ROBERT E. PEARY AND THE CAPE YORK METEORITES[1]

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Abstract: This paper recounts the saga of three meteorites that fell in the Cape York area of northern Greenland 1,000 to 10,000 years ago in a large meteorite shower. At some point in time, a group of Inuit settled about 35 miles away and used the iron in the meteorites to fashion tools. A little over 100 years ago, Robert E. Peary transported the meteorites to New York City. Josephine Peary, his wife, sold the meteorites in 1909 to the American Museum of Natural History, where they remain to this day.

BACKGROUND

Meteors are small solid bodies that enter a planet's atmosphere from outer space. Most meteors burn and turn to dust on their descent through the atmosphere but, occasionally, a meteor may reach the surface of the Earth or of another planet before it is entirely consumed. Such meteors are known as meteorites and are categorized as either "falls" if it was seen as it brightly descended to Earth, or "find" if it was simply found without its descent being noticed. Meteorites found on Earth can be classified into three types, according to their composition: *stones* are meteorites consisting of silicates, *irons* consist primarily of iron with 5%–10% nickel and traces of other elements, and *stony irons* contain varying proportions of stone and iron. The iron meteorites are extremely dense and weigh about eight times more than the same volume of water, compared with an ordinary rock, which has a density about three times that of water. Because these meteorites contain small amounts of uranium, their age and the approximate date of descent to Earth can be determined.

Until 1969, when a Japanese Antarctic expedition found nine meteorites, very few meteorites were "in captivity." Since then, scientists of the National Science Foundation's Antarctic Search for Meteorites program (ANSMET) and other international organizations have collected more than 20,000 Antarctic meteorite samples, the vast majority of which originate from the asteroid belt. Only ten specimens have been identified as Martian or lunar in origin. In the 1700s and 1800s, however, meteorites were extremely rare and there was much debate over the origin of these "celestial" or "heaven stones."

The largest known meteorite was discovered at Hoba West, near Grootfontein in Namibia, and is estimated to weigh about 60 metric tons. The second largest, weighing more than 31 metric tons, is the "Ahnighito" or "the Tent (Fig. 1)," one of the three meteorites found near Perlernerit (Cape York), Greenland. The other two Cape York meteorites are known by the English translation of their Inuit names; the smallest is

[1]The author would like to acknowledge the gracious help of Monica M. Grady, Head of Petrology of the Meteorites Division, and Gwyneth Campling, Picture Library Manager, at the Natural History Museum, London.

Polar Geography, 2002, **26**, No. 1, pp. 53-65.

Fig. 1. The Tent on display in the American Museum of Natural History.

Fig. 2. The Dog on display in the American Museum of Natural History.

known as "the Dog" (Fig. 2) and weighs about 407 kg, and the next largest, "the Woman" (Fig. 3) weighs around 3,000 kg.

HISTORY OF THE CAPE YORK METEORITES

The first mention of the Cape York meteorites dates from 1818, when John Ross, a British naval officer looking for the Northwest Passage, came upon the Inuit of this region, who were previously unknown to Europeans. Ross, who had Scottish blood, called them the "Arctic Highlanders" (Dodge, 1973, p. 63). Ross had with him an Inuk from southern Greenland, Sacheuse, who was able to communicate slightly with these Arctic Highlanders. Ross noticed that, although the Arctic Highlanders seemed

