

NORTHWARD

OVER THE "GREAT ICE"



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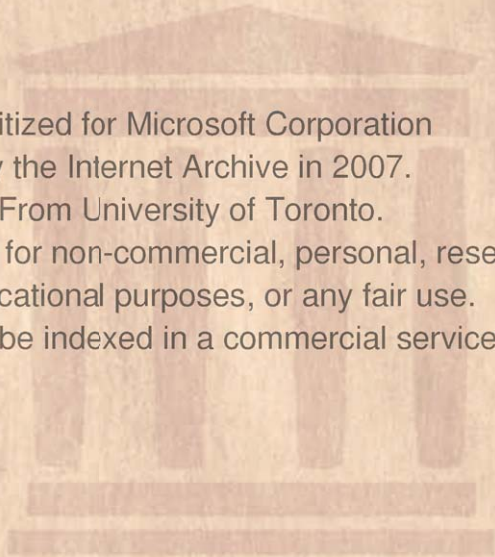
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Josephine Diebitsch-Pearcy

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. II.



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PART V.

SUMMER VOYAGES OF 1896-1897.

THE "SAVIKSUE" OR CAPE-YORK METEORITES.

CAPE YORK "SAVIKSUE"—HISTORY, AND EFFORTS TO SECURE THEM—DISCOVERY IN 1894—LOCATION—SECURING "WOMAN" AND "DOG" IN 1895—WORK ON "AHNIGHITO" IN 1896—SECURING "AHNIGHITO" IN 1897—DESCRIPTION—AUTHENTICITY—NOTES AND SPECULATIONS—DISCOVERY OF ANCIENT ESKIMO KNIVES MADE FROM "SAVIKSUE"—PROPOSED GROUP—*RÉSUMÉ* OF POINTS OF SPECIAL INTEREST.



MAP SHOWING LOCATION OF "SAVIKSUE" AND VOYAGE OF
"HOPE" IN 1897.

PART V.

THE "SAVIKSUE" OR CAPE-YORK METEORITES.



THE two summer voyages made by me in 1896 and 1897 had for their object, among others, the bringing home of the third, last, and largest of the Cape-York meteorites. The securing of this enormous celestial visitor was the main object of the 1896 voyage; the secondary object of the voyage of 1897.

In both these voyages my ship was the S.S. *Hope*. In both, her Master was Capt. John Bartlett, and each time I

took parties of scientific men and students for a summer of Arctic field work.

These voyages were full of incidents which, under other circumstances, would furnish abundant material for a volume. But these incidents must yield space to a condensed narrative of one of the most unique episodes in the annals of Arctic exploration, the discovery and removal from their frozen beds of the most interesting of known meteorites, with a brief description of them.

HISTORY, AND EFFORTS TO SECURE.

Of all the great meteorites of the world's collections, as well as the more or less legendary and mysterious celestial visitors, the "heaven stones," "thunderbolts," "abaddirs," Palladium, etc., which have elicited the awe and veneration of man since remote antiquity, the "Saviksue" or Cape-York meteorites, must,

from their exceptional size, their purity and homogeneity of composition, the extreme northern latitude in which they were found, their incontrovertibly celestial origin, and their human associations, be conceded to rank first.

The history of these meteorites up to the time of their discovery by me is comprised in the statement that, when Capt. Ross in 1818 discovered the existence, in the vicinity of Cape York, of a previously unknown tribe of Eskimos, he found in their possession rude knives and harpoon points with cutting edges of iron. The metal in these implements, as well as could be determined from the imperfect communication with these people, had been obtained by them from an "Iron Mountain" on the northern shore of Melville Bay.

An analysis of the metal showed the presence of nickel, and led to the inference that the source of iron supply of these northern people was meteoric. For a full account of this, and for various papers bearing upon the subject, the reader is referred to Capt. Ross's narrative and to the *Arctic Manual*.

Nordenskjöld's discovery of the famous Ovikaf irons on Disco Island, and the ultimate determination of their telluric rather than extra-terrestrial origin, gave rise to doubts as to the meteoric character of the more northern and semi-mythical Cape-York iron, and it was assumed that this iron was also telluric.

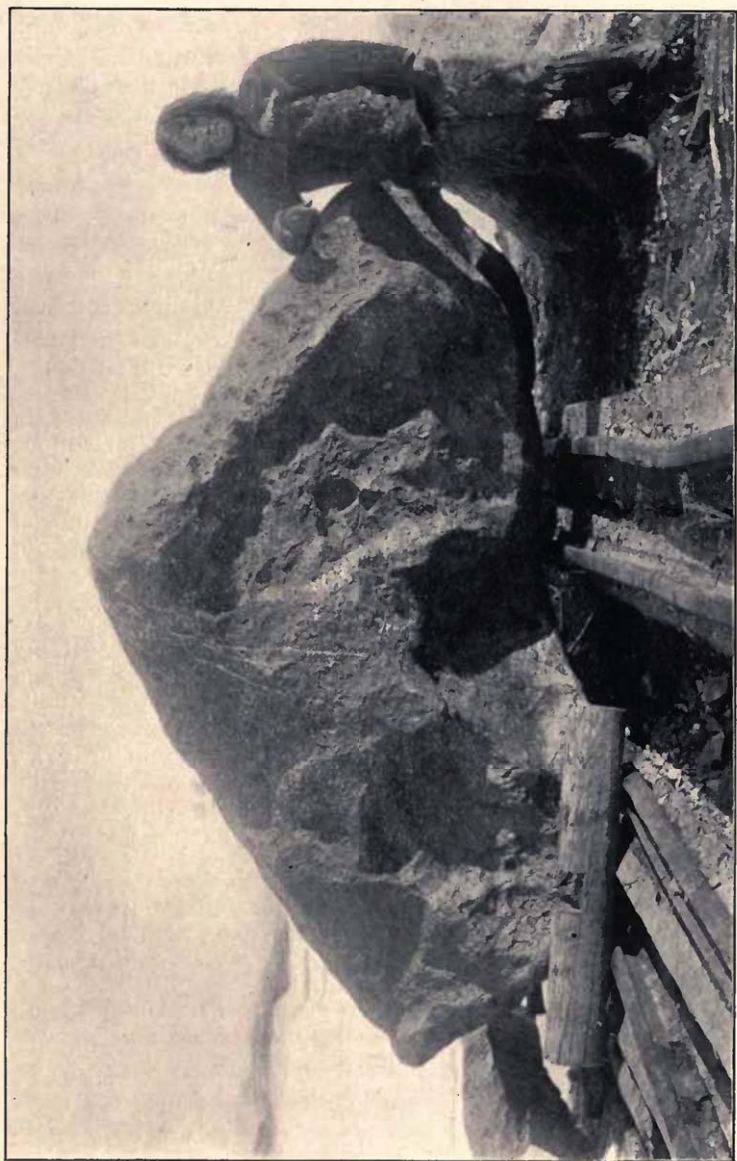
One of the objects of almost every expedition which has gone north in that region since 1818 has been the solution of the mystery of the "Iron Mountain."

In the '40's the King of Denmark authorised an expedition for the purpose of discovering and determining the character of the "Mountain," but nothing came of the effort.

The officers of the *North Star*, one of the Franklin search ships which passed the winter of 1849-50 in Wolstenholm Sound, north of Cape York, were unsuccessful in locating the iron, and the same may be said of the various expeditions, English, American, and others, and the whalers, which visited these waters during a long series of years after Ross's voyage. None of these came any nearer than Ross himself to clearing up the mystery.

From the fact that the existence of this iron was discovered by an English officer, the British Museum has been specially interested in the subject, and one of the objects of the splendid English Arctic Expedition of 1875-76 was to clear up the question of its location and character if possible. This desired result, however, was not accomplished.

Baron Nordenskjöld's ship in 1883 went to Cape York for the express purpose of discovering and, if practicable, bringing



"TENT" OR "AHNIGHITO" METEORITE.

away the iron, but the ice did not permit her to penetrate Melville Bay, and this expedition, like previous ones, returned unsuccessful.

Up to the spring of 1894, the information already noted above comprised the sum-total of our knowledge on this interesting subject.

It was fortunately reserved for me to settle the question finally and definitely. After I had gained the confidence of the entire little tribe of Smith-Sound Eskimos, Tellikotinah, one of the hunters, in May of 1894, guided me to the "Iron Mountain,"¹ where I found, not a mountain or vein of iron, but three large masses of homogeneous metal, the peculiar and unmistakable characteristics of which, and especially the nature of their surroundings, proved them to be, beyond the possibility of doubt, true meteoric irons.

In the latter part of August of the same year I attempted, in the *Falcon*, to penetrate Melville Bay to the site of the meteorites, and embark them for the purpose of sending them home. The summer of 1894, however, was an unusually severe one in this portion of the Arctic regions, and the ice of Melville Bay did not move out at all, but remained cemented to the shore throughout the entire season, rendering it impossible for me to get my ship within thirty or forty miles of my prizes.

In December of the same year (the midnight of the Arctic winter night) I made a second attempt to revisit the meteorites, sledging from the lodge in Bowdoin Bay, but bad weather combined with the darkness to close the ever inhospitable door of Melville Bay to me, and I was unable to get beyond Cape York, where I was storm-bound for several days, and then returned to the lodge, narrowly escaping the loss of my dogs and sledge by the breaking up of the ice about me while rounding Cape Parry.²

LOCATION.

The location of these meteorites is on the northern shore of that great icy fastness, Melville Bay, some thirty-five miles east of Cape York. Just inside of Bushnan Island is a second island, larger than Bushnan, and hitherto taken for part of the mainland. This island lies directly across the mouth of a double-armed bay which reaches northward into the land, and has an opening westward toward Cape York, and eastward into Melville Bay, past the ends of the island.

The eastern arm of this bay terminates in a little rectangular cove, walled by a series of hills three hundred to six hundred

¹ See Chap. vi., Part III.

² See Chaps. vii. and viii., Part IV.



EASTERN END OF METEORITE ISLAND AND SITE OF THE AHNIGHITO.
From Summit of Signal Mountain.

feet high. This wall is continuous except at the eastern angle of the cove, where a narrow, gently sloping valley opens. Proceeding up this valley for a few hundred yards, one finds oneself on the divide of a narrow isthmus separating the bay already mentioned from a glacier bay to the eastward, and uniting the mountains which overhang the head of the bay with the bold and striking masses that form its eastern shore and headland. The centre of the isthmus is about eighty feet above the sea-level at its highest point, and a few yards north of this divide, on the southern slope of the mountain, the two smaller of the famous "Saviksue," the "woman" and the "dog," lay loosely upon the gneissose rocks which cover the ground.

Standing here the eye roams southward, over the broken ice-masses of Glacier Bay, the favourite haunt of the polar bear; eastward, across the glacier itself, to the ebon faces of the Black Twins, two beetling ice-capped cliffs, which frown down upon the glacier; northward, to the boulder-strewn slopes of a gneissose mountain; and westward, over the placid surface of Saviksoah Bay, which presents a striking contrast to the berg chaos on the opposite side of the isthmus.

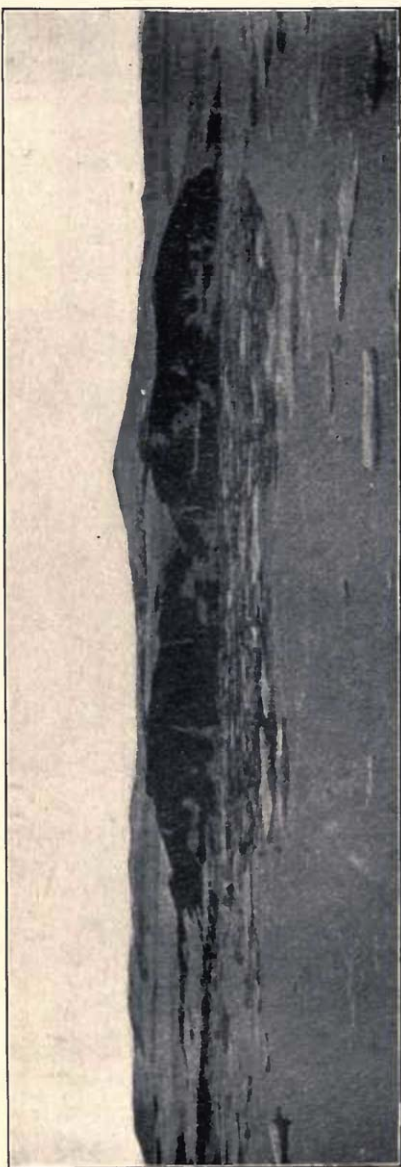
About midway of the eastern shore of the inner island, and some six miles south of the site of the "woman" and the "dog," lay the third and largest, the "tent," meteorite, nearly buried in the rocks and soil, upon a terrace some eighty feet above high-water mark, and distant about a hundred yards from the shore. Near by rises one of the most peculiar peaks that I have seen anywhere upon the Greenland coast,—a gneissose mass with sharp, overhanging crest,—which I have called Signal Mountain, since it has for centuries been marking the position of the celestial visitor. Both from this mountain, and from the site of the meteorite itself, the northern shores of Melville Bay present an eastward-stretching panorama until hidden behind a labyrinth of icebergs.

