward march, I proposed, in returning, to keep well to the east and south of my outward course.

The first mile or two from Moraine Camp was hard climbing, and we had to get into the traces ourselves and help the dogs haul. I was not surprised that our first day's record was only ten miles; but in this distance we had climbed a thousand feet into the air. Best of all, we were favoured with good going. A firm, granular crust gave easy slipping for the sledges, and the best of footing for Astrüp and myself. Discarding ski and snow-shoes, we trudged along in our kamiks. We were terribly sleep-hungry when we camped, but were still able to enjoy the regulation Inland-Ice dinner. Pemmican with cranberry sauce, pea soup with musk-ox cut up in it, milk, tea, and biscuit, all tasted more than good; and Astrüp had been living in anticipation of this bill of fare all day.

July 9th, we climbed thirteen hundred feet into the air in a distance of twenty-one and a half miles. Still the same perfect snow surface was spread around us. The day and the going had been perfection. When we camped I felt as if I had taken my ship safely out of port, and, free at last from all rocks and shoals, had no land in sight and only deep water all about me. We were climbing to the cloud-shrouded plateau of the continental divide, and the ascent to the misty frozen heights was exhilarating. While the ice sloped to the north, it also had a very sensible slope to the true east. All the *sastrugi* pointed east, and the wind, constantly from the west, was pouring down the slope.

At three A.M., the wind died down and off came our kooletahs. We had had the sun at our backs all the way, and it was a comfort to get into camp with eyes in a usable condition. We went to sleep at seven A.M.,

nearly a half-mile higher in the air than at Moraine Camp. But such was the heat of the sun that, lying under a tarpaulin, I was awakened at midday in a profuse perspiration. I felt thankful for the good effect of the musk-ox banquet upon our dogs, which was still apparent. I had eight well-fed dogs to help me climb the grade. In this day's march, we had travelled



PANIKPA.

nearly all day without ski or snow-shoes, but we put them on towards the end.

On July 10th, in a little over twenty miles, we rose nearly a thousand feet higher. It was apparent that the continental divide runs north and south, and was still ahead of us. It was a hard day for me. I attributed my relaxed energies and mental heaviness to the beverage I drank at breakfast. I wrote in my

diary that I was glad we had reached the last of our coffee. I wore my snow-shoes all day, though the surface was firm enough to support sledges and dogs, and best of all there was no drift.

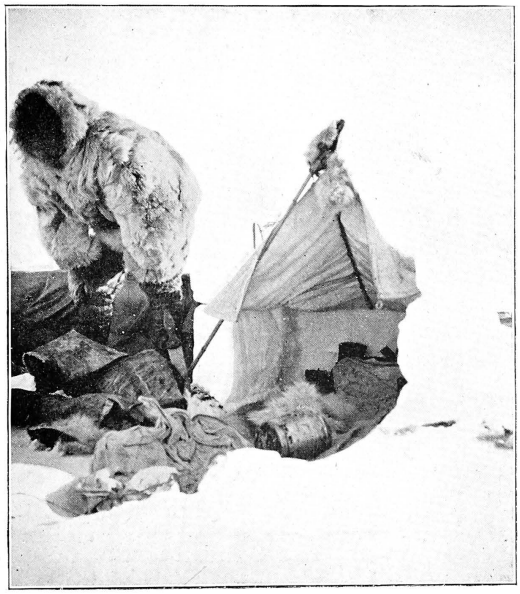
One of our dogs, black Panikpa, loosened his muzzle, chewed off his harness, and got at our musk-ox meat. A timely alarm from the other dogs brought me upon him before he had eaten a half-pound, and he was soundly thrashed before being tied up again. This dog, Panikpa, I called the "good little boy," from the bright, expectant, "good-little-boy-and-just-had-your-face-washed" expression with which he used to sit up and wait for his lump of pemmican.

On July 11th, we added six hundred feet to our altitude in a distance of twenty miles. We were nearing the region of clouds, and our corrected elevation now was about 7300 feet above sea-level. The air was balmy and invigorating for half the day. I wondered if the last few perfect days were a fair sample of July weather on the east-coast slope. Our picnic was about over, however, and this was our last march for two days, for we were stopped and driven to our burrow in the snow by the severest storm we had experienced since we left the basin of Humboldt Glacier.

When we had completed about half of this march, Pollux, one of the dogs I had purchased of Ahngo-doblaho, fell down exhausted and could haul no more. The land trip had evidently been too much for him. We tied him behind the sledge, and he walked for a time and then lay down, and we put him on the sledge till we reached camp, where we killed the poor fellow and added him to our dog-commissary stores. Meantime the barometer indications pointed to a storm brewing. In the last few hours of our march, a heavy frost-bank enveloped us, and I found it affected my

eyes more unfavourably than the brightest sunlight. We had no more than built our snow shelter, when the storm burst upon us in all its fury.

At an elevation nearly two thousand feet higher than the summit of Mt. Washington, we were prisoners on the Inland Ice. For forty-eight hours, until three



THE KITCHEN.

o'clock on the morning of July 14th, there was not a moment's cessation in the howling storm that swept with resistless fury down the slope towards the wild east coast. The trench in which we lay in the snow was two feet high, three feet wide, and seven feet long, and was covered with a cotton roof for half its length.

We spent sixty hours in this snug abode, and I was more comfortable throughout the storm than in any I had met since coming upon the Inland Ice. We were warm and dry through it all, and, in spite of the drift that had piled up over us, we were able to change our position whenever we desired. I emerged from our drift-covered refuge only once in the sixty hours. We slept a great deal of the time. If we could not travel, we were at least resting in anticipation of renewed and more vigorous efforts. If any one could have seen our camp, he would have thought we were buried alive. Sledges, men, and dogs had disappeared from view, and only snow mounds marked their resting-places. No sound could we hear from the dogs, but only the incessant roar of the storm and the swish of the snow as it drove over and past us, down the slope towards the east coast.

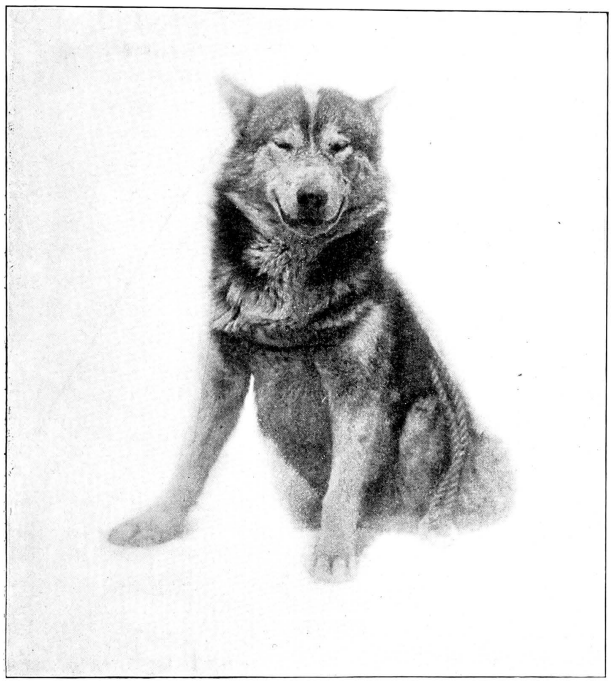
When at last the storm abated and the sun tried feebly to struggle into view, I found the drift was still so fierce that the dogs would not face it, and so I made no attempt to start. The last twelve hours of our enforced idleness dragged very slowly, but finally we made preparations to start, a more formidable task than might be supposed.

It took Astrüp forty-five minutes of continuous labour to straighten out the frozen tangle of the traces, tied by the incessant restlessness of the dogs into a knot that would have put a dozen Gordians to shame. I was engaged the same length of time in digging out the sledges.

I found, to my dismay, while looking over the stores, that two cans of pemmican had been spoiled. This doubtless was the result of exposure to the heat of the sun during the few days that the sledges lay on the rocks at Moraine Camp. With much anxiety, I carefully examined the other tins, and I thought I

had reason to believe that still other cans had become unfit for food.

It was with no pleasurable feeling, therefore, that we resumed the march. The loss of one of my best



POLLUX.

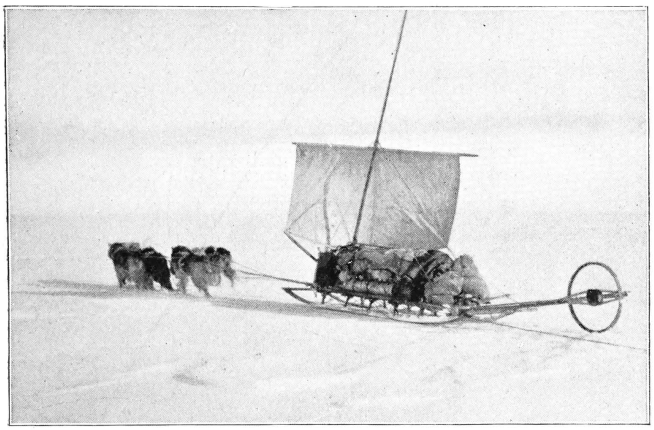
dogs and the spoiling of some of my pemmican loomed up before me as suggestive of mountains of trouble to come. The long inactivity in our snow burrow for sixty hours had slightly impaired my digestion, and the prospect of being re to eat

dog-meat, and of having to haul a sledge for some hundreds of miles, with no dogs to help us in the traces, seemed to stare me in the face. To crown all, the clouds enwrapped us as we started, and the dismal, hopeless weather gave poignancy to my despondency. After lunch, I sent Astrüp ahead to set the course, and I drove the dogs myself in order to divert my thoughts.

I wonder if any of my readers have experienced the sensation of tramping steadily for days and weeks apparently towards nothing? Is there a spot in the Sahara so utterly desolate, so void of every element of hopefulness in its surroundings, as that great plateau over which we were now to drag our wearied steps for a fortnight, with damp and clinging snow under our feet, and a thick, frozen fog choking us and hanging to our garments in milk-white frost-crystals? There was no oasis to which we could bend our steps, and there recruit our courage and strength for further toil over the arctic waste. Our only oases were in the skies; for now and then we could dimly see the sun shining through momentary rifts in the mist, and far off along the south and south-west horizon, we could discern just a line of exquisite pale greenish-blue sky.

The only consoling thought when we pitched camp on the first march after the storm, was that we were twenty miles nearer home. We were tired enough to sleep well, for the last hours had been very hard. We were no longer climbing a slope, but were on a great level plateau at the top, or very near the top, of Greenland. The wind blew straight from west to east. The sledge hauled through the new snow as though on cloth. The dogs pulled well, but without spirit. Every tail drooped in the most disconsolate fashion.

The tail of an Eskimo dog is his moral barometer. It is the unerring gauge to the state of his feelings. One glance at it tells volumes. A well-filled stomach and an easy-running sledge may lift him to the height of canine felicity; but heavy sledging, the biting whip, or an inglorious fight with a neighbour in the traces may plunge him to the depths of despair. His tail

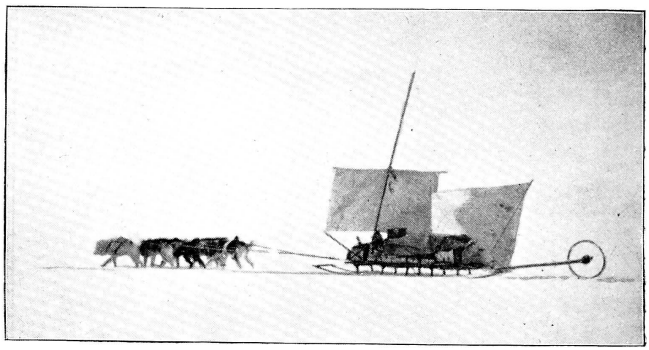


SAILING.

tells the whole story. Now every tail was hanging low.

At midnight, on July 15th, we were one hundred miles on our way south. That morning the weather was colder. It had stiffened the snow that was drifting heavily when we went to bed. Astrüp was quite frozen in under his snow blanket, and I had to dig him out. The low temperature heightened our spirits, and we set out in fine feather in spite of the mist that hung all about us. At any rate, we thought our fog was doubtless an improvement upon the London

article; but even an expansive snowscape would have been a welcome relief to the monotony of our march. The dog driver could barely see the guide, who was setting the course three rods ahead. We had one blessing, for we were favoured with the best of snow-shoeing all day. So we made a fair day's march, and, to introduce as much variety as possible, Astrüp and I changed work now and then as dog driver and pilot. Late in the day, our thoughts were

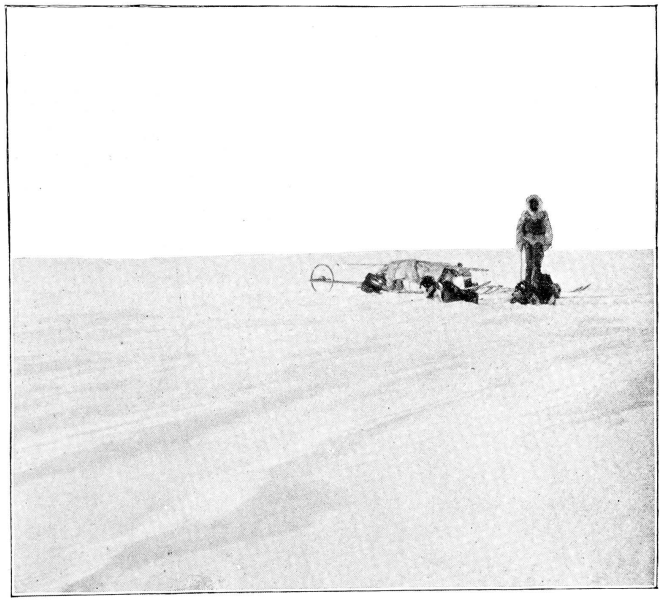


FORE AND AFTERS.

suddenly centred on Miss Tahwana, who was taken violently ill.

The next day Tahwana died, and we carried her body on the sledge till we were ready to feed it to the dogs. Miss Tahwana was my canine mascot. Early in the winter, I had purchased her of a good-natured, pigeon-toed Eskimo, who lived far up the gulf, and when, after he had gone, I went to examine my purchase with the aid of a bull's-eye lantern, I found that she had but one good eye. At first, she was wild as a hunted fox, and whenever I went near her would disappear in the burrow in the snow which

formed her shelter from the biting winds. After a time, she became less timid, would take food from my hand, and when, early in the spring, she gave birth to a family of nine puppies, and was brought with her little ones into the enclosure about the house, where they would be better sheltered, she became as tract-



SOLITUDE.

able as any household pet. Her affection for me seemed unbounded. Day after day upon the Inland Ice no motion of mine escaped that one eye of hers, and when, after a halt, I picked up the little guidon and started forward again, her sharp yelp and vigorous struggles to follow me were the signal that brought

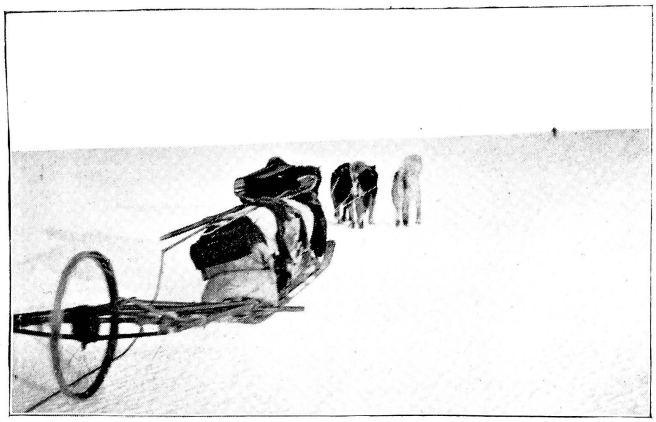
every other dog into his harness and down to his work. Poor Tahwana! It was one of the bluest days of the white journey when she sickened, her bright eye no longer recognised me, and her tongue no longer had strength to reach my hand.

Day after day, rare bits of blue sky were alternating with long-continued banks of dense fog, which coated us and the dogs and sledges and loads with the minutest, opaque, white frost-crystals. Parhelia, fog-bows, and sun-pillars on the fog, of great intensity, formed and vanished around us in countless varieties, but all this gorgeous pageant could not recompense us for the blanket shroud of dark, cold fog. We were now bearing rapidly away to the west, and I hoped soon to be at a lower level and out of the clouds.

I was considerably worried again about my dogs. Their tails were generally drooping. The loss of Tahwana was ominous, and it seemed to me the animals were almost completely played out. My eyes, too, suffered in the fog nearly as much as in the dazzling sunlight.

On July 18th, I was awakened by a sense of cold, and found the wind blowing directly into my kitchen, which had been built the previous evening with the closed end to the wind. This complete reversal of the air-current soon had its effect upon the clouds, which began to break away, giving us glimpses of the sun and bits of sky. When we made our midday halt, blue sky was all about us, and though the last snow had been deposited in drifts, the surface was fairly firm, and, most of the time, supported the dogs and sledges. We had now been travelling seventy miles among the clouds, and the temporary change revived our spirits, and the dogs were brisker in movement. We were across the divide, and were

beginning to descend the west slope. Taking advantage of the easterly breeze, I rigged a mast and sail on my sledge, and the dogs were greatly helped. We were at last south and east of the dreaded Sherard-Osborne Fjord region, which had given us so much hard work on our way north; and I intended now to bear more to the westward, to reach a better road at a lower level parallel with our outward course. We were destined, however, to travel



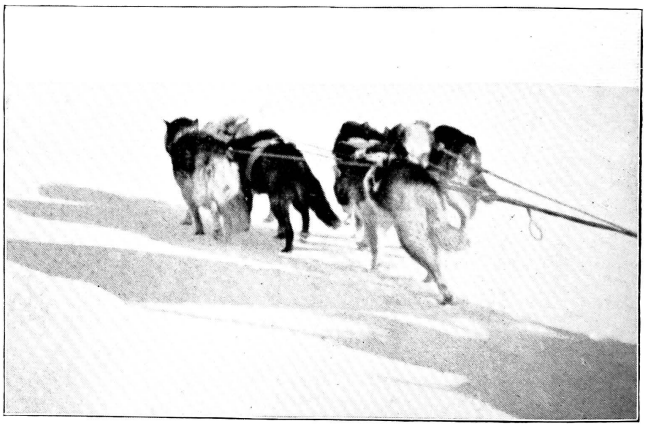
CROSSING PRUDHOE LAND.

many more miles down the long gentle slope before the clouds were above instead of around us.

The night of July 18th was the coldest (−5° F.) we had experienced since early in May. When we arose on July 19th, there was a thick frost-fog, and everything was covered with milk-white crystals. It was snowing and blowing dead ahead, and we delayed the start two hours until the wind went down a little. Snow-shoeing was excellent, but without our snow-

shoes or ski we sank eight or ten inches at every step. It seemed almost impossible to keep a course, and we went zigzagging along.

All through our long marches in the fog, we found the work of keeping to the course very arduous. The compass was wholly unavailable to a man walking. He could not see the snow ahead, and there was absolutely nothing visible to fix the eye upon. The only resource was the wind, and this was now and



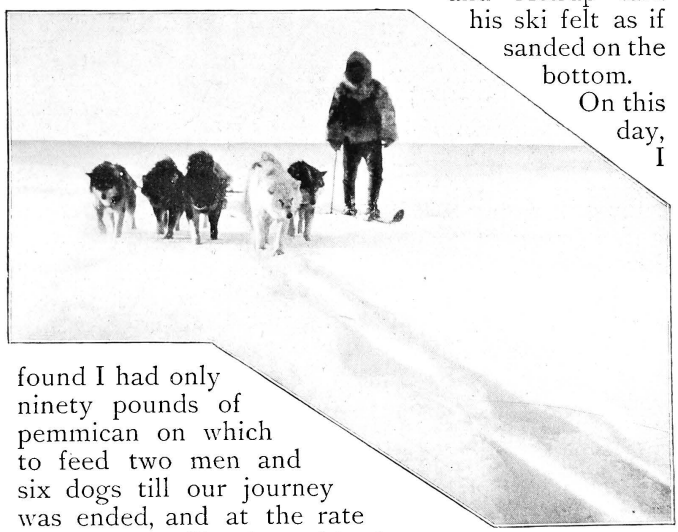
A HEAD-WIND.

then so light that I was obliged to devise and use a special wind-vane. By taking the compass direction of the wind every fifteen to thirty minutes, and then keeping the pennant at the proper angle, with the bamboo pole held projecting straight ahead, I was able approximately to keep the course through the utter blankness of our surroundings.

July 20th was a red-letter occasion because it was a twenty-mile day. The sun paid us a brief visit at

one A.M. The day before, in thick weather, I thought I was aware of a slope towards the west, but now there was no mistaking it. We could distinctly see the long slopes towards the west and south-west. The result of my anxiety in behalf of the dogs was a slight increase in their rations, and although the going was still heavy they were in better spirits.

July 21st, however, was a disappointing day. We had counted on fifteen miles at least, and made only nine. An inch of snow fell after lunch, making the sledge so heavy that the dogs could hardly move it, and Astrüp said his ski felt as if sanded on the bottom. On this day, I found I had only ninety pounds of pemmican on which to feed two men and six dogs till our journey was ended, and at the rate we were travelling it would take over twenty days. The numerous snow-squalls and the interminable fogs had greatly delayed us. I decided that we must abandon one sledge and throw away every



ON THE HOME STRETCH.

pound of baggage we could spare. We re-packed our load on the little sledge, and threw away a pair of ski, a pair of snow-shoes, and other articles, altogether weighing about fifty pounds. I took the big sledge in tow until I saw that the small one carried its load well through the heavy snow, and then I cast old Faithful adrift. We made over sixteen miles, though the snow was very deep and hard to pull through. As we camped at six A.M. on July 22d, a skua or jaeger gull, flying from east to west, passed about fifty feet above my head. A frost-fog descended on us, covering everything with its crystals.

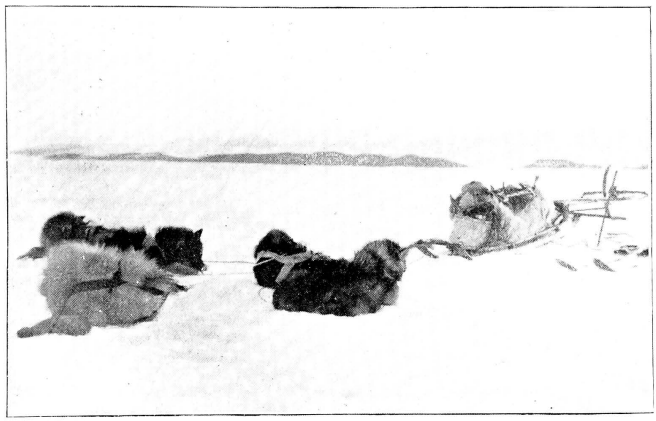
Next day the fog kept with us as usual, but the aneroid showed a descent of four hundred feet. We were leaving the dreary desert of the summit plateau very gradually, and were heading for Camp Separation, in the basin of Humboldt Glacier.

Another skua gull hovered over our camp when I awoke at eight P.M. on July 23d. We started in a snow-storm, but soon the weather became so thick and calm that I could not keep the course, and so we lay down under a tarpaulin and got seven hours' sleep. Then, stripping in the midst of the snow-storm, I indulged in the luxury of a snow rub-down at a temperature of +25° F., and then lay down under a tarpaulin for three hours longer. I can heartily recommend this régime to any person of good physique as a very invigorating process. As we started on again, the storm ceased. The fog-banks and clouds swept over and hung ahead of us till midday, and then they melted away.

The realm of mists was at last above and behind us. Once more we saw all around us the illimitable snow plain. There had been times when we were weary of the sight of it; but how beautiful it looked to us now in all its sparkling purity and glory! Once

more we saw the exquisite azure of the sky. How glad it made us, and how heartily we welcomed the breath of the biting, yet still beloved, south-easter! There could be but one happier moment for me; and that would be when I stood again in her presence who had so bravely bade me God-speed as I left her on the beach of McCormick Bay.

We were now below Petermann Fjord, and approximately five thousand feet above the sea. The



ON THE SUMMIT OF DOME MOUNTAIN.

most trying experiences I had on the Inland Ice were those long days and nights wherein I could see scarcely the length of our sledges. The incessant endeavour to keep a course on the march imposed upon me a strain that was not easily endured. Add to this the constant feeling of heaviness and lassitude due to the thick fogs, and perhaps in some measure to our lofty elevation, and I must pronounce the two weeks I spent on the ice-cap, at an elevation of eight

thousand feet much of the time, the most unpleasant of my Greenland experiences.

There is a golden mean between the broken ice of the glacier basins and the cloud-capped summits of the ice plateau, where the ills and obstacles I met on both my routes may be avoided.

Now we trudged along in the sharp, pure air. Bare-headed and in my undershirt I read *Exiles of Siberia* as I drove the dogs; but by lunch-time I was glad to put on my kooletah and pull the draw-strings tight.

Now came the halcyon days of our Inland-Ice trip. The night of July 28th was a glorious marching-time, and we had a fine run. Just before lunch, we reached a very thin vitreous crust, which would support the sledge, ski, and snow-shoes, but not the dogs. The next day we were still travelling over this crust, and its stiff and burnished surface and down grade helped us to put many a mile behind us. Another of my dogs had given out, and been fed to its more fortunate comrades; but the remaining five, Pau, Lion, Merktoshar, Castor, and Panikpa, were powerful, brawny brutes, thin, gaunt, tough as steel, and entirely recovered from their depression of spirits. They were sure to return to their home once more, unless some utterly unforeseen mishap should compel Astrüp and myself to eat them.[1] It was with an

[1] These five dogs returned to the United States with me in 1892, accompanied me on my lecture tour during the winter, and started north with me again on the *Falcon* in 1893. Castor fell overboard in heavy weather off St. John's and was lost. Lion, Pau, Merktoshar, and Panikpa did their share of the ice-cap work in the fall of 1893. Pau died at the lodge in the early spring of 1894. Lion, Merktoshar, and Panikpa went through the ice-cap work of 1894. After the return from the ice-cap, Panikpa was lost by one of my hunting parties and dragged himself back to the lodge two weeks later completely exhausted. He never recovered entirely from the strain of this experience, and remained with me at the lodge until I came home in 1895, when I gave him to Nuktah. He was still alive in the summer of 1896 and remembered me with every mark of affection. Merktoshar was also alive in the summer of 1896. Lion died at Karnah in December, 1895, in the heart of the "great night" which he knew so well.

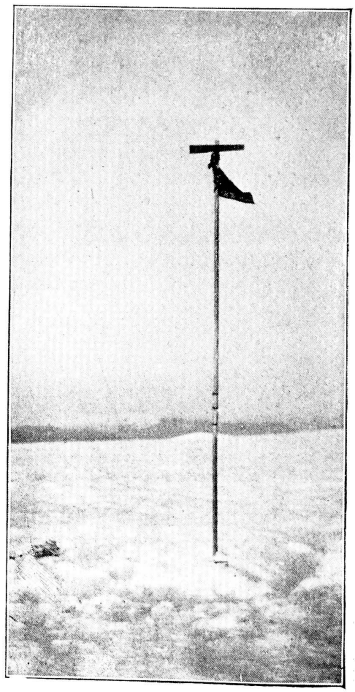
indescribable thrill of pleasure, at the end of our first march after reaching the five-thousand-foot level, a march during which we covered twenty-two miles, that I found my dogs still comparatively fresh. The next day we covered a little more; the next, more still; and yet each night it seemed as if we were as fresh as in the morning. The weather during this time was perfection, and never have I experienced



PROF. HEILPRIN AND HIS PARTY.

more fully the moral effect resulting from the physical exhilaration of rapid travelling. The dogs felt it as much as, perhaps more than, Astrüp and I; and though their natural long, wolfish gallop had been trained out of them by the heavy, laborious pulling of the last three months, still the old flash and fire were there. They had not been worked beyond their elastic limit, their tails were raised and tightly

curled, and I knew that I was bringing back from one of the longest of sledge journeys, with the heaviest of loads and a minimum of food, a team of dogs actually in good condition. Once more we lightened our load to the lowest limit, looked carefully to the lashings of the sledge, and put in order our equipment. We were now east of the basin of Humboldt Glacier. Nearly two hundred miles away was our goal, and this whole stretch must be covered rapidly. We were still out of sight of land, but a few days more would bring us within view of the familiar landscape bordering Whale Sound.