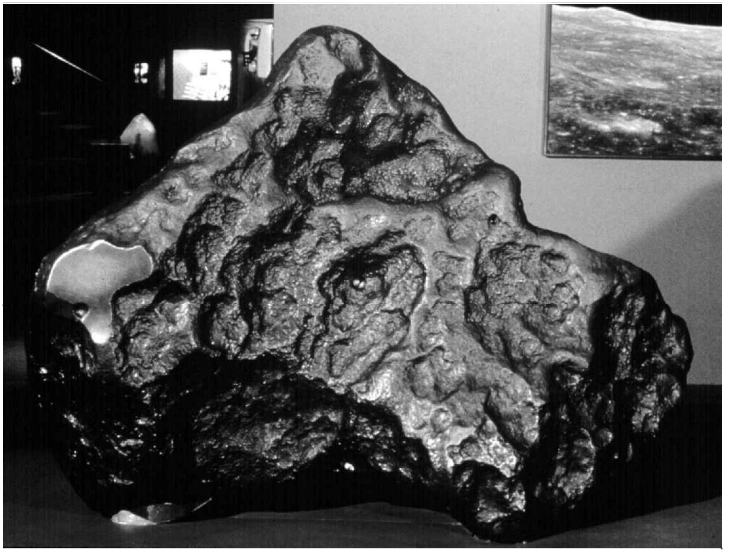

Fig. 3. The Woman on display in the American Museum of Natural History.

Fig. 4. Inuit tools with metal blades forged from the "iron mountain" on display at the Natural History Museum, London.

to have no source of metal, some of their tools had metal blades. Sacheuse explained to Ross that the Inuit obtained their metal from an "iron mountain" which Ross accurately guessed was a meteorite (Fig. 4). Ross traded some items for a sledge and two of these tools, which he subsequently presented to the British Museum. These tools were transferred to the Natural History Museum in London, although the sledge and other Inuit items remain on exhibition at the British Museum.

Fig. 5. Greenland stamp of the Cape York meteorites issued in 1978.

Ross wrote that these Arctic Highlanders had believed they were the only inhabitants on Earth. Clearly, the fact that they could communicate, however imperfectly, with Sacheuse indicates that at some point in time, the southern and northern Greenland Inuit had come into contact. However, the discovery of a people previously unknown to Europeans who also thought that they were the sole inhabitants of the Earth made for a dramatic story. In fact, these tools and other implements made from the meteorites have enabled archeologists to establish that trade among the Inuit was extensive throughout the Arctic. The composition of elements in the metal of the blades allows scientists to trace the source of the metal. Each iron meteorite has a distinctive pattern formed by the iron and nickel as the meteorite cooled, which is called its Widmanstätten figure. Greenland issued a stamp of the Cape York meteorites in 1978 (Fig. 5) with a cross section of the meteorite showing its Widmanstätten figure. Heather Pringle (1997) has demonstrated that tools from the Cape York meteorites have been found over 500 km away. Glen Akridge (1996) of the University of Arkansas has cited evidence that tools found as far as 2,200 km from Cape York came from these meteorites.

The Inuit, having no coal or wood to use as fuel that would enable them to build fires hot enough to forge their implements, cold-hammered the iron into harpoon tips, knife blades, and scrapers. In his book *Northward Over the Great Ice* Peary (1898, p. 145) noted that surrounding "The Woman" was a pile of rocks that the Inuit had used to chip off bits of the meteorite, then had discarded. Archeologists and meteorite specialists have attempted to pinpoint the dates of both the Cape York meteorite shower and the first colonization of northern Greenland by examination of these tools. Some have speculated that the availability of iron in this area enabled the Inuit to survive in this very remote, very harsh environment, and attracted the original Inuit settlers, and that therefore, the Cape York meteorites were "finds," not "falls."

What is uncontroversial about the meteorites is that they allowed the Inuit to live in the Iron Age rather than the Stone Age. The superiority of iron tools over stone or

bone tools made hunting and skinning animals much easier. Ross's report of the iron mountain led many Danish and British explorers to try to track it down. Given the Inuit's reliance on the meteorites, one can understand their reluctance to lead European explorers to them, and until a very determined Robert E. Peary decided to find them, their location was concealed.

PEARY AND THE INUIT

As more explorers visited the northern Greenland Inuit, trade developed and wood, knives, nails, needles, and particularly guns were sought by the Inuit. Their reliance on meteorites diminished, which made the meteorites' location less important to them. Robert E. Peary, who used northern Greenland as the base for his expeditions, traded extensively with the Inuit. Although Peary regarded himself as a generous benefactor to the Inuit, it is more accurate to say that the two parties engaged in extensive trading to the benefit of both. In return for weapons and tools, the Inuit provided Peary with dogs, and he used up to 60 on his expeditions to the interior and up the coast of Greenland in his pursuit of the Pole. Peary relied on Inuit labor for hauling, guiding, and expedition preparation. The women custom-tailored fur clothing for him and his team.