In winter this region is the desolation of Arctic desolations, constantly harassed by biting winds, and every rock deep buried beneath the snow, swept in by these winds throughout the long dark night, from the broad expanse of Melville Bay, and piled in drifts, which in many places are hundreds of feet deep. Even in summer, only the directly southward-facing slopes of the mountains are free from snow for a few weeks, while in the valleys and on the northward slopes the drifts remain eternally. A large portion of the ice and bergs of Melville Bay pass close along this coast in their slow drift westward toward the southerly current of Smith Sound. Consequently the shore is beset with ice during about eleven months of even the most favourable

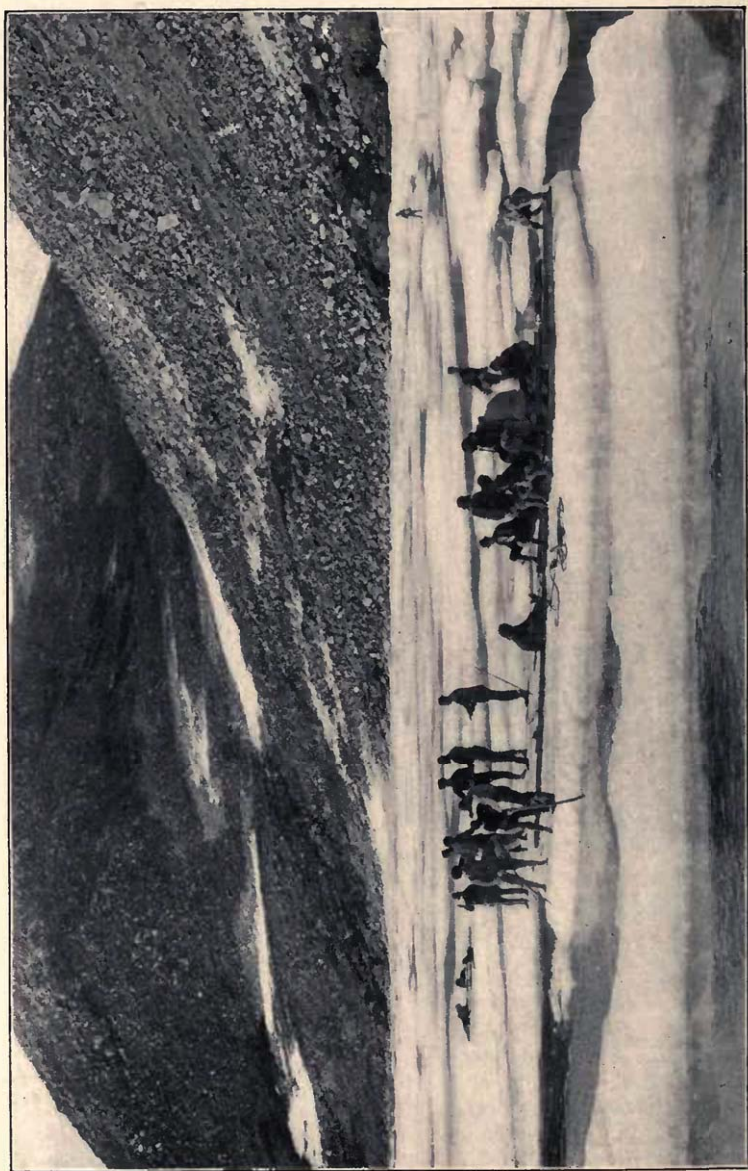
The "Saviksue" or Cape-York Meteorites 559

years, and the slightest increase in the severity of a season beyond the normal, results in the coast being completely blockaded and rendered inaccessible throughout the entire year.

The historical data to be obtained from the natives in regard to the meteorites is rather scanty. According to them the "Saviksue" (great irons) have been where I discovered them from time immemorial; but they were originally an Inuit woman and her dog and tent hurled from the sky by Tornarsuk (the Evil Spirit). They say that at first the "woman" was in shape like a woman seated and sewing, but that the constant chipping off of fragments through successive ages has gradually removed the upper portion of her body and reduced her size one-half or one-third. Years ago her head became detached and a party of Eskimos from Peterahwik or Etah (settlements north of Whale Sound) attempted to carry it away, actuated probably by the desire to have a supply of the precious metal more convenient, and save themselves the long and arduous journey to Cape York and into Melville Bay, when they needed to replenish their stock of iron. The head



METEORITE ISLAND, FROM TOP OF SAVIKSOAH MOUNTAIN.



THE ICE FERRY-BOAT.

The "Saviksue" or Cape-York Meteorites 561

was lashed upon a sledge and the party started for their home, but when well out from the shore the sea ice suddenly broke up with a loud noise, and the head disappeared beneath the water, dragging down with it the sledge and dogs. The Eskimos themselves narrowly escaped with their lives, and since that time no attempt has been made to carry away any but the smallest fragments of the heavenly woman.

This mass is the one from which all the ancient iron supply of this people was obtained, and the supposed statement of the natives to Captain Ross that one mass was composed principally



THE "DOG."

of a black rock containing iron in the shape of small nodules imbedded in it, was a misinterpretation. The hard, dark rock mentioned by the natives, a piece of which they gave Ross, was a piece of one of the trap-cobbles used in hammering off flakes of the iron, and not a portion of the rocky matrix enclosing the metal. For several generations, probably from the time of the wintering of the *North Star* or possibly earlier, no use has been made of the iron of these meteorites by the natives; they obtaining their scant supply of knives from the whalers and expedition ships visiting their coast or beset in the ice off Cape York.



HAULING THE "DOG" OVER THE ROCKS.

SECURING "WOMAN" AND "DOG" IN 1895.

In spite of my previous unsuccessful attempts to revisit the meteorites the effort was not given up, and finally late in August, 1895, I rounded Cape York in the steamer *Kite*, which had been sent by Mrs. Peary to bring me and my two companions home, and finding Melville Bay comparatively free from ice, every possible pound of steam was crowded on and the *Kite* pushed eastward at her utmost speed in order to reach the vicinity of the meteorites before a change of wind should shut the door in my face.

As we penetrated mile after mile into the icy fastnesses of Melville Bay without finding our progress barred by ice, my hopes began to rise, only to be dashed again when we entered Saviksoah Bay and saw the previous winter's ice stretching entirely across it. It looked as if even after getting thus far I was yet to be stopped several miles away from the objects of my visit. From the masthead a narrow lead of open water was detected penetrating the bay, and following this lead to its end, then ramming the *Kite* her length into the edge of

The "Saviksue" or Cape-York Meteorites 563

the floe, the ice-hooks were put out and the ship made fast a mile from the shore.

No sooner was this done than, with Diebitsch and Bartlett each armed with a boat-hook to assist in crossing the leads and pools of water which interrupted the surface of the ice in every direction, I climbed over the side of the *Kite*, crossed the ice, reached the ice-foot at the head of the bay, and, passing up the little valley, stood once more beside the great heaven-born mass, from which a little more than a year before I had removed the deep covering of the winter's snows.

With the snow now melted away from the "woman" and her surroundings, it was possible to obtain a clear idea of the difficulties incident to transporting the mass to the ship. I was encouraged to find the meteorite was not larger than I had first estimated it to be (about 5500 lbs.), my excavation of the previous year having determined its maximum dimensions. The continued existence of a large drift of compacted snow and ice in the little valley between it and the head of the bay was also a valuable point in our favour. Yet the several hundred feet of distance intervening between the



ACROSS THE BAY ICE.

meteorite and the upper end of this drift, thickly covered with large gneissose boulders, and the wide lane of open water separating the ice in the bay from the shore at the mouth of the valley, presented difficulties which I could see would require all our resources to overcome.

The next day, Diebitsch began work with the ship's crew and the Eskimos; the "woman" was lifted out of her bed with jacks, and a rough sledge of spruce poles made for the "dog." On the second day, the "woman" was blocked up ready for transportation, and the "dog" rolled upon its sledge and dragged by the combined force of the ship's crew and my native allies over the boulders and down the snow-drifts to the shore; then ferried



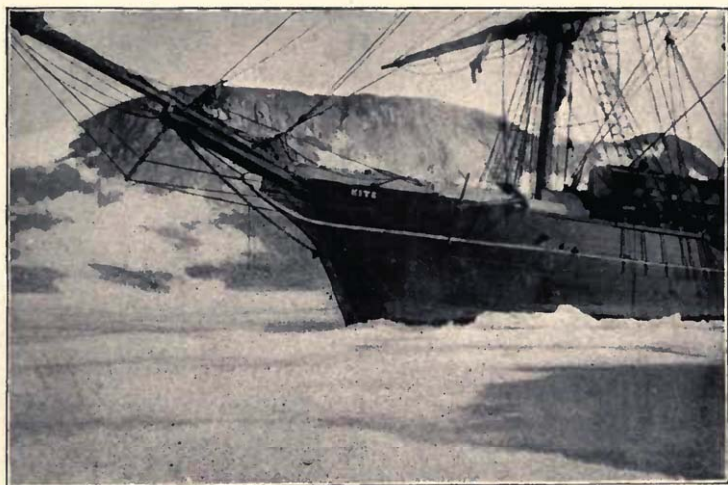
MOVING THE "WOMAN" ON ROLLERS.

across the open water upon a cake of ice, and finally hauled for a distance of about a mile over the surface of the ice in the bay to the ship's side, where it was hoisted on board and deposited in the hold.

On the third day a heavy timber drag was constructed for the "woman," upon which she was placed and secured, then slowly transported upon iron rollers over a plank tramway laid along a rude road-bed, roughly graded by my Eskimos with the abundance of stones in the vicinity. In this way the meteorite was brought to the upper end of the snow-drift. Then after midnight, when the surface of this drift was frozen firmly, it

The "Saviksue" or Cape-York Meteorites 565

was moved down to the shore, where a huge cake of ice, 40 ft. long by 20 ft. wide by 7 ft. thick, had been securely moored to receive it. Upon this novel ferry-boat it was floated across the open water to the bay ice, and into a dock cut to receive it. Once on the bay ice, progress was continued upon rollers running on a plank tramway until within half a mile from the ship, when the work was expedited by splicing all spare ropes together and carrying them out from the ship, using the winch for tractive power. As soon as the prize was alongside, all possible speed was made in hooking on to it with the ship's tackles and purchases ; but before this could be completed the



"KITE" DOCKED IN THE ICE.

ice gave way under the great weight, leaving the meteorite only partially secured. Fortunately, the lines and chains already fastened to it were strong enough to hold, though insufficient to lift it, and finally, although nearly submerged by the listing of the *Kite* under the unbalanced load, additional lines were attached and the meteorite slowly warped up to the rail and swung inboard. Everyone breathed a sigh of relief when the sulky giant was safely deposited in the hold.

The work of transporting and embarking these two masses was engineered entirely by Diebitsch, and was accomplished by him in a most able and effective manner.

While this work on the two smaller meteorites was progressing,

the big one out on the island was visited and partially excavated with a view to getting an idea of its size and weight.

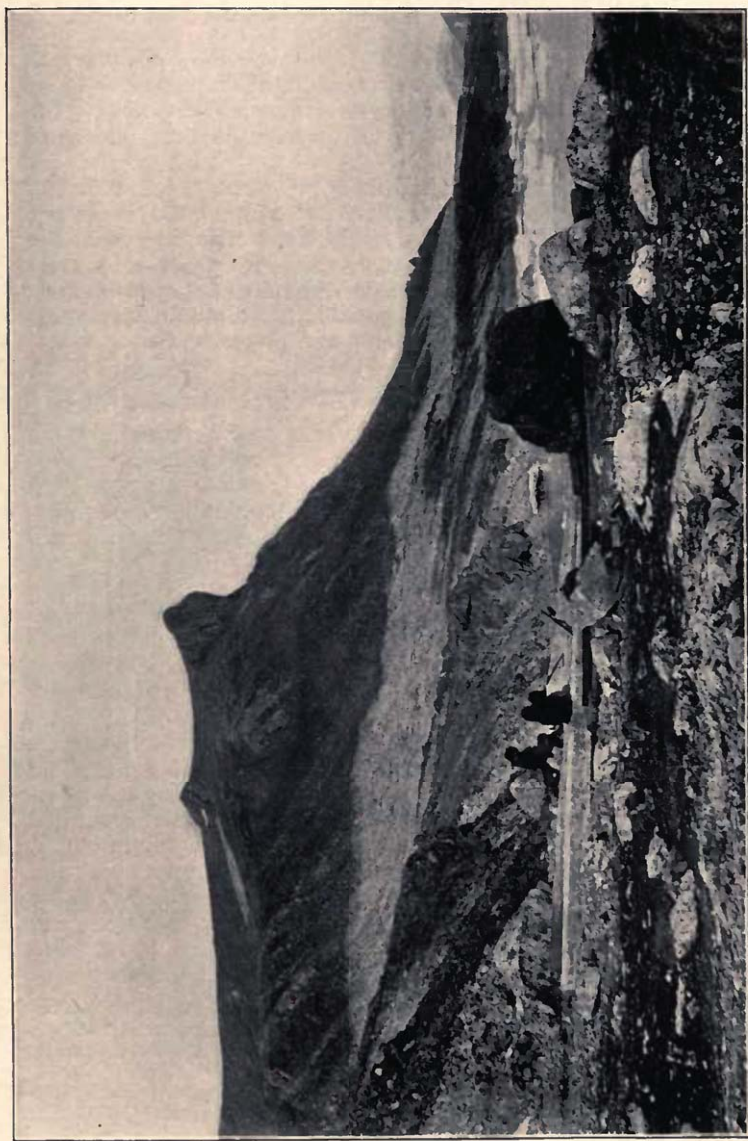
A portion of it about four feet long by two feet high by one and one-half feet wide, projected above the scant turf and moss on the crest of a terrace on the eastern side of Meteorite Island, eighty feet above, and some three hundred yards distant from high-water mark. The excavation developed that this projection was in the nature of a dorsal fin, rising from nearly a flat table about twelve feet long and eight feet wide, tapering at one end



THE "TENT" OR "AHNIGHITO" IN SITU.

to a point or tail. The excavation, although carried down over three feet at this time, did not discover the depth of the mass, which was evidently considerable.

Two ten-ton screw-jacks which I applied together under one end and forced to the point of crippling without disturbing the monster, showed that not only our appliances but the ship itself were entirely inadequate for handling and transporting such a huge mass and concentrated weight, which I estimated at one hundred tons. Four days were then devoted to an attempt to



THE "SAVIKSOAH" AS LEFT IN 1896.
Signal Mountain in the background.

break off the point already noted, by drilling holes close together and driving in taper bolts. The toughness of the metal rendered the effort abortive, and the rapid formation of heavy young ice then compelled the retreat of the *Kite* to escape being frozen in for the winter.