A BEACON.

On July 31st and August 1st, we travelled over the rough, frozen surface without aid of snow-shoes or ski. We passed many snow hummocks, some of them fifty feet high, where the drift had settled around some protruding bit of ice and built snow-hills on the plain. *Sastrugi* were also numerous. The surface was sloping perceptibly towards the western sea. Then we travelled for miles without seeing a single hummock or *sastrugi*.

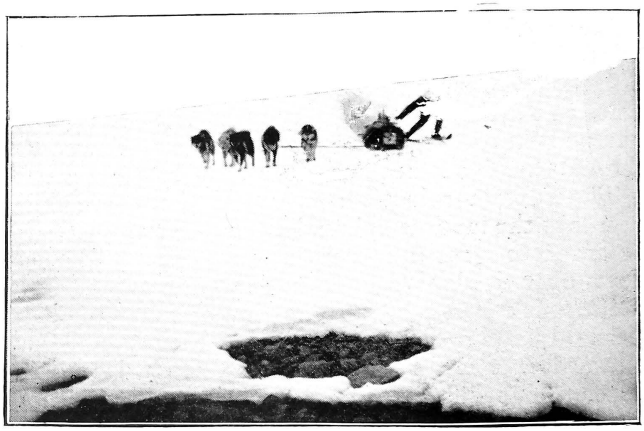
We were making express speed to Red Cliff when, on August 2d, we neared the divide between the Kane Basin and the Whale-Sound region. For five hours on that day we climbed diagonally a very regular but gradual ascent; and at seven o'clock on the morning of August 3d we reached the summit, trudged on some miles, and camped in sight of familiar land, the first we had seen since we left the region of Independence Bay. The wind blew fresh from the south-east, and all that forenoon and the previous afternoon my dogs had been continually sniffing the air, their keen noses evidently detecting the presence of land. We closed the day with a tally of thirty-five miles as the reward of our day's work. We had worn our snow-travelling gear all day, making our way through light but not deep snow.

The next morning, we advanced about five miles nearer to the land, and then deflected to the westward, in order to get into our outward track and come down over the long tongue of ice stretching down to McCormick Bay between the Sun and Tuktoo Glaciers. I had intentionally kept to the eastward of my outward course all the way back from Humboldt Glacier, in order to have the advantages of a more level road.

Merrily we dashed along the gradually descending surface into the depression north of Dome Mountain, the name which I had given to the most northerly of the giant ice hummocks which extend from the edge of the Inland Ice to the head of McCormick Bay. Here the heat of the meridian sun was softening the surface of the deep, sludge-like snow, till my dogs were unable to travel through it. I made every effort to get across upon the slope of Dome Mountain, the higher elevation and northerly exposure of which I knew would enable us to advance; but in this I was

unsuccessful, and was obliged to halt and wait for the surface of the snow to harden again. As soon as this was the case we got under way and zigzagged up the slope of Dome Mountain for some hours.

As I came over the crest and looked forward to the next rounded summit, some two miles distant, I saw moving black objects upon it. The grouping of the objects resembled at that distance a couple of sledges, with an accompanying party, and I turned and shouted

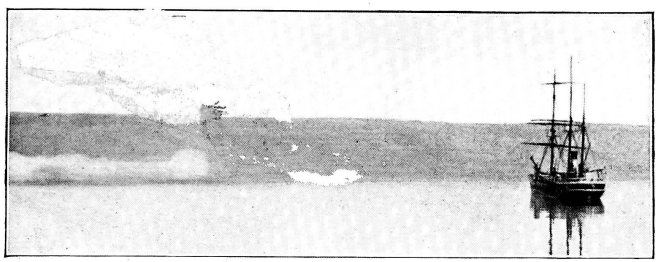


DOWN THE LAST SLOPE.

to Astrüp, "The boys are out looking for us." At that moment, however, the members of the other party evidently saw us, and a faint cheer came across the white waste to our ears. The objects separated, and I could see there were seven or eight in all. Then I knew there was a ship in the bay. We hurried rapidly down the slope, eager once more for the sight of familiar faces. The other party at the same time descended from the eminence on which they had

been, and in a very short time I grasped Professor Heilprin's hand, and greeted the other members of his party, who were struggling eagerly through the deep, heavy snow.

Never was meeting more effective or unique. One month to a day before, the *Kite*, with Professor Heilprin on board, turned her prow northward from the harbour of St. John's, and ever since had been steaming northward through the blue waves. One month to a



THE "KITE" FLOATING SNUGLY AT ANCHOR.

day before, Astrüp and myself turned our faces southward from Musk-Ox Valley on the strange northern shore, and ever since had been marching southward over the frozen waves of the ice-cap. Now we had met on this great ice desert, almost out of sight of land, in the brilliant light of the midnight sun, and the courses that each party was taking were such that had we been blindfolded we should have run into each other's arms.

Professor Heilprin and his party turned back immediately, and, chatting with various members of the party, the time flew rapidly as we covered the ten miles between us and the bay. About two o'clock in the morning, I stood again on the crest of the bluff up which I had backed my sledges more than three

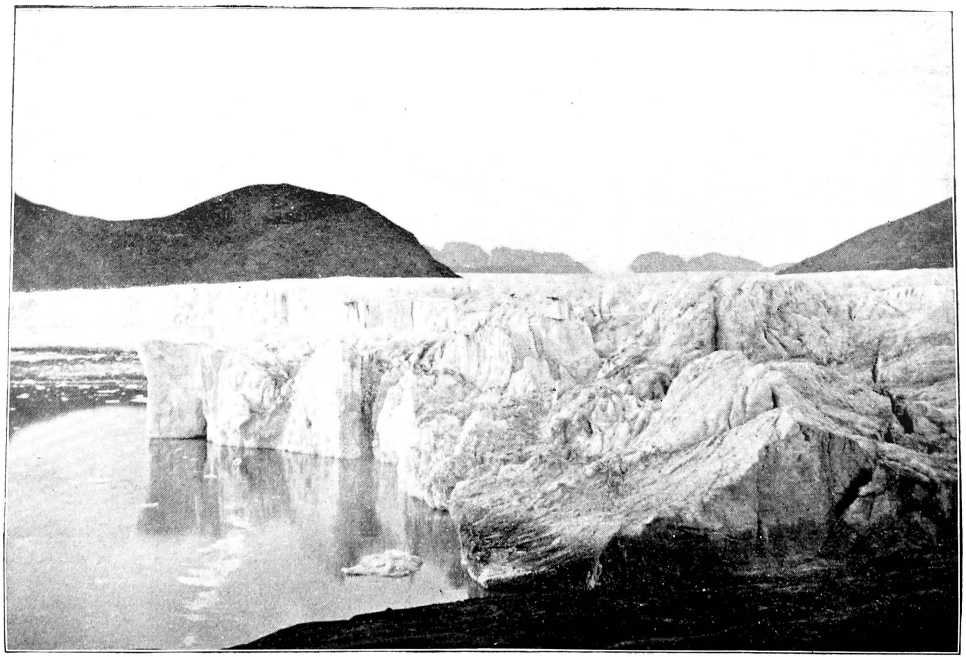
months before, and looked down upon the green, iceberg-dotted waters of McCormick Bay, with the little *Kite* floating snugly at anchor at my feet. Never did fairer summer vision greet human eyes. An hour later and I stepped on board the *Kite*. My wife's glad cry of welcome sounded in my ears. The long White March was ended.



CHAPTER XIV.

BOAT VOYAGE INTO INGLEFIELD GULF.

MEETING WITH MY BOYS AT RED CLIFF—DESIRE TO EXAMINE NORTH SHORES OF GULF—THREATENING WEATHER—KARNAH—SCULPTURED CLIFFS—BOWDOIN BAY—ENORMOUS GLACIERS—A MAGNIFICENT PANORAMA—MRS. PEARY'S *KAHLILLOWAH*—AN *ANOAHTAKSOAH*—BACK TO RED CLIFF.



FACE OF BOWDOIN GLACIER.

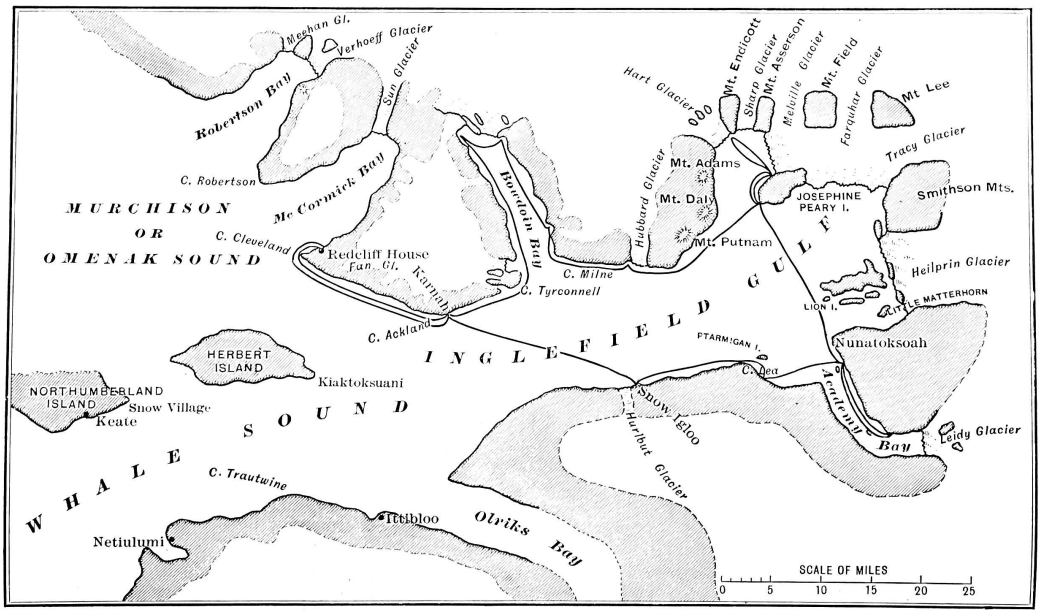
CHAPTER XIV.

BOAT VOYAGE INTO INGLEFIELD GULF.



TWO days after my return from the ice-cap, the *Kite* steamed down the bay, and we landed through the surf in a sheltered cove about a mile below Red Cliff. As Mrs. Peary, Astrüp, and myself came up the beach, we met first, my boys, Verhoeff, Dr. Cook, Gibson, rugged, bare-headed, sun-burned; then, a little farther, the native contingent of Red Cliff standing in wide-eyed wonder to see the *kapitansoak* return from the "Great Ice." Never did the costliest and most luxurious home appear more delightful to the eyes of a returning traveller than the little 7 by 12 state-room at Red Cliff, to which Mrs. Peary had given the imposing name of "the south parlor."

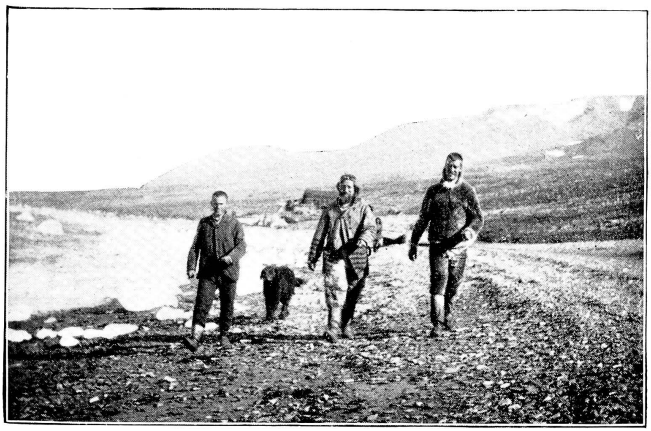
My sledge journey round Inglefield Gulf just before starting upon the ice-cap had acquainted me only with the southern shores. Rough ice and deeply drifted snow had rendered the northern shore impracticable.



BOAT TRIP AROUND INGLEFIELD GULF.

It was now early in the season, there was no special haste for the *Kite* to turn her bow southward, and the opportunity to examine the unknown and attractive shores seemed a favourable one. Then, too, a summer boat voyage offered something in the nature of a picnic for Mrs. Peary and myself after our long separation, an outing which should be free of the rush and hurry of preparation, as of responsibility or anxiety in regard

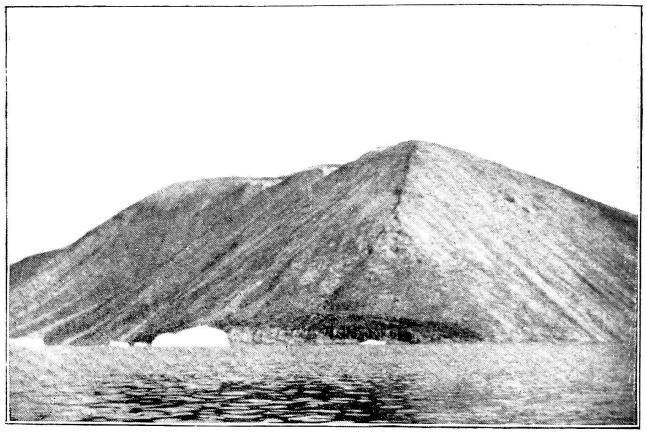
Verhoeff. Dr. Cook. Gibson.



"WE MET MY BOYS."

to the future. It was therefore with much of the feeling of a school-boy starting for a week's picnic in the woods, that I started from Red Cliff at noon on August 9th in my lightest whale-boat, the *Mary Peary*, manned by five of my faithful Eskimos, Komonahpik, Merktoshar, Ingeropahdu or "Freckles," his son Pooadloonah, and Koolootingwah, with Matt as coxswain, and Mrs. Peary beside me in the stern-sheets.

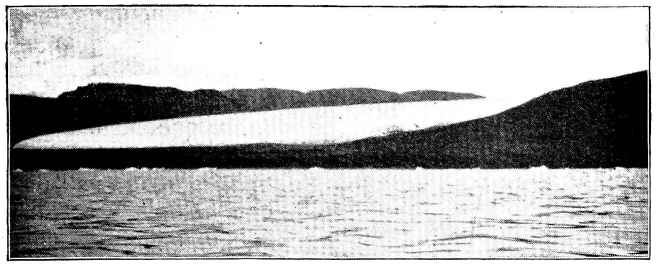
The weather was not particularly auspicious; it had been blowing with a great deal of freshness ever since my return from the ice-cap the night of the 6th, and now ominously heavy storm clouds hung over the entire region; yet this was too slight a thing to interfere with our proposed journey. Rounding the massive reddish-grey bastion of Cape Cleveland, the bow of the *Mary Peary* was headed eastward up



CAPE CLEVELAND.
Typical Bastion Headland.

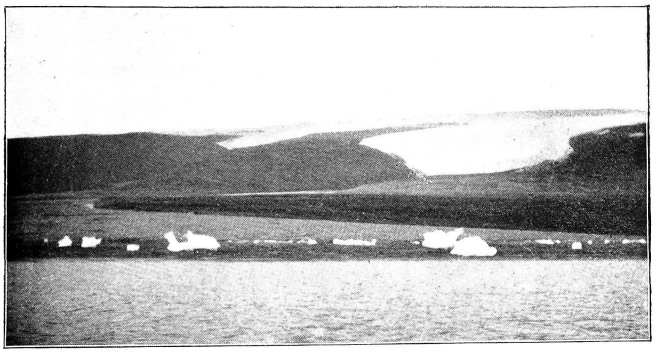
the gulf, and swept rapidly past the shores of the south side of Red-Cliff Peninsula. A few miles above Cape Cleveland, we passed the dazzling mass of the Fan Glacier, with its almost mathematically perfect semicircular face, and equally mathematically perfect semicircular delta in front. From here on to Karnah—Cape Ackland, as well as it is possible to identify it on the charts,—the south coast of Red-Cliff Peninsula is made up of a succession of semicircular

deltas, pushed out from the shore in front of a series of hanging glaciers, and formed by the debris brought down by the rushing currents from these glaciers in



FAN GLACIER.

early summer. So strikingly regular is the contour of these deltas, that the Eskimos have given to them a name which means eyebrow.



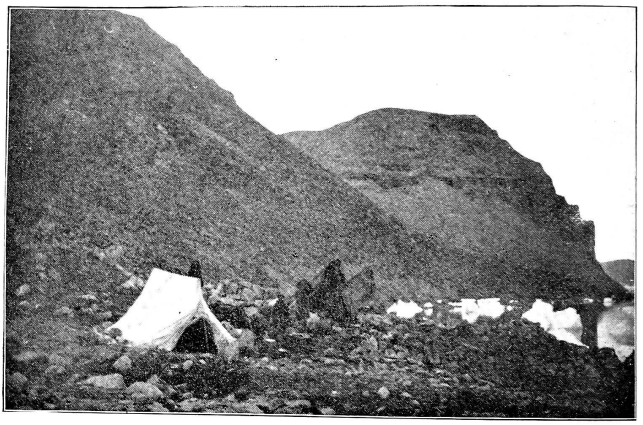
KARNAH GLACIER.

Typical Glacier and Delta, Southern Shore of Red-Cliff Peninsula.

Back of these deltas and a low fore-shore which connects them, rises a series of rather rolling summits,

down the ravines between which protrude hanging glaciers, tongues of the central ice-cap of the peninsula.

The day, in spite of the portent of the dark clouds overhead, was not disagreeable; gulf and sound were free of sheet-ice, only occasional bergs and fragments of bergs breaking the evenness of the waves which ruffled the surface of the water, and to me, who had seen little of the country during the previous summer, and who for the immediately preceding three



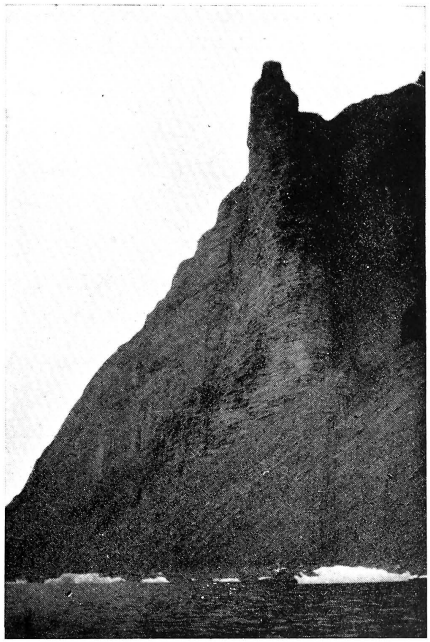
KARNAH.

months had seen nothing but the blinding glare of the "Great Ice," the weather, the water, the warmth of colouring of the shores, barren as they were, seemed almost tropical. Numerous fragments of disrupted bergs, grounded along the beach by the falling tide, looked from the boat almost like flocks of grazing sheep.

At Karnah, the shore forms an angle, a noisy glacial river comes bounding down from the rocks, and

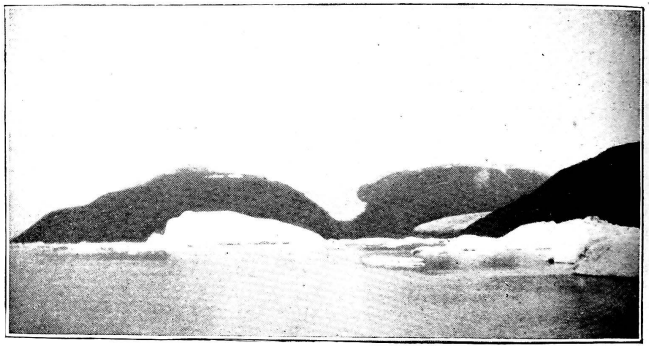
east of it the character of the shore changes completely. The deltas, the low fore-shore, and the rolling mountains give place to a line of majestic sandstone cliffs which rise sheer from the water.

It was now late in the evening, and landing at the point we pitched our tent within the clamour of the glacial river, and prepared for our first night's outing. From this Karnah point, the profile of the cliffs already mentioned, with the distant upper shores of the gulf appearing just past their base, is one of striking boldness. Lulled by the rushing glacial stream, we slept soundly, waking several hours later to find our world covered with a light mantle of newly fallen snow. This snow disappeared as the sun swung upward from the east, and launching the *Mary Peary*, we pulled out under the great cliffs, among a labyrinth of bergs and berg fragments. All the forenoon we crept along under the



A TITAN WATCH-TOWER.

mighty ramparts, in one place a Titan watch-tower, in another a giant amphitheatre, here a niche, there a bastion, and between and over them grouped rows of pinnacles which required but little imagination to transform into statues. So striking is the resemblance of these pinnacles to the human form, that it has appealed even to the rather unimaginative sense of the Eskimos, and the cliffs are known to them as the Statue Cliffs. In numerous places, silver threads



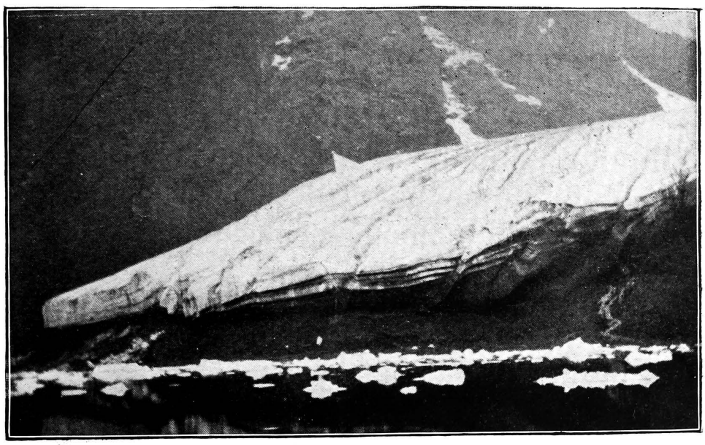
SOUTH GLACIER.
Bowdoin Bay.

of cascades flow down the cliffs from the edge of the ice-cap far above.

Much of this time it was raining, and as we rounded the point that ends this striking feature, which I called the Sculptured Cliffs of Karnah, and entered a little cove curving in to the face of a glacier, we were only too delighted to see several deer crossing the slope, and have an excuse to land and stretch our stiff limbs in an effort to bag some of them. Our efforts, however, were unsuccessful, and re-entering the boat, we left this little bay, the water of which is red almost as

freshly spilled blood, from the fine red sandstone silt brought down by the sub-glacial streams of the two glaciers which enter it, and pulled steadily along close to the foot of the bluffs which form the western shore of the northward-stretching fjord which Ikwa had drawn for me during the winter, and into which I had looked down from the ice-cap a week before.

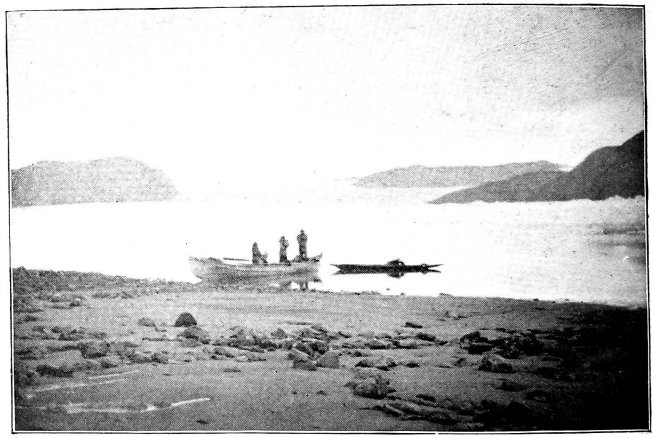
Penetrating into the farthest angle of the head of



WEST OR GNOME GLACIER.
Bowdoin Bay.

this fjord, the boat was beached on the shore of a cove, the shallow water in which was a deep red. The head of this cove was walled by a huge moraine thrown up by a glacier, just the edge of which appeared over the top of the moraine. Beyond that, an isolated mountain of striking boldness and sharpness of outline jutted into the air apparently some two thousand feet, and then, from its base, the crystal wall of a great glacier stretched clear across the

opposite side of the bay head. This glacier I named, in honour of my Alma Mater, Bowdoin Glacier, and the bay I called Bowdoin Bay. The cove was evidently the favourite rendezvous, or feeding-ground, of the *kahkoktah*, or white whales, which abound in this region. All the time during our stay at this camp their puffing could be heard, and, in consequence, I named the cove Kahkoktah Cove. While

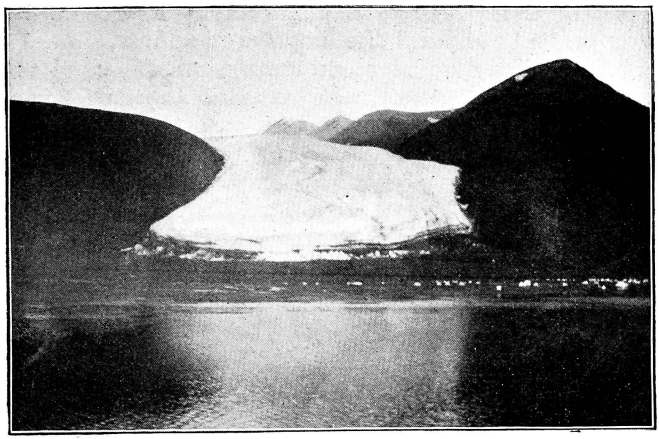


VIEW AT HEAD OF BOWDOIN BAY.
Bowdoin Glacier in Distance.

at this camp, one of my hunters went up the bluffs and obtained two fine deer, and from this camp, also, Verhoeff left us on his proposed trip across the glacier, and so on around to Red Cliff. It was my last sight of the unfortunate man.

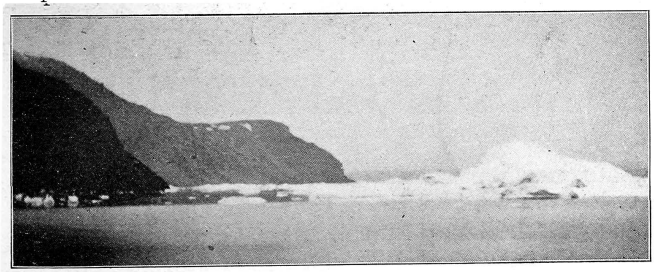
Next noon, in a continuance of rainy weather, I pushed through the area of glacier debris which filled the centre of the bay, into its extreme north-eastern corner, to a little cove from which a tiny valley ran

up under the shadow of a vertical-faced mountain. It was the very place down into which I had looked,



EAST GLACIER.
Bowdoin Bay.

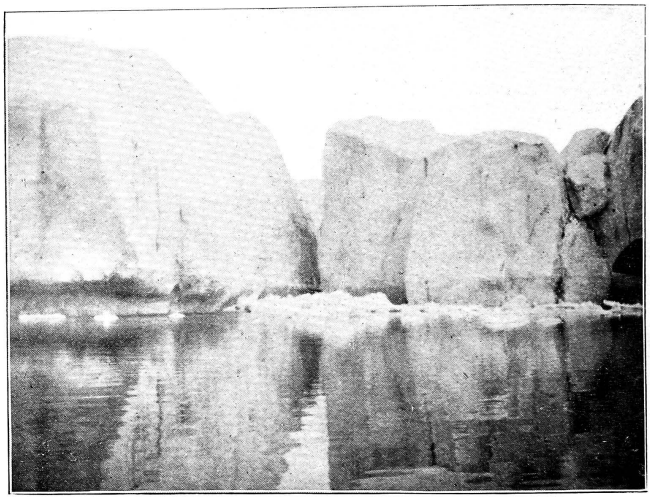
about one week previous, while sweeping down the icy slopes of the "Great Ice" to the head of McCormick



CASTLE CLIFFS.
Western Point of Bowdoin Bay.

Bay, and had thought, at that time, what an ideal site for an arctic house, so accessible and sheltered.