Peary also used Inuit to burnish his reputation as a humanist and a scientist. His books *Northward Over the Great Ice* (Peary, 1898) and *The North Pole* (Peary, reprint, 2001) were greatly enhanced by his descriptions of the Inuit and their struggle to survive in the harsh environment. Always condescending in tone, Peary invariably used the possessive when writing about "my Eskimos." On one page alone Peary refers to the Inuit as "poor aborigines," "little brown wizards," and "little fur-clad children of the ice-floes" (Peary, 1898, p. 611). He frequently compared the Inuit to children: "On the whole, these people are much like children and should be treated as such" (Peary, 2001, p. 50). He also extols his own magnanimity: "Their feeling for me is a blending of gratitude and confidence. To understand what my gifts have meant to them, imagine a philanthropic millionaire descending upon an American country town and offering every man there a brownstone mansion and an unlimited bank account" (Peary, 2001, p. 50).

Kenn Harper, however, has written that the Inuit, rather than regarding Peary with "gratitude and confidence," actually regarded him with fear. He quotes from a letter from Minik, an Inuk whom Peary took to New York: "No one up here believes that Peary got much further than when he left his party. His name up here is hated for his cruelty" (Harper, 2000, p. 165).

Peary always returned from his voyages with skins, ivory, narwhal tusks, and other Arctic souvenirs, which he sold through intermediaries, allowing him to fund his expeditions. These items also provided valuable props on the lecture circuit. Hobbs (1936, p. 124) described a lecture tour given in 1893:

> Before his audiences he [Peary] appeared in his Arctic costume of furs, and he set the stage with his sledges, skins, snowshoes and skis, cooking outfits, as well of those of the Eskimos, also harpoons and killing irons. The five Eskimo dogs which had survived the great double crossing of Greenland, so appeared upon the platform in charge of Henson.

The Cape York meteorites, however, were to be Peary's biggest Arctic treasure, providing him with prestige in scientific circles and with money.

PEARY'S SEARCH FOR THE IRON MOUNTAIN

Peary embarked on his second northern Greenland Expedition in June 1893, with 14 expedition members including the artist Frederick Stokes, who was a paying member. Stokes, who had studied with Thomas Eakins, later accompanied Amundsen to the Antarctic. The pregnant Mrs. Peary also came along on the expedition. Winter headquarters were established at Bowdoin Bay, and their ship sailed home in August 1893. Mrs. Peary delivered a 9 lb. baby girl, the first of Robert Peary's five children, on September 12, 1893. The baby, Marie Ahnighito Peary, said to have been named for her Inuit nurse, was the first white child born so far north and was nicknamed "The Snow Baby."

Peary had embarked on this expedition with two main objectives: set a farthest north record and survey the northeast region of Greenland. For several reasons, he never made it across Greenland and Peary returned to camp with his men sick, frostbitten, and covered in body lice. To redeem himself, Peary decided to find the iron mountain.

On May 16, 1894, Peary set out to find the iron mountain, accompanied by Hugh Lee and the Inuk Panikpah, who had agreed to show Peary the meteorite in return for a gun. Panikpah soon quit the expedition and was replaced by Tallekoteah. The trip was difficult and dangerous. The smaller two meteorites lay near Melville Bay, 35 miles away from Cape York. Peary was joined by the Inuk Kessuh and found "The Woman" buried in 3 feet of snow. He erected a cairn, left a record of his find, and scratched a "P" on the surface (Peary, 1898, p. 147). "The Dog," although only 150 to 200 feet away, could not be found. The third and largest meteorite, "The Tent" (Fig. 6), was six miles away, partially buried under rocks and soil, lying about a hundred yards from the shore on an island subsequently known as "Meteorite Island." The original locations of the meteorites found by Peary, as well as the locations of nearby meteorites found subsequently, is shown in Figure 7.