With the two meteorites safely on board, the *Kite* proceeded to Cape York and thence to St. John's, Newfoundland, in safety, though the presence of these unusual masses of iron affected our compasses to such an extent that, whenever thick or stormy weather compelled us for any length of time to depend upon our dead reckoning, it was found impossible to keep on our course.

From St. John's, Newfoundland, the meteorites were transported by steamer to New York.

WORK ON "AHNIGHITO" IN 1896.

Determined to secure the giant, I chartered a larger ship, the *Hope*, of 307 tons net register, and went north in July of 1896 with more powerful appliances on board, reaching Cape York August 9th.¹ The ice in Melville Bay being not yet broken up, I put in two weeks north of Cape York, returning there the 22d of August.

The stop at Cape York was only long enough for me to take on board all the able-bodied men of the village, when the *Hope* continued on her course eastward across Cape-York Bay, and so on to Saviksoah Bay and the eastern side of Meteorite Island, where we arrived shortly before noon. Before we reached the natural pier just below the meteorite, its dark-bronze crest could be seen on the top of the terrace, peering out from the debris of last year's excavation. A barrier of ice-pans packed close against the shore delayed us somewhat in getting in; but outside of this was a narrow lane of open water, and beyond this again a chain of grounded icebergs, holding the still unbroken ice of Melville Bay in check.

My full force of Eskimos was set to work at once with pick and shovel, clearing away about the meteorite, and by supper-time the brown monster stood out in all its immensity as to length and breadth, though its depth was still indeterminate. From this time on during ten days, the work on the meteorite was continued

¹ On this voyage the following gentlemen accompanied me: Prof. A. E. Burton in charge of a party composed of Professor Barton, Assistant Putnam, of the U. S. Coast Survey, and Messrs. Dodge, Phillips, and Porter; Prof. R. S. Tarr in charge of a party composed of Professor Gill and Messrs. Martin, Bonesteel, and Watson; Mr. Benj. Hoppin with his companion Mr. Sutherland and their steward. My personal party consisted of Albert Operti, artist, Hugh Lee, Mr. Figgins, naturalist, and Matthew Henson.

Professor Burton and his party were landed at Umanak, Professor Tarr and party at Wilcox Head.

The "Saviksue" or Cape-York Meteorites 569

night and day. The Captain and the ship's complement took the day watch, and I, with Lee, Henson, and my Eskimos, took the night.

The first thing to be done was to tear the heavenly visitor from its frozen bed of centuries, and as it rose slowly inch by inch under the resistless lift of the hydraulic jacks, gradually displaying its ponderous sides, it grew upon us as Niagara grows upon the observer, and there was not one of us unimpressed by the enormousness of this lump of metal. The expressions of the Eskimos about the "Saviksoah" (the great iron) were low but earnest, and it, and the other wonderful great irons (the jacks) which could tear it from its bed, awed them to the utmost.¹



CARRYING THE HUNDRED-TON JACK.

Sliding the meteorite upon steel rails laid upon heavy timbers across the few yards intervening between it and the crest of the hill, it was then rolled down the slope to the natural rock-pier.

It was interesting, though irritating, to watch the stubbornness of the monster as it sulked and hung back to the last inch. Under the strain of the two powerful chain blocks which transformed the wire cable and the big chain straps into rigid bars of steel, and urged by the resistless lift of the jacks, the huge brown mass

¹ In this work my sixty-ton jack, a second-hand affair, gave out after the first lift, and, as I had no appliances for repairing it, it remained useless from this time on, depriving me of nearly one-third of my total power.

would slowly and stubbornly rise on its side, and be forced to a position of unstable equilibrium; then everyone, except the men at the chain blocks down at the foot of the hill, would stand aside. A few more pulls on these, then cable and the chain straps would slacken, the top of the meteorite would move almost imperceptibly forward, the stones under the edge of revolution would begin to splinter and crumble, then, amidst the shouts of the natives and our own suppressed breathing, the "Iron Mountain" would roll over. When it struck the ground the harder rocks would



ROAD FOR THE METEORITE.

elicit streams of sparks from its brown surface before they crumbled, the softer ones would dissolve into dust and smoke, and the giant would bury itself half its depth in the earth with the slow, resistless motion of a hydraulic punch cutting cold iron, then lunge suddenly forward a few feet, throwing up a dam of earth and stones before it like the terminal moraine of a glacier.

Arrived at the bottom of the slope, the meteorite was again lifted upon the rails and timbers, and slowly and laboriously pushed forward towards the edge of the pier.

Never have I had the terrific majesty of the force of gravity and the meaning of the terms "momentum" and "inertia" so powerfully brought home to me, as in handling this mountain of iron. No pur-

The "Saviksue" or Cape-York Meteorites 571

chase or appliance which we could bring to bear upon it, outside of the jacks, made the slightest impression upon it. When lowered slowly upon heavy timber blocking by the jacks, it settled resistlessly into the wood until it seemed as if it would never stop. The timber creaked and groaned in every fibre, and in the immediate vicinity of the pressure its structure was entirely destroyed and it became a mass of incoherent fibres. If the meteorite slipped and fell even for half an inch, as it frequently would, in spite of every precaution, it would bite into the steel rails like a punch, and the rail itself would sink into the



AFTER A HALF-REVOLUTION.

timber beneath, if near the middle, or crush through it if near the end. The inherent devilry of inanimate objects was never more strikingly illustrated than in this monster. Had the matter been a subject of study for weeks by the celestial forge-master, I doubt if any shape could have been devised that would have been any more completely ill suited for handling in any way, either rolling or sliding or lifting.

The difficulties in getting a hold on it were also great. The shallowness of the conchoidal depressions on the surface left but few places where a jack could be applied. Even where it was possible to get a grip with the head of the jack, the hardness of the

metal, combined with the excessive pressure, and the shifting angle of contact between the jack and the surface of the meteorite, as the latter changed its position, necessitated following the mass up closely with block and wedges, so that if the head of the jack, like a melon-seed pressed between thumb and finger, flew out with serious risk to adjacent legs and arms, the meteorite could not fall back. In spite of every precaution, however, this sometimes happened, and I have a half-inch steel link on which the meteorite fell a distance of perhaps an inch, which is flattened as if it were so much lead. These terrific blows were too much for my two thirty-ton jacks, which, owing to the failure of the sixty-ton one, had been constantly working beyond their capacity, and they gradually gave out, until at last I had only the unwieldy hundred-ton one left. Then progress became so slow that before I could get the meteorite close to the edge of the pier a furious south-easter broke up my iceberg barrier, and the pack ice of Melville Bay driving in upon the shore forced us to pull the ship out with haste to avoid having her crushed like an eggshell against the rocks.

During all this time it was an impressive sight to see the *Hope* lying quietly beside the natural rock-pier, with her mooring lines out, waiting for her cargo as if at home, yet everywhere about her a wilderness of ice and bergs and savage snow-capped mountains.

During the first of our stay here the weather was clear, and there was light enough for us to work continuously through the night. Then it came on much colder, and the young ice began to form and increase rapidly in thickness. The effect of the drop in temperature upon the fleet of Melville-Bay icebergs outside of us was startling. Throughout one brilliant birch night, the crash and roar of their convulsions was almost continuous, and the huge swells caused by their foundering kept the *Hope* tossing and surging heavily at her moorings. Sunrise on such a morning was a magnificent spectacle, the yellow disk of the sun rising from behind the savage peaks which mark the line of the heart of Melville Bay, and painting the slopes of the eternal ice-cap above us an exquisite pink. Then this clear cold weather gave way to a few days and nights of fog and snow, followed by the south-easter already mentioned. The fog and storm, combined with the rapidly shortening autumn days, made it too dark to work at night.

There were many incidents of the work to suggest the supernatural even to the most prosaic mind. The dogged sullen obstinacy and enormous inertia of the giant against being

The "Saviksue" or Cape-York Meteorites 573

moved ; its utter contempt and disregard of all attempts to guide or control it when once in motion ; and the remorseless way in which it destroyed everything opposed to it, seemed demoniac.

I remember one particularly striking occasion. It was the last night of our stay at the island,—a night of such savage wildness as is possible only in the Arctic regions. In spite of the driving storm, it kept artist Operti running up out of the warmth and light of the cabin, upon the snow-covered deck, to feast his



TWO OF MY HYDRAULIC JACKS.

eyes upon the scene. The wild gale was howling out of the depth of Melville Bay through the *Hope's* rigging, and the snow was driving in horizontal lines. The white slopes of the hill down which the meteorite had been brought, showed a ghastly grey through the darkness ; the fire, round which the fur-clad forms of the Eskimos were grouped, spread its bright red glare for a short distance ; a little to one side was a faint glow of light through the skin wall of a solitary tupik. Working about the meteorite

was my own little party, and in the foreground the central figure, the *raison d'être* of it all, the "Saviksoah," the "Iron Mountain," towering above the human figures about it, and standing out black and uncompromising. While everything else was buried in the snow, the "Saviksoah" was unaffected. The great flakes vanished as they touched it, and the effect was very impressive. It was as if the giant were saying: "I am apart from all this, I am heaven-born, and still carry in my heart some of the warmth of those long-gone days before I was hurled upon this frozen desert." To strengthen this fancy that the meteorite still held some of its celestial fire and feeling, if a sledge, ill aimed in the darkness at wedge or block, chanced to strike it, a spouting jet of scintillating sparks lit the gloom, and a deep note, sonorous as a bell, a polar tocsin, or the half-pained, half-enraged bellow of a lost soul, answered the blow.

Through all this time of labour and exposure, my Eskimo allies worked faithfully and contentedly, sleeping between decks when they could find time. They assisted in every possible way, and never interposed the slightest objection to my removal of their heavenly guest,—in fact, seemed almost as disappointed as I when the insweeping ice compelled me to give up my prize till another time.

As soon as the *Hope* was free of the ice, she steamed into the little bight where the *Kite* had lain to embark the two smaller meteorites the previous summer, and the anchor was dropped till daylight and the cessation of the storm should enable us to see our way back to Cape York. From Cape York the voyage was continued home and Sydney, C. B., reached late in September.

SECURING "AHNIGHTO" IN 1897.

Disappointed, but not discouraged by my non-success in embarking the meteorite, I again put on board the *Hope* in 1897, when I went north in her to communicate with my Eskimos, powerful appliances with the view of giving the giant another fight if the Melville-Bay ice would permit me to get near him.¹

¹ On this 1897 voyage the following gentlemen accompanied me: Prof. Schuchert of the National Museum, with his party, consisting of Prof. White and Mr. Stickney, Mr. Robert Stein, of the U. S. Geological Survey; Mr. Porter with his party, consisting of Dr. Fitzgerald, his son, Messrs White, Goodrich, Shaw, Boal, and Carpenter. Mr. Jensen, the Dane whom I brought to this country in 1896, returned to his station at Cape Haven. My own party consisted of Mrs. Peary, our little girl Ahnighito with her nurse, artist Overti, Mr. Perry, my young friends Arthur Moore and Lansing Baldwin, Dr. Fred. Sohon, Mr. Figgins, naturalist, and Matthew Henson. Hugh Lee with his bride spent their honeymoon at Godhavn. Mr. Porter and party were landed at Cape Haven, Prof. Schuchert and party at Umanak, and Mr. Stein at Nugsuak.

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Arriving at Cape York the 12th of August, the ice conditions of Melville Bay were found to be favourable to an immediate approach to the meteorite, and instant advantage was taken of these conditions to force the *Hope* again to her berth alongside the natural rock-pier on Meteorite Island.

My ten days' work on the "Saviksoah" in 1896 had given me a very thorough acquaintance with its peculiarities and perversities, and had emphasised to me the full meaning of its concentrated weight, its intractable shape, and its almost resistless inertia.



THE METEORITE ON MY RETURN IN 1897.

I felt, however, the utmost confidence that the equipment that I had brought with me, the powerful hydraulic jacks, the magnificent oak timbers (the best that could be bought), the heavy steel rails, the bolts, chains, and tools of various kinds, all of the best quality, would enable me to bring it safely on board, provided the hostile Arctic ice would allow me to get near it.

This year as I neared the locality again the outlook was at first disheartening. There was much less open water and double the number of bergs that I had found last year, but, much to my relief, by butting a passage through two or three icy barriers, and after grounding twice from being forced to the shore by the ice, the *Hope* was brought alongside the natural rock-pier where I had left the meteorite a year before.