In this instance, distance did not lend enchantment to the view, and I found the place equally as attractive close to, as my fancy had pictured it. It seemed, in every respect, an ideal site for an arctic house. Flowers and grass were in abundance, a stream close by offered an ample supply of water, and the mountains about gave promise of complete protection from furious winter winds. While here, Mrs. Peary was for-

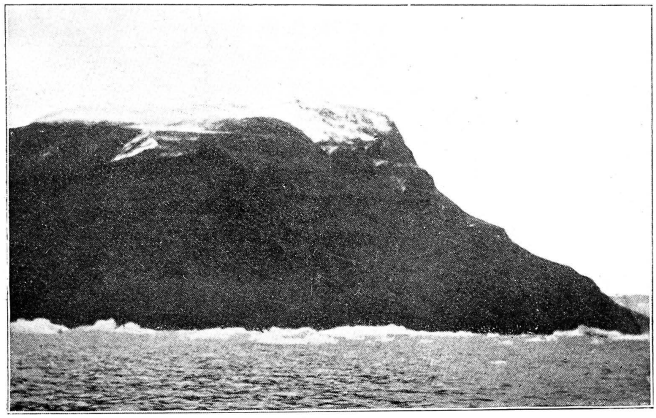


FACE OF HUBBARD GLACIER.

tunate in shooting two more deer, and then, after another rainy night, we pulled out along the eastern shore of the bay, past the East Glacier, as I called it, to the portal of the bay, a mass of warm, red-brown cliffs, eroded by the arctic sculptors, in which bastions, towers, and ramparts were so strikingly like some mediæval strongholds that I called the rocks Castle Cliffs.

Rounding these, we resumed our course eastward

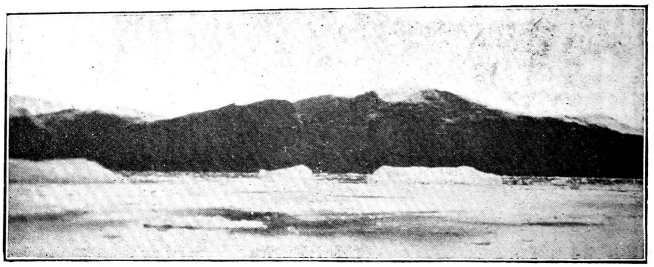
up the gulf. A few miles above the cliffs, we passed along the face of the Hubbard Glacier, which reaches the waters of the Sound in a line of crystalline blue ice-cliffs, a mile or more in length, and from one hundred to one hundred and fifty feet in height. Beyond the glacier gneissose precipices form the shore, and, rounding another bold point, we looked northward into an expansion of the gulf, rimmed by glistening glaciers, separated by wild and towering mountains.



MOUNT ADAMS.

Here, for the first time, I obtained a view of those striking peaks to which I applied the names of Mounts Adams, Daly, and Putnam. Still eastward of us was a striking precipitous island, and I headed the boat for it. Arriving at its southern point, I scaled the nearly vertical cliffs to an elevation of some fifteen hundred feet, from which point of vantage I could sweep the entire circuit of Inglefield Gulf. The outlook was a striking one ; from north-west (true), clear

around to south-east (true), the circuit of the gulf is an almost continuous glistening glacier face. Just at the water's edge, this glacier face is interrupted by several precipitous-walled, flat-topped, isolated mountains, or nunataks, as the natives call them, but behind and climbing far above them can be seen the mighty slope of the "Great Ice," rising to the infinite steel blue of the horizon which separates sky from snow throughout more than 180°. North and west of me lay the indentation which I afterwards called Navy Bay; its head surrounded by several small

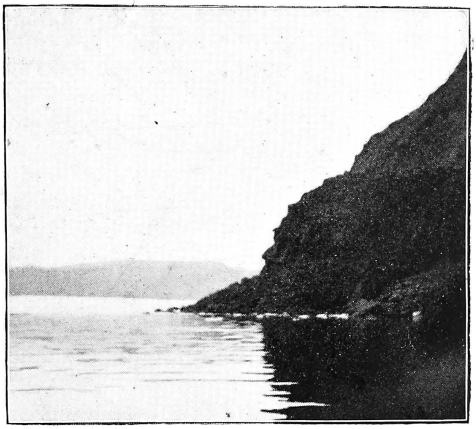


MOUNT PUTNAM.

though striking glaciers. North-east, east, and south-east, the giants of the North-Greenland ice-streams, the Tracy, Melville, and Heilprin Glaciers, swept down in frozen rapids and cataracts from the heart of the "Great Ice" to the sea. The three Arctic giants, Daly, Adams, and Putnam, with the astonishing glacier panorama extending from them entirely round the head of the gulf, and the great saucer-shaped depression in the ice-cap, distinctly perceptible above glaciers and nunataks, till it reaches the steely line of the distant ice-cap horizon, present a scene which in grandeur and peculiarity of detail can be duplicated, I believe, nowhere else upon the globe.

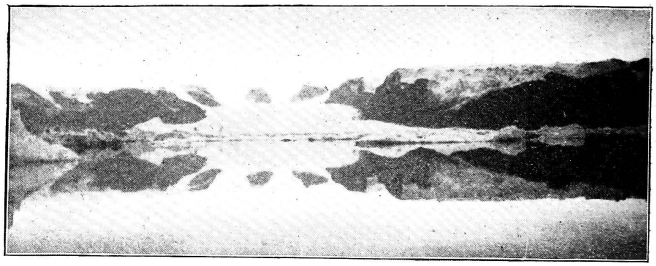
The silent sweep of that enormous amphitheatre in the ice-cap, as it curves down to the mighty portals of the great ice-streams, is something that neither pen, nor brush, nor music could ever hope to express. The waters of the gulf were everywhere dotted with the countless output from these enormous glacier faces, an innumerable fleet of icebergs.

Descending to the boat, we pulled up along the western shore of this island, and as we advanced I was startled to see the perfect profile of a giant stone face carved on the western bluff of the island. To this striking profile, though bearded, I gave the name of the Bronze Sphinx, feeling that perhaps in the arctic regions it would be permissible for even a sphinx to indulge in a beard. Directly in front of this profile, carved in the everlasting arctic rock, is one of the most picturesque of the glaciers of this region, a glacier whose picturesqueness was doubled by the peculiar conditions of absolutely mirror-like water which obtained at the time of our visit. A photograph shows this glacier with every feature duplicated in the water, with such fidelity and symmetry that it has brought out a perfect dorsal view of a lizard.



THE BRONZE SPHINX.

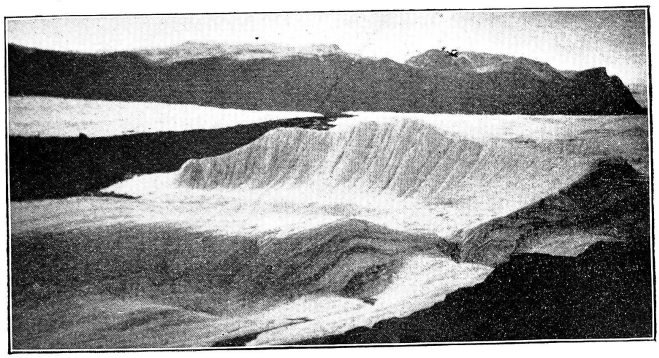
Pulling along the shore of the island, into an angle formed by the cliffs of the island on one side, and the cliffs of a glacier on the other, I landed, though in opposition to the judgment of my natives, who had their fears in regard to the place, on account of the waves which might be caused by the birth of an iceberg from the glacier close by, and encamped for our next night's outing. I did pay sufficient attention to the fears of my natives to have them haul the boat well up above the highest high-water mark. While we were sleeping here, one of my own hunters, Koolootingwah, who seemed sleepless and tireless, climbed to the



HART OR LIZARD GLACIER.

crest of the island, and when I wakened in the morning, he proudly informed me that he had killed four reindeer. As the morning gave promise of a glimpse of the sun, which thus far we had not had since we left Red Cliff, I started for the summit of the island immediately after breakfast, in the hopes of getting an observation and a round of angles. Incidentally, also, I was desirous of seeing the deer which my hunter had killed. Sure enough, I found them within a distance of a hundred yards of each other, where he had crept upon them and shot them while sleeping,—four magnificent bucks.

While the view from the south end of this island was almost all water, from this northern or inner end the view was entirely ice. Here the frozen waves of the great glaciers beat against the foot of the island cliffs. Some of the ice-waves of one of these glaciers—which I named in honour of that splendid big fellow, Melville—although frozen and immutable as marble, have all the life and action of Niagara Rapids. On the other side of the island, the lower portion of the Tracy Glacier sweeps away towards the Smithson

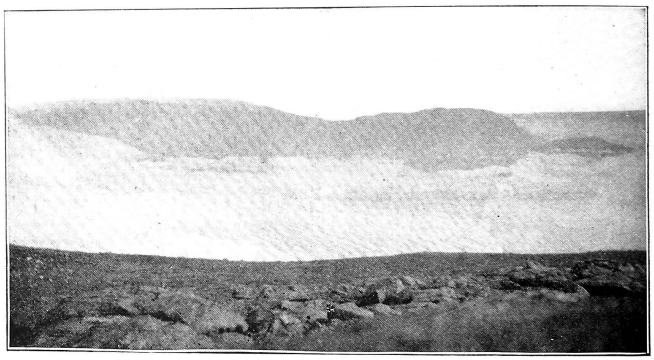


ICE-WAVES OF THE MELVILLE GLACIER.

Mountains, cut by parallel lines of huge crevasses which stretch away mile after mile into the distance, until they become simply waving lines, faint yet definite as those from a graver's tool. The orient cliffs of this island are a mass of rich warm colour. Scattered over its summit are numerous great erratics, brought here at a time when the glaciers which now flowed hundreds of feet below me swept, perhaps, without a ripple over the highest peak.

Descending to the camp, I found my Eskimos in a state of excitement, a school of *kahlillowah*, or nar-

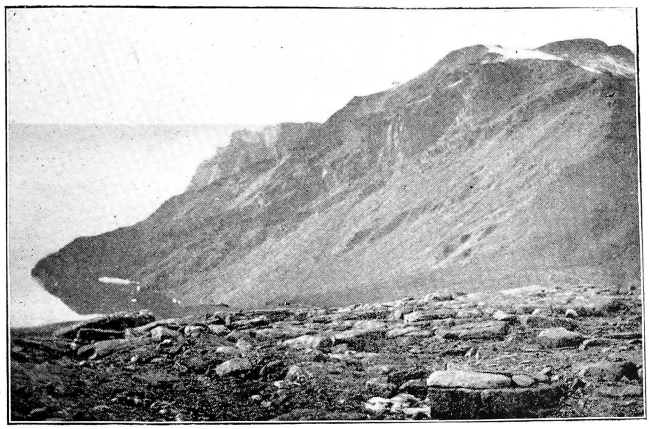
whal, having been sighted out in the bay. Immediately the boat was launched, and everyone climbing in except Komonahpik, who got into his kayak, we started out in pursuit. With a little coaching on the part of my crew, we succeeded in getting near enough for Mrs. Peary to put a bullet into one of the animals, and then a dextrous launch of the harpoon by Komonahpik secured him from sinking, and we towed him back to our camp and pulled him high up on the rocks. Then for the first time we gazed upon the



TRACY GLACIER.

strange peculiarities of this original of the fabled unicorn. It took my deft natives but a few minutes to skin the big animal, then, piling the skin and some choice cuts of meat into the bottom of the boat, we resumed our voyage, re-traversed the western coast of the island to its southern point, and then bore southward directly across the gulf for the mouth of Academy Bay, which opened black and unpromising beneath a canopy of leaden-coloured clouds, across an apparently impenetrable mass of icebergs and ice. Threading our way through these, and having a bit of

excitement during a lively squall which caught us in a stretch of ice-free water and wet us thoroughly with the vicious waves, we reached and entered Academy Bay. Scarcely had we pulled any distance into it, before we encountered one of the furious summer squalls, so common in this region, hurtling out of the bay with a fury which defied all attempts to make headway against it. As, however, we had but a short distance to go in order to effect a landing behind a little

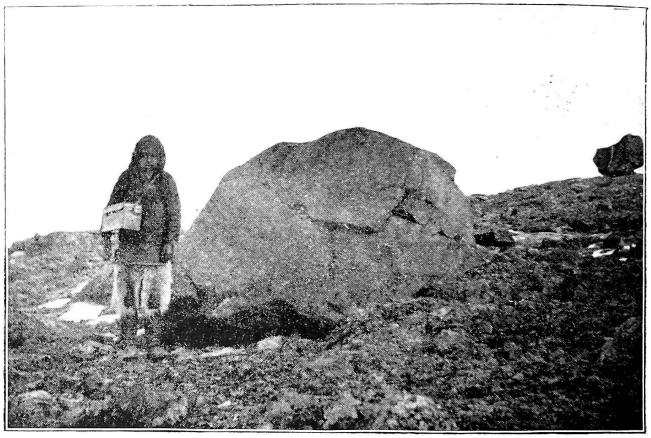


ORIENT CLIFFS OF JOSEPHINE PEARY ISLAND.

island, we succeeded, by keeping close to the shore and taking advantage of the gusts, in reaching the desired spot. Here we camped for one wild night, expecting every moment to have the tent torn from over our heads, although it was weighted down with half a ton of rocks; with the spray which broke over a barrier of icebergs that had jammed against the island, flying over us; and the gusts of the *anoahtaksoah*, as the natives call these wild storms, howling down the

bay past us like an army of mad demons. In the morning the wind had subsided, yet never have I seen such savage shapes and masses of wicked clouds, shifting and boiling in angry turmoil just above the summits of the black cliffs above us.

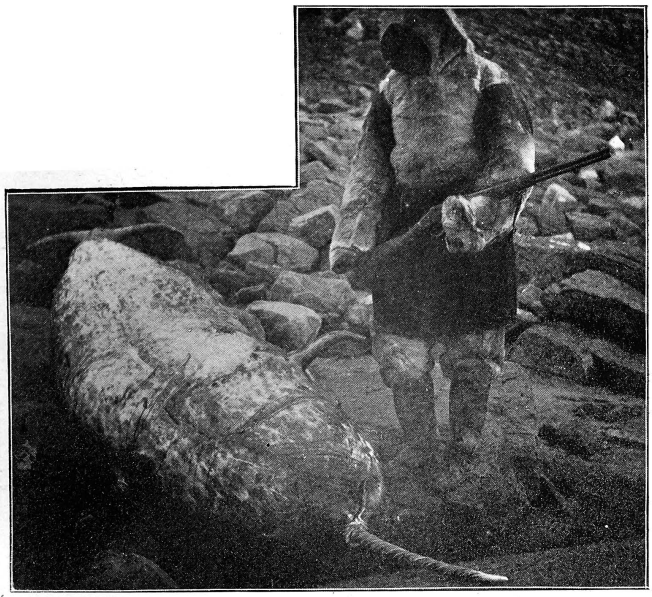
I did not care to risk taking the boat up the bay, so climbed along the shore with two of the Eskimos to a point where I could command its head, and there



ERRATICS ON SUMMIT OF JOSEPHINE PEARY ISLAND.
Mt. Lee and Inland Ice in Distance.

see sweeping entirely across it, from vertical cliff to vertical cliff, the glistening face of the Leidy Glacier, and beyond that, the mighty stream of the glacier itself flowing down between ragged nunataks from the heart of the "Great Ice." The water was like ink as we pulled across the mouth of Academy Bay towards little Ptarmigan Island, on which we had rested on the sledge journey of the spring, and I kept an anxious eye out for more squalls. Just inside of the island

was a small settlement of Eskimos, and landing to communicate with them, I found them revelling in venison and with numbers of fresh deerskins in their tents, trophies of their bows and arrows. This place is on the confines of the great deer pastures of this region.



MRS. PEARY AND HER KAHLILLOWAH.

Stopping here only an hour or so to limber ourselves up, and try to get a little warmth into clothing which had been saturated almost from the moment of our leaving Red Cliff, we again pulled on close to the shore of the south side of the gulf. We had a hard struggle with the tide, which runs here like a mill-race, swirling in eddies around every rocky

point. Night overtook us before we had gone very far, and landing at the only available place along several miles of shore, we made our preparations for the night.

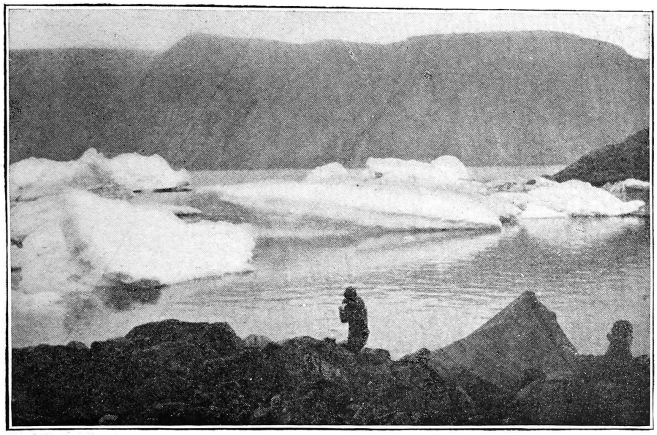
From here the next day we kept on down the south shore past the face of the Hurlburt Glacier, and then bore straight across the gulf for Karnah. The trip across was uneventful; we were fortunately not troubled by wind, and once within the shelter of the iceberg flotilla, which is always sweeping along



LOOKING OUT OF ACADEMY BAY.

the Karnah shore, we felt safe. Again we landed at Karnah, intending to spend the night there, but after a generous repast and plenty of hot tea, we felt so much refreshed that it was the opinion of everyone we should push on to Red Cliff without delay. As long as my crew felt this way, I was only too glad, and hastily stowing our things in the *Mary Peary* again, we pulled off from the beach and headed westward for Cape Cleveland.

When about half-way on our journey, a favouring wind sprang up, to which the *Mary Peary's* foresail was spread and she dashed on bravely before it, the wind increasing in intensity until, as we reached Cape Cleveland, it was blowing half a gale, and required a good deal of skill on Matt's part to steer the *Mary Peary* clear of the numerous lumps of ice which lay in our way, as she swept, literally, almost like an arrow, through the white-capped waves. Rounding

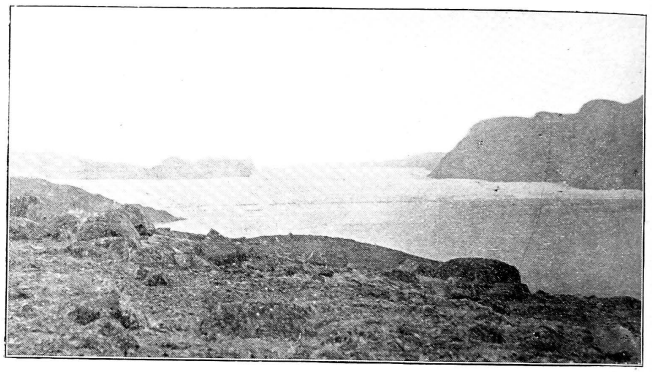


THE ICEBERG BREAKWATER.

the point of Cape Cleveland with a rush, we ran into a dead calm, but had scarcely got the sail rolled up and the mast unstepped in readiness for rowing, when I saw a squall coming down McCormick Bay to meet us just as it had come down Academy Bay. Bringing the boat close into the shore, we met the squall as best we could, yet, with the utmost efforts on our part, it was several hours before we succeeded in reaching the shelter of the little point, less than two

miles from the cape, and there beached the boat and landed.

Walking up the shore to Red Cliff House, we saw the *Kite* still at anchor off the beach. Sending word out to Professor Heilprin that I had returned, we were only too glad to remove our saturated clothing, and after a hot meal, turn in for a dry night's rest.



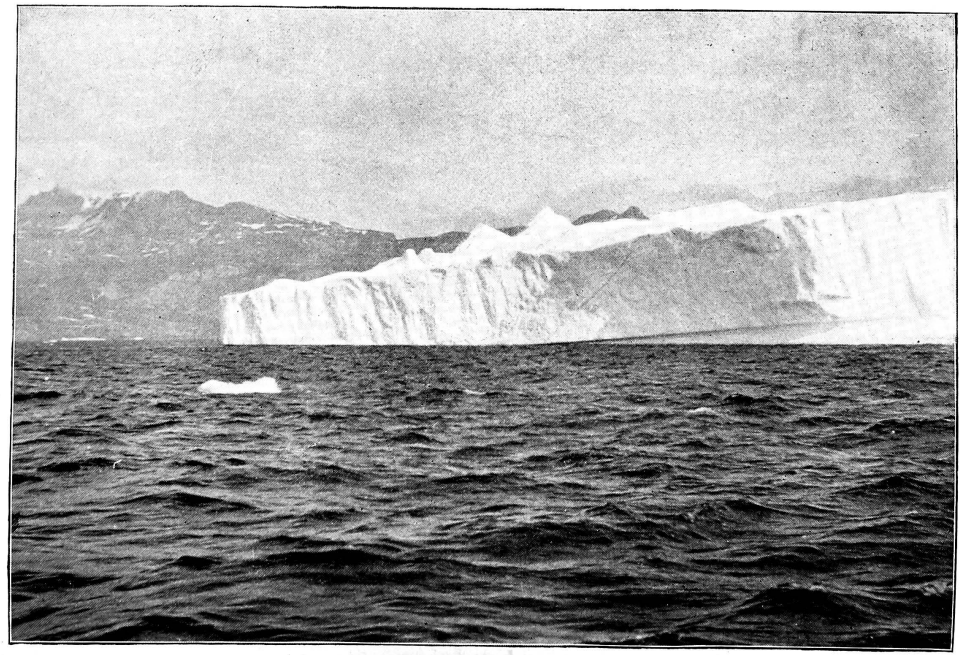
LEIDY GLACIER.
Head of Academy Bay.

This boat voyage of something like a week's duration was, in spite of the hostility of the weather, a very enjoyable one, and the variety and character of the scenery observed during the voyage made it long to be remembered. The pictures accompanying this chapter give a clear and consecutive impression of the summer aspect and beautiful and striking features of this greatest and most interesting of Greenland inlets.

CHAPTER XV.

SEARCH FOR VERHOEFF, AND HOMEWARD VOYAGE.

VERHOEFF FAILS TO RETURN—SEARCH IMMEDIATELY INSTITUTED AND PROSECUTED FOR SIX DAYS AND NIGHTS—TRACKS ON THE GLACIER—NO HOPE—FAREWELL TO RED CLIFF—ATANEKERDLUK-GODHAAB—ST. JOHN'S—PHILADELPHIA.



ICEBERG IN THE WAIGATT.

CHAPTER XV.

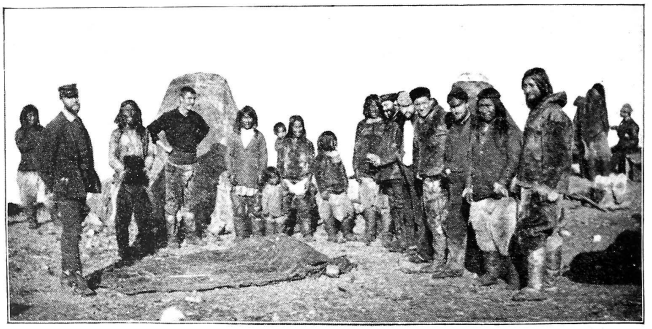
SEARCH FOR VERHOEFF, AND HOMEWARD VOYAGE.



I FOUND that Gibson was away, with Mr. Bryant of Professor Heilprin's party, at Five-Glacier Valley, to bring Verhoeff home. Gibson had landed Verhoeff at the valley a few days after he left me at the head of Bowdoin Bay, to enable him to make an overland trip to the Eskimo settlements in Robertson Bay, and was to go after him at the expiration of a certain time. The next day the boat returned, but without Verhoeff. The immediate inference was that he had become bewildered and lost somewhere in the region between McCormick and Robertson Bays.

The work of packing my impedimenta to send on board the *Kite* was stopped immediately, and hastily fitting the *Mary Peary* with supplies, I jumped into her with Gibson and a crew of my best Eskimos, and, hoisting sail, sped away for the mouth of the valley. The *Kite* hoisted anchor and, with the remaining natives whom I had sent aboard, steamed away to

Robertson Bay. Reaching the mouth of the valley, we had a substantial meal all around, then started up the valley with all my Eskimos, after having promised the man who first saw Verhoeff a rifle and as much ammunition as he cared for. This was the 18th. Deploying the natives in a line, the individuals in which were separated by less than one hundred feet, they reached clear across the contracted valley, from cliff to cliff, and slowly advanced up its length, shouting and discharging rifles at regular intervals. So



"MANY WERE THE INTERESTING GROUPS."

thorough and minute was the search that, on the way, we found a handkerchief and a knife, which had been dropped by the Five-Glacier-Valley hunting-party the previous October. No signs of Verhoeff were seen, however, though we swept the valley until we came out on the crest of the bluff beyond its head, looking down into Robertson Bay.

Returning to McCormick Bay on the 21st, I found the *Kite* anchored off the mouth of the valley. No trace of Verhoeff had been found in Robertson Bay. I detailed four or five of the best Eskimos to Gibson,

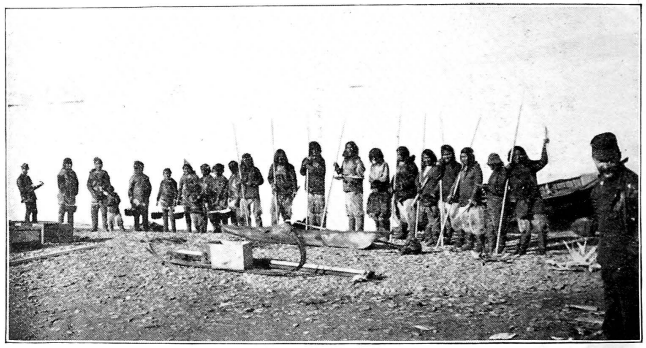
and instructed him to take several days' supplies and proceed up the valley again and scour the region north and west of it, clear up to the edge of the great glacier which flows down into the head of Robertson Bay, then to follow down the side of the glacier to the bay itself. With the rest of the Eskimos and my whale-boat, I started along the shore of McCormick Bay, to carefully examine every foot of it, clear



MRS. PEARY DISTRIBUTING HOUSEHOLD UTENSILS.

round into the head of Robertson Bay, where I would effect a junction with Gibson. The *Kite*, later on, was to follow me into Robertson Bay. The most careful examination of the shore discovered not the slightest trace of Verhoeff. Reaching the head of the bay, and communicating with Gibson, who had come down the side of the glacier, I found that the natives had discovered traces of the missing man,—

footprints along the side of the glacier. Picking these up, we immediately followed them up on to the glacier itself, and for a little distance on its surface, when they disappeared upon the unyielding surface of the ice. I then divided my Eskimos into three parties. Two of these were to start at the water's edge and follow each side of the glacier with the utmost care, to find where Verhoeff had left the glacier. Professor Heilprin, with his party, and I, with two of the best trailers in the entire tribe, quartered the surface of

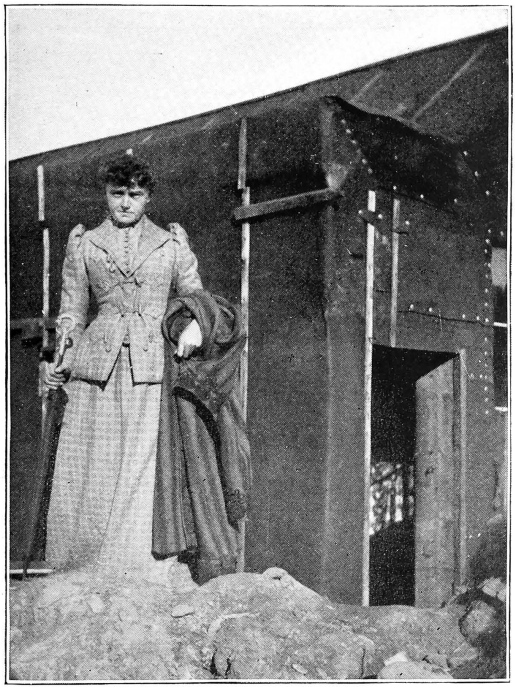


PRICELESS TREASURES FROM PHILADELPHIA FRIENDS.

the glacier itself in every direction, to see if we could find any more tracks. Our utmost efforts were unavailing, although the tracks were distinct, passing up on to the glacier. At no place in the entire periphery of the great ice-stream was there any track or trace of a man having left the glacier. The inference was unavoidable: Verhoeff, crossing the glacier, in thick weather perhaps, had slipped and fallen into one of innumerable yawning crevasses. The accident was the same as those which occur almost annually in the glaciers of the Alps. The great ice-stream where he

met his untimely end bears now the name of Verhoeff.[1]

It is needless to say that this accident cast the deep-

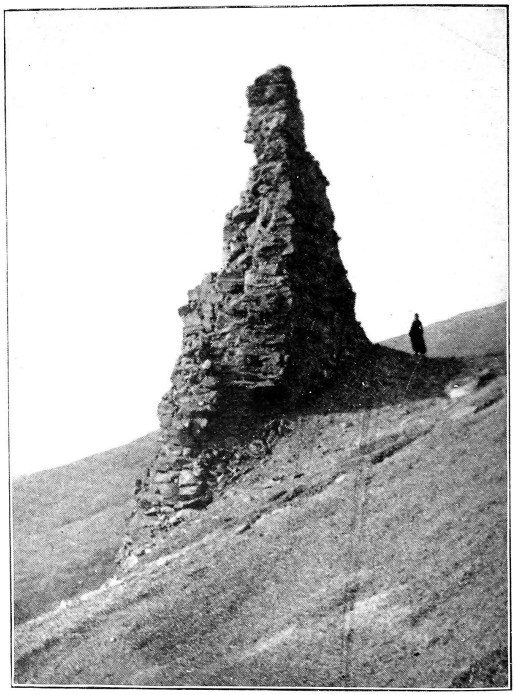


FAREWELL TO OUR GREENLAND HOME.

est gloom upon every member of both parties ; it was so sudden, so unexpected, like a flash of lightning

[1] This search for Verhoeff, prosecuted for six days and nights by all the members of my party and Professor Heilprin's, the *Kite's* crew, and nine Eskimos, the latter excited to the utmost by the promise of a rifle and a box of ammunition to the first who saw Verhoeff, was discontinued only when it was the conviction of everyone that there was no longer any ground for hope.