Peary knew that these meteorites were important to the Inuit and was careful to ensure that the public understood both their historic importance, and how that importance had diminished.

> This mass is the one from which all the ancient iron supply of this people was obtained. . . . For several generations, probably from the time of the wintering of the *North Star* [one of the Franklin search ships that wintered nearby in 1849–1850] or possibly earlier, no use has been made of the iron of these meteorites by the natives; they obtain their scant supply of knives from the whalers and expedition ships visiting their coast or beset in the ice off Cape York." (Peary, 1898, p. 561).

Although the original intent was to stay two years in the Arctic, when their ship returned in August, 1894, all the expedition members except Peary, Mathew Henson, and Hugh Lee, returned to the United States. Back in the U.S., Josephine Peary organized a ship, *The Kite*, to return in the summer of 1895 and Peary decided to bring

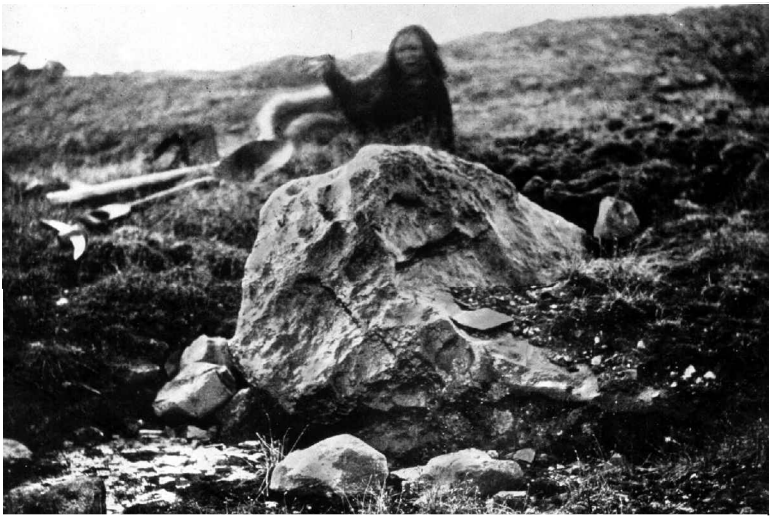

Fig. 6. Photo of the Tent in situ.

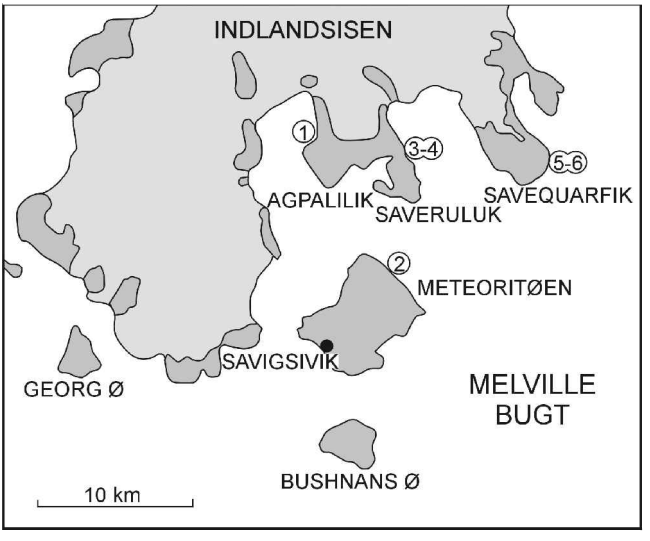

Fig. 7. The original locations of the meteorites around Savigsivik outpost: (1) "Agpalilik" (2) "Ahnigito"or "Tent" (3) "Woman" (4) "Dog" (5) "Savik I" and (6) "Savik II". From: V. Buchwald "Stor jernmeteorit fundet I Kap York området, Nordgrønland. *Naturhist. Tidende* vol. 27, 1963, 3-7.

"The Woman" and "The Dog" back to New York with him on the ship. Melville Bay can only be navigated for a few weeks each summer because of the sea ice, so work proceeded night and day. The problem of moving these heavy masses onto *The Kite* was tackled in a novel way—Peary floated the two meteorites out to the ship on a giant ice floe.