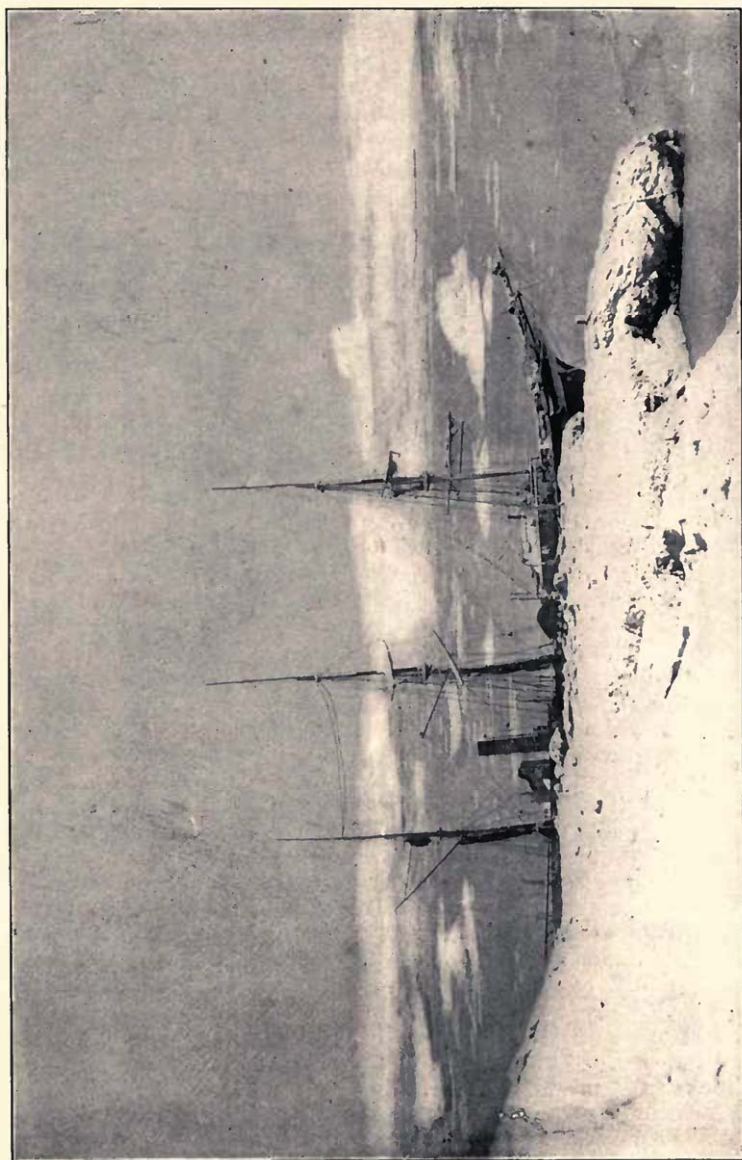
In spite of this good fortune, the ship's position and surroundings were such as to cause disquietude even in the mind of a man who had seen some Arctic experience, and to a novice were discouraging to the verge of fear. The rocky shore to which the ship was made fast lay fully exposed and absolutely unprotected against the resistless pressure of the Melville-Bay ice-pack under the stress of south-east winds: the open water through which we had crept close along the shore was scarcely more than a ship's length in width, was already coated with young ice, and outside of it lay an indescribable labyrinth of icebergs, through which even the practised eye could not discover an opening. To add to the dismal outlook and the mental unrest of many on board, we forged alongside the meteorite in a driving snow-storm that twelve hours later had covered our little world a foot deep in snow, and formed upon the water a thick covering of slush, which forty-eight hours of severe cold would transform into unbreakable fetters for the *Hope*. No one who was not present can form any idea of the savageness and hostile aspect of the scene. There were good reasons for the belief that the Arctic winter had already set in.

Fortunately the natural features of the shore, at the site of the meteorite, were uniquely favourable for getting it on board the ship, and my previous summer's work had left the huge mass close to the edge of the natural rock-pier, with sufficient depth of water alongside to allow the ship to be brought within about eighteen feet of the shore.

I proposed to construct a very strong bridge, reaching from the shore across the ship; lay the heaviest steel rails upon this, and then, after depositing the meteorite upon a massive timber car resting upon these rails, slide the huge mass across the bridge until it rested directly over the main hatch; remove the bridge; then lower the meteorite with my hydraulic jacks through the hatchway to the ship's hold.

This was simple enough in theory, yet when such an enormous and concentrated mass is concerned, every detail of construction must be of the most massive character, and every detail of manipulation studied with the utmost care.

The transferring of such an enormous weight from the unyielding support of the shore to the yielding and continuously changing support of the ship, with the shifting and complicated strains resulting from the rise and fall of the tide, the varying displacement of the ship with the increasing load, and her listing with the unbalanced weight as it came upon her rail, all demanded the most careful thought and study.



THE "HOPE" AT METEORITE ISLAND, AUGUST 17, 1897.

The first thing was to prepare the ship for receiving her ponderous and unusual freight, so as to insure against the possibility of any mishap, and cause as little strain and reduction of her stability as might be.

To accomplish this, all the coal remaining amidships was hoisted out and put in the bunkers ; heavy oak timbers laid fore and aft on either side of the keelson ; then the entire amidships space filled with coarse, heavy ballast up to the deck beams, and in the centre, directly under the main hatch, some two feet higher. The 'tween-deck beams were carefully wedged and blocked up upon this ballast, and the main deck throughout the ship's waist supported from them by a small forest of twelve-inch posts kept in position by systems of horizontal struts and braces.

The object of the ballast was to increase the inertia and stability of the ship ; absorb and distribute the shock in case, through any mishap, the meteorite should be allowed to drop ; and finally to serve as a firm bed and matrix for the enormous mass during the homeward journey. The posts were to enable the deck to sustain the great load while in transit without collapsing, and also form a rectangular shaft downward from the main hatch, so that the meteorite would be compelled to descend into the hold without the possibility of shifting laterally.

This work accomplished below decks, an almost continuous floor of heavy timber was laid on deck, so as to distribute the weight of the meteorite and bridge over some twenty-five feet of the ship's length.

With the exception of a few minor details to be noted later, and the secure mooring of the ship to the rocks with all her cables and hawsers, this completed the preparation of the ship.

The backbone of my bridge consisted of two royal sticks of fourteen-inch by sixteen-inch white oak, sixty feet long, straight-grained, tough, and well seasoned, which were to span the gap between the ship and the shore, reach well under the meteorite at one end, and across the ship at the other.

A third stick of timber twelve by twelve inches and thirty inches long, re-enforced these in the span from the ship to the shore, and the whole was bound rigidly together by heavy timber cross-heads and spreaders, bolted through and through by powerful screw bolts of the best Swedish iron.

The inshore end of this bridge rested continuously upon the rocks and gravel. The shipboard end was almost continuously supported by the heavy timbers on deck. The span from the ship to the shore was re-enforced and strongly trussed with the ship's steel-wire cable and posts of twelve-inch timbers.

The "Saviksue" or Cape-York Meteorites 579

The work of preparing the ship had been entrusted to Captain Bartlett, and had been effected in the most thorough and seaman-like manner. The assembling of the bridge had been done by the engineer force under Chief Hunter, and the setting up of the steel cable of the truss I had assigned to Mr. Taylor, the first mate, a thoroughly practical seaman, who had accomplished it in a most effective manner. My faithful Eskimos were useful wherever any lifting had to be done, and the gentlemen members of the party, in their interest and enthusiasm, lent a hand whenever they could see a chance.



CAPTAIN JOHN BARTLETT.

The assembling of the bridge had of necessity to be done in place, as the big oak timbers weighed some three tons each, and the completed structure would be too heavy for the ship's tackle to handle. These were launched separately under the meteorite, which had previously been raised for the purpose, and supported upon blocks at each extreme end.

Scarcely had they been so placed and the work of assembling commenced, when a huge iceberg in the labyrinth outside of us went to pieces, sending a succession of heavy swells in upon the shore. On these the *Hope* rolled and danced like a cork, jerking

viciously at her moorings and keeping me in a fever of anxiety during minutes which seemed like hours, knowing as I did if one of the lines parted, the great timbers, with one end still resting upon the *Hope's* heaving deck, would act as irresistible levers to pry the blocks from under the meteorite and let it topple over the edge of the pier into the water. It was with the utmost relief that I saw the swells gradually subside, and yet the occurrence kept me in a state of apprehension for the next forty-eight hours, until I had the meteorite firmly mounted upon its car and resting its full weight upon the inshore end of the bridge.

The same thing might again occur at any moment, and I remem-



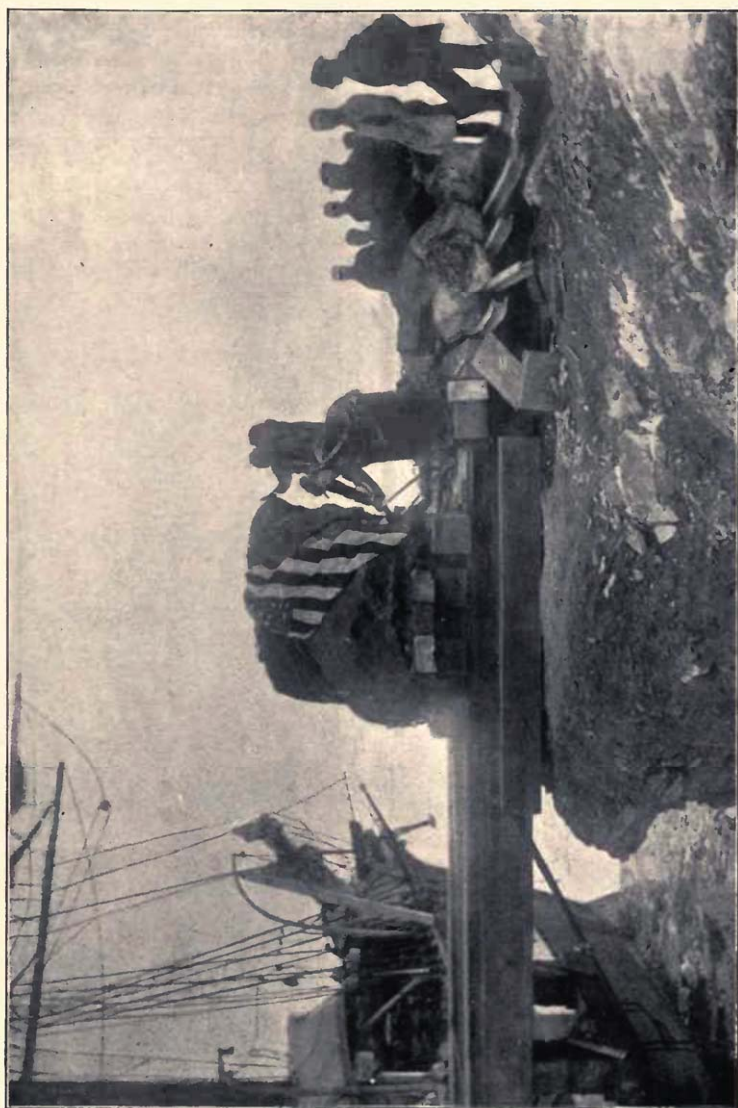
THE MASONIC GROUP.

— Figgins, Peary, Bartlett, Hunter, Operti.

bered with unpleasant vividness an entire night last year during which the *Hope* tossed and tugged at her lines like a wild animal, upon the continuous swells caused by the disrupted icebergs about her.

Previous to launching the timbers to the shore, the edge of the pier had been carefully levelled and a heavy timber bridge seat laid upon it. The earth and rock back of this had been graded and tamped to afford a firm bearing.

The assembling of the bridge, and the stringing of the cable truss completed, the thirty-foot standard steel rails of the New York, New Haven, and Hartford R. R., weighing one hundred



LAUNCHING THE "AHNIGHITO" ON BOARD.

pounds to the yard, were hoisted out and laid in pairs, side by side, on each of the oak timbers, with their inshore ends coming just through under the meteorite, and the other ends coming just in-board of the *Hope's* starboard rail. Two fifteen-foot lengths of rail continued the track across the main hatch, and then all were fastened down with numerous spikes.

The massive timber car, clamped together like the bridge, by heavy screw bolts, and sheathed underneath with steel plates, was then hoisted upon the rails, and pushed out against the meteorite; some of the timbers were removed; the front of



CROSSING THE BRIDGE.

the meteorite jacked up till the half of the car could be forced under it; then this part lowered, the rear raised, the other timbers of the car placed in position, and the car bolted firmly together again, then the meteorite was finally lowered to its position on the car.

As the plungers of the powerful jacks retreated into their casings upon the opening of the valves, transferring the mighty weight entirely to the car, every projection on the underneath side of the meteorite buried itself in the solid timber, the joints closed up till almost invisible, every inequality in the steel sheathing beneath the car flattened out, the bases of the rails

The "Saviksue" or Cape-York Meteorites 583

sank perceptibly into the oak stringers, and the earth and gravel beneath these, settled and compressed into rock-like solidity.

Then the monster was lashed to the car by fathom after fathom and turn after turn of steel chains, tightened by oak wedges, until it and the car were inseparable.

The next thing was to adjust the ship in precisely the right position, with the bridge centred, to an inch, over the main hatch, for the opening of the hatch was scarcely large enough to admit the meteorite, and the least error in the position of it, and the car, when it came in over the hatch, would necessitate much trouble in shifting it. By careful manipulation of the cables to the anchors, and the stern and bow lines and springs, which were



THE ESKIMOS' FAREWELL TO THE "SAVIKSOAH."

made fast to the rocks ashore, the *Hope* was finally adjusted to a nicety, the shipboard end of the bridge lashed down to eye-bolts in the deck and down on the starboard side, then cables and mooring lines were all set taut and carefully stopped.

While this was being done, a ten- or fifteen-ton counterpoise was being loaded on the inshore end of the bridge behind the meteorite, with the old timbers and rails of last year for a platform, and big gneissose boulders for weights.

The ship's heaviest tackles were then attached to the car, and the ends carried to the drums of the steam winch. The hydraulic jacks were also placed in position behind the car, with their bases working against the heavy cross-head.

Nothing remained now but to clear the *Hope's* waist of everything, except tools and materials needed while bringing the meteorite on board, slush the rails with a thick mixture of tallow and soap, then await the proper stage of the tide, start the huge mass with the jacks, and warp it inboard with the tackles, if they could handle it, or, if not, jack it the entire distance.

This matter of the tide was an extremely important one, and I am indebted to my young assistants, Arthur Moore and Lansing Baldwin, for their assiduous, hourly readings of the tide through storm and darkness, and plotting the tidal curves from the time the *Hope* came alongside the meteorite, so that now I knew to a nicety at just what time the tide would serve me.

At last the tide was right, and while Mrs. Peary and Captain Bartlett, at the levers of the jacks, started the monster, draped in "Old Glory," toward the ship, the baby dashed a little bottle of wine against it and named it "Ahnighito." Then the jacks, manned by the engine-room force, pushed it steadily forward to the edge of the pier.