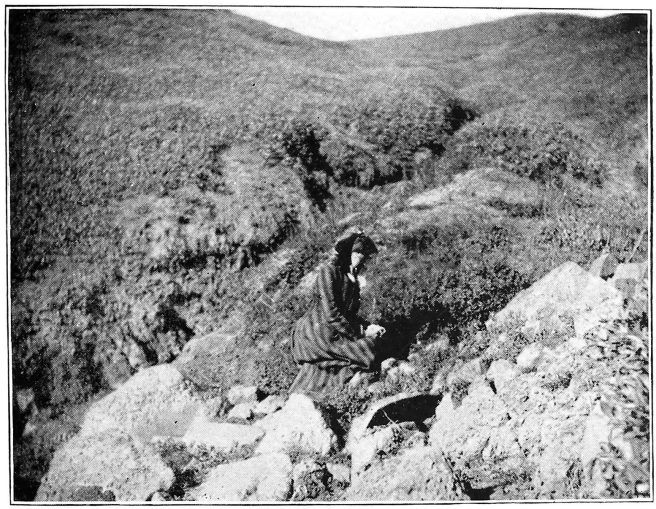
from a clear sky, occurring as it did in the height of the summer, after all the possibilities of the winter and of the ice-cap work had been surmounted without the least accident. I could think of nothing else as the



THE GIANT OF ATANEKERDLUK.
Weathered Pinnacle of a Trap Dyke.

Kite, on the 24th, after six days of unremitting search, slowly swung out of Robertson Bay on her way back to Red Cliff. I still clung to the hope that possibly Verhoeff might still be alive, and on this possibility I

landed at Cape Robertson ample provisions for one man for more than a year, and I impressed upon the natives that they were to make every effort to find Verhoeff, and if at any time he should come into any of their settlements, they were to take the utmost care of him, as they would of me, and that when I re-

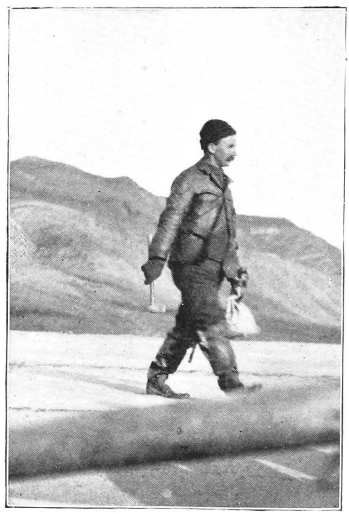


VERDANT RAVINE AT ATANEKERDLUK.

turned the following summer, as I intended to do, I should reward them beyond their wildest dreams.

Arriving at Red Cliff, I broke the sad news of the results of our search to Mrs. Peary, and then with heavy heart completed the work of packing my specimens and remaining material to send on board the ship. The weather, which during our search for Verhoeff had been of the most disagreeable nature, snow falling every night, changed now and gave us one or

two perfect days. The warmth and light upon the beach along Red Cliff were almost tropical in their character. Many were the interesting groups, yet I had little heart for them. Mrs. Peary distributed the household utensils to the delighted women of the village, and then both men and women were assembled in line upon the beach, and everything that I did not care to take home with me given to them, together with untold wealth sent them by kind friends of the expedition in Philadelphia, in the shape of wood, knives, iron kettles, etc.—treasures priceless to the Eskimo mind.



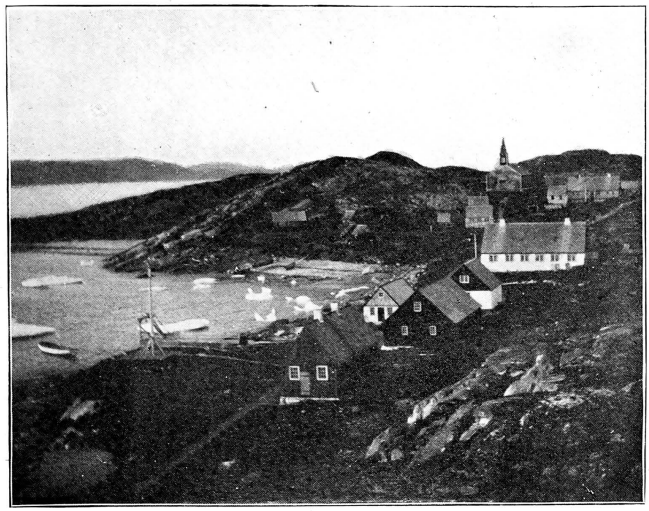
THE PROFESSOR.

Then, at the last moment, Mrs. Peary and I stepped from the door of our little room outside the now dismantled house, and said farewell to our first Greenland home. An hour or two later, the *Kite's* propeller was driving her out of McCormick Bay just as it had driven her a little more than a year ago, only now there were but the original inhabitants of the country left upon the shore.

Steaming southward through several uneventful days, our first stop was made at the fossil-beds of Atanekerdluk in the Waigatt. Here a perfect summer day was put in, and the geological members of Professor Heilprin's Expedition delved for the fossils

with which the locality is rich, while Mrs. Peary and myself wandered like children out of school up the grassy and mossy ravines and across the warm-hued slopes. All were satisfied with the call here—the Professor and his party with their fossils, Mrs. Peary and myself with our run ashore.

A brief stop was made at Godhavn, to tell our



GODHAAB.

friends there of our fortunes and successes, then the *Kite* steamed away for the other Greenland capital, Godhaab of the Southern Inspectorate. This place seemed quite like a metropolis as compared with Godhavn. It has quite a pretentious chapel, and a short distance away is the long, low building of the old Moravian Mission establishment. We made many pleasant acquaintances here, among them white-haired

Inspector Fencker and his wife, with their pleasant-faced young daughter, who, in her seventeen years of life, has never been out of Greenland. While here, too, some of the kayakers of the place treated us to an exhibition of the characteristic aquatic feats of these South-Greenland amphibious hunters,—jumping one canoe over the other, turning somersault

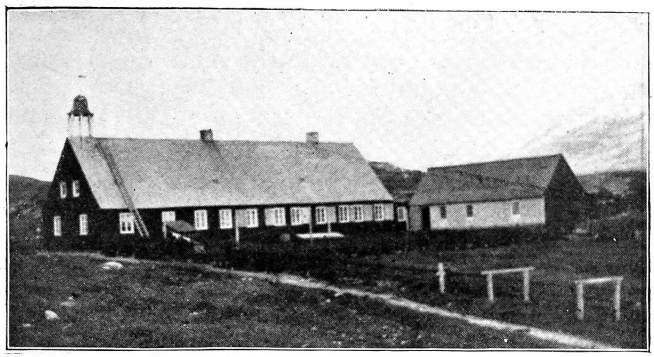


CHAPEL AT GODHAAB.

after somersault in the water, etc. Returning to the ship after an evening spent at the Inspector's house, it suddenly struck me as I looked across the harbour, picturesque in its night shadows, that we were really approaching God's country once more. We actually had a civilised night and day now.

Leaving Godhaab, fresh northerly and north-westerly winds kept the little *Kite* heeling, every sail

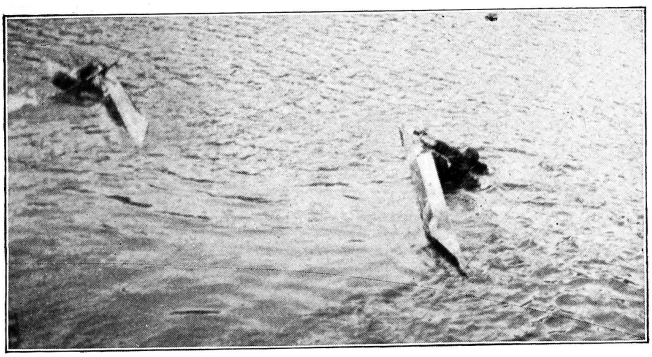
swelling like a balloon, and the foaming spray driving from her sturdy little prow, day after day, until



MORAVIAN MISSION.

at last we made the harbour of St. John's, Newfoundland.

Entering the Narrows, a cry of surprise and as-

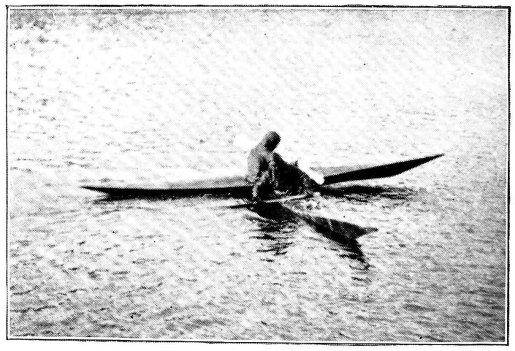


SOMERSAULT IN KAYAK.

tonishment burst from the members of the ship's crew. The town which we had left a little more than a year

ago existed no longer,—only a stretch of gaunt, black ruins. A few weeks after the *Kite* had left it on her upward voyage, fire had swept the place completely. Fortunately it had not touched the residence of the genial and hospitable owner of the *Kite*, Edgar Bowring, and with him and his charming wife Mrs. Peary and myself were domiciled during our short stay in St. John's, while the *Kite* took on more coal for her voyage to Philadelphia.

From St. John's to Philadelphia the voyage was un-



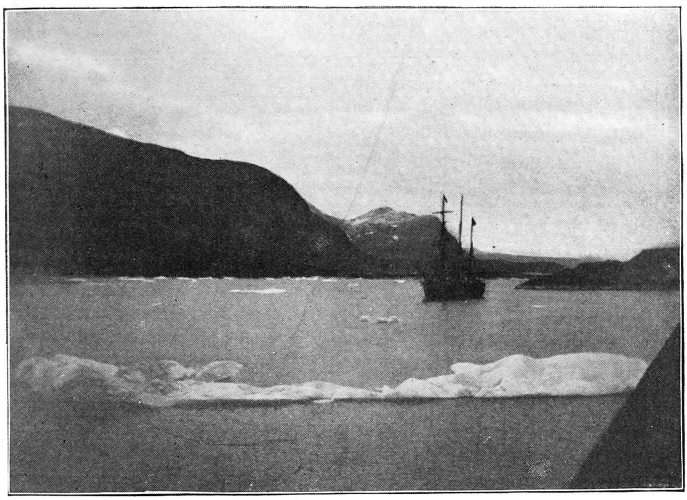
JUMPING ONE KAYAK OVER ANOTHER.

eventful and monotonous, head-winds holding us back. At last, however, we passed the Delaware Breakwater, and, a short distance below Philadelphia, saw the tug chartered by our friends coming down the river to meet us. Soon they were on board, our story was told, and the North-Greenland Expedition of 1891 and 1892 was at an end.

An aftermath of this was the overflowing reception at the Academy of Natural Sciences, when our numerous friends and well-wishers in and about Philadelphia had the opportunity of meeting the

returning members of the expedition, and discovered, much to the surprise of many, that men and even women could live for a year or so in Greenland, and return not only alive, but in entirely normal condition.

The elimination of the work of any member of my party would have detracted very largely from the success of the expedition.



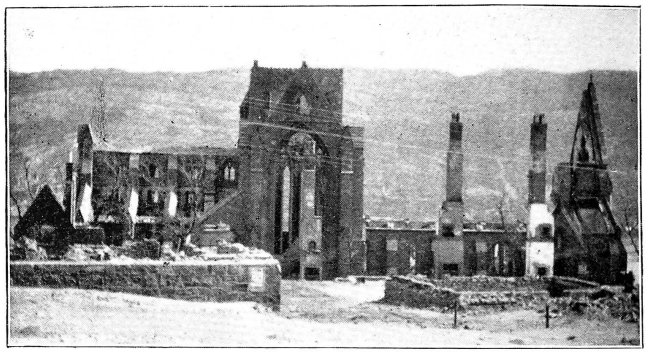
THE HARBOUR PICTURESQUE IN NIGHT SHADOWS.

To Dr. Cook's care may be attributed the almost complete exemption of the party from even the mildest indispositions, and personally I owe much to his professional skill, and unruffled patience and coolness in an emergency. In addition to his work in his special ethnological field, in which he has obtained a large mass of most valuable material concerning a

practically unstudied tribe, he was always helpful and an indefatigable worker.

Verhoeff, besides contributing generously to the expense of the expedition, was devoted to his meteorological and tidal observations and made a complete and valuable series of both.

Gibson, a natural hunter, quick with rifle and gun, in addition to his ornithological work, contributed more largely than any other member of the party to our supply of game.



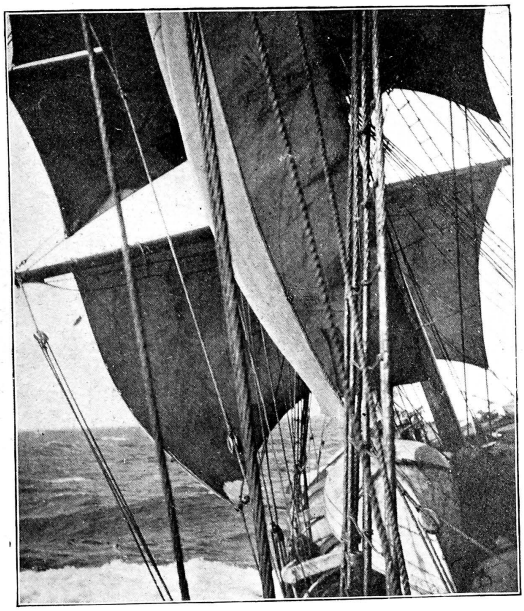
FIRE-SWEPT ST. JOHN'S.

Astrüp, a young Norwegian, a boy in years, but a man in grit and endurance, was one among a thousand for the long and lonely journey during which he was my sole companion.

Henson, my faithful coloured boy, a hard worker and apt at anything, being in turn cook, hunter, dog driver, housekeeper, and body-guard, showed himself, in powers of endurance and ability to withstand cold, the equal of others in the party.

My acknowledgments of my obligations to the members of my party would be incomplete without

reference to Mrs. Peary. Outside of the unspeakable comfort of her soothing presence in the time when at the threshold of a field of effort, in which pure brute physical fitness and strength are a *sine qua non*, I found myself a helpless cripple, I feel that I speak without prejudice when I say that to her womanly



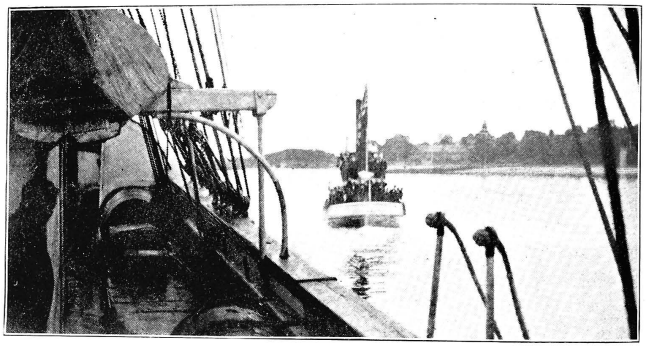
SOUTHWARD WITH BELLYING SAILS.

presence at all times and her valuable assistance and suggestions, especially in regard to our clothing outfit, the expedition owes much.

The experience of the expedition proved conclusively to me the correctness of my theory as to the quality of the personnel of an Arctic expedition,

namely, that it should be composed entirely of men of youth, perfect health, and educated intelligence.

Such men, imbued with an interest in their work and the success of the expedition, able to lift themselves beyond the gloom and inactivity of the present,



"OUR FRIENDS COMING TO MEET US."

with plans for the work of the future, and possessing resources within themselves, are able to resist in a maximum degree the depressing and demoralising effect of the long winter night, and in the field their ardour and *élan* more than balance their inexperience or lack of toughened endurance.

CHAPTER XVI.

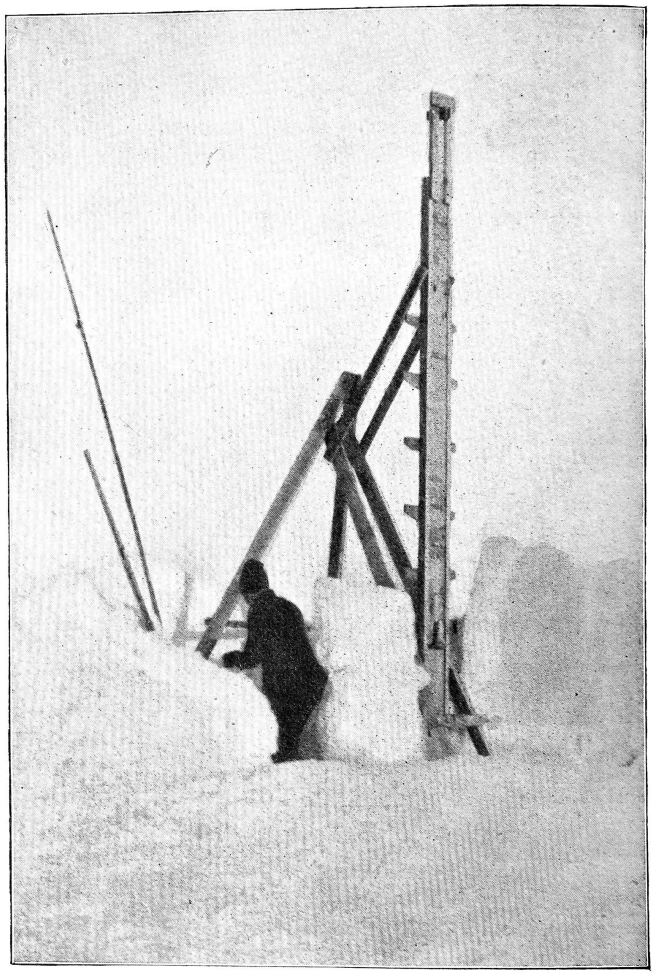
METEOROLOGICAL NOTES

FROM

AUGUST, 1891, TO MARCH, 1892, INCLUSIVE.

BY

JOHN M. VERHOEFF.



VERHOEFF AND TIDE GAUGE.

CHAPTER XVI.

METEOROLOGICAL NOTES—VERHOEFF.[1]

August, 1891.



DURING the early part of August there was much rain, but later the weather became much better; however, fogs were not infrequent.

There were no great changes in temperature, but the record is incomplete, owing to my absence at times from Red Cliff House and to other causes.

The hours for making meteorological observations were seven A.M , two P.M., and nine P.M. At seven A.M.,

[1] These notes are just as handed to me by Verhoeff previous to my departure on the ice-cap march.

His observations for April, May, June, and July, 1892, if ever summarised by him, were never given to me

These notes give but little idea of the minute and voluminous observations made by Verhoeff, observations which were his pride, and with which no stress of weather was ever allowed to interfere.

When his records are worked up by an expert, as they will be, they will form a striking monument to the faithful, conscientious worker, who lost his young life on the cruel glacier,—a monument of which his sorrowing sister and his other relatives and friends may well be proud.

the maximum and minimum temperatures for the preceding twenty-four hours were also obtained.

There were nineteen days on which three observations were taken; August 3, 4, 5, 6, 7, 8, 9, 10, 11, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30 being those days.

The mean daily average of these is 37.53°.[1] On the 12th, 18th, 19th, 20th, and 31st, one or two observations were taken. If we count in these five days, the twenty-four days average 37.84°, thus varying less than one-third of a degree from the original result. If one notes the fact that, of the remaining seven days, only one, the 17th, was in the latter half of month, the conclusion might be drawn that, if these days could be counted in, the average would be higher.

However, I do not think that those days could materially alter the average, certainly not over one-half a degree.

The average of the nine days noted in early part of month is 37.33°.

The average of the ten days noted in latter half of month is 37.62°.

While on a trip to Hakluyt and Northumberland Islands, August 12–18, the highest temperature noted was 48° on Hakluyt Island, August 13, at two P.M.

Lowest was 39° on Hakluyt Island, August 13, at ten P.M., and August 14, at eight A.M.

There was no maximum or minimum thermometer used, or the maximum temperature shown would doubtless have been higher and minimum lower.

Highest temperature during August at Red Cliff House was 52° on the 19th, as shown by maximum thermometer the following morning at seven A.M.

On the 20th, 22d, and 23d, the temperature rose as high as 50°.

[1] All temperatures are given in degrees Fahrenheit.

The lowest temperature was 29°, as shown by minimum thermometer August 28, at seven A.M.

The reading of barometer was taken since August 18, after return from Hakluyt Island.

Highest noted was 30.38 inches, August 20, at 9.20 P.M.

Lowest noted was August 23, at seven A.M., also August 24, at 3.10 P.M. and 5.07 P.M., 29.825 inches.

Average temperature, fresh water 40°; sea 37°.

September, 1891.

Record for September is not quite complete owing to my trips from Red Cliff House. There were eighteen days when three daily observations were made. September 1, 2, 3, 12, 14, 15, 16, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30 are those days, and average 21.74°. I made one or two observations September 4, 11, 13, 17, 18, and 23.

From the 4th to the 11th, inclusive, Matt, our negro cook, was alone at Red Cliff House, and at seven A.M. of each day he took the maximum and minimum temperatures for the preceding twenty-four hours. By taking a mean of these temperatures, with the exception of one day, the 6th, when it is very probable he made a mistake, and counting in the days when I made one or two observations, every day in the month except two can be counted.

The 18th is the second day elided, because of my trip to the boat camp at south-eastern corner of McCormick Bay. The average of the twenty-eight days mentioned is 23.28°, being thus $1\frac{1}{2}$° above the average of the eighteen days when three observations were made. The rise in temperature by averaging twenty-eight days is probably due to the fact that of the ten days added seven are in the early half of the month.

The highest temperature was 40°, September 1, as shown by maximum thermometer, September 2, at seven A.M.; the maximum probably occurred in the early afternoon.

Lowest temperature was 8°, on the morning of September 30, at 5.20 A.M., as shown by minimum thermometer.

It is thus seen that the maximum temperature occurred on the first, and the minimum on the last day of the month.

The highest barometer reading was 30.32 inches, September 19, at 10.45 A.M.

The lowest barometer reading was 29.535 inches, September 29, at six A.M.

During the month, many of the icebergs had left the bay, but some were still present September 27, at which date the formation of new ice in the bay was noticed.

October, 1891.

The record for October is practically complete as regards the state of weather. Though occasionally absent, the observations were taken, leaving no gaps as before.

The mean daily temperature was 8.57°.

The highest temperature was 25°, on the 7th, as shown by the maximum thermometer on the 7th, at seven A.M.

The lowest temperature, as shown by the minimum thermometer, October 29, at seven A.M., was $-15\frac{1}{2}°$.

The highest barometer reading was 30.11 inches, on the 28th.

The lowest barometer reading was 29.37 inches, on the 8th.

Ice in the bay was about four inches thick on the 2d, and about seventeen inches thick at close of month.

November, 1891.

The mean daily temperature for November was 0.16°.

The maximum temperature was 30¼°, as shown by the maximum thermometer, November 19, at nine P.M.

On this day, the rise in temperature was remarkable and sudden, lasting two days.

The minimum temperature was −18¾°, as shown by the minimum thermometer, November 27, at nine P. M.

The highest barometer reading was 30.32 inches, November 9, at two P.M. and nine P.M.

The lowest barometer reading, also the lowest to this date, was 29.16 inches, November 19, at seven A.M. and two P.M.

In beginning of month ice in bay was about seventeen inches thick (November 3). At close of month it was about twenty-six inches thick (November 30).

December, 1891.

December, unlike the preceding months observed, showed sudden changes in the temperature.

The record for the month is complete as regards temperature, barometric readings, and tidal observations.

The mean daily temperature was −14.09°.

The highest temperature was 16¾°, as shown by the maximum thermometer, December 31, at nine P.M.

Thermometer was above zero on the 13th, 30th, and 31st.

The lowest temperature was −31°, as shown by mimimum thermometer, December 28, at nine P.M.

It is thus seen that, unlike the preceding months observed, the maximum and minimum temperatures occurred only a few, in fact three, days apart.

At the close of month there was a sudden rise in temperature, continuing a while in January.

December 31 was the only day of month when thermometer showed a temperature above zero during the entire day, the mean temperature for the day being 11.08°.

Highest barometer reading was 30.06 inches, December 6, at seven A.M.

Lowest barometer reading, and also lowest noted during the year, was 28.97 inches, December 19, at 6.04 A.M.

Ice in bay was twenty-six inches thick at opening of month (December 1), and three feet thick at close of year.

January, 1892.

As stated in notes for December, January commenced with a warm temperature, $9\frac{1}{2}°$ at 12.01 A.M., accompanied by a brisk south-easterly wind.

The mean daily temperature for the month was $-20.53°$.

The maximum temperature was 32°, as shown by maximum thermometer on the 7th, at seven A.M. and nine P.M.

The thermometer showed a temperature above zero from January 6, at nine P.M., till January 10, at four A.M.

The highest daily mean temperature was 18.08°, on the 9th.

The lowest temperature was $-53\frac{3}{4}°$, as shown by minimum thermometer 6882, on the 18th, at nine P.M., occurring after two P.M.

The lowest daily mean temperature was $-41.67°$ (per 6882), the same day, January 18.

The highest barometer reading, 30.55 inches, was January 5, at 2.02 P.M. and three P.M.

The lowest barometer reading, 28.99 inches, was January 26, at 7.02 A.M.

Ice in bay was three feet thick at beginning of month, and about four feet thick at close, measuring in tide hole.

February, 1892.

The month of February showed even greater changes in the weather and temperature than January.

The mean daily temperature was −15.77°.

The highest temperature was 41°, as shown by maximum thermometer on the 15th, at nine P.M.

The mean temperature of the 15th was 35.25°.

The time of the rise in temperature began February 14, at nine P.M., temperature then being 31°.

The minimum thermometer showed a minimum temperature of 31° for the next twenty-four hours, ending February 15, at nine P.M.

Temperature was above zero on the 14th, 15th, 16th, 17th, 18th, and 21st.

The minimum temperature during February was −50½°, as shown by minimum thermometer 6882, February 12, at seven A.M.

The lowest mean daily temperature was −35.75°, on the 11th.

Lowest barometer reading was 29.285 inches on the 4th, at seven A.M.

Highest barometer reading was 30.525 inches on the 13th, at nine P.M.

Ice in bay was 3.7 feet thick to surface of water, or about 4.2 feet for total thickness, at close of month.

March, 1892.

The month of March was our coldest month, the mean daily temperature being −22.12°. First half of

month was the colder. The mean of the first fifteen or seventeen days was $-27.91°$, while the mean of the last sixteen days was $-16.57°$.

Highest temperature was on the 12th, at six P.M., 3°.

The mean temperature of this day, highest of the month, was $-1.08°$.

Our lowest temperature was $-50\frac{3}{4}°$, as shown by minimum thermometer on the 6th, at seven A.M.

Though our minimum temperature of the winter is claimed by January, $-53\frac{3}{4}°$, March can claim the minimum mean daily temperature.

The mean daily temperature of the 6th was $-45.25°$, lower than that of January 18 by $3.58°$.

This month was probably an average winter month, there being no very high temperatures, as in preceding two months, when it rose to freezing-point. However, there was a storm similar to that of February 15–16, but without the high temperature.