> 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 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 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 complete the 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. (Peary, 1898, p. 564-565)

The meteorites were brought back to New York, and lent to the American Museum of Natural History.

Peary returned in 1896 to remove "The Tent," but was unsuccessful, despite working around the clock. His team succeeded with the help of 100 ton jacks and the force of gravity to move the meteorite to the coastline (Fig. 8), but foul weather forced him to abandon his mission. Peary, attempting to deflect possible criticism of his taking the meteorites, commented:

> 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 in sweeping ice compelled me to give up my prize until another time. (Peary, 1898, p. 574)

Peary was persistent and tenacious. He returned on *The Hope* in 1897 with Mrs. Peary and 4-year-old Marie Ahnighito. He brought with him railroad ties and constructed a bridge from the shore to the ship. With the help of the jacks, Peary lifted the meteorite onto a trolley (Fig. 9) which moved over the tracks and onto the ship. The meteorite was slowly lowered into the hold where it was surrounded by ballast to prevent it from rolling during the return voyage when the ship was plowing through icebergs. Because the meteorite was magnetic, the ship's compass constantly pointed to it, making navigation difficult. It was a tremendous undertaking and Peary pulled it off. In *Northward over the Great Ice* he described its arrival on the ship: "At last the tide was right, and while Mrs. Peary and Captain Bartlett, at the levers of the jacks,

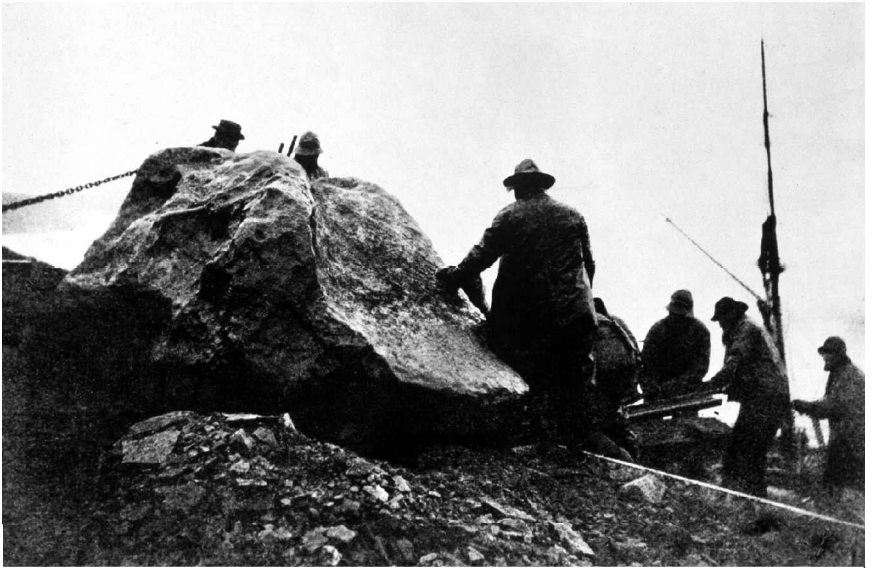

Fig. 8. Moving the Tent toward *The Hope*.

Fig. 9. The Tent on a trolley being brought on board *The Hope*.

started the monster, draped in "Old Glory," toward the ship, the baby dashed a little bottle of wine against it and named it 'Ahnighito'." (Peary, 1898, p. 584).

"Ahnighito" arrived at the Brooklyn Naval Yard on October 2, 1896, and remained there until 1906, when it was transported with much fanfare by 28 horses to the museum, joining "The Woman" and "The Dog" in the 77th Street lobby (Fig. 10).