Every man on board had his station and knew his work. The Captain had charge of the winch and tackles, the chief engineer of the jacks, and men were stationed at the lashings to slush the rails, etc., while I kept an eye on everything.

As the jacks moved the meteorite to the edge of the pier, the winch started, setting the heavy tackles taut, and the huge monster, in a series of short jumps, crept out upon the bridge.

At this moment, every Eskimo on board went over the stern gangplank to the shore. With all their confidence in me, and their awe for the size and power of the ship, which they had repeatedly seen smashing her way through the pack ice, and even battering pieces off the bergs themselves when they opposed her, they could not overcome a superstitious fear that the mountainous weight of the "heaven stone" would crush the *oomiaksoah* (ship), and they preferred to say farewell to it from the shore.

When the meteorite reached the centre of the bridge, a master might have played a grand march with the tense strands of the steel cable for violin strings. When it reached the rail, the *Hope* began to careen, but not seriously, and the men stationed at the lashings took in every inch of slack the moment it appeared.

In an hour from the time it started, a motion of my hand stopped the winch with the meteorite precisely over the main hatch. Three cheers went up from everyone on ship and ashore, and the glorious Stars and Stripes and the ship's flags went flying to the mastheads.

As matters now stood, the *Hope* was heeling toward the shore,

The "Saviksue" or Cape-York Meteorites 585

and the bridge had a pronounced gradient. The next step was to get the bridge out of the way. This had already been provided for. Two of the jacks were brought on board, pumped up to their full height, placed on the deck timbers under each of the oak stringers just inboard of the rail joints, then the cross-cut saws were brought into requisition, inserted in the rail joints intentionally left open, and the bridge sawed clear through some three feet inside the *Hope's* rail.

As the saw passed nearly through the last timber, a long crack



A MOMENTARY HITCH.

split out into each part, and Mr. Figgins, the naturalist, seizing a broad axe, jumped upon the rail, and with a blow or two severed the last connection of the "great iron" with the land. After years of rest it was to resume its wanderings.

I had anticipated that the *Hope* would right herself suddenly when the bridge was severed, with something in the nature of a kick, but had endeavoured to provide against it as much as possible. Fortunately these precautions were successful. As the saws went through, the *Hope* righted herself slowly and quietly to an even keel, and the heavy stone counterpoise ashore

held the severed bridge projecting like a cantilever. The valves of the jacks were opened, and the portion of the bridge under the meteorite sank till it rested true and level across the ship's waist. It was now six P.M., of Friday, August 20th. We had been engaged upon the meteorite five days, working throughout the entire day and much of the night, and during this entire time, from the moment the *Hope* came alongside the meteorite in a blinding storm, it had been one constant succession of fog and driving snow. This not only retarded the work very seriously, but had a pronounced dampening effect upon the spirits of the men, particularly the superstitious sailors, some of whom had been



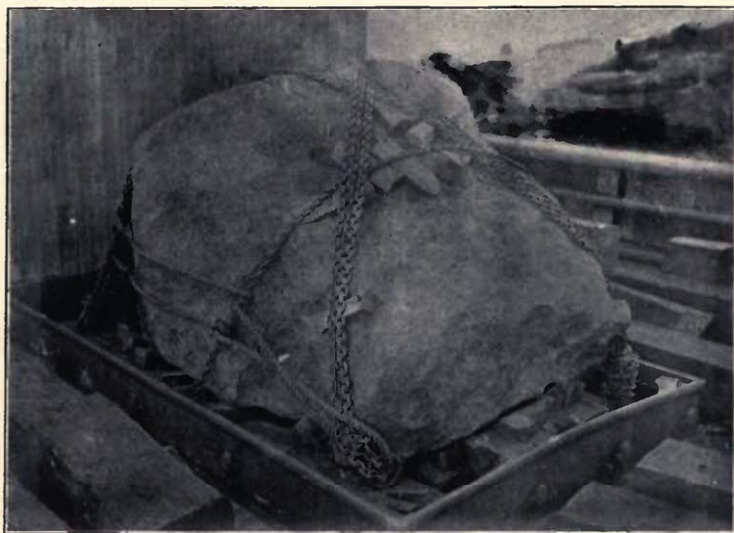
"STOP THE WINCH!"

with me last year and called this regular meteorite weather. They insisted that the brown monster was hoodooed, that I would never get it on board, or if I did we should never get it home, as it would surely take the ship to the bottom. These same ones were in the habit daily of looking over the rail at the labyrinth of bergs about us, and the steadily forming young ice, and prophesying that even if the meteorite did not smash the ship in coming aboard, we should certainly be frozen in and have to spend the winter here.

Under the circumstances I could certainly almost forgive their associating supernatural agencies with the meteorite, and it was a strange but actual and unexaggerated fact that, as the great

The "Saviksue" or Cape-York Meteorites 587

mass crept slowly over the bridge and across the ship's rail, patches of blue sky appeared overhead ; and when at last it rested safely over the main hatch, the last tie which bound it to the land completely severed, the horizontal rays of the low mid-night sun burst past the cliffs of Signal Mountain, fell upon the meteorite, changing it into molten bronze, flooded the countless icebergs cast of us in light, and bathed the ragged black crests and flowing ice-domes of Imnahlooksoah and Nahgloktoo, the savage mountains of Prince Regent's Bay, in unspeakable tints of rose and



METEORITE IN THE HATCH COMBINGS.

yellow. It was as if the demon of the "Saviksoah" had fought a losing fight, accepted the result, and yielded gracefully.

The congratulations that evening in the cabin of the *Hope* were numerous and earnest.

By the middle of the next afternoon the car was lowered into the hatch combings, and in a safe position for the ship to steam in smooth water, which we were certain to have in this region with all the icebergs about us. At five o'clock, the last lines were cast off, and the *Hope* steamed away for the last time from the shore of Meteorite Island.

Throughout the forenoon and early part of the afternoon, it



RAMMING THE ICEBERG BARRIER.

The "Saviksue" or Cape-York Meteorites 589

had been snowing again, and my superstitious sailors said that we should never have clear weather until the hatches covered the brown demon crouching amidships completely from the light of day. As we started, it cleared, however, and offered a striking contrast to last year, when in a driving south-easter I swung away from the same place in feverish haste, in order to escape having the ship crushed by the resistless Melville-Bay ice-pack, leaving the big brown demon perched derisively upon the shore. Now the persistence of three years had won, and at last I had the prize on board.

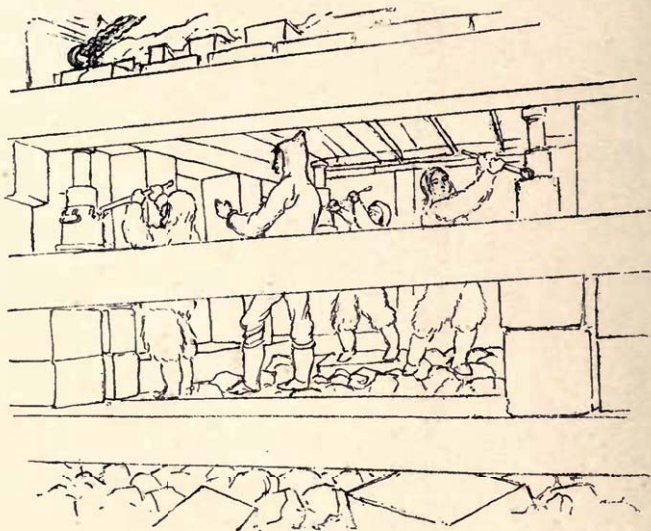
Yet my risks and uncertainties were not yet ended. During our



MY ESKIMO LABOURERS.

stay at Meteorite Island, the young ice had formed in every interval of calm, the last day's snow-storm had cemented everything with a thick leathery stratum of slush, and the almost continuous south-easterly wind had been steadily compacting the icebergs and forcing them nearer and nearer to the shore. Just before starting, Captain Bartlett and myself reconnoitred the bay from the top of the island, and saw that there was but one practicable route of escape, and even by that we should be obliged to force a barrier of bergs. A short distance from the shore of the island, we entered a lead formed by the tide, and soon reached the barrier which separated us from comparatively open water. This barrier, though narrow, was formidable, made up entirely of bergs

and heavy berg-fragments. At first we tried to squeeze through, but without success. It was evident we must ram a passage in spite of our ugly load. Additional timber-braces were hurriedly put about the meteorite, and it was with considerable anxiety that I watched the effect of the first blow, as the Captain from the foretop conned the rushing ship straight at the keystone of the barrier. As the bow struck the ice, it rose upon it with a harsh grating lift, and then with a crash and quiver the *Hope* came to a dead stop. The meteorite trembled, and the ballast underneath



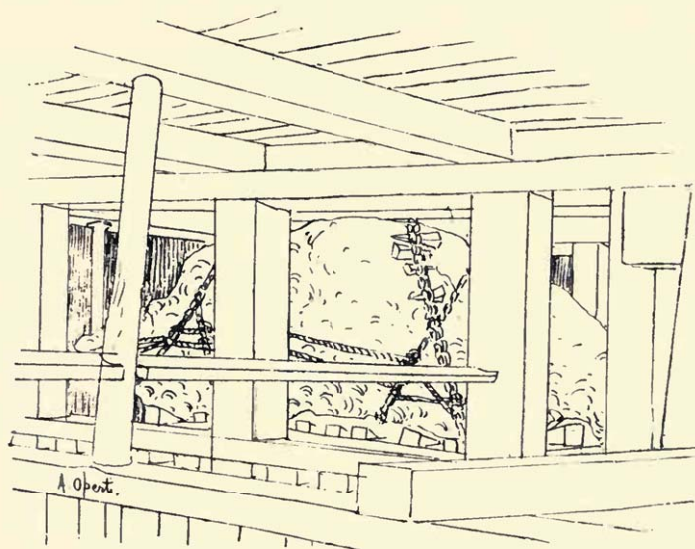
WORKING UNDER THE METEORITE.

groaned and settled slightly, but no serious results followed, and as there was no alternative, the engines were reversed, and we backed out for another blow. Blow after blow was delivered, big pieces of ice were broken off and sucked out by the draught of the ship's backing, till at last the massive wedge of the *Hope's* iron-clad bow could be entered between the last two bergs of the barrier, and, with engines going at full speed, gradually forced them apart. The entire engine-room force was stoking like demons, black smoke poured in clouds from the *Hope's* funnel, the propeller was whirling at ninety revolutions per minute, and the

The "Saviksue" or Cape-York Meteorites 591

Hope herself was pulsating like a human heart. Inch by inch we squeezed between the frozen blue rocks on each side, rasping the iron bark sheathing from stem to stern, and as the sternpost cleared the bergs, the flying propeller-blades struck once or twice, sending throughout the ship a resonant clangour, fierce as the bellow of fire bells on a winter's night. It was our pæan of escape.

Looking back over the *Hope's* wake I saw the bergs between which we had squeezed swing slowly together again. The icy



METEORITE AT 'TWEEN-DECKS LEVEL.

cordon of Meteorite Island had closed for the winter, but the treasure of the island, the celestial prisoner, had escaped, and now was throbbing there amidships, as it had never throbbed since that cataclysmic day when it hummed through the burning air, and shook land and sea with the frightful fury of its impact.

Six hours later we were at Cape York, where I sent my faithful Eskimos ashore, accompanied by several barrels of biscuit, and loaded with guns, knives, ammunition, and numerous other articles which I had brought to reward them for their faithful service.

In going into the village at Cape York, the bergs, driven in by the south-easter, forced us to hug the shore, and all at once I heard that horrible grating sound which tells the sailor that his ship is on the rocks. A glance at the shore showed me that the tide was high. It was a critical moment. If caught here with the huge mass of the meteorite still at the deck level, when the falling tide left the ship to fall upon her bilge, no earthly power could keep her from capsizing. For perhaps a minute (it seemed to me a week) the vibrations continued, then, with a lift and lurch of the stern, they ceased. The danger was past. The *Hope's* momentum had carried her over the reef.



REMAINS OF GREELY HOUSE AT CAPE SABINE.

From Cape York we steamed away for Cape Sabine; but the next morning, off Wolstenholm Island, a furious Arctic gale descended upon the ship, against which she was barely able to fight her way inch by inch to safety under the lee of the island, where for thirty-six hours she dodged back and forth, a phantom ship, her decks deep with snow, her spars, sails, and rigging crusted with the frozen crystals, barely able with full head of steam to hold her own, while I, with four of my bravest Eskimos, worked like miners in our timber-cage under the meteorite, lowering it with the jacks, inch by inch and foot by foot, in order to get it

The "Saviksue" or Cape-York Meteorites 593

low enough not to endanger the ship's safety. All this time the furious wind howled through the *Hope's* tense rigging, as if the demon of the "Saviksoah" were shrieking at us.

The superstitious ones on board were now more firmly convinced than ever that we should never reach home, and that this storm was but a warning from the devil of the meteorite.

After this Cape Sabine was visited, where I was the first one to step inside the Greely house since the rescue of the survivors of that ill-fated party in 1883; the tour of the Eskimo settlements completed; and the homeward voyage effected as far as Godhavn without special incident. Here the meteorite was lowered to within a few feet of the keelson, where it rested firmly upon the ballast, which was also packed solidly about it. Then twelve-inch by twelve-inch timbers were placed between it and the ship's side and wedged, blocked, and spiked in place until there was no possibility of the huge weight moving except as the ship moved. Every loose object on deck was also sent below, and the ship made snug for the mauling which the experience of the previous years had led us to expect in crossing Davis Strait.

And fortunate it was that every precaution was taken. Before we were across the strait a fierce north-wester descended upon the ship, and during the night of September 8th, she rolled and pitched dizzily upon the furious seas till the grey light of dawn began to filter through the tumult. Time after time the lee dead-eyes were under water, and as the *Hope* leaned and wavered and hesitated with her rail out of sight, and the boiling tumult to leeward seething up to the side of the companion-way, it seemed as if she would never right.