The March storm was on the 23d and 24th. The principal features were a powerful south-east gale, hazy atmosphere, sometimes confining the sight to a hundred yards or less, snow drifting at times, and a swell to the tide. Though a very pronounced storm, in no feature did it seem to surpass that in February. Barometer not remarkably affected.

The average barometric height of the month was 29.884 inches.

Greatest height was 30.21 inches on the 4th, at nine P.M., and the lowest was 29.46 inches on the 19th, at seven A.M.

The thickness of bay ice showed no perceptible change during the month.

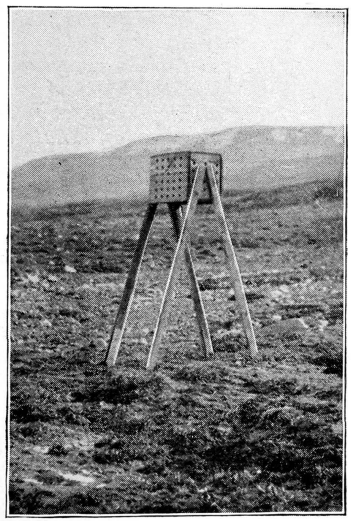
An average of six measurements in tide hole was 3 ft. $8\frac{2}{3}$ in., measuring to surface of water.

However, if we only use the highest measurement, the thickness can be called four feet.

RÉSUMÉ.

Month.	Temperature.			Barometer.	
	Max.	Min.	Mean.	Max.	Min.
August, 1891 .	52°	29°	37.84°[1]	30.38	29.825
September, " .	40°	8°	23.28°	30.32	29.535
October, " .	25°	$-15\frac{1}{2}$°	8.57°	30.11	29 37
November, " .	$30\frac{1}{4}$°	$-18\frac{3}{4}$°	0.16°	30.32	29.16
December, "	$16\frac{3}{4}$°	−31°	−14.09°	30.06	28.97
January, 1892 ...	32°	$-53\frac{3}{4}$°	−20.53°	30.55	28.99
February, " ...	41°	$-50\frac{1}{2}$°	−15.77°	30.525	29.285
March, " ...	3°	$-50\frac{3}{4}$°	−22.12°	30.21	29.46

[1] For twenty-four days.



OBJECTS AND RESULTS OF '91–'92 EXPEDITION.

OBJECTS.[1]

Determination of the northern limit of Greenland overland.

The possible discovery of the most practicable route to the Pole.

The study of the Whale-Sound Eskimos.

The securing of geographical and meteorological data.

RESULTS.[2]

The determination of the northern extension and the insularity of Greenland, and the delineation of the northern extension of the great interior ice-cap.

The discovery of detached ice-free land-masses of less extent, to the northward.

The determination of the rapid convergence of the Greenland shores above the seventy-eighth parallel.

The observation of the relief of an exceptionally large area of the Inland Ice.

The delineation of the unknown shores of Inglefield Gulf, and the imperfectly known shores of Whale and Murchison Sounds.

The discovery of a large number of glaciers of the first magnitude.

The first complete and accurate recorded information of the peculiar and isolated tribe of Arctic Highlanders (Dr. Cook.)

Complete and painstaking meteorological and tidal observations (Verhoeff).

Sledge journey, which is unique in respect to the distance covered by two men without a cache from beginning to end, and in respect to the effectiveness with which those men were able to handle a large team of Eskimo dogs.

Corroboration of the opinion advanced that the Inland Ice offered an "imperial highway."

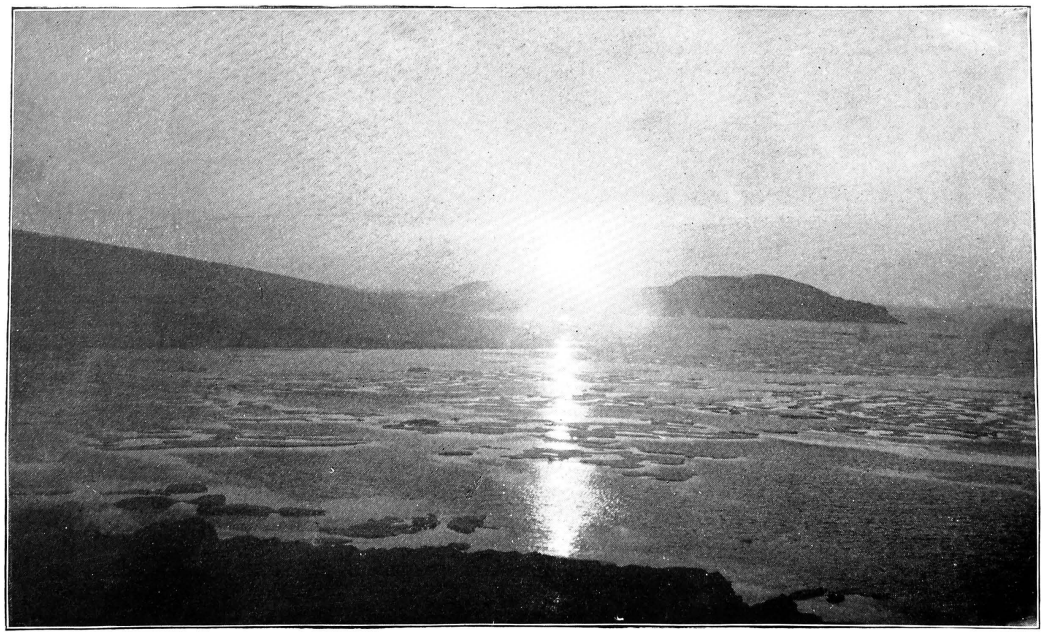
[1] Original project presented to Philadelphia Academy of Natural Sciences and American Geographical Society in 1890.

[2] *Bull. Am. Geog. Soc.*, No. 4, 1892.

PUBLISHERS' NOTE.

THE following appendices embody in outline sketches in popular form the results of the study, observation, and experience of Peary's entire Arctic life, and not solely of the expeditions covered by the preceding pages of this volume.

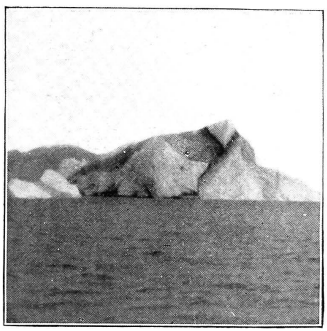
As a break between two expeditions occurs here, and as, notwithstanding condensation, Parts III.–V. of the work necessarily fill many more pages than those devoted to Parts I. and II., the publishers have, for reasons based on good book-making, prevailed upon the author to allow these valuable appendices to appear in this part of the work rather than at the end of the second volume.



ECLIPSE OF MIDNIGHT SUN.

APPENDIX I.

AN ARCTIC OASIS—HOME OF THE MOST NORTHERLY KNOWN PEOPLE ON THE GLOBE.

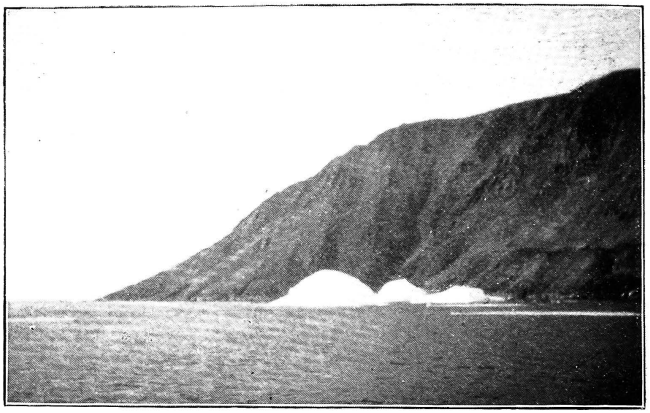


THERE is no more interesting Arctic locality than the little oasis along the western coast of North Greenland between Melville Bay and Kane Basin. The interest of the locality depends upon several circumstances. It lies at one of the gateways to the Polar Sea; its westernmost cape is one of the Arctic Pillars of Hercules which stand guard across Smith Sound; it is a real Arctic oasis, its abundance of vegetable and animal life being in striking contrast to the icy wastes of Melville Bay and Kane Basin north and south of it, and to the desolate barren shores of Ellesmere Land westward across Smith Sound. It is also one of the earliest known of high Arctic regions, and for the past hundred years has been the principal focus of Arctic effort, no fewer than six expeditions having wintered within its limits. And finally it is the home of a little tribe of Arctic aborigines, at once the most northerly individuals of the human race, one of the smallest in number,

and in many ways the most interesting, of aboriginal peoples.

Eight years ago I selected this region as the basis of my work of northern exploration, and since that time I have spent three winters and portions of six summers in the midst of its savage, magnificent surroundings, and among its happy human children.

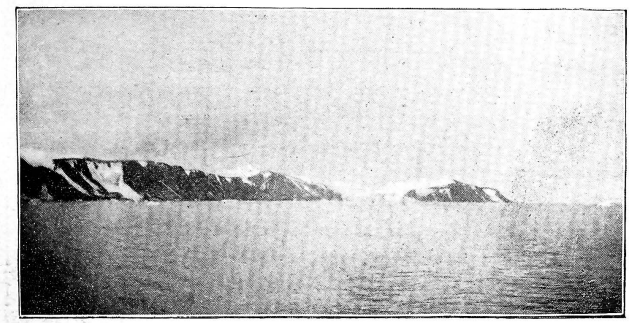
This Arctic oasis is distant three thousand miles from New York City as a steamer would go, and



CAPE YORK.

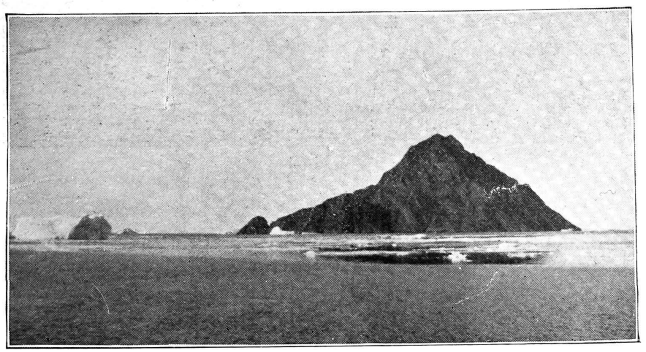
twenty-one hundred in an air-line almost due north, and is situated between the extreme meridians of New York City and Halifax. Lying as it does six hundred miles within the Arctic Circle, half-way between the confines and the heart of the great polar night, the Arctic Circle and the Pole, its every feature and condition is so different from what we are accustomed to, that I have no doubt many an intelligent reader will have difficulty in forming a correct conception of the country.

Though only two hundred and thirty-five miles in length from north to south, and a little over one hun-



THE CRIMSON CLIFFS.

dred miles wide, conditions are so different and peculiar in this region of rapidly assembling meridians, that the

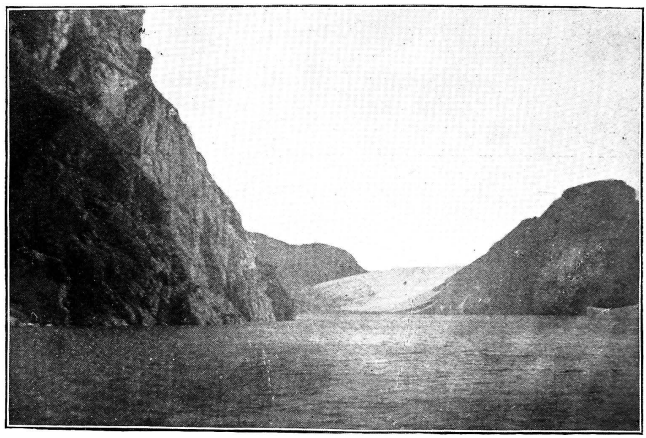


CONICAL ROCK.

sun is as long in traversing this short distance as he is in passing from Halifax to New York.

The great Arctic night at the southern extremity of the country is one hundred and three days long, while at the northern point it is one hundred and twenty-three.

Comparatively slight as is the difference in latitude between the northern and southern limits of the region, the winter night is twenty days longer at the former than at the latter. Taking the mean latitude, it may

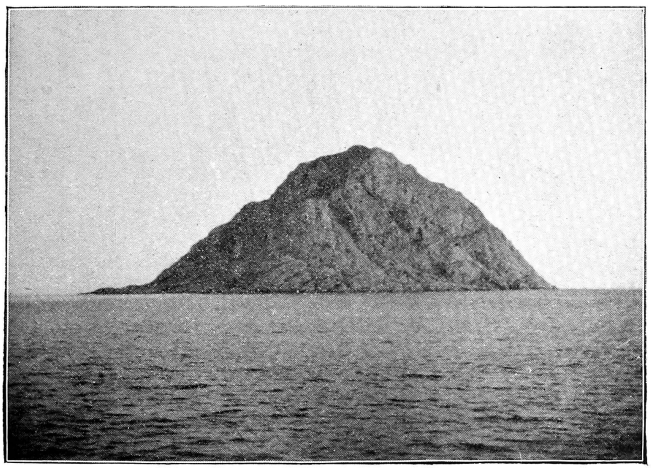


AKPANI CLIFFS.
Glacier and Ice-Cap in Background.

be said that for one hundred and ten days in summer, the sun shines continuously throughout the twenty-four hours on the savage grandeur of the land; and that for one hundred and ten days in winter no ray of light except those from the icy stars and the dead moon falls on the silent frozen landscape; while, for two intermediate periods of a little over two months in the spring and fall, there is night and day of rapidly varying ratio.

There is a savage grandeur in these rugged lands, their character formed by contact with the bergs and floes, such as never greets the traveller to southern climes.

Yet, forbidding as the coast may appear to the rapidly passing Arctic voyager, those who know it well, know that behind the savage outer mask, the features of which have been carved by eternal conflict with storms and glaciers, bergs and grinding ice-fields,



DALRYMPLE ROCK.

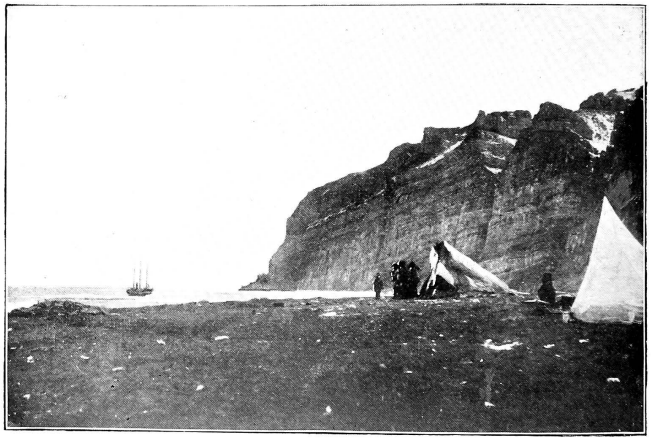
nestle in summer many grass-carpeted, flower-sprinkled, sun-kissed nooks, where mild-eyed deer browse, and twittering snow-buntings fill the air with liquid notes.

Beyond the inherently attractive natural features of this region, it has claims upon a strong human interest in that it is, and has been for ages, the eternally ice-

imprisoned home of a little tribe of happy, care-free, independent, self-supporting aborigines, the most northerly known people on the globe.

Historically the country has been known since 1616, when Bylot and Baffin, after a surprising voyage through Melville Bay, ran along a portion of the coast, applied a few names, and anchored in one or two places.

Years after, Davis sighted the land again, and in 1818 Sir John Ross discovered that it was inhabited.



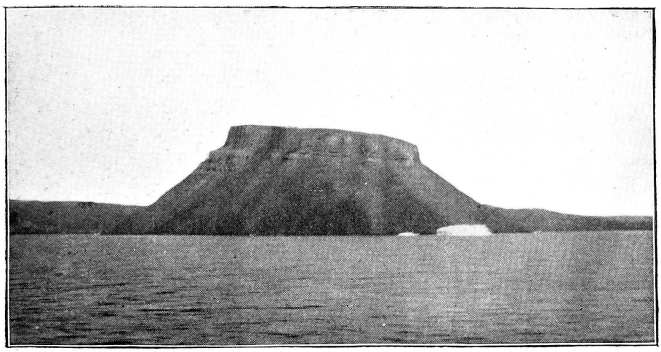
SAUNDERS ISLAND.

Since then, Cape York, the southern promontory of the country, has been on the path of the whalers *en route* to Lancaster Sound, and the ships of every Smith-Sound Arctic Expedition have passed along its shores. This coast presents characteristics different from those of any portion of the west coast of Greenland, to the south. The nearly continuous glacier faces of Melville Bay, broken only here and there by nunataks, as well as the meshwork of narrow fjords

and labyrinth of off-lying islands, forming the coast from the Devil's Thumb to Cape Farewell, give place here to the bold continuous lines of the main rock-mass of the Glacial Continent, presenting impregnable ramparts which need no picket-line of islands to break the assaults of sea and ice.

The following geological description of the region is by Prof. T. C. Chamberlin.

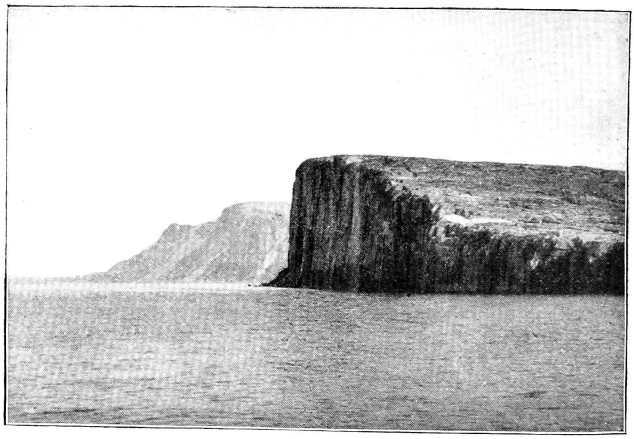
"In the region of Inglefield Gulf, ancient crystalline rocks of the gneissic type are bordered by sand-



OOMUNUI.

stones and shales of unknown age. While the full extent of this clastic series could not be determined, even within the region visited, because it reached back under the ice-cap, there were abundant grounds for the belief that it is but a narrow skirting belt. It was seen to be interrupted at frequent points by the coming of the crystalline series to the shore. At other points, bays and valleys were observed to reach back across the clastic belt to the crystalline series behind. The clastic series embraces three distinguishable members. The lowest is a red sandstone which at-

tains a thickness of perhaps one thousand to fifteen hundred feet. Lying conformably upon the red sandstone is a somewhat thicker series of pinkish-grey sandstone. Reposing conformably upon the pinkish sandstone, lies a deep series of more thin-bedded sandstones and shales of reddish-brown and dark hues. The conformity of the three sandstone series among themselves suggests that there may be no vital distinction between them, and that they represent a

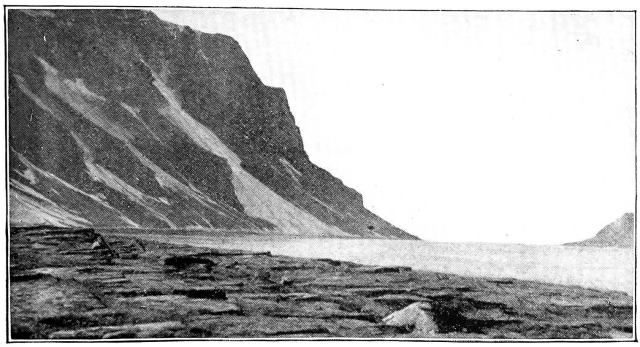


HAKLUYT ISLAND.

consecutive sedimentation reaching a total thickness of four or five thousand feet perhaps. Unfortunately the series is extremely barren of fossils. While it is by no means safe to assume the entire absence of fossils; while, indeed, it is perhaps safer to assume their presence, they are very rare, or else circumscribed in their distribution within the region studied. There remain grounds for hope that sufficient fossils will ultimately be found to determine the age or the

ages of the series. The whole group has usually been referred, with doubt, to the Tertiary age, because of the presence of rocks of that age, with a similar constitution, in the Disco region.

"Igneous dykes traverse the series and the adjacent crystalline terranes. These are obviously later than the rocks traversed by them, but not necessarily later than all of the clastic series. Horizontal sheets of igneous rock were seen in a few cases, but whether they



CHANNEL BETWEEN NORTHUMBERLAND AND HAKLUYT ISLANDS.

were intruded or outpoured on the surface was not determined."

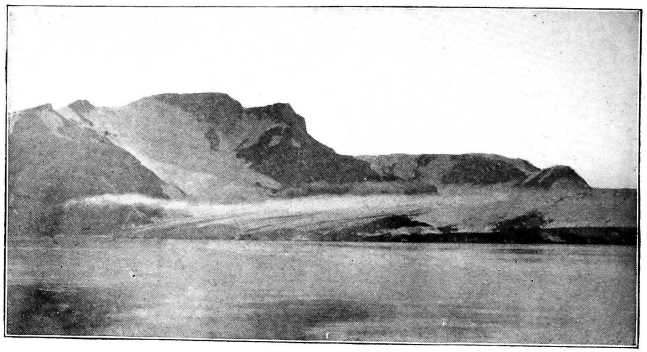
Both to the north and to the south of Whale Sound the sandstones are very much less in evidence, the rock formations being almost entirely gneissose.

The country is really a double peninsula lying between Melville Bay and Kane Basin on the south and north respectively, and Smith Sound and the great Inland Ice on the west and east respectively,— a peninsula cut nearly in two, near its middle latitude, by the great inlet Whale Sound. Its extent in latitude is very nearly 4°, and in longitude $8\frac{1}{4}$°.

The length of peripheral coast-line from Bushnan Island to the southern angle of Humboldt Glacier, measured from headland to headland, is three hundred and fifteen miles. The development of the shores of the bays, sounds, and islands will raise this distance to one thousand miles.

Cape York, the bold promontory familiar to every whaler, which forms the southern limit of this country, is situated in 75° 51′ N. Lat and 65° 30′ W. Long.

From this cape, a concave shore-line of steep bluffs



HEADLANDS OF NORTHUMBERLAND ISLAND.
Striking Contrasts of Sky Contour.

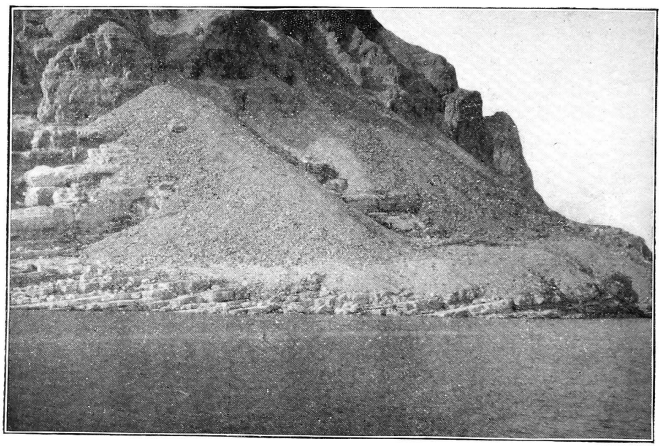
and precipitous brown cliffs one thousand to fifteen hundred feet in height, interrupted by numerous small glaciers, and surmounted by a succession of ice-domes with their connecting saddles, extends north-westerly a distance of thirty-five miles to the sharp-pointed, ragged islet known as Conical Rock.

Millions of little auks breed all along this shore, and the fertilising effect of their presence, combined with the naturally deep rock colouring, gives to the cliffs in summer an unexpected warmth of rich colour.



FAST IN THE ICE.

In early summer, after the melting of the snow is well under way, the presence of considerable quantities of the so-called red snow gives an excuse perhaps for the rather vivid name of "Crimson Cliffs," applied by Captain Ross. Abreast of Conical Rock, the shore for two or three miles is a vertical cliff swarming with looms and kittiwake gulls, then it retreats, forming a little bight two or three miles wide and four or five deep, which does not appear on the charts. A few

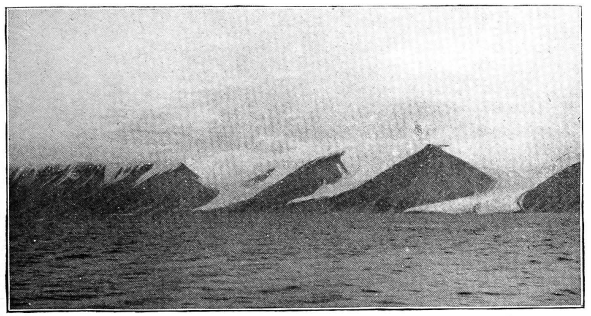


ROOKERY OF LITTLE AUKS.

miles north of this bight, the crystal wall of the Petowik Glacier presents for six or seven miles a glistening barrier to the waves. North of this, a comparatively direct line of cliffs extends to Cape Athol, fifty-six miles from Cape York. These cliffs lack a crowning ice-cap; the glaciers of the Cape York cliffs are replaced by narrow grass-carpeted ravines leading up to a rolling interior plateau, favourite haunt of deer. The cliffs themselves, composed of contorted gneiss, show

sharp, angular lines and faces and a comparatively small talus. A few little auks breed along this section of coast, and numbers of small grass-covered platforms and terraces at the foot of the cliffs are favourite summer camping-places of the natives.

At Cape Athol the coast-line turns sharply to the east-north-east, to form the southern shore of a large bifurcated inlet known as Wolstenholm Sound. Between this shore line, the Petowik ice-stream, and the ice-cap, is a large extent of elevated table-land some one thousand feet above the sea, diversified with val-

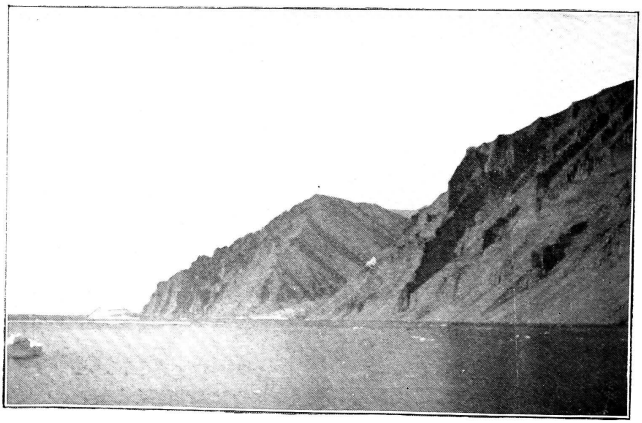


ICE-CAP AND GLACIERS OF HERBERT ISLAND.

leys, streams, and lakes, affording pasturage for numbers of deer. Within the Sound, the shore bluffs lose some of their abruptness. Some thirty miles from Cape Athol, the Sound is terminated by three great glacier faces, those of the Moore, Chamberlin, and Salisbury Glaciers. From these, the northern shore, high and bold but not precipitous, and diversified by several small glaciers, trends away to the mouth of Granville Bay, the northerly arm of the Sound.

This bay presents an interesting group of glaciers, and, following the northern shore to the west-

ward some thirty miles, a black cliff is reached at which the line of bluffs trends again to the north-westward in a continuation of the line interrupted at Cape Athol. In the mouth of Wolstenholm Sound is an interesting group of islands, described farther on. This cliff is from a distance the apparent but not the real northern point of Wolstenholm Sound. At the foot of it, and extending north-westward for a distance of twenty miles, is a peculiar strip of low foreshore,

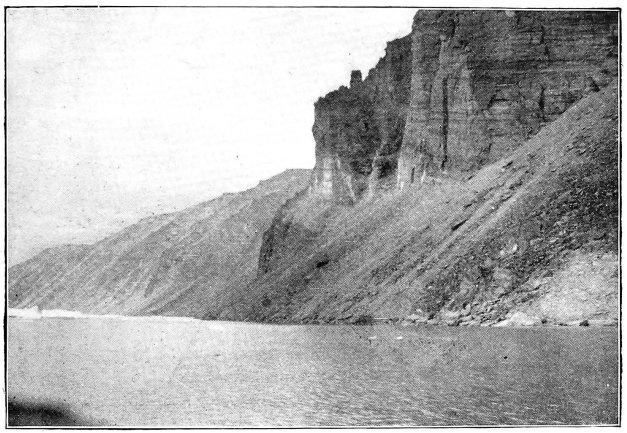


SCULPTURED CLIFFS OF KARNAH.
Erosion of Grey Sandstone.

from one to two or three miles in width, lying between the base of the cliffs and the sea. The counterpart of this feature is not to be found anywhere else in the country. It is cut by three small irregular inlets, from the centre of one of which rises the striking mass of Bell Rock, and finally narrows to a point and ends under the towering black cliffs of Cape Parry, the southern portal of the next great inlet, Whale Sound. In the rear of this foreshore three large glaciers de-

scend through breaks in the bluffs and reach the sea-level in the inlets. The shore proper is a savage black wall of ragged rock, low, with outlying reefs and rocks,—a shore to be avoided.