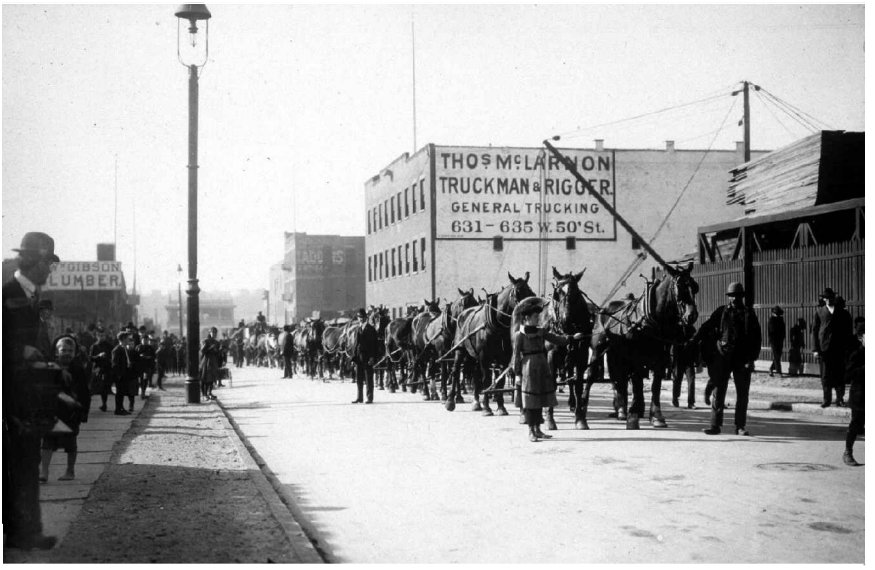

Fig. 10. Bringing the Tent through the streets of New York City.

THE AMERICAN MUSEUM OF NATURAL HISTORY

The Pearys, upon their return, sought fame and fortune. Josephine Peary, the daughter of an official at the Smithsonian, set to work selling the meteorites to the American Museum of Natural History. She claimed that Peary had given them to her, and as she wrote in a letter to the museum's new president, Henry Osborn, successor to Morris Jesup, in 1908:

> I think it only fair to state that the meteorites are my property, and that the money obtained for them will not be expended in Arctic Exploration. It is all I have with which to educate my children in the event of anything happening to my husband. Of this, Mr. Jesup was cognizant and he approved entirely of my keeping the proceeds as a nest egg. (Herbert, 1989, p. 207)

The sale went through in 1909. Mrs. Peary received a check written by Mrs. Morris Jesup for the sum of $40,000.[2] Using an inflation calculator, the $40,000 translates into $757,222.69 in today's dollars, or enough to pay for room, board, tuition, books, and pocket money for 19 years at a private college. Mrs. Peary had lost an infant daughter, so at this time, she only had Marie and a son, Robert Peary, Jr., to educate.

Peary's two-volume book *Northward Over the Great Ice* was published in 1898, bringing him more fame and prestige. He devoted the last chapter, "The Saviksue or Cape York Meteorites," to his removal of the meteorites. To allay a possible criticism

[2]In the captions to the meteorites at the American Museum of Natural History in New York, the museum acknowledges a payment of $40,000. Harper (2000, p. 71) cited a larger figure of $50,000.

that the meteorites had a special religious or spiritual meaning for the Inuit, Peary wrote that life for the Inuit was so hard and the struggle to survive so intense, that the Inuit could not possibly have the concept of a generous Creator who would bestow a "celestial stone" on them. "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" (Peary, 1898, p. 610).

Peary also envisioned a museum exhibition featuring the Inuit and the meteorites, and laid out his ideas later in the same chapter. "I believed that the important part they [the meteorites] 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 utilizing them" (Peary, 1898, p. 614).

Peary got his wish. The Peary Arctic Club sponsored an exhibition at the American Museum of Natural History devoted to Peary and the Inuit, which opened in 1909. Although the meteorites, because of their size and weight, were in another part of the museum, the exhibition did, as Peary wished, feature mannequins of Inuit making tools made from the meteorites.