Turning from the ship, an inferno of Arctic hellishness, a furious horde of scourged, bitter-cold waves, rose out of the windward gloom and tossed up their heads, only to be lashed down by the merciless wind, until in savage revenge they rushed upon the *Hope* like Arctic wolves, and poured over her rail as if to devour her.

Crouched behind the weather rail, with eyes just pupil width above it, fascinated, I watched the turmoil.

The wind, resistless and sonorous as Niagara, roared across the seething waters, almost as tangible as they. And as in the plunging flood of Niagara there are countless tiny sagittate spurts or jets of greater velocity than the rest, so in this aerial torrent there were jets which cut the water as a graver's tool cuts metal and drove the liquid shavings in sagittate lines.

Nowhere will such a mad sea be raised in such an incredibly short time as when the autumn boreal winds, marshalling in

Baffin's Bay, charge southward, and, crowding through the narrows of Davis Strait, hurl every intruder out of the realm of night, foundering many a majestic berg, and driving others, foaming like battle-ships, through the water. It is the mighty besom of Kokoyah, the demon of the North, sweeping his domain clear and closing his realms for the winter. And nowhere does the sea subside more quickly after the wind goes down.

More than one anxious heart on board was certain at every wave shock that the demoniac iron had broken loose and was smashing a way for itself through the ship's side, and more than one gave up hope of ever seeing the morning light again.

Though the bulwarks of the starboard bow were smashed by a sea, and occasionally the waist filled with green water to the rail level, yet with everything, including the hawse holes to the cable lockers, battened down, no serious damage was done, little water was taken in, and the meteorite never moved.

The next morning we were steaming under the lee of the Cape of God's Mercy, named by Davis centuries ago.

After this nothing of moment occurred, though the presence of such an enormous mass of iron on board rendered the compasses useless, and compelled us to make a coasting voyage all the way back to Sydney, where the ship arrived in safety on the 20th of September, burning her last ton of coal. The homeward voyage was hampered and delayed by almost constant fog and head-winds. The dangerous passage of the Straits of Belle Isle, with its rapid and erratic currents, was made in the night and in densest fog, and was one of the neatest pieces of navigation by Bartlett, who knows every inch of this coast, that I have ever seen. It was simply intuition on his part that brought us through.

Saturday, October 2, 1897, the hundred-ton floating crane at the New York Navy Yard, through the courtesy of the Navy Department, lifted the giant from the *Hope* and deposited it upon the quay wall, the largest known meteorite in the world, and a meteorite with human associations such as attach to no other.

Three years of persevering efforts had won. The great Star Stone of the North, traced to its icy matrix and torn therefrom, had been brought safely out through the ice, the storms, and darkness of the Arctic seas.

This brief narrative would be incomplete without my acknowledgment of the invaluable assistance, of Capt. John Bartlett, one of the most reliable, conservative, and gentlemanly of that hardy company of Newfoundland ice navigators; of Emil Diebitsch, the able, cool-headed young engineer; of the officers and crews of the *Kite* and the *Hope*, who, though they availed themselves

The "Saviksue" or Cape-York Meteorites 595

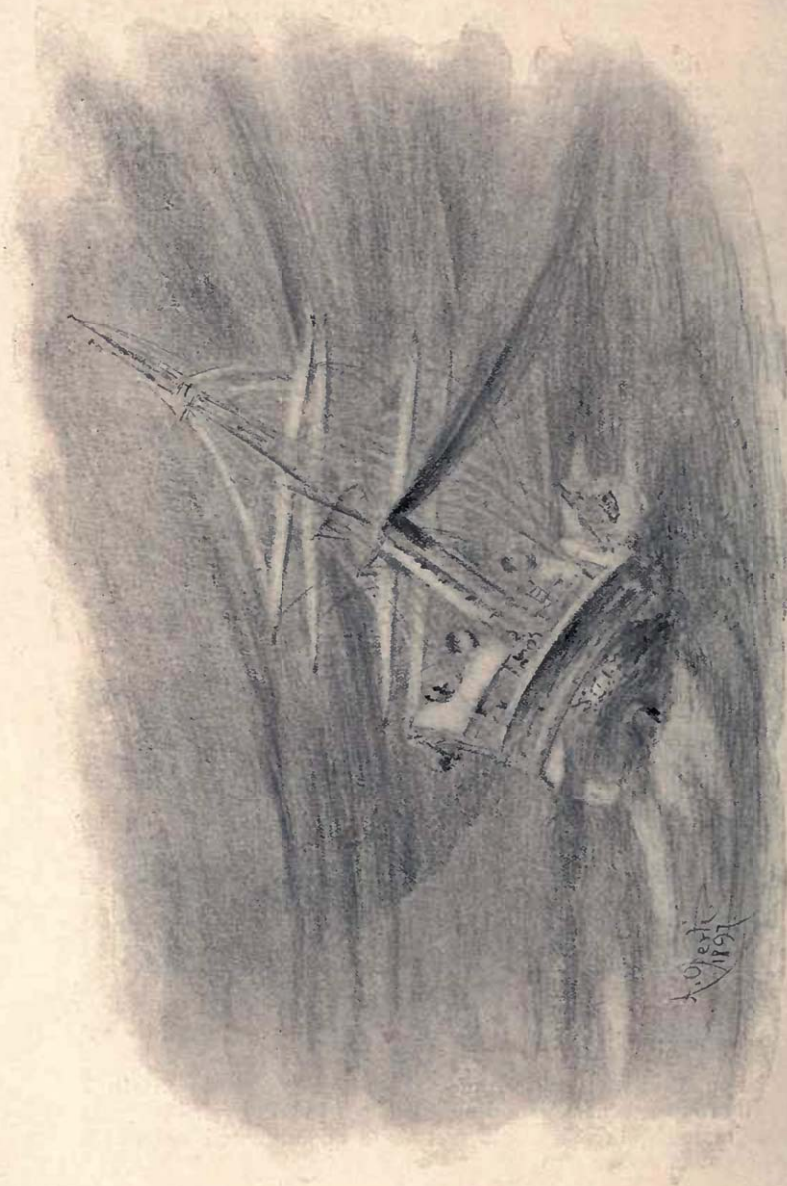
of the sailor's universal prerogative to grumble, still did yeomen's work ; and of my faithful little band of Eskimos, who, handling heavy rails and timbers, working with pick and shovel and bar, and pumping on the jacks, did all they could to put into my possession the "Iron Mountain" of their forefathers.



HOISTING METEORITE OUT OF THE "HOPE."

DESCRIPTION AND ANALYSES OF THE "SAVIKSUE."

The smallest of the three meteorites (the "dog") is an ellipsoidally rounded mass with dimensions $27\frac{1}{2}$ inches by $19\frac{1}{2}$ inches ; an estimated bulk of 2 cubic feet ; and an estimated weight of 1000 pounds.



K. J. Pett
1897

THE STORM UNDER THE LEE OF WOLSTENHOLM ISLAND

The "Saviksue" or Cape-York Meteorites 597

When found, it was lying loosely upon the surface among the gneissose rocks of the vicinity, and though the natives tell me that it has been used but little because it is harder than the others, it certainly seems to have been pounded sufficiently to destroy nearly or quite all of its original surface. It was situated 80 feet above, and 1625 feet distant from, high-water mark.

The next larger meteorite (the "woman") has an irregular rounded trapezoidal shape, with a maximum length of 4 feet 3 inches, a maximum width of 3 feet 3 inches, and a maximum thickness of 2 feet. Its estimated bulk is 12 cubic feet, and its

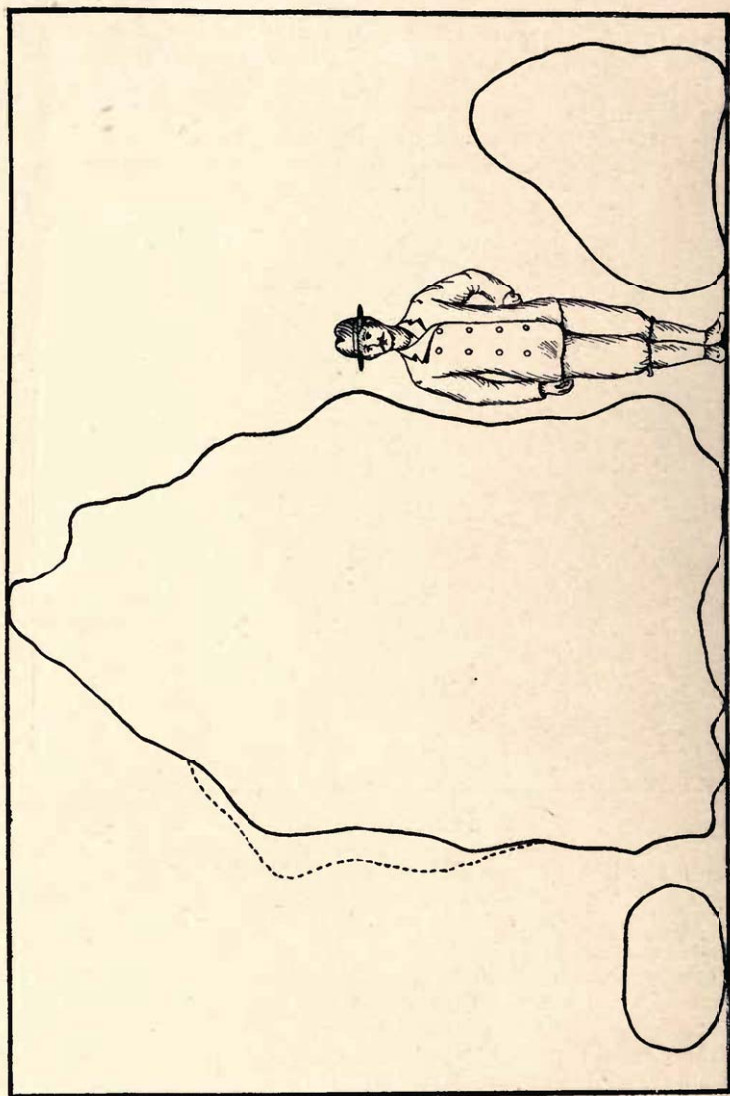


THE "DOG" IN SITU.

estimated weight 6000 pounds. It was situated 96 feet distant from, and $21\frac{1}{2}$ feet higher than, the "dog."

Its entire upper portion has been worked and pounded by the Eskimos through many generations, until all the original surface has been removed. A well-defined and continuous rough burr of metal like that round the head of a stone drill extends along the original ground-line of the mass and shows clearly how much of it projected from the ground. The under part preserves the original meteoric surface characteristics.

This mass, when discovered, lay slightly imbedded or perhaps indented in the coarse material at the bottom of a shallow saucer-



"Woman."

"Ahnighito."

"Dog."

SKETCH SHOWING RELATIVE SIZES OF "SAVKSUE" AND SIX-FOOT MAN.

The "Saviksue" or Cape-York Meteorites 599

shaped depression, formed partly by the work of the natives and partly by the piling up of the trap-stones brought by them during many generations for use as hammers.

The circumference of this pile of stones at the base is some 60 yards, and its height from the toe of the down-hill slope to the top is 18 or 20 feet. The contrast between the smooth rounded greenish trap-cobbles and the rough angular lichen-covered grey gneissose rocks of the vicinity is very striking. When viewed from



THE "AHNIGHITO" IN SITU.

across the valley, one is reminded of the pile of debris usually to be seen at the mouth of a mine shaft.

The third and largest, the "Ahnighito," is an irregular mass, of a shape difficult to describe, with a maximum length of 11.2 feet, a maximum width of 7.6 feet, and a maximum thickness of 6 feet. Its estimated weight is 90 to 100 tons. One end is rather square and bluff, the other tapers to a point or tail. One side has a massive wedge shape, while the opposite side is tabu-

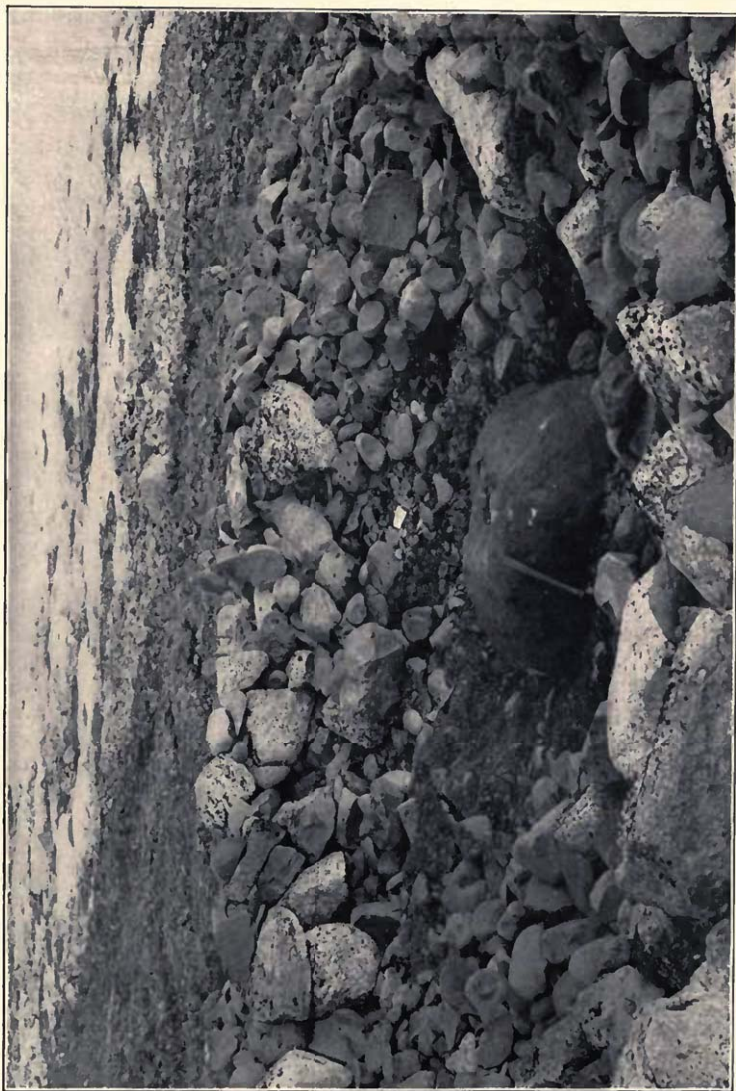
lar, with a pronounced dorsal fin rising from it. When found, it was nearly buried in the earth and gravel with the wedge side down, the tabular side nearly parallel with, and about a foot below, the surface, and the dorsal fin alone showing through the mossy turf. The bluff end was toward the shore and the long axis nearly perpendicular to it and lying nearly east and west (magnetic north and south).