Standing guard at the southern entrance of Whale Sound, Cape Parry, some twelve hundred feet in height, and one of the most striking landmarks of this coast, presents a vertical face to the west and north-

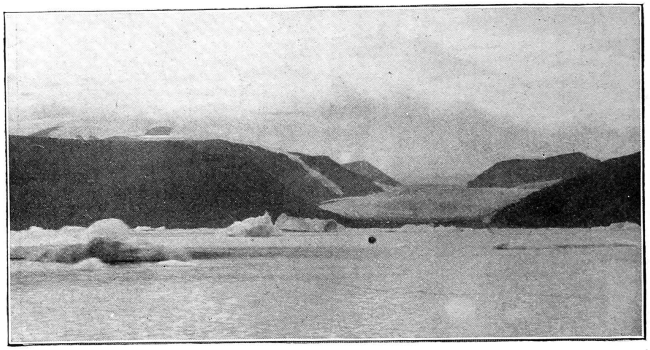


CASTLE CLIFFS.
Erosion of Red Sandstone.

west. To the observer on a ship coming north from Wolstenholm Island, Hakluyt, Northumberland, and the western point of Herbert Island have been visible for some time before reaching the cape.

During the long summer day, the water below the dark cliff is alive with the whirring wings and gleaming white breasts of countless little auks. Rounding the cape, there opens up the wide expanse of one of the largest, most diversified, and most attractive of

Arctic inlets. Fifty-five miles wide at its mouth, which is divided into two broad channels by a trio of commanding islands, and eighty miles deep, it presents every phase of Arctic scenery, climate, and life,—is, in fact, a little Arctic world in itself. Along its shores are to be found low grassy slopes; towering cliffs, massive and solid, carved, by the Titan agencies of the savage North, into wild forms; wind-swept points where nothing can exist; sheltered nooks where never a violent breath of air penetrates; valleys where luxuriant



SOUTH GLACIER.

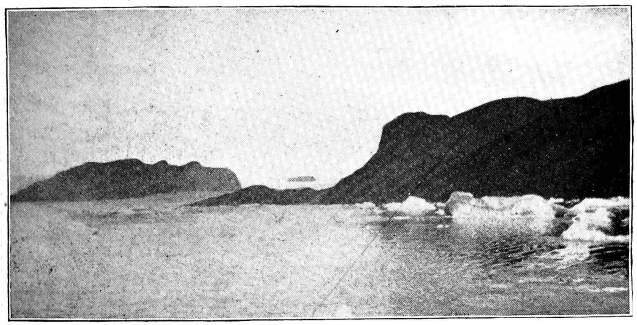
grass is brightened by myriads of yellow, purple, blue, and white flowers; slopes and plateaus as barren as the surface of a cinder pile; huge glaciers which launch a prolific progeny of bergs into the sea; tiny glaciers which cling tenaciously in the angles of the cliffs; miles and miles of glistening blue, berg-dotted water; and everywhere a few miles back from the shore, the shore of that other silent, eternal, frozen desert sea, the "Great Ice."

This Sound was one of the earliest discovered and named localities of the Arctic regions of the eastern

hemisphere. Baffin in 1616 anchored behind "Hakluits Isle." Yet its entire extent and features are known but now, as the result of my expeditions.

The variance of existing charts from the real configuration of this region is such that I found it difficult to locate satisfactorily many of the names appearing upon the charts. I have, however, retained all these names, and I think that in future there will be no difficulty in distinguishing them.

Six inlets of diverse size and characteristics open into the Sound, and ten islands, two of which, North-

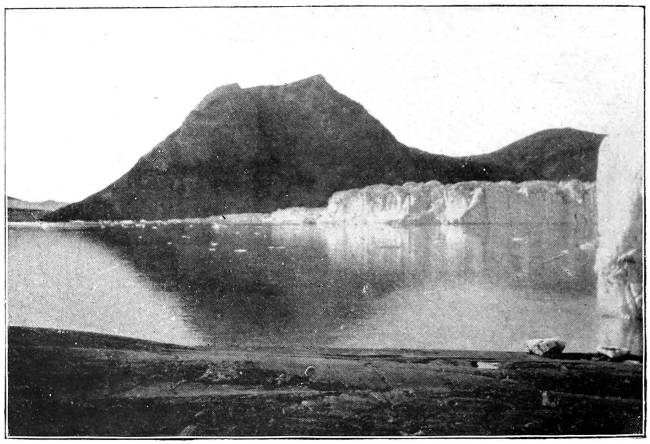


MT. BARTLETT.

umberland and Herbert, are of considerable size, are scattered about it.

After rounding Cape Parry, a ship entering Whale Sound steams at first directly for the opening between Herbert and Northumberland Islands, a fine view of both being obtained. On the right is a high, bold shore, which on account of its northern exposure is not as attractive in appearance as that south of the cape. Vegetation is scanty, and glaciated drifts of snow remain the year round under the crest of the cliffs, which protect them from the noon sun.

A few miles from the cape is the little bight known as Barden Bay, in which is located one of the best known of the native settlements, Netiulumi. The glaciers reappear here, three of them debouching into the bay. Leaving this bay and still heading easterly, the shore, for several miles, is a continuous vertical cliff, lacking beach, foreshore, or talus. About eight or ten miles east of Netiulumi, the coast takes a still more

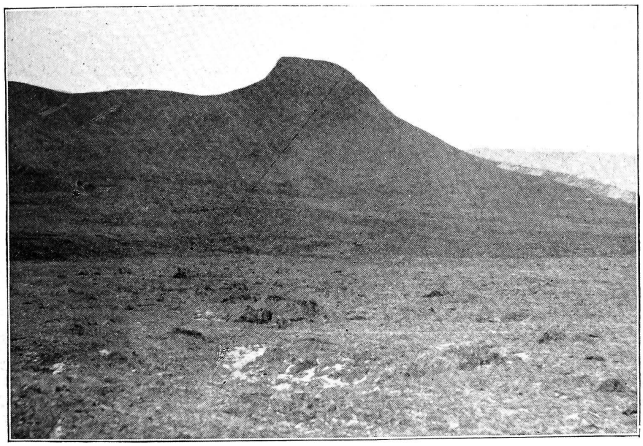


SENTINEL NUNATAK.
Glacier Carving on Rocks in Foreground.

easterly bend, the mouth of Olriks Bay and the sharp, black peak of Kirsirviahsuk open up, while the silver faces of three glaciers can be seen protruding into the sea. Up to the point, the cliffs are wild in outline, beautiful and warm in the colouring of the dark browns and reds and greys of the various strata, and the greenish-brown of the intersecting trap-dykes. East of the point, gnarled and veined gneiss takes the place of the stratified rocks, the cliffs lose their warmth of

colour, changing to cold, sombre grey, and every angle, cleft, and opening is occupied by a glacier. Twelve glaciers flow down the cliffs in the twenty-two miles between Netiulumi and Ittibloo, at the entrance of Olriks Bay.

This bay—so called, though it is really a fjord,—is a picturesque inlet, and the only one of its kind in the country. Its width at the mouth, measured

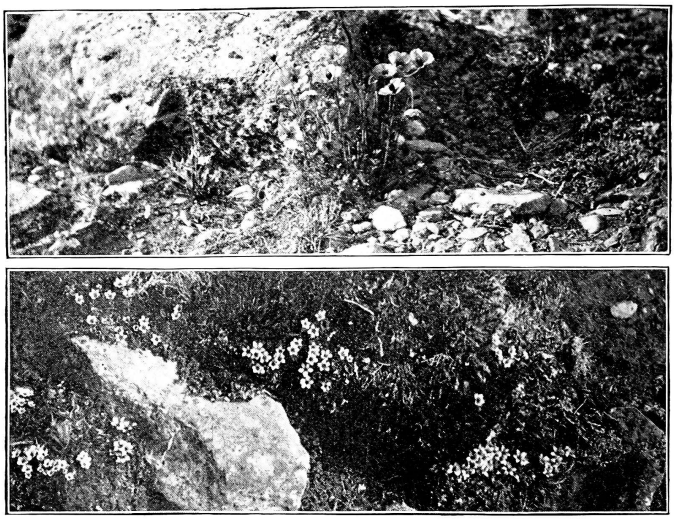


VALLEY SCENE, HEAD OF BOWDOIN BAY.

Sugar-Loaf Mount, One of the Peaks of the Mountain Dam which Holds the Inland Ice in Check, in the Background.

somewhat diagonally across to the opposite bluff of Kanga, is seven miles, and from here it extends eastward seventeen miles, gradually narrowing to a width of less than two miles; and a massive flat-topped mountain lies directly across it. As seen from Ittibloo, and in fact from any point until well within the bay, this mountain is apparently its head. Just to the left of it, however, a contracted passage permits

farther progress, and, once through these narrows, a long, narrow, river-like stretch of water opens up, completely land-locked, with low, rolling, grassy shores, on either side rising gradually to the borders of the ice-cap a few miles distant. Here is the home and favourite haunt of the reindeer, where, sheltered from the cold, damp, seaward fogs, and the biting, ice-

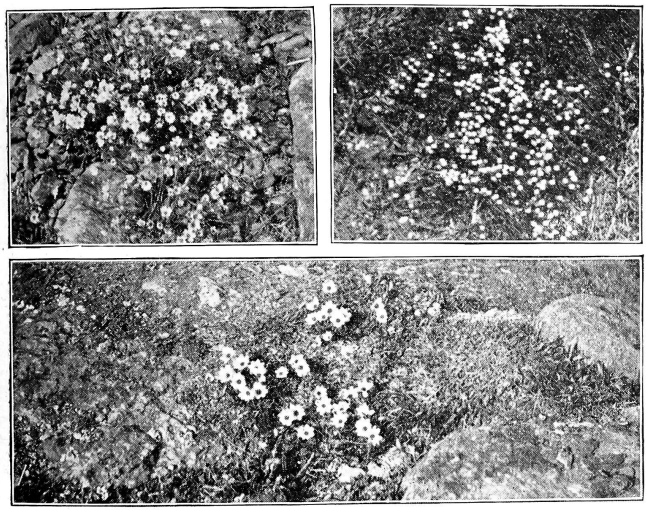


ARCTIC FLOWERS.

cap winds, an abundant pasturage springs up for them. Again the bay seems to end at a black cliff, lying directly across it, twenty-one miles from the narrows, but on a near approach an opening is seen to the right, and passing through these upper narrows, but a trifle over a mile in width, the third and last section of the fjord is entered. This section is almost completely walled by steep bluffs and vertical cliffs, and

terminates finally at the face of a glacier flowing from the main interior ice-cap. A short southerly branch is also terminated by a considerable glacier. The total length of this bay is fifty miles, and its average width not over three miles.

Returning to the bluff Kanga, at the mouth of the bay, the main shore of the Sound trends north-easterly,

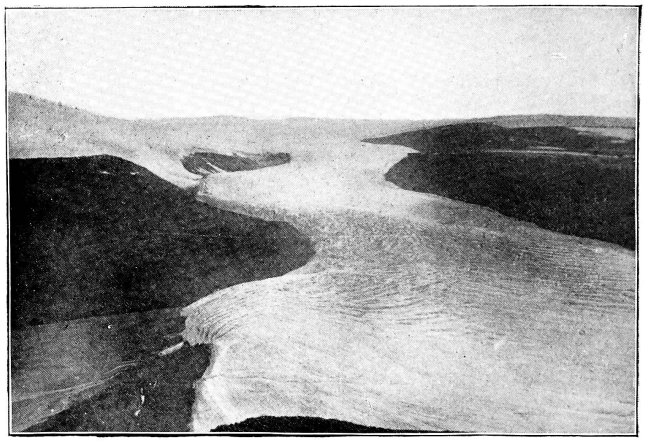


ARCTIC FLOWERS.

in a succession of deeply eroded cliffs and steep bluffs, uninterrupted by glaciers, thirteen miles, when it turns due east again, and in a series of rounded hills, on whose summits rests an ice-cap, reaches eastward to the mouth of Academy Bay, thirty-five miles from Kanga.

Academy Bay is much smaller than Olriks, being but about thirteen miles long and two miles wide

Cutting into the land at first in a south-easterly direction, it swings due east and terminates at the face of a large glacier, which is practically the northern arm of the one entering the head of Olriks Bay. Though the shores of this bay are bold throughout, there are portions of the north-eastern side where steep valleys give access to the elevated and extensive rolling plateau lying east of the bay, between it and the ice-

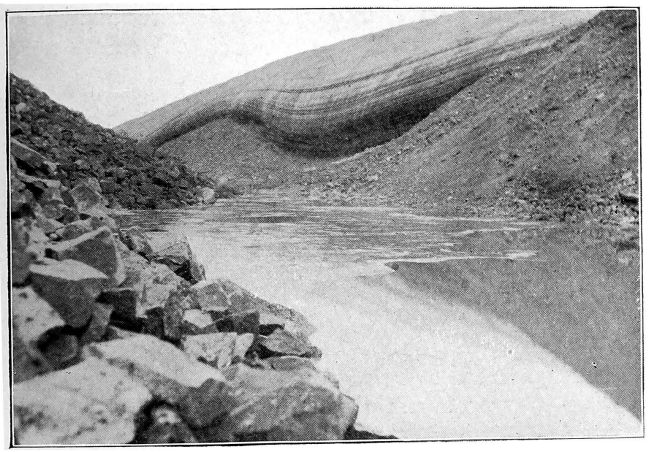


KAHKOKTAH GLACIER.
Typical Form. Red Cliff Peninsula Ice-Cap in Background.

cap. The south-west side, on the contrary, from the bold bluff at the entrance, to far up beyond the extremity of the glacier, is a continuous, inaccessible, vertical cliff.

From the eastern point of Academy Bay the main shore of the gulf extends, due east, to the face of the great Heilprin Glacier, and then on beside the great ice-stream, until the crests of the cliffs disappear under the white shroud of the "Great Ice." From

here on, the eastern and northern sides of the head of the gulf are an almost continuous glacier face, six great ice-streams, separated by as many precipitous nunataks, flowing down from the interior ice-cap to discharge an enormous fleet of bergs. As a result of this free discharge, the great white viscosity of the interior has settled down into a huge, and in clear weather easily discernible, semi-circular basin, similar to those of Tossukatek, Great Kariak, and Jacobshavn. In this

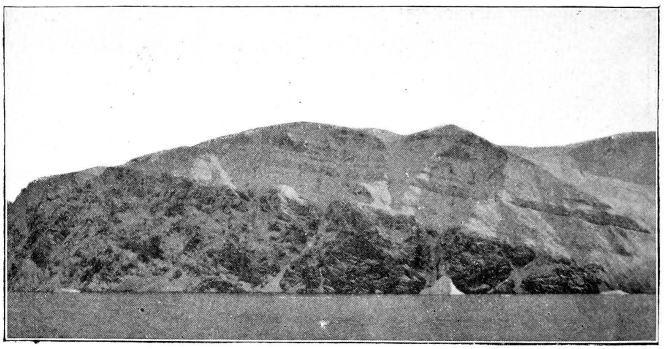


GLACIER MARGIN.

head of the gulf, situated some in the face of the glaciers, and others a short distance beyond them, are seven or eight islands, most of which bear proofs of former glaciation. Along the north-western shore of the gulf, the vertical cliffs resume their sway, back of which rise the trio of striking peaks, Mounts Daly, Adams, and Putnam. The cliffs continue westward for some little distance, then gradually merge into a gentle slope, which is in turn succeeded by the face

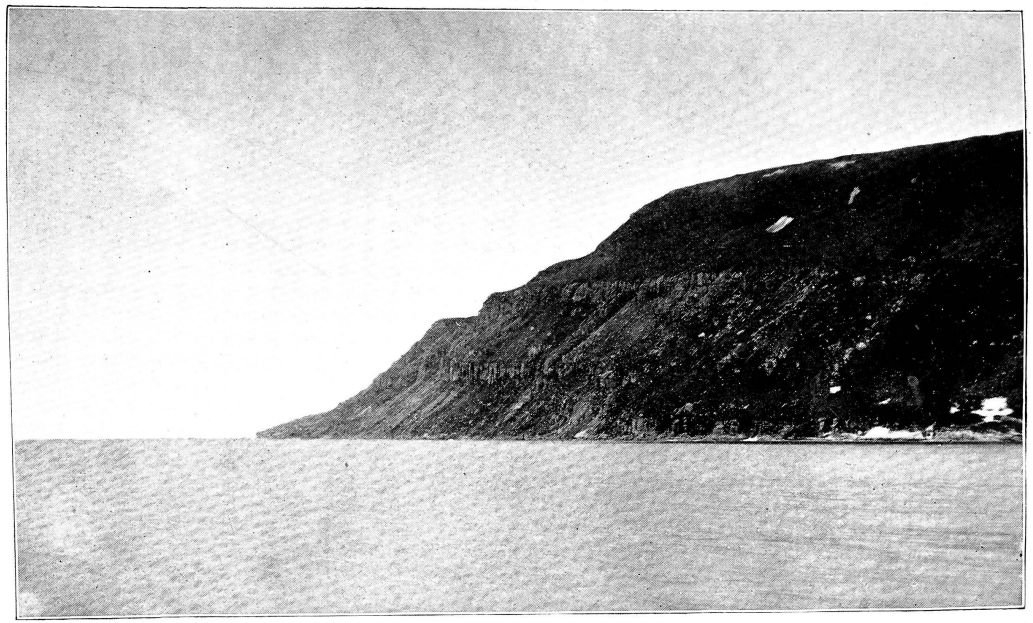
of the Hubbard Glacier. West of the glacier, cliffs of a different character (red and grey sandstone) occur, and extend to the grand and picturesque red-brown Castle Cliffs at the entrance to Bowdoin Bay. At these cliffs the shore takes an abrupt turn to the northward, into the now familiar but previously unknown Bowdoin Bay, in which was located the head-quarters of my last Expedition.

This bay has an extreme length of eleven miles, and an average width of between three and four



TYPICAL STRATIFICATION AND DIP.

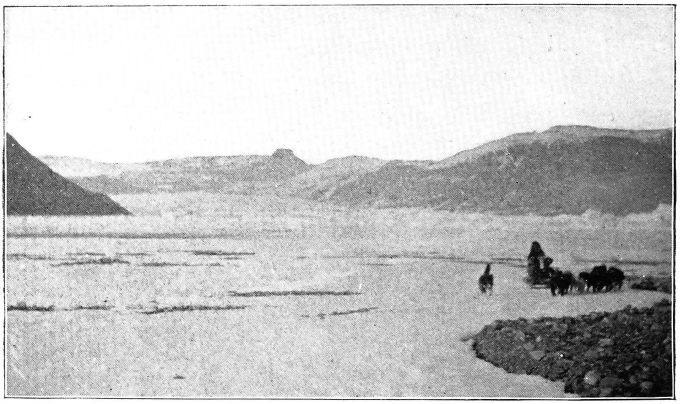
miles. What with its southern exposure, the protection from the wind afforded by the cliffs and bluffs which enclose it, and the warmth of colouring of its shores, it presents one of the most desirable locations for a house. The scenery is also varied and attractive, offering to the eye greater contrasts, with less change of position, than any other locality occurring to me. Around the circuit of the bay are seven glaciers with exposures to all points of the compass, and varying in size from a few hundred feet to over two miles in width.



CAPE ALEXANDER.

[The couchant headland lying half way between the heart and the confines (the Pole and the Arctic Circle) of the "Great Night."]

The ice-cap itself is also in evidence here, its vertical face in one place capping and forming a continuation of a vertical cliff which rises direct from the bay. From the western point of the bay, a line of grey sandstone cliffs—the Sculptured Cliffs of Karnah—interrupted by a single glacier in a distance of eight miles, and carved by the resistless arctic elements into turrets, bastions, huge amphitheatres, and colossal statues of men and animals, extends to Cape Ackland,



JUNE IN BOWDOIN BAY.

the Karnah of the natives. Here the cliffs end abruptly, and the shore trending north-westward to Cape Cleveland, eighteen miles distant, consists of an almost continuous succession of fan-shaped, rocky deltas formed by glacier streams. Back of the shore-line is a gradually sloping foreshore, rising to the foot of an irregular series of hills, which rise more steeply to the ice-cap lying upon their summits. In almost every depression between these hills, the face of a glacier may be seen, and it is the streams from these

that have made the shore what it is, and formed the wide shoals off it, on which every year a numerous fleet of icebergs becomes stranded.

At the yellow bastion of Cape Cleveland, the shore retreats sharply to the eastward into McCormick Bay, which penetrates to a depth of some fifteen miles, and the former extension of it, now a wide grassy valley walled by bluffs and glacier faces, reaches eastward

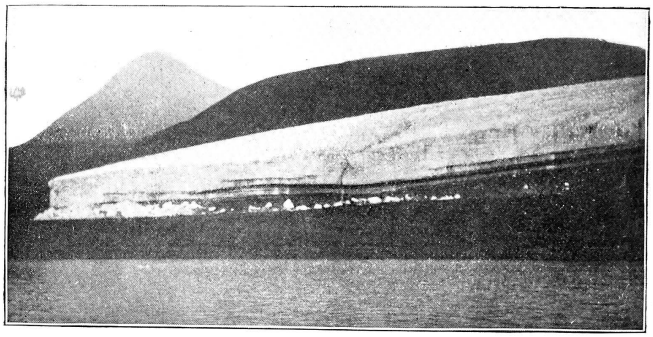


COAST WEST OF HUBBARD GLACIER.

some ten miles more, nearly to the head of Bowdoin Bay. This bay presents more of the characteristics of a bay proper and less of those of a fjord than any of the other ramifications of Whale Sound. Fifteen miles deep by nine miles wide at its mouth, and four at its bottom, its shores, nowhere precipitous, present an almost continuous line of beach. The northern shore, a moderate slope, intersected by numerous ravines

and crested by an isolated ice-cap, is as attractive and fertile as the slag heap of an iron foundry.

Only the dark bluff of Cape Robertson separates McCormick Bay from Robertson's Bay. This latter bay is somewhat smaller than McCormick, and is the last of the Whale-Sound inlets. The scenery of the bay is very bold, and the cliffs near the head are so strikingly grand and precipitous, that the native name Imnaksoah signifies "the precipitous place." From Robertson, the north-westerly trending coast is



CHARACTERISTIC GLACIER SNOUT.
East Glacier.

formed of alternating cliffs and broad glacier faces, to Cape Chalon, the favourite walrus hunting-ground of the natives; thence it trends more to the northward, and, in a great concave curve, broken by two or three glaciers, sweeps away to the couchant mass of wild Uglooksoah (Cape Alexander), the western sentinel of the country, which, from its position just midway between the confines and the heart of the Arctic Night,[1] frowns or smiles, as its mood may be, upon the perennial waves of the North Water.

[1] Cape Alexander is just-half way between the Arctic Circle and the Pole.

North of Cape Alexander is a coast, the features of which have been made familiar to all by the pens of Kane and Hayes, trending nearly north to Cape Ohlsen. Here the coast swings abruptly eastward, and, in a succession of brown cliffs, finally disappears under the omnipresent ice-cap at the southern angle of the Humboldt Glacier.

In this stretch of coast are the well known Crystal-



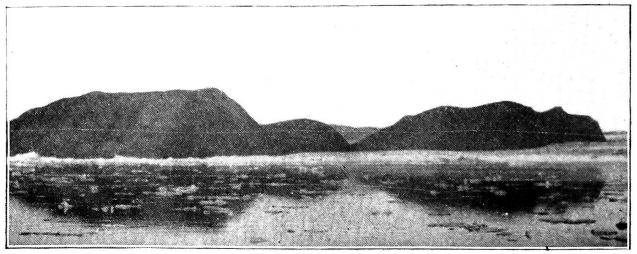
CLIFFS OF KANGERDLOOKSOAH.

Palace Cliffs and Glacier, Port Foulke, Foulke Fjord, Sunrise Point, Littleton Island, Cape Ohlsen, Life-Boat Cove, and Cairn Point; and in this short reach, three expeditions—Kane's, Hall's, Hayes's,—have wintered.

The islands of this coast, from Cape York northward, present two striking peculiarities. They are almost invariably in groups of three, consisting of two large

ones of entirely dissimilar characteristics, and a third much smaller. For example, Bushnan, Meteorite, and Round Islands—Saunders, Wolstenholm, and Dalrymple—Herbert, Northumberland, and Hakluyt—Harvard, Lion, and Little Matterhorn—and lesser examples, the Manson Islands, and the Sister Bees.

The similarity between the two largest of these groups, the Herbert-Northumberland-Hakluyt and the Saunders-Wolstenholm-Dalrymple, is particularly striking. Each group lies in the mouth of a great inlet. In each group is a large vertical-sided, flat-topped island of stratified rock—Herbert and Saunders;—in each the next is a smaller one of different



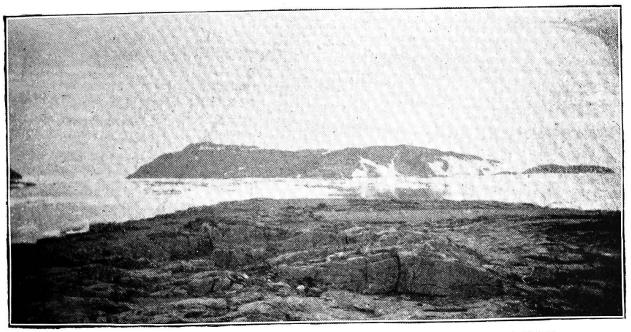
NUNATAKS.

formation and bolder orography—Northumberland and Wolstenholm;—and the outer, a still smaller precipitous rock, the home of numerous sea-birds,—Hakluyt, Dalrymple.

The contrast between individual islands, though marked in each group, is especially noticeable in the case of Herbert and Northumberland. Though separated by a channel scarcely more than one mile wide, Herbert is a vertical-sided, flat-topped mass of variegated sandstone without a sea-level glacier, and with but a small ice-cap; while Northumberland is a mass

of high summits of gneissose and basaltic rocks almost completely covered with ice-cap, from which exude numerous sea-level glaciers. This island presents, in the close juxtaposition of flowing white ice-domes and ragged black cliffs, the most striking contrasts of colour and sky contour.

Another feature is the frequent recurrence of sharp conical rocks rising directly from the sea. The least pronounced of these is Round Island, some thirty miles east of Cape York. Then come the well-known Conical, Dalrymple, and Bell Rocks; then the less-known and smaller but equally pronounced Little



LITTLETON ISLAND FROM SITE OF POLARIS HOUSE.

Matterhorn at the head of Inglefield Gulf, and Sutherland Island just south of Cape Alexander.[1]

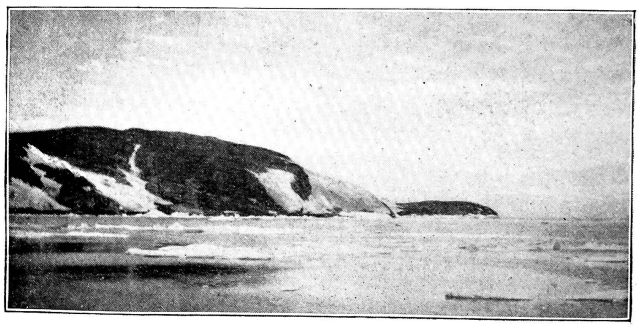
In the proximity of the ice-cap to the shore, and the existence of numerous detached ice-caps or domes separated completely from the Inland-Ice sheet, this region is marked.

An impressive feature, too, is the glaciers; hundreds of these, of all sizes, shapes, and characteristics, flow

[1] Still further examples of these peculiar islands are Cocked-Hat Island west of Cape Sabine, Cone Island in Jones Sound, and Sugar Loaf in the bay south of Wilcox Head.

down the numerous fjords, valleys, and ravines of this coast from the "Great Ice" towards the sea. Many of them never reach the sea, but waste away in the warmth of the valleys. Others do attain the sea, stretching unctuous blue ice-cliffs, fifty to one hundred and fifty feet high and one half to ten miles long, along the shore and across the heads of bays, from which every year is launched a prolific fleet of bergs.