The journal published by the American Museum of Natural History described this exhibition in an article titled "Achievement in Polar Exploration, The Exhibit of the Peary Arctic Club" in its November 1909 edition (Anonymous, 1909). A photograph of the room shows pillars covered with fur, American bunting draped over Peary's sledge, and mannequins of Inuit scraping fur, fashioning tools, and building a kayak. The exhibit featured the latest in technology: "The realism of the exhibit is increased by the work of a newly-invented automatic stereopticon placed in a darkened alcove at the right of the hall. Through its display of pictures . . . the visitor is carried into the heart of the Arctics" (Anonymous, 1909, p. 206).

On the floor in the middle of the hall was a 30×50 ft map showing the North Pole area with Peary's last route north outlined. The article had a definite editorial slant.

> As a whole, the exhibit has a note of triumph in the discoveries to science of lands and waters, in the improvement in life for the Eskimo through the intervention of civilized man, in the final direct route that Peary made and the American flag floating above 'the top of the world' in the map on the floor" (Anonymous, 1909, p. 211).

On the walls were murals painted by Frank Stokes, the artist who had accompanied Peary on the 1893–1894 Greenland expedition. The article concludes by describing a mural of Melville Bay:

> In this bay, but some miles to the eastward, the three meteorites now on exhibition in the foyer of this museum remained for ages. It was Peary who wrested them from their ancient abode and brought them to New York in 1895. From these meteorites, in olden times, the Innuit flaked off pieces for use in knives, harpoons, and arrow heads, to aid in the struggle for food and life." (Anonymous, 1909, p. 226)

In 1935, the meteorites were moved from the lobby and the Hayden Planetarium was built around them. In 1980, "The Tent" became the centerpiece for the Arthur Ross Hall of Meteorites where it remains today with its steel supports going down through the museum floor to rest on the bedrock of New York City.

The Peary Arctic Club exhibit gave way to a more didactic exhibit featuring life of the Inuit, housed in what was called "The Eskimo Hall." As doubt grew over Peary's claim to have attained the North Pole, the American Museum of Natural History seems to have distanced itself from Peary. The museum sold the Stokes murals to the Glenbow Foundation in Calgary, Alberta, in 1961. Edward Peary Stafford, Marie Ahnighito's son, and Peary's grandson, wrote an article in 1980 at the time the meteorites were being moved to the Ross Hall. Entitled "A Four Year Fight to Bring Home a Giant Meteorite," it was published in the Smithsonian Magazine, rather than in Natural History, the journal of the American Museum of Natural History (Stafford, 1980).

The Inuit's presence in New York has also vanished as Peary's reputation suffered. The Eskimo Hall was sacrificed for the new Frederick Phineas and Sandra Priest Rose Center for Earth and Space in 2000. Visiting the American Museum of Natural History today, one can stop by the Lincoln Ellsworth exhibit and see a cup from Nansen's *Fram*, a photograph of Amundsen, and Ellsworth's sledge. But the only mention of Peary at the museum today is found on the captions of the meteorites—the story of his remarkable engineering ingenuity in their removal from northern Greenland. The museum's caption acknowledges its $40,000 payment. "The Tent" remains the largest meteorite "in captivity."

EPILOGUE

There is an interesting footnote to this story. The American Museum of Natural History has another famous meteorite on display, "The Willamette," which the Clackamas tribe of Oregon holds sacred. Members of the tribe come to the museum annually to conduct a private ceremony around the meteorite. *The New York Times* reported on February 14, 2002, that the museum had traded a 28 pound piece of the meteorite for a piece of the Governador Valadores meteorite that landed in Brazil in 1958 and is rare because it came from Mars. Naturally, the Clackamas feel that the museum should not have tampered with an object they hold to be sacred.

Perhaps, in eliminating the Eskimo Hall and the linkage of Peary with the Eskimos, the American Museum of Natural History and the public can see the Inuit in a new light—not as children or as savages, but as people who survived in a very harsh environment and shared their knowledge with those explorers willing to respect their wisdom. On April 7, 2002, *The New York Times* published a review of a biography by Ken McGoogan entitled *Fatal Passage The Story of John Rae* about the Arctic explorer and physician. The title of the review is a fitting conclusion: "Civilization Doesn't Always Know Best/John Rae, a great but neglected Arctic explorer, learned survival skills from the Eskimos."

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