The exposed part had the colour and appearance of weathered bronze, and in places showed in slight relief the lines of the Widmannstätten figures. Much of the tabular surface showed scales of rust caused by the corrosion from the water which, percolating down from the eternal snow-drift a few hundred yards in the rear, settled and remained upon it. All the rest of the mass showed the characteristic meteoric surface markings.

The surface of all the meteorites is dark brown in colour, interspersed with greenish bits, and resembles bronze. To the eye the appearance of the metal seems the same in all, a dense, tough, fibrous soft iron or mild steel, with silvery lustre and resonant as a bell. The homogeneousness of the metal is surprising. There is apparently not so much as a single grain of any foreign substance in the entire mass of either meteorite. The metal can be cut with a knife, and when scraped with a file shows a bright silvery lustre. Etching with acid brings out the characteristic Widmannstätten figures, and analyses show the typical meteoric nickel-steel alloy, the composition being about 92 per cent. of iron and 8 per cent. of nickel. Similar, however, as the three are in appearance, I am convinced that there is a pronounced difference in the amiability of the metal: the "woman" being the softest. The statements of the natives are unvarying on this point, and their statements are borne out by the huge pile of broken trap cobble surrounding the "woman," while scarcely a score of these stones were scattered about the "dog," and none were found about the "Ahnighito."

Preliminary analyses of samples of the "Ahnighito," made after my return in 1895 by Ricketts and Banks of New York City and J. K. Phelps, of Yale College, gave the following results:

	R. & B. Analysis.	Phelps Analysis.	Mean.
Iron.....	93.800	90.410	92.105
Nickel.....	5.990	8.180	7.085
Cobalt.....	—	0.540	0.540
Copper.....	—	—	—
Sulphur.....	—	0.190	0.190
Phosphorus.....	0.150	0.180	0.175
Carbon.....	trace	0.150	0.150



THE "WOMAN" IN SITU.

These analyses demonstrated the true meteoric composition of the mass.

Final analyses of all three masses by Prof. Whitfield of the American Museum of Natural History, after my return in 1897, gave the following results :

	"Dog."	"Woman."	"Ahnighito."
Iron.....	90.993%	91.468%	91.476%
Nickel.....	8.265	7.775	7.785
Cobalt.....	0.533	0.533	0.533
Copper.....	0.016	0.018	0.014
Sulphur.....	0.019	none	none
Phosphorus.....	0.172	0.188	0.202
Carbon.....	0.014	0.020	0.023

These last analyses settled what I had personally been convinced of from the first, that the three masses are fragments of one original mass. The difference in hardness on which the Eskimos insist is probably due to a process of tempering, variations in which were caused by the difference in size of the masses and the resultant differing temperatures, when at the end of their descent they plunged into the snow and ice.

That there are additional specimens unknown to the natives I doubt, as nothing escapes the Eskimo eye, and in the ages that this tribe has lived in its contracted Arctic prison, there is not a stone on shore, or mountain-side, or summit, that has not been pressed by the foot of some fur-clad hunter, or noted by his quick eye.

Immediately upon my return with the large meteorite, the chronic objector came to the front in full force, and paragraphs appeared repeatedly in the press, both in this country and abroad, asserting that the discovery of these irons was not new, that scientists had decided their telluric origin, and that I was taking a great deal of trouble to secure comparatively uninteresting specimens.

It seemed to be assumed by these objectors, that the determination of the telluric origin of the Nordenskjöld irons, and the occurrence of nickeliferous iron *in situ* in the basaltic formations in and about Disco Bay, settled conclusively the character of all metallic iron in Greenland, and precluded the possibility of true meteoric irons being found in any portion of that country, even though several hundred miles distant.

This skepticism was not confined entirely to the press. Some eminent gentlemen, in advance of any personal acquaintance with the meteorites or the facts connected with them, did not hesitate to class them with the Nordenskjöld irons.

Toe.

Crest.

"Woman."

Inner Edge.



PILE OF TRAP COBBLES ABOUT THE "WOMAN."

Though absolutely satisfied myself, from the first, as to the extra-terrestrial origin of these masses, I was entirely willing to waive any considerations as to whether my own judgment in the matter had weight, and submit the question to experts whose verdict would be incontestible.

My friend President Morris K. Jesup of the American Museum of Natural History kindly offered to obtain for me the decision of the greatest authorities on meteorites in the world; and the dictum of Fletcher of the British Museum, Weinschenk of Munich, and Brezina of Vienna, together with the verdict of Prof. Rollin D. Salisbury of the Chicago University, who saw all three of the masses *in situ*, before a stroke of work had been done toward their removal, and the report of Prof. R. P. Whitfield of the American Museum of Natural History, are here appended.

Even were it not for the unquestionable proof contained in their surroundings, the characteristics of the masses themselves are so unequivocal as to be absolutely conclusive, and a simple examination has been sufficient to immediately convince anyone conversant with the subject and competent to form an opinion of their meteoric origin.

It may be said that in but one respect, *i. e.*, that their composition is an alloy of nickel and iron, are these Cape-York meteorites similar to the Nordenskjöld telluric irons of Ovifak.

The following points of difference between these meteorites and the Nordenskjöld telluric irons will be of interest.

The Nordenskjöld irons were found in 69° N. Lat., the Cape-York "Saviksue" in 76° N. Lat. The Nordenskjöld irons are rough and rusty in external appearance, with no surface markings differing from those of any rusty lump of iron, and they oxidise rapidly, some of them even to complete disintegration. Some it was found impossible to preserve, others are kept constantly wet in closed cases.

The surface of the Cape-York "Saviksue," except where it has been abraded by the Eskimos, has the pittings, striations, and slightly fused appearance of the edges, distinctive of all siderites,¹ and is of a rich, smooth bronze colour, unaffected by exposure. A small surface on the "Ahnighito" meteorite, planed in 1895, was in '97 still bright and uncorroded.

The beautiful Widmannstätten figures, the celestial trade-mark, are as sharp and clear on these Cape-York meteorites as if made by a graver's tool. Not only do these markings show on a polished surface under the action of acid, but on the exterior of the meteorites as well.

¹ Metallic meteorites.



SHOWING SURFACE OF "AHNIGHITO" METEORITE.

As regards surroundings, the Nordenskjöld irons lay in an extensive igneous region at the foot of basaltic cliffs in which are found nodules of the same iron, and from which every year additional masses are weathered. The Cape-York meteorites rested upon gneissose boulders in the midst of a purely gneissose region which extends, uninterrupted by igneous or basaltic formations, for miles about them. Were any further proof needed, the legends of the Eskimos attribute a heavenly origin to the masses.

REPORT OF PROF. ROLLIN D. SALISBURY.

In the summer of 1895, in company with Lieutenant Peary, I visited the region near Cape York, North Greenland, where the meteorites, which he has subsequently brought to the United States, were seen. The two smaller ones were brought back that year. The third, the one which Lieutenant Peary has just brought back, was visited, but having no machinery by which so heavy a body could be handled, it was reluctantly left behind. Sufficient time was spent in its immediate vicinity, however, to allow both the meteorite and its surroundings to be well seen. Because of the special interest attaching to the meteorite, its character and relations were noted with some care.

The character of the meteorite itself was such as to leave no doubt as to its origin. The topography of its surface, studied in detail, possessed all the characteristics which mark the surface of metallic meteorites, characteristics which are not found in any other stones or metallic masses on the earth's surface. It had the peculiar pit-like indentations so characteristic of metallic meteorites, and its surface showed at several points the Widmannstätten figures which are one of the distinctive marks of the etched surfaces of those bodies. A hole several inches deep was drilled into it, and its metallic character established. Like many other meteorites composed chiefly of iron, oxidation had affected only a thin film at the surface. These and other considerations less capable of brief statement led to the confident conclusion that the metallic mass was meteoric.

Its surroundings were in harmony with the conclusion reached by examination of the iron itself. It lay upon an island composed of gneissic rock. No other sort of rock was seen about it, and though there was drift on the island, it likewise was composed of gneissic debris. No other stone bearing the least resemblance to the meteorite was seen in the vicinity, nor was there in the drift or in the bed-rock, so far as seen, any basic igneous rock, the only sort of rock known to contain metallic iron even in tiny particles.

"Ahnighito,"



"Woman,"



WIDMANSTÄTTEN FIGURES OF "AHNIGHITO" AND "WOMAN."

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Chemical analysis of the material of the meteorite subsequently confirmed the conclusion to which the examination of the metallic mass and its surroundings had led.

The position of the meteorite, which was no more than half buried, seemed to indicate that it fell on glacier ice when ice covered the region where it lay. On the melting of the ice the meteorite was let down upon the surface in the position where it was found.

Oct., 1897.

ROLLIN D. SALISBURY,
Professor, Chicago University.

[COPY.]

AMERICAN MUSEUM OF NATURAL HISTORY,
NEW YORK, N. Y., December 11, 1897.

PROF. LAZARUS FLETCHER,¹ M.A., F. R. S.,
BRITISH MUSEUM, SOUTH KENSINGTON,
LONDON, ENGLAND.

DEAR SIR :

As conflicting views are likely to be presented regarding the meteoric nature of the iron masses brought from Greenland by Lieut. Peary during 1895 and 1897, I have taken the liberty of soliciting an expression of your valuable opinion.

The section which I have sent to you for examination is cut from the great mass now at the Navy Yard. I also have included a copy of the analysis of borings made from each of the meteorites.

If it is not too great an intrusion upon your valuable time, I shall be pleased to receive an expression of your judgment in this matter at your early convenience. I have sought your opinion in the cause of science, and in the knowledge that it will be appreciated by Lieut. Peary as well as myself.

I am, sincerely yours,
MORRIS K. JESUP,
President.

LETTER FROM PROF. FLETCHER.

BRITISH MUSEUM (NATURAL HISTORY),
LONDON, December 23, 1897.

PRESIDENT MORRIS K. JESUP,
AMERICAN MUSEUM OF NATURAL HISTORY,
NEW YORK.

DEAR SIR :

The specimen of Peary iron and the letter have reached me this morning. I return the specimen herewith.

¹ Similar letters addressed to Dr. Weinschenk and Prof. Brezina.

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The character of the etched surface is decisive as regards the extra-terrestrial origin ; no such figures have been shown by any iron which is not regarded as meteoric, and such figures are shown by irons which have been actually seen to fall.

As regards other Greenland irons, it has been possible to hold opposite views as to the origin ; about this iron there can be no doubt whatsoever ; the figures are as distinct as in any I have seen.

I am, faithfully yours,

L. FLETCHER.

TRANSLATION OF LETTER FROM DR. E. A. WEINSCHENK, INSTITUTE OF MINERALS, MUNICH, BAVARIA.

MUNICH, December 28, 1897.

PRESIDENT MORRIS K. JESUP,
NEW YORK.

MY DEAR SIR :

Fortunately, I am able to determine, with certainty, the piece of iron which you kindly sent me for examination. Like all others, it bears the characteristics of meteoric origin, and it is absolutely and without doubt a meteorite. If one should wish to doubt this, one might as well question all the known meteorites of the day which belong to this class of irons, as their falling has never been observed. The sample you sent me belongs to the group of the Oktaedriethen irons, and it resembles that of Totura of prehistoric times.

DR. WEINSCHENK.

CABLE FROM PROF. BREZINA, DIRECTOR NATURAL HISTORY
MUSEUM, VIENNA.

"Cutting sent is a Montahedral Meteorite."

REPORT OF PROF. WHITFIELD, AMERICAN MUSEUM OF NATURAL
HISTORY.

TO MORRIS K. JESUP,
PRESIDENT AMERICAN MUSEUM OF NATURAL HISTORY.

DEAR SIR :

I have investigated the subject of the Peary meteorites, as you requested, and find they are among the most pronounced meteorites known, as far as their structure and nature can determine. Sections were cut from the two largest, and etched portions submitted to three of the most noted experts on this subject in Europe, Prof. Fletcher of the British Museum, Prof. Brezina of Vienna, and Prof. Weinschenk of Munich, Bavaria.

Drillings were taken from each of the three irons and submitted to an expert in meteorite analysis.¹

None of the specimens show Silicon or Manganese. A trace of Chromium was found in the outside crust of the largest specimen.

The analyses show all three irons of the Peary group to be not only decidedly meteoric in nature and composition, but quite similar in character, proving they are parts of the same fall, and were originally one celestial mass. So the meteoric nature of the masses can be considered as definitely established.

Yours truly,

R. P. WHITFIELD.

NOTES AND SPECULATIONS.

Surprise at finding this little family of Hyperboreans on a par with the Greeks, the Romans, the Carthaginians, and the devotees of Buddha, in their possession of a "heaven stone," is a most startling in its intensity; yet surprise gives way to admiration as we note the shrewdness of these brown hunters of the "Great Night." The savage stress of natural environment in which the Creator placed them to struggle for existence, left them no room for any such Platonic manifestations as worship of their celestial guests. A Diana of Ephesus or Venus of Cyprus² would be utterly useless to them. Nor, on the other hand, would any glittering blade, irresistible in conflict, appeal to them.³ Their sole and ever-besieging enemies were the demons Hunger and Starvation; and so, with intense practicalness, they pressed the "Saviksue" into their service, in solving the, to them, fundamental equation of the problem of existence,—securing food,—and chipped their heavenly visitors to point the harpoons that brought this great essential.