The motion of even the largest of these glaciers is comparatively slow, and of the smaller non-sea-level ones almost imperceptible. They are extraordinarily well exposed and open, and there is no place in the



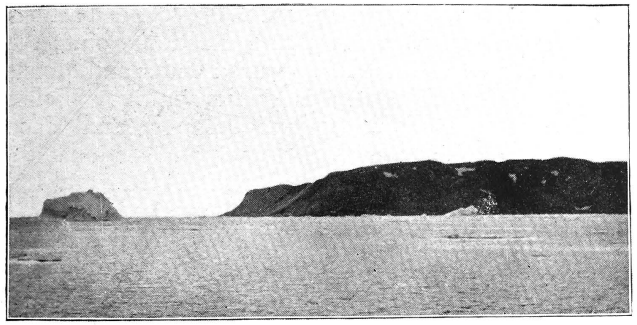
NORTH SHORE, LITTLETON AND McGARY ISLANDS.

world where a wider variety of examples is to be seen in so narrow an area, or where the physics and dynamics of glacier structure and movement can be studied more easily or to better advantage. I doubt if any other known region of equal extent shows glacial phenomena of such magnitude and variety as the shores of Whale Sound and Inglefield Gulf.

The Petowik Glacier is the longest, and the group at the head of Inglefield Gulf,—Heilprin, Tracy, Melville, Farquhar,—the most prolific, owing to their

length of face, proximity to the great interior ice, and the size of their *névé* basins. Many others, however, as the Jesup, Diebitsch, Childs, Leidy, Bowdoin, Sun, Verhoeff, Chamberlin, Moore, Salisbury, Ittibloo, Misumisu, and Savage, contribute their full quota of bergs. All these mentioned glaciers have high vertical faces, and, with the exception of the Petowik, are rent by crevasses and seracs.

In Cape York Bay, however, there is a group of glaciers, the surfaces of which are unbroken by crevasses or seracs, and the extremities of which descend so gradually to the water-level, that it is possible to



CAIRN POINT.

step upon them from a boat, traverse their surface at will, and ascend their gentle slopes, unimpeded by any obstruction, to the ice-cap in which they originate.

As indicated near the beginning of this chapter, and as specifically noted by Prof. Chamberlin in his geological diagnosis of this region, this coast is not, precisely speaking, mountainous.

The coast ribbon protruding for a greater or less width from beneath the surchargement of the ice-cap, is really a table-land of approximately 2000–2500 feet

in height, dropping finally in steep bluffs or vertical cliffs to the sea. There are, however, some prominent peaks whose superior elevation is not fully apparent unless one has seen them from the ice-cap, looming above their surroundings. One of the most commanding summits of the entire region, a snow-capped mass of great individuality, situated upon the north-west shore of Inglefield Gulf, I have named, in honour of the distinguished President of the American Geographical Society, Mount Daly. Another bold summit in Robertson Bay I have named Mount Wistar.

Though a region of great contrasts, there are constantly recurring types, as, for example, the bastions of Kanga, Cape Cleveland, and Bastion Point; the statues of the Castle, and Sculptured Cliffs, and Mount Wistar; the gneissose faces of Parker Snow Point, Hakluyt, and Northumberland Islands, and Cape Parry; the ragged crests, ice-domes, and sectional ice-caps of Josephine Headland, Mount Wistar, and Imnahlooksoah.

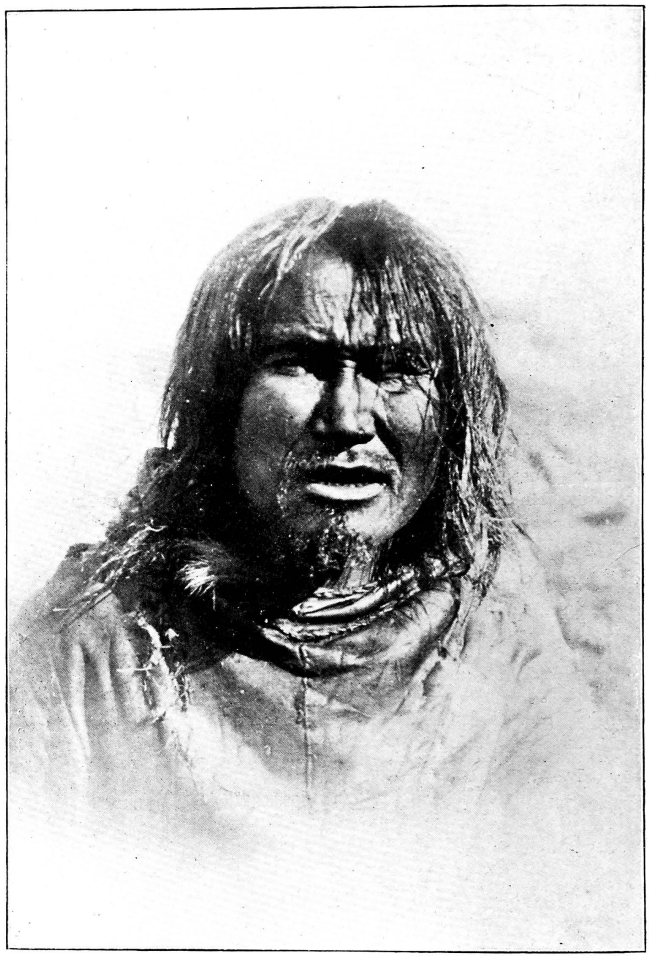
There is also a wealth of natural curiosities, as the Bronze Sphinx, the Devil's Bastion, Mountain of the Holy Cross, Glacier of the Scarlet Heart, Cave of Petowik, Great Arch at Cape York, Bell Rock, Half Dome, and the Ignimut, or Firestone. Then there are countless plunging cascades, brawling streams, glacier grottos, and the ever-present yet ever-changing fleet of stately bergs which ride in every inlet and cruise along each mile of coast.

Such is this region in summer. In winter it would hardly be recognised. The land is shrouded in snow, and shows a ghastly grey in the dim starlight; the sea is white and rigid; no sound is in the bitter air, which is pungent with frost spiculæ; light and life have fled; land, and sea, and sky, and air, are dark and dead and frozen.

APPENDIX II.

THE SMITH-SOUND ESKIMOS

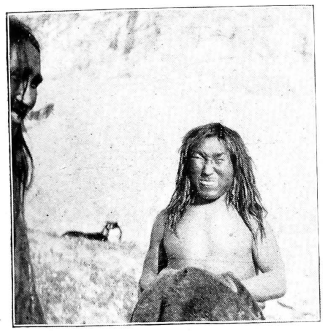
THE MOST NORTHERLY HUMAN BEINGS ON THE GLOBE—A LITTLE, ISOLATED COMMUNITY—ORIGIN—PHYSICAL APPEARANCES—TYPES—ETHNOLOGICAL RECORDS—DISPOSITION—LIFE—GOVERNMENT—ASTRONOMY—MORALS—PHYSIQUE—HABITATIONS—FOOD—OCCUPATIONS—SPORTS—OLD FRIENDS.



A SMITH-SOUND ESKIMO.

APPENDIX II.

THE SMITH-SOUND ESKIMOS.[1]



OF all interesting aboriginal tribes of men, there is none more strikingly so than the little community of Eskimos whose habitat is the west coast of Greenland, between Melville Bay and Kane Basin. The smallness of this tribe, its complete isolation and self-dependence, its extreme northerly location, the stress of hostile conditions under which it maintains its existence, the human interest connected with it as the result of the writings of Kane, Hayes, and other Arctic explorers, and the uncertainty as to its origin and early history, combine to place it at the head of the list.

Scattered along the shores of the Arctic oasis al-

[1] No fulness of detail, no specialism has been attempted in this chapter. Such treatment is impracticable here from lack of space. I have merely endeavoured to sketch an outline picture which shall show this most interesting people in their true light, and do justice to the fearless, hardy, cheerful little tribe of human children for whom I have the warmest regard.

This sketch is the briefest condensation from my material, but it contains suggestions for thought for the most cursory as well as the most studious reader, and it cannot fail to show the writer and the artist, that there is an untouched mine of material awaiting their working, in these children of the North and their Arctic oasis.

ready described, this little tribe, or perhaps, more properly speaking, family of Eskimos—for they number but two hundred and fifty-three[1] in all, men, women, and children—is found maintaining its existence in complete isolation and independence, under the utmost stress of savage environment. Without government; without religion; without money or any



A TUPIK.

standard of value; without written language; without property, except clothing and weapons; their food nothing but meat, blood, and blubber; without salt, or any substance of vegetable origin; their clothing the skins of birds and animals; almost their only two objects in life, something to eat and

[1] Accurate census September 1, 1895. Between this date and August 9, 1896, an epidemic of influenza reduced their number to 229. In August, 1897, they numbered 234.

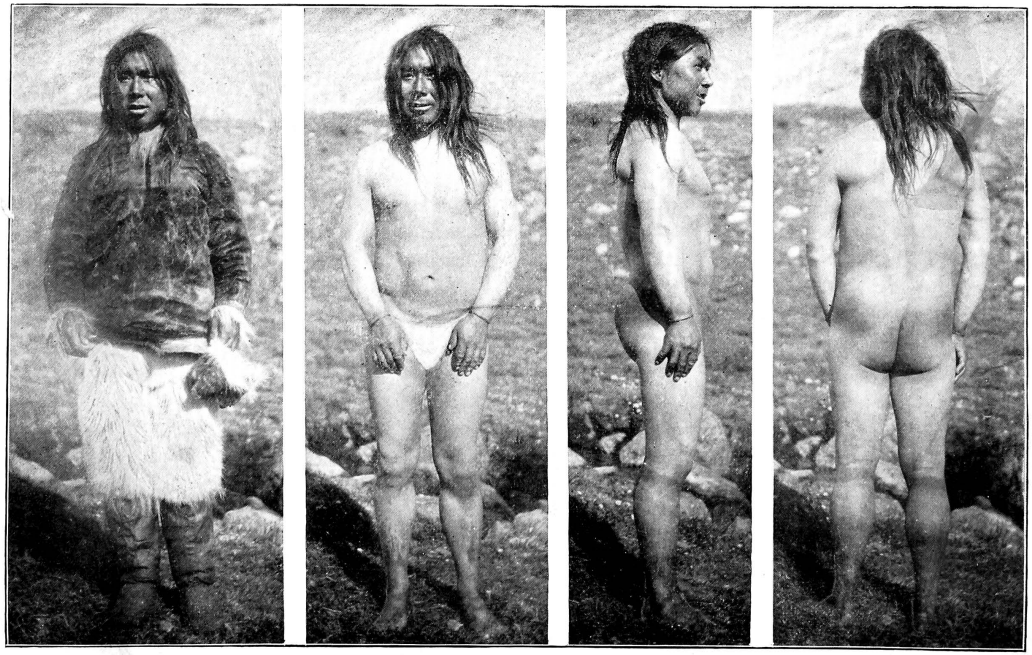
something with which to clothe themselves, and their sole occupation the struggle for these objects; with habits and conditions of life hardly above the animal, these people seem at first to be very near the bottom of the scale of civilisation; yet closer acquaint-



AHSAYOO.
Showing Long Hair of the Men.

ance shows them to be quick, intelligent, ingenious, and thoroughly human.

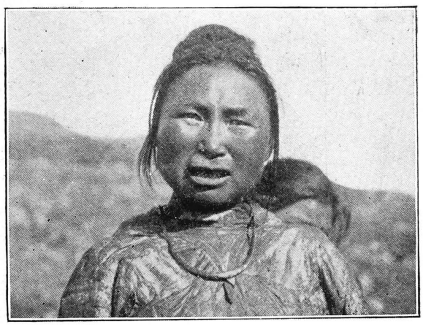
With our surroundings and bringing up, drawing as we do upon the entire world for our daily wants, we can have no conception of the earlier condition of this people and their almost inconceivable destitution



MALE ETHNOLOGICAL SERIES.

and restriction as to materials, dependent for *everything* upon a few miles of Arctic coast-line. To them such an ordinary thing as a piece of wood was just as unattainable as is the moon to the petulant child that cries for it. Is it to be wondered at that under these circumstances a man offered me his dogs and sledge and all his furs for a bit of board as long as himself; that another offered me his wife and two children for a shining knife; and that a woman offered me everything she had for a needle?

They are a community of children in their simplicity, honesty, and happy lack of all care; of animals in their surroundings, their food and habits; of iron men in their utter disregard of cold, hunger, and fatigue; of beings of high intelligence in the construction and use of the implements of the chase, and the ingenious concentration of every one of the few possibilities of the barren country which is their home, upon the two great problems of their existence—something to eat, and something to wear. The accumulated experience of generation after generation has taught them how to make the most of every one of the few possibilities of their barren country, in the way of affording sustenance, clothing, comfort, and safety; and, as a result, they are as independent of the varying moods of their frozen habitat as are other peoples of the climatic vagaries of more genial latitudes.



WIFE OF SOKER.

Denizens of a little Arctic oasis, prisoned on the east by the towering wall and superstitious terrors of the Sermiksoah, or "Great Ice"; on the west by the waves of Smith Sound; on the north by the crystal ramparts of the Humboldt Glacier; and on the south by the stretching miles of the unknown glaciers of Melville Bay, they are at once the smallest, the most northerly, and most unique tribe upon the earth, and



EATING RAW WALRUS MEAT.

perhaps the oldest upon the Western Hemisphere. Many of them are of strikingly Mongolian type of countenance; all of them possess the Oriental characteristics of mimicry, ingenuity, and patience in mechanical duplication; and their appearance indicates the strong probability of the correctness of the theory advanced by Sir Clements Markham, the distinguished President of the Royal Geographical So-

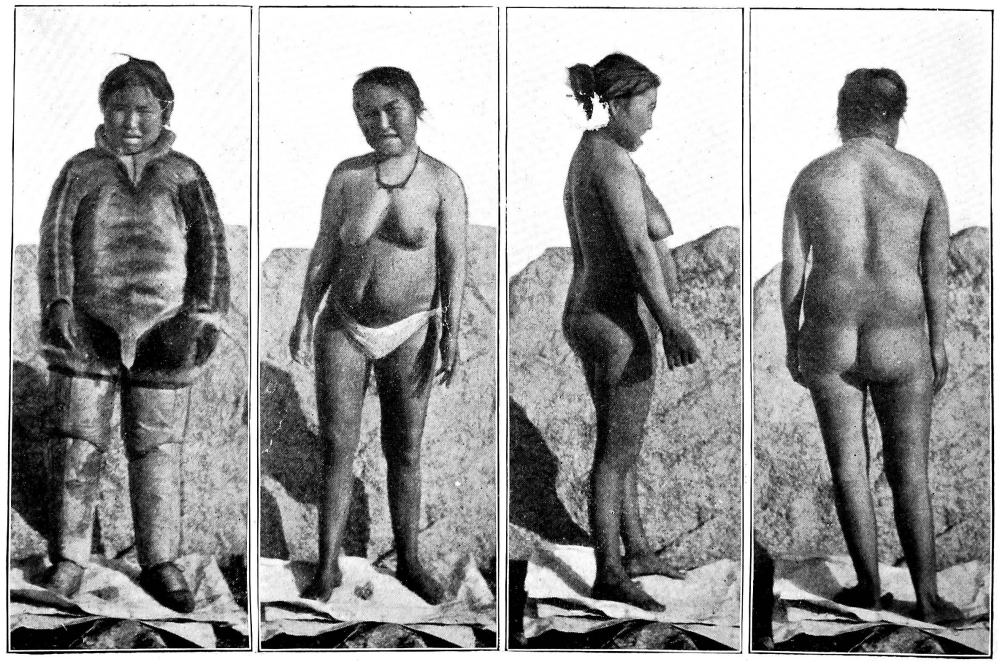
ciety of London. This theory is, in brief, that these people are the remnants of an ancient Siberian tribe, the Onkilon, the last remains of which, driven from their homes and out on to the Arctic Ocean by the fierce waves of Tartar invasion in the Middle Ages, passed to the New Siberian Islands, and thence gradually over or along lands as yet undiscovered, perhaps even across the Pole itself, to the Northern



TUNGWINGWAH AND HER BABY.

Greenland Archipelago and Grinnell Land, and thence southward in different streams, as shown today by the Eskimo on the east coast of Greenland; the Eskimo of the present Danish colonies and the Arctic Highlander; and the Eskimo of northern North America and the American Arctic Archipelago.

Among other facts upon which this theory is



FEMALE ETHNOLOGICAL SERIES.

grounded, are the strong resemblance of the stone dwellings of the Arctic Highlanders to ruins of similar dwellings discovered in Siberia. There are also apparent strong physical resemblances. It would seem as if this theory were likely to be borne out by the additional facts obtained by me. The facial characteristics of many individuals in the tribe are noticeably Asiatic. The obliquely set eyes are a common occurrence. The natural aptness for imitation shown by many is also strikingly suggestive of a Chinese and Japanese trait.



"MISS BILL."
Eskimo Girl Brought Home by Mrs. Peary in 1894.

An interesting incident bearing upon this came up in connection with the bringing of a young girl of this tribe to the United States by Mrs. Peary in 1894. The first and only thing that elicited expressions of vivid surprise and astonishment from this girl was the sight of a Chinaman upon the street, to whom she immediately ran and attempted to enter into conversation. Later, while passing along the streets of Washington, she was seen by several members of the Chinese Legation, who im-

mediately surrounded her and began talking to her in the Chinese language, evidently mistaking her for one of their own countrywomen.

On the other hand, it has been impossible to obtain any satisfactory information from these people as to the direction from which they originally came. They have a general idea of land far to the north. They are aware that the land is inhabited by the musk-ox, and there are misty traditions of the existence, somewhere in that region, of a race much larger than themselves. Yet the only migrations which can be fixed definitely are from the west side of Baffin Bay and Davis Strait. Two such accessions to their number have occurred within the memory of living individuals of the tribe. Both of these migrations consisted of one or two families each, and there are now living in the tribe five individuals who were born on the western side. In connection with one of these, an old hunter, an interesting incident occurred.

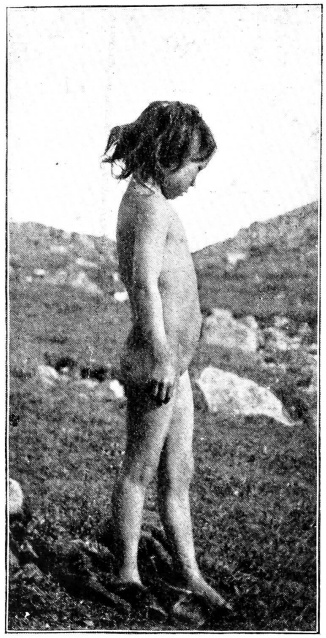
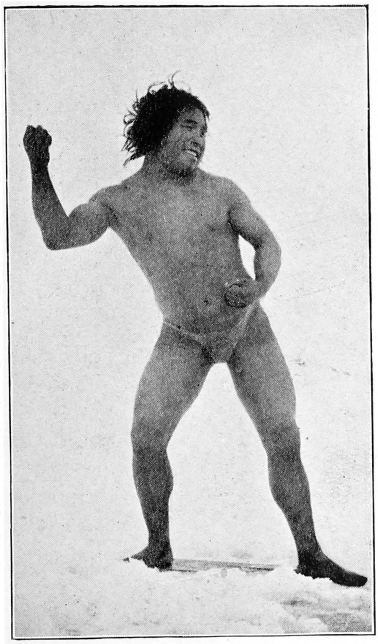


FIGURE OF 8-YEAR-OLD GIRL.

During the homeward voyage of the *Kite* we touched at Dexterity Harbour, on the west side of Baffin Bay, and found there a considerable settlement of the west-side natives. In conversation with these

natives, we learned that they knew of this hunter and his sister, and one old woman in the village had, when a girl, seen him, but she said that he had gone north years ago, and then disappeared, no one knew where. They expressed the liveliest interest in hearing about him, and from them we learned that as a young man this same hunter had lived at various times all the way from Cumberland Gulf to the shores of Ellesmere Land, north of Jones Sound. There seemed to be no possible chance for this to be a case of mistaken identity, as the sister of this hunter was a deaf-mute, and these people spoke of this in describing her.

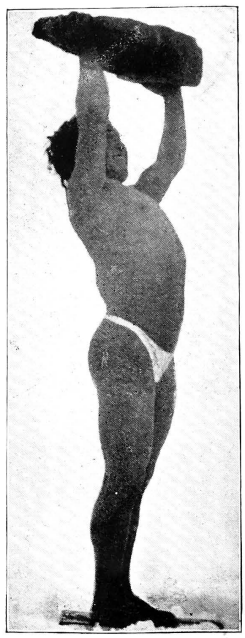


NUPSAH.
Showing Male Physique.

The study of this tribe, and the collection of accurate information in regard to it, have been among the objects of my various expeditions, and the opportunities for such study, owing to the smallness of the tribe, and its solitary imprisonment among the great Arctic glaciers, together with its especially kindly and tractable disposition, have made it possible to obtain many valuable data in regard to its customs and habits, and in par-

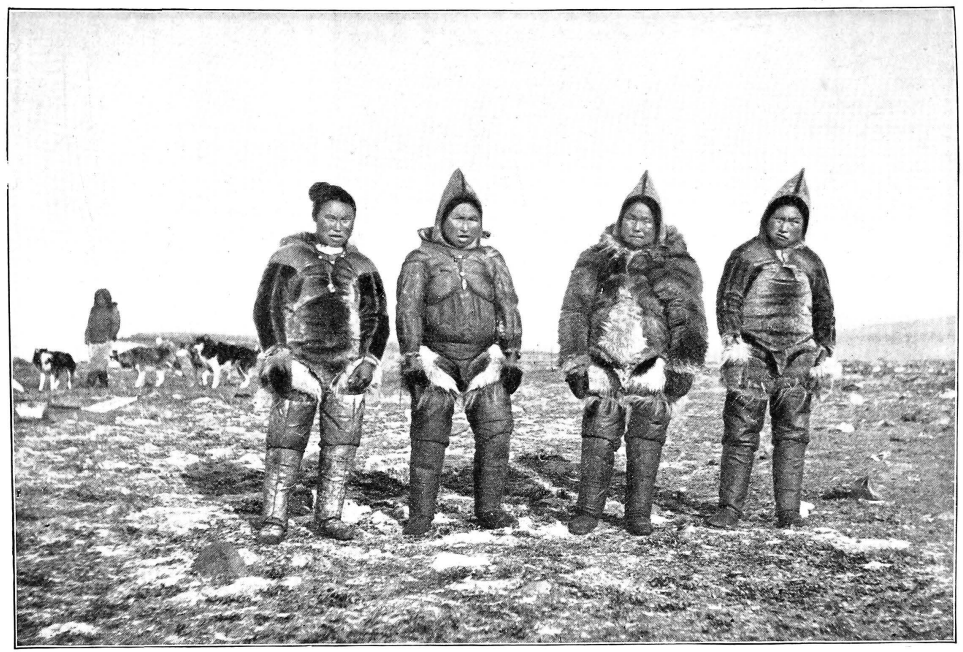
ticular to secure an absolutely complete and accurate census of the tribe, with ethnological descriptions and photographs.

That the tribe was originally much more numerous than at present seems to be borne out, not only by their own statement, but by the existence of many ancient igloos all along the coast, from Bushnan Island nearly to the Humboldt Glacier. There seems to be also a definite tradition that, in years past, the climate was different from what it is now, not, perhaps, any warmer, but with much less wind and fog along the coast. That the tribe previous to my visit was either increasing or decreasing in numbers I should be strongly inclined to doubt, it being probable that nature's balance between the population and the food-producing capabilities of the country had been established for generations.



NUPSAH.
Showing Male Physique.

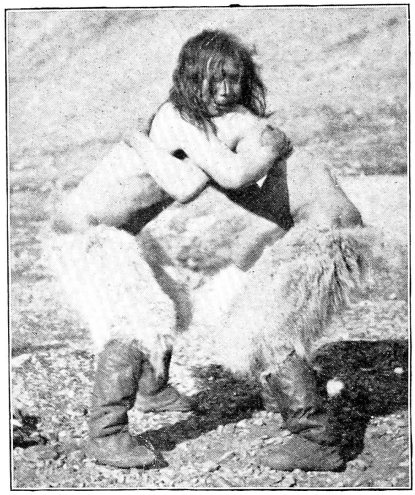
But since my first expedition in 1891 there has been a marked preponderance of the birth-rate over the death-rate, until the epidemic of 1895–1896 decimated the tribe, carrying off eleven per cent. In the year since, the birth-rate is again in excess. This is due, I have no doubt, to the improved weapons and implements which I have given them, and which have increased the hunting effective-



GROUP OF ESKIMO WOMEN.

ness of the males at least one hundred per cent., and have therefore kept the tribe better nourished and in better condition to withstand the severities which are their daily lot. That this increase will be very considerable or continued for any length of time is not likely, as the balance will again be adjusted.

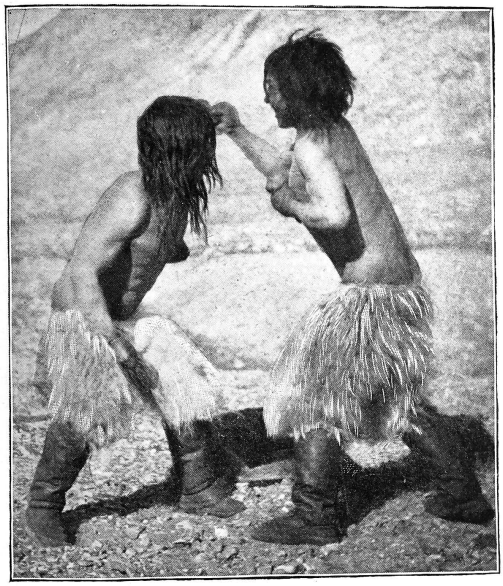
In disposition and temperament these people are a race of children, simple, kindly, cheerful, and hospitable. In powers of endurance, in certain directions, they probably are not surpassed by any other known race, and in their ingenuity and the intelligence displayed in making use, to the fullest extent, of every one of the few possibilities of their country which can assist them to live and be comfortable, they are, in my opinion, ahead of any other aboriginal race. Of arts, sciences, culture, manufactures, and such other adjuncts of civilisation, they know nothing.



WRESTLING.

There is no form of government among them, no chief, each man being supreme in his own family, and literally and absolutely his own master. Such a thing as real-estate interest is unknown to them. Every man owns the whole country and can locate his house

and hunt where his fancy dictates. The products of the hunts are common property with slight limitations, as, for example, anything smaller than a seal is the property of the hunter who captures it; yet, unwritten laws require him to be generous even with this, if he can do so without starving his own family. Personal

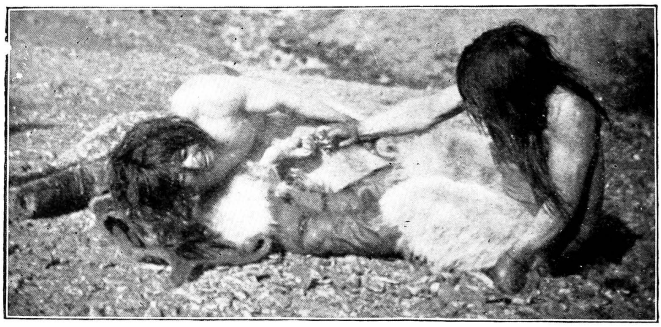


BOXING.

possessions are of necessity very limited, consisting almost entirely of clothing, travelling equipments, weapons and implements, and a single skin tent or tupik. Every man is his own tailor, shoemaker, boat-builder, house carpenter, and everything else; in other words, each family is literally and absolutely independent and self-supporting, and could continue

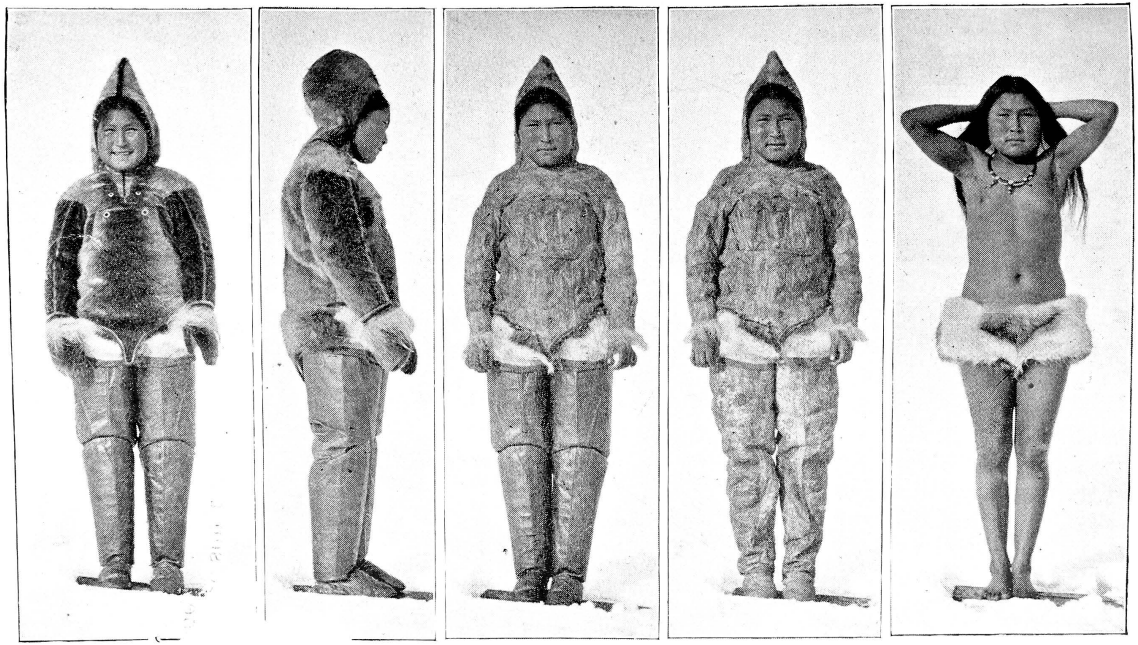
its existence for an indefinite length of time without external assistance.

Their ideas of astronomy are definite, though necessarily limited. They recognise the Great Dipper as a herd of reindeer; the three triangular stars of Cassiopeia are the three stones supporting a celestial stone lamp; the Pleiades are a team of dogs in pursuit of a bear; the three glittering brilliants of the belt of Orion are the steps cut by some celestial Eskimo in a steep snow-bank to enable him to climb to the top; Gemini are two stones in the entrance to



ARM PULL.

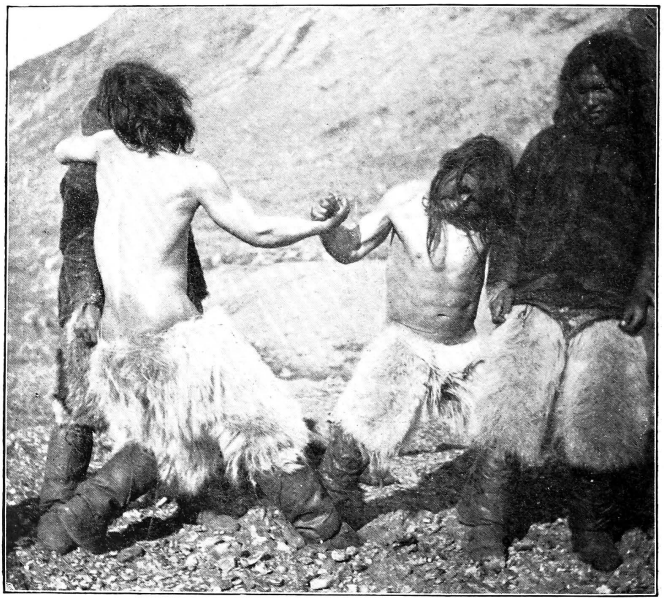
igloo; Arcturus and Aldebaran are personifica-
ns; and the moon and sun are a maiden and her
rsuing lover. These Eskimos estimate time by
ovements of the stars, as well as by the position
and yet, less observant than were the Arab
, they have not noticed that one star is the
about which all the others move, nor have they
apart the planets, which to them are simply large stars. Probably this is due to the fact that the movements of stars can be observed during only three months of the year.



COSTUME OF AN ESKIMO WOMAN.

(See Note, p. 510.)

As regards morals, these people do not stand high according to our scale. The wife is as much a piece of personal property which may be sold, exchanged, loaned, or borrowed, as a sledge or a canoe. It must be said in their favour, however, that children as well as aged and infirm members of the tribe are well



WRIST PULL.

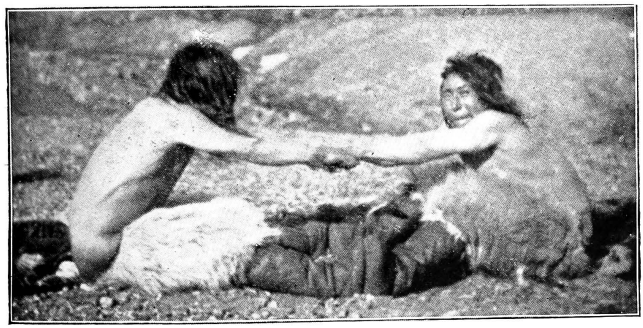
taken care of, and that for the former the parents evince the liveliest affection.

There seems to be no marriage ceremony. The matrimonial arrangement is frequently perfected by the parents while the parties are children.

As the female is eligible for marriage much earlier

than the male, a girl may be appropriated by a man whose wife has died, before her intended is old enough to marry. This arrangement may continue, or her intended may claim her when he is old enough. This is largely a matter of mutual agreement.

Young couples frequently change partners several times in the first year or two, till both are suited, when the union is practically permanent, except for temporary periods during which an exchange may be effected with another man, or the wife loaned to a friend.



TUG OF WAR.

As the males are considerably in excess there is a constant demand for wives, and girls frequently marry while still as flat-chested and lank-hipped as a boy.

Though not lacking in warmth of blood they are not a prolific people. The females arrive at the age of puberty neither very early nor very late, but according to their own statements they never have children, even with every possible provocation, till at least three years later, and I am inclined to think the statement is substantially correct.

Motherhood and the various female functions cause them hardly if any more inconvenience than is the case with animals.

Of religion, properly speaking, they have none. The nearest approach to it is simply a collection of miscellaneous superstitions and beliefs in good and evil spirits. It may be said, in relation to this latter subject, that information in regard to it is extremely



ESKIMOS IN THEIR KAYAKS.

difficult to obtain, and probably the bottom facts of the matter will be known only when some enthusiast is willing to devote five or six years of his time to living with them and doing as they do, becoming in fact one of them.

In physical appearance the members of the tribe are below the average stature, generally well built, plump and rounded in figure, and deceptively heavy.

The popular idea that the people of this tribe are of small size is, in general, true ; but there are comparative giants among them, and I could name several who stand in the neighbourhood of five feet ten, and weigh from one hundred and seventy-five to one hundred and eighty-four pounds, net. A man of these dimensions, when dressed in his midwinter costume of bear- and deerskin, looms up like a Colossus. The women are quite small, but they, as well as the men, are very solid, and extremely deceptive as to weight. The muscular development of the men is astonishing, but here again they are very deceptive in appearance, the external covering of blubber, which they possess in common with the seal, the walrus, and the bear, destroying the differentiation of their great muscles, and giving them a smooth and rounded appearance.



POOADLOONAH.

Were it not for their dirtiness and the unpleasant odours resulting from their mode of life, many of them, of both sexes, would be by no means disagreeable of presence. In regard to the younger members of the tribe in particular, while their faces are not by any means perfect, there seems to be a generally pleasing expression, especially when interested or engaged in conversation.

Their clothing is composed entirely of furs and skins of animals and birds, and, in pattern and adaptation of each material to a certain purpose, is the result of an evolution extending through generation after generation, until to-day the Eskimo dress may be consid-



MOTHER OF THE SEALS.
(An Eskimo Legend.)

ered perfect for the conditions under which it is worn. There is a difference, chiefly in the upper garments, between the summer and winter dress, the former consisting of sealskin, birdskin, and bearskin; the latter of deer-, fox-, and bearskin.



BRAIDING A BOWSTRING.

Their habitations in summer consist of tupiks, or tents, of sealskin, and in winter of igloos built of stones chinked with moss, covered with moss and turf, and banked in with snow. In the spring and when travelling, a snow igloo built of cut blocks of snow serves as a dwelling.[1] For sustenance these people depend en-

[1] The winter habitations of the Whale-Sound Eskimos are known under the general term, igloo. There are really three varieties of these dwellings, to only one of which is the name igloo applied by the Eskimos themselves:

1st, *igloo*,—a hut the walls and entire roof of which are built solely of stones.

2d, *kangmah*,—a hut the walls and a portion only of the roof, or perhaps

tirely upon the results of the hunt, which is energetically prosecuted whenever practicable against the walrus, the seal, the deer, the bear, narwhal, white whale,



STRETCHING A SEALSKIN TO DRY.

fox, and hare. While they can hardly be said to be hunted, yet thousands and thousands of sea-birds, little

the walls only, of which are built of stones, the gap in the roof being covered with skins.

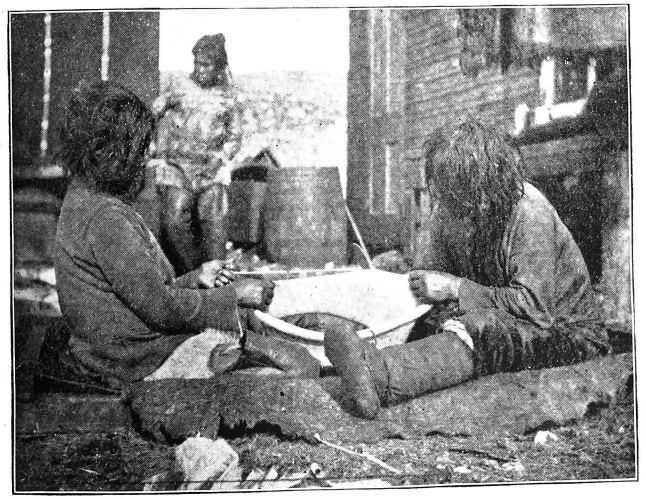
3d, *iglooyah*,—a hut built entirely of snow blocks.

The igloos proper were undoubtedly all built generations ago, when the people had absolutely no wood, and their rude weapons enabled them to capture barely enough game to furnish skins for their clothing, without any to spare for covering their houses.

The kangmah is merely a simplified igloo, rendered possible by the increased prosperity of the tribe. It is much easier to build only the narrower portion of the roof of stones, and cover the remainder with sealskins laid across sticks and covered in with turf. And it is a still further economy of labour, if a man (as is often the case now) has two tupiks, or sealskin tents, to merely build the walls of his igloo, and then roof it over entirely with his second-best tupik, folded and laid upon poles, then covered with turf and snow.

auks and looms, are obtained with nets and stored for winter use.

Of these various animals, the seal is perhaps the staple, with the walrus next. The meat of these two animals is about equally prized, and the blubber is equally valuable for cooking purposes and for heating the houses. Next come the narwhal and the white

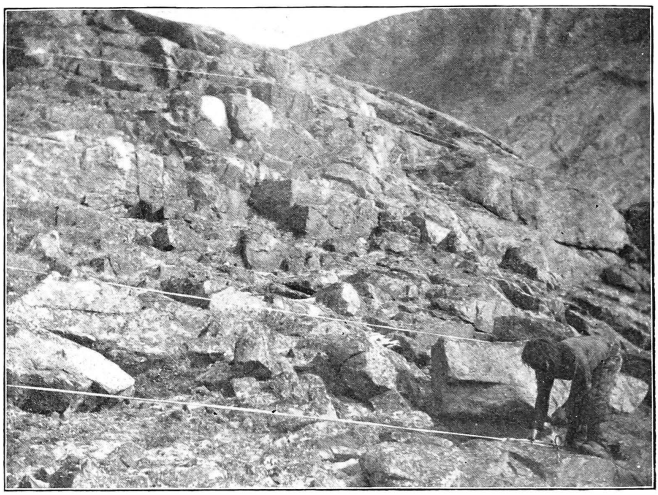


MAKING A HARPOON LINE.

whale, then the bear, while the deer, fox, and hare form a very small item in the Eskimo menu, and may be considered rather as delicacies than as staples.

As for occupation, these people may be said to have but one, namely, hunting, and the construction and keeping in repair of the weapons and accessories required by it. From the return of the sun till its departure, the various animals are hunted in turn in

accordance with the season and locality; and during the winter the surplus supply of meat obtained during the hunting season is consumed in carrying the tribe through the dark night. During this night there are three moons, and the light afforded by each of these is utilised by the natives in travelling between the different settlements and paying their annual calls; an



STRETCHING A HARPOON LINE.

amusement varied frequently by the excitement of a moonlight conflict with a polar bear.

Their amusements are few. In summer there are tests of strength between the young men of the tribe, consisting of wrestling, pulling, lifting, and a rude kind of boxing. In winter the sole amusements are marital pleasures, and the songs and improvisations of the *angakoks*, or medicine-men, of the tribe. In



GRAVE OF A HUNTER.

(See Note, p. 510.)

the choruses of these the entire assembled company join.

In several ways these Eskimos are unique among aboriginal tribes, and their idiosyncrasies in these matters compel my admiration and respect.

They have no unnatural or depraved appetites or habits; no stimulants or intoxicants; no narcotics; no slow poisoning. Nor do they in any way mutilate or disfigure the form the Creator gave them, or modify or pervert the natural functions. Neither have they any medicines. Their diseases are principally rheumatism and lung and bronchial troubles. The causes of death among the men come largely under the terse Western expression, "with their boots on."



FACE CARVED FROM VERTEBRA OF NARWHAL.

A kayak capsizes, and the occupant is hurled into the icy water; a hunter harpoons a walrus or bearded seal from the ice, a bight of the line catches round arm or leg, and the big brute drags him under to his death; an iceberg capsizes as he is passing it; a rock or snow-slide from the steep shore cliffs crushes him; or a bear tears him mortally with a stroke of his paw; and so on. Occasionally, in the past, starvation has wiped out an entire village.

On the death of a man or woman, the body, fully dressed, is laid straight upon its back on a skin or two, and some extra articles of clothing placed upon it. It is then covered with another skin, and the whole covered in with a low stone structure, to protect the body from dogs, foxes, and ravens. A lamp with some blubber is placed close to the grave; and

if the deceased is a man, his sledge and kayak, with his weapons and implements, are placed close by, and his favourite dogs, harnessed and attached to the sledge, are strangled to accompany him. If a woman, her cooking-utensils, and the frame on which she has dried the family boots and mittens, are placed beside the grave. If she has a dog, it is strangled to accompany her; and if she has a baby in the hood, it, too, must die with her.



KOODLOOKTOO.
Effect of Civilisation upon the Rising Generation of Smith-Sound Eskimos.

If the death occurred in a tent, the poles are removed, allowing it to settle down over the site, and it is never used again, but rots or is finally blown away. If the death occurred in an igloo, it is vacated and not used again for a long time.

The relatives of the deceased must observe certain formalities in regard to clothing and food for a certain time; the name of the dead person is never spoken, and any other members of the tribe who have the same name must assume another until the arrival of an infant, to which the name can be applied, removes the ban.

To many a good person the thought at once arises: "Poor things; why don't we send some missionaries

to them, and convert or civilise them? Or, why would n't it be a good plan to take them away from their awful home to a pleasanter region?" To both these I answer at once, "God willing, never, either." When I think of the mixed race in South Greenland, which, in spite of the fostering care of the Danish Government, is still like most half-breed human products, inferior to either original stock; when I recall the miserable wretches along the west coast of Baffin Bay, vile with disease, vitiated with rum, tobacco, and contact with the whalers, and then think of my uncontaminated, pure-blooded, vigorous, faithful little tribe, I say: "No; God grant no civilisation to curse them." What I have done in the past, and shall continue to do in the future, is to put them in a little better position to carry on their struggle for existence; give them better weapons and implements, lumber to make their dwellings dryer, instructions in a few fundamental sanitary principles, and one or two items of civilised food, as coffee and biscuit,—allies to rout the demons, starvation and cold.

As I sit here writing now I can see them, already within the shadow of the "Great Night," in their little stone igloos perched upon the shore of the frozen sea, the soft light of their oil lamps glowing into the savage cold and darkness from door and sealskin window. And many a familiar face rises in memory:

Old Komonahpik, with his bronzed, impassive face, careful and thoroughly reliable, my bow oar and harpooner; Nooktah, my faithful hunter and dog driver; smiling baby Anador, handsome Sipsu; Merktoshar, the one-eyed bear hunter of Netiulumi, famous throughout the tribe for many a single-handed struggle with the polar bear, the "tiger of the North." Though one eye had been destroyed by a knife-thrust when, as a young man, in a desperate struggle with

the tattooed men of the west, far out across the frozen surface of the Sound, he had captured his first wife, the remaining eye, glittering through the straggling veil of his long black hair, saw as much as any three others in the entire tribe. It was, in fact, the only sign of life about him, except when the huge tracks of his favourite game flashed every nerve and muscle into savage excitement. Then there was Kyoahpadu, the *angakok*, Ootoonia, Kyogwito, and Myouk, the three good-natured giant brothers of Narksarsomi, Kessuh and Nupsah, the dashing dudes of Cape York; Kessuh, or the "Smiler," the walrus killer of Ittibloo; with his half-witted brother Arningana, or the "Moon"; Tukoomingwah, the child-bride of Kookoo; bright-faced Alakasingwah, Tartarah, the kittiwake; Akpalia; the "Villain"; "Misfortune"; the "Fox"; and the "Comedian."

Fortunately for them, with no possessions to excite cupidity, with a land in which no one but themselves could conquer a living, they are likely to be left in peace, to live out the part appointed them by the Creator, undisturbed by efforts to understand the white man's ideas of God, of right, of morality, and uncontaminated by his vices or diseases, till the "Great Night" ends forever, and the "Great Ice" dissolves in the convulsions of the last day.

GENERAL NOTE TO FIGURE ILLUSTRATIONS IN APPENDIX II.

It is to be observed, in connection with the numerous partially nude figures in this appendix, that it is not the usual custom of the Eskimos to omit portions of their clothing. It was done at my request in order to show physique and muscular development. In calm sunny days in June, July, and August there is no physical discomfort in such partial nudity, even in that latitude.

NOTE TO FULL-PAGE PICTURE, "COSTUME OF AN ESKIMO WOMAN," APPENDIX II.

Figure 1 shows a young woman of the Whale-Sound Eskimos in full summer costume composed of nine separate pieces, viz.:

Hooded sealskin coat . . .	1.
Hooded birdskin shirt . . .	1.
Foxskin trousers	1.
Sealskin boots	2.
Deerskin stockings	2.
Sealskin mittens	2.

Figure No. 2 shows side view of the same costume.
Figure No. 3 shows the sealskin coat, removed.
Figure No. 4 shows the sealskin coat and boots, removed.
Figure No. 5 shows entire costume, except foxskin trousers, removed.

NOTE TO PICTURE, "GRAVE OF AN ESKIMO HUNTER," FULL-PAGE, APPENDIX II.

Grave of Maksah in the Talus of the Cape-York Cliffs. The body lies under the pile of stones in the right foreground. Beyond it is the hunter's sledge with his weapons lashed upon it; and still farther in the background are two dogs, harnessed and attached to the sledge, then strangled to accompany their master. To the left, under a boulder, is his treasure chest, containing the hunter's tools and valuables. In the distance are the waters of Cape-York Bay, and the Cape-York Glacier. Maksah received his death wounds in a hand-to-hand struggle with a Polar bear. This picture is typical.

CENSUS OF THE SMITH-SOUND ESKIMOS, AUGUST 31, 1895.[1]

LEE.

(Names of males in black-faced type; of females in roman.)

* * Indicates deceased in epidemic of 1895-96.

† Indicates west-coast natives who have crossed Smith Sound to the Greenland side.

	NAME	NAME
	Ah'-bee-lah	**Ah-let'-tah**
	Ah'-bee-lah	Ah'-mah
	Ah'-ga-tah	Ah-me'-mia
* *	Ah-gee'-tcher	Ah-ming'-wah
* *	**Ah-go'-tah**	Ah-ming-'wah
	Ah-go-tok'-suah	Ah'-ne-nah
	Ah-kah-ting'-wah	**Ahng-een'-yah**
	Ah-kah-ting'-wah	Ahng-ling'-wah
†	Ah-ki-gi-ah'-soo	**Ahng-mo-dok'-too**
	Ah-lee'-kah	* * Ahng'-nah
	Ah-lee'-kah	Ahng-nah'-nia

[1] This census I believe to be absolutely correct. It, as well as a complete genealogy of the tribe, is entirely the result of Lee's patient, persevering work, and as with everything else that was assigned to him, he went at it with the intention of having it right. At first his persistent inquiries after their children, relatives, and ancestors were regarded with a certain degree of suspicion by the natives, but finally they came to look upon it as a harmless indication of mild insanity, and since Lee was n't a half-bad fellow, he might as well be humoured in it. He never let an opportunity slip. While waiting in an igloo for our tea to brew, after a long sledge journey, Lee would cross-examine every native present as to his or her children, sisters, cousins, aunts, etc., and frequently during our arduous winter trips, if our sledges ranged alongside on a bit of smooth going, I would hear him deeply engaged with his driver endeavouring to straighten out some knotty problems of relationship, or perhaps trying to secure the names of the driver's great-grandmother's children. He frequently found it somewhat difficult to trace ancestry or descent on the paternal side, and many of his questions elicited answers which here would be considered embarrassing to say the least, but there were accompanied by audible smiles in which the entire company would join.

	NAME
	Ahng-nah′-yah
* *	Ahng-no-ding′-wah
	Ahng-o-di-gip′-soo
	Ahng-o-do-blah′-ho
	Ahng-o-do-blah′-ho
* *	Ahn-i-ghi′-to
	Ah-ning-ah′-nah
	Ah-riñ′-a-loo
†	**Ah-say′-oo**
	Ah′-tee-tah
	Ah-tung′-i-nah
	Ah-tung′-i-nah
	Ah-tung′-i-nah
	Ah-wee′-ah
	Ah-wee′-ah
	Ah-wee-ah-good′-loo
	Ah-wee-aung-o′-nah
	Ah-wee′-i-ah
	Ah-wee-i-king′-wah
* *	Ah-wok-toon′-i-ah
	Ah′-wo-tah
	Ah′-wo-tah
	Ah′-wo-tah
	Ah-wo-ting′-wah
	Ah-wo-tok′-suah
	Air-o′-nah
	A-kom-o-ding′-wah
	Ak′-pud-ik-su-ah′-ho
	Ak′-pud-ik-su-ah′-ho
	Al-li-ka-se′-ah
	Al-li-ka-sing′-wah
	Al-li-ka-sing′-wah
	An-nah′-noo
* *	An-now′-gwe
	An-now′-gwe
	An-now′-kah
	As-o-pung′-wah
	As′-shoo
	At-took′-soo
	At-took-sung′-wah
	E-ging′-wah
	E-ging′-wah

	NAME
* *	E-hing′-wah
	E-ling′-wah
	E-meeñ′-ah
* *	**E-meeñ′-ah**
	E-mu-ah′-ho
	E-mu-ah′-ho
	E-mu-ah′-ho
	E′-she
	E-took′-i-shoo
	E-took′-i-shoo
†	E-too-shok′-su-ah
	E′-ve-loo
	I′-gi-ah
	Ihl′-lie
	Ihl′-lie
	Ik-klay-o′-shoo
	Ik-klay-o′-shoo
	Ik-klay-o′-shoo
	Ik′-wah
	Ilk-lain′-nah
	Ilk-lain′-nah
* *	**Ilk′-loo**
	Il-li-a-ting′-wah
	Il-li-a′-too
	Il-li-a′-too
* *	In-ad-le′-ah
	In-ad-le′-ah
	Ing-op′-o-doo
	In-noo-ah′-ho
* *	In-noo-ah′-ho
	In-noo-gwe′-tah
	In-noo-gwe′-tah
* *	**In-noo′-i-tah**
	In-noo′-i-tah
	In-noo-ka-se′-ah
	In′-noo-loo
	In′-noo-loo
	In-noo-lung′-wah
* *	In-noo′-tah
	In-noo′-tah
	I-o-whit′-te
	Is-she′-a-too

NAME

Is-she'-a-too

Kah-ra'-shoo
Kah-shad'-dow
Kai-ko-tcher'
* * **Kai-o-gwe'-too**
Kai'-oh
Kai-o-look'-too
Kai-oo'-nah
Kai-op'-o-doo
Kai-o'-shoo
Kai-o'-tah
Kai-o'-tah
Kai-o'-tcher
* * **Kai-ung'-wah**
Kai'-we-kah
Kai-we-ok'-su-ah
Kai-we-ok'-su-ah
Kai-wing'-wah
Kar'-dah
Kee'-ri-kah
Kes-shoo'
Kes-shoo'
Kes-shoo'
Kes-shoo'
Klay'-oo
Klay'-oo
Klay-ung'-wah
Klip-e-sok'-su-ah
Klip-e-sok'-su-ah
* * **Klip-e-sok'-su-ah**
* * **Klip-e-soon'-ah**
Ko'ko
† **Ko-mon-ah'-pik**
Koo-che-gwe'-tah
Kood-loo-tin'-ah
Kood-loo-tin'-ah
Kood-loo-tin'-ah
Koo'-lee
Koo-loo-ting'-wah
Kow-oo'-nah
Kud'-lah
Kud'-lah

NAME

Kud-look'-too

Mah-ho'-tcher
* * **Mah-so'-nah**
Mah-so'-nah
Mah-so'-nah
Mak-sing'-wah
Me'-gi-ah
* * Me-gip'-soo
(Unnamed infant)
Me-gip'-soo
* * Mek'-koo
Mek'-koo
Me'-nie
† **Merk-to-shar'**
Me'-uk
Me'-uk
Mok'-sah
Mok'-sah
Mok'-sah
Mok-sang'-wah
* * Mok-sang'-wah
Mok-sang'-wah
* * Mon'-nie
Mon'-nie
Mon'-nie
Mon'-u-me-mia
Muk'-tah
My'-ah

* * Nah-wah'-nah
Ne-ling'-wah
Nel-le'-kah
Nel-li-ka-te'-ah
Net'-too
New-i-kee'-nah
New-i-king'-wah
New-i-king'-wah
* * New-i-le'-ah
New-i-ok'-su-ah
Nip-sang'-wah
Nook'-tah
Now-ding'-wah

NAME	NAME
Now-e-het'-choo	Sag'-wah
Now-e-og'-le	**Sed'-lah**
Now-e-og'-le	**Shak-up-soon'-ah**
Nup'-sah	Shoo-i-king'-wah
	Sig'-loo
Oh'-tah	Sim'-e-ah
Ok'-klo	Sin-ah'-ew
Ok'-klo	Si-oo-de-ka'-too
Ok-ko-ting'-wah	**Sip'-soo**
Ok-pud-ding'-wah	Sow'-nah
Ok-pud-ding'-wah	* * Sow'-nah
† Ok-pud-i-ah'-pe	**Suk'-kun**
* * Om-mo'-nel-li	Sum-ming'-wah
Ong'-na-gloo	
Ong'-na-gloo	**Tah'-tah-rah**
Oo-bloo'-iah	**Tah-u-i'-nah**
Oo-bloo'-iah	* * Tah-ving'-wah
* * **Oo'-gwe**	**Tah'-win-nah**
Oo'-mah	**Ted-i-ling'-wah**
Oong'-wah	**Tel-e-ka-te'-ah**
Oo'-qui-ah	**Teri-cheer'**
Oo-she-a'-too	**Teri-ching'-wah**
Oo-toon'-i-ah	**Teri-ching'-wah**
Oo-toon-i-ok'-su-ah	**Teri-ching'-wah**
	Took'-i-mah
Pad-lung'-wah	Took'-i-mah
Pan'-ik-pah	Took-i-ming'-wah
Pew-ah'-tew	**Tung'-we**
Poad-loo'-nah	Tung-wing'-wah
Poad-loo'-nah	(Unnamed infant)
Poad-loo'-nah	
Poob'-lah	Wee'-aung
Poob'-lah	Wee'-aung
Poo'-too	**Wee-ok'-kah**

RÉSUMÉ.

Males, 140; females, 113; total, 253. Between August 31, 1895, and August 31, 1897, there were 29 deaths and 10 births, leaving the present population 234.

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