In contemplating these brown masses, a host of strange fancies, speculations, and queries crowd upon one. Did man or the meteorites first arrive in that inhospitable region? If the former, and the meteorites fell in the long, dark winter night, what terror the detonations, the blinding glare, and the earthquake shock of their fall must have caused among the poor savages cowering in their shaking stone and turf huts! Would it be strange if they had thought that the sun itself had broken loose and was falling upon the earth, and that the earth was going to pieces under the shock, like one of their own icebergs?

If the meteorites fell in summer, how the seals must have plunged

¹ See page 604.

² Sacred statues said to have fallen from the sky.

³ Sword of Antares, and other legendary blades said to have been forged from thunderbolts (meteorites).

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for the water, and the polar bears rushed at full speed over the ice-floes, fear-stricken by the awful cataclysm!

If the arrival of the meteorites antedated that of man, did they fall but a short time previous to his advent, or thousands of years ago, during the glacial epoch, when this entire region was covered by an unbroken ice-sheet?

The fact that the "woman" and the "dog" were not buried in the ground, and that there were no indications of crushing of the rocks beneath them or abrasion or indentation of the under surfaces of the meteorites themselves, phenomena which must have accompanied their direct fall upon the ground, would seem to indicate that they had originally descended upon the surface of the then much-expanded ice-sheet, and upon its recession had gradually settled to the positions in which they were found.

On the other hand, one of the enormous snow-drifts which form along this coast even in ordinary winters might have received the meteorites and cushioned their fall completely, allowing the presumably high temperature of the masses to effect their gradual descent and final deposition upon the underlying rocks.

The existence of the Eskimo legend already noted above in regard to those meteorites, lends colour to the belief that their arrival was subsequent to that of man; else how could these rude natives have obtained any idea of their heavenly origin, and why should not the brown masses have been to them simply *weeaksue* (rocks) like all the others in their country, including the soapstones which have furnished them with material for their lamps and pots?

Next, and to me most astonishing, how did these poor aborigines discover the qualities of the material composing the masses, and the uses to which it could be put, and then devise means of availing themselves of it?

From what I have seen of this people, and their exhaustive knowledge of all the materials to be found in their country, and the special qualifications of each, I am inclined to think that these little brown wizards of the North have, at one time or other during the past centuries, put through the laboratory of common sense and practical experience every stone or other material in the whole range of their observation, and settled for all time the characteristics, the qualities, and capabilities of each; and, where these capabilities could be used for their own benefit, have devised means for so utilising them.

The spectacle of these little fur-clad children of the ice-floes using for centuries a heaven-invented alloy (nickel steel), which is almost precisely the same in its composition as the nickel-steel

armour plate with which we are protecting our battle-ships to-day, is to me one of the most striking in the annals of Arctic exploration.

DISCOVERY OF TWO ANCIENT ESKIMO KNIVES MADE FROM
THE METAL OF THE "SAVIKSUE."

During the moon of January, 1895, I made with Lee a tour of the Eskimo settlements in Whale Sound, for the purpose of purchasing material for the equipment for my Inland-Ice journey the following spring.

We stopped one night at Netiulumi.

In the morning, Lee brought in a small *oodoo*, or woman's knife, which his hostess, the wife of Kyangwah, wished to give me in exchange for some needles. Something peculiar in the appearance of the implement caused me to examine it, and I saw that the cutting edge was composed of five small fragments of iron ingeniously set in a groove in the ivory handle.

Sending for the woman, I asked her where she got the knife, and she replied: "*Saviksuami* ; *sukkennuksue*" ("It is from the great iron; it is very old"). Further questioning elicited the information that in the autumn, while she was rebuilding an old igloo for their winter residence, she found this knife buried in the interior. She herself had never seen one like it before, but the old men of the tribe had told her that it was one of those made from the "Saviksue," and used by their women of generations past.

Pleased with my prize, I gave the woman all the needles I had left,—an entire paper,—which unbounded wealth immediately raised her to the proud position of millionaire among her less fortunate sisters.

The cutting edge of the knife thus obtained is formed of five fragments of the meteoric iron. The handle is composed of three pieces of bone, and the entire implement is of a size to make it seem almost a toy. Yet small and crude as it is, it still must have been a great improvement over the fragments of flints which, previous to the utilisation of the metal of the "Saviksue," formed the only cutting implements of these people.

Diligent inquiry of nearly every member of the tribe since, demonstrated not only that there is no other knife like it in the tribe, but that this is the only one ever seen by any of the tribe, with the exception of one or two of the oldest men.

In March of 1895, while packing various specimens previous to starting upon the Inland-Ice trip, I came across some relics of the ancient people of this region, discovered by one of the men



"OODOO," OR WOMAN'S KNIFE.



"SAVIK," OR MAN'S KNIFE.

ANCIENT ESKIMO KNIVES MADE FROM METAL OF THE "SAVIKSUE.

Actual size.

while digging in an old igloo at Kangerdlooksoah, and brought by him to me.

There was a lance-head of bone, the bone-point of a harpoon, a bone-scraper, and a peculiar piece of bone some three or four inches in length with a groove extending along a portion of one side. It at once occurred to me that this was the handle of another of these ancient knives, and in order, if possible, to determine the matter absolutely, I called in one of the old men then visiting at my headquarters and, spreading the various articles out upon the table, told him I wished to know what they were. Pointing to each one in turn, he explained to me what they were, and the peculiar-shaped piece of bone was identified by him as the handle of a man's knife, the cutting edge of which had been composed of fragments from the "Saviksue."

The length of the groove was only one and one-fourth inches, and it would seem that this knife must have long antedated those which Ross saw in 1818, as the cutting edge of one which he figures is much longer. Probably, as the result of long experience, the natives had, at the time of his visit, become more expert in working the iron. This knife, like the other one already described, is the only one of the kind known to any of the tribe.

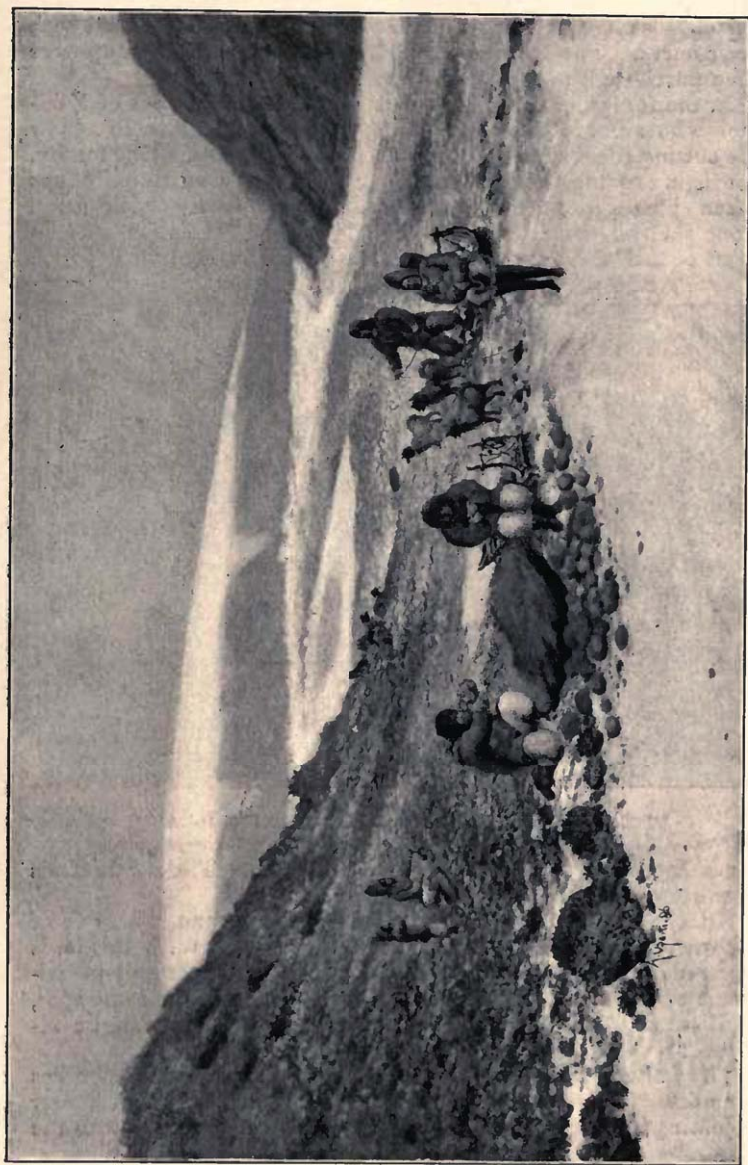
PROPOSED GROUP IN CONNECTION WITH THE "SAVIKSUE."

From that dazzling May morning in 1894, when Tellikotinah, kneeling beside the "woman" at the bottom of the snow-pit, showed me how his grandfathers had removed fragments of the iron and fashioned their rude knives, I felt that these unique meteorites deserved more than to be simply ranged in order among so many other inert masses of iron in some great collection.

I believed that the important part they had played in the advancement of this little family of Eskimos should be perpetuated forcibly, and the meteorites themselves given warmth and life by making them the central feature in a life-size group representing the ancient method of utilising them. With this object in view, I invited artist Albert Operti to be my guest on my summer voyages of 1896 and 1897 and assist me in putting my ideas in shape.

A scene of a hundred years or more ago, as described and in part re-enacted for me by some of the older men of the present generation, was outlined by the facile brush of my friend Operti, and suitable individuals of the tribe were selected and posed for the group.

Operti then made a complete series of casts, measurements, and



ANCIENT ESKIMOS OBTAINING METAL FROM THE "WOMAN."
Study by Albert Operti for proposed group.

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sketches, as well as studies of the surroundings. I assisted with my camera. The costumes and all accessories of the group were then purchased, and packed away with the casts.

In the foreground, are the "woman," and two families of Eskimos who are availing themselves of the opportunity to renew the cutting edges of their knives and harpoon heads. One family, consisting of the father, mother, grown son, and small child, has taken possession of one of the numerous *kangmah*, or small stone shelters, constructed by their long-dead ancestors, and in front of this the woman is preparing a meal of seal meat which



THE SCULPTOR'S STUDIO ON METEORITE ISLAND.

she is heating in a stone pot over a stone lamp. The child stands near her eating a piece of the raw meat.

Kneeling beside the "woman," is the young man, with one of the rounded trap-stones grasped in both hands. With this he is engaged in the arduous labour of laminating some small prominence of the meteorite by continuous pounding in the same spot, until a small flake becomes partially separated and can be removed.

The father, seated upon his sledge, which for convenience has been drawn near the "woman," is engaged in the skilled labour of joining and fitting the bits of iron detached by his son into the

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groove of a bone handle, to form as continuous a cutting edge as possible. The dogs of this family, four in number, are tied to one of the numerous gneissose boulders in the background.

The second family has just arrived, and comprises a man, his wife, and a baby, carried in the mother's hood. While the man is untangling the traces of his dogs, three in number, preparatory to tying them to a rock, the woman brings up from the sledge an armful of the rounded trap-stones which they gathered a hundred miles or more up the coast, for use as hammers upon the "Saviksue." Upon the sledge may be seen, in addition to these stones, the meat of a seal just killed on the bay below, which will insure an ample supply of food for the entire party during the several days that they must remain in order to obtain their meagre supply of the precious iron.

RÉSUMÉ OF POINTS OF SPECIAL INTEREST.

The Cape-York "Saviksue" stand easily first among all known meteorites, with an unapproachable combination of charms.

Their extra-terrestrial origin is unimpeachable. On this the highest authorities are unanimous and emphatic. "*As regards other Greenland irons, it has been possible to hold opposite views as to the origin; about this iron there can be no doubt whatsoever.*"—Fletcher. "*I am able to determine the iron with certainty. It is absolutely and without doubt a meteorite.*"—Weinschenk. "*Is a meteorite.*"—Brezina. "*The character of the meteorite itself was such as to leave no doubt as to its origin.*"—Salisbury. "*They are among the most pronounced meteorites known.*"—Whitfield.

The extremely high latitude in which they were found, the peculiar physical conditions existing in the locality of their discovery, the bearing of these conditions upon the details of their arrival upon the earth, their wealth of suggestion of questions and speculations of the most attractive nature to the scientist, and the fact that though their existence has been known since 1818 they for seventy-six years baffled all efforts to locate their hiding-place, would lend them under any circumstances unusual attraction.

But their wealth of interest does not end here. The "Ah-nighito" far surpasses in size the largest of the known meteorites in the world, and the "woman" is exceeded by but one or two specimens in the world's great museums. The Cranbourne meteorite in the British Museum weighs some 8000 pounds. The gems of the National Museum, the Paris Museum, the Yale University Museum, and the Field Columbian Museum, weigh, respectively, 2500 pounds (estimated), 1709, 1630, and 1013 pounds.

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while the largest in the museums of Vienna and the University of Bonn are still smaller.

The group is absolutely complete. The three specimens are intact and undivided and together comprise the entire fall. In this respect they are unsurpassed.

Yet perhaps most prominent of all their attractions stand their ethnological or human associations. Heaven-sent, they have made it possible for an entire aboriginal tribe, the most northerly one upon the earth, probably the smallest, and perhaps the most interesting, whose habitat is metal-barren, to rise from the stone to the iron age.

Last are the by no means uninteresting incidents of their discovery and transportation to civilisation.

This combination of values renders these Cape-York "Savik-sue" peerless and unique among all the meteorites of the world.



HOMeward BOUND WITH THE STAR STONE.