THE FROZEN NORTH

BY

EDITH HORTON

D. C. HEATH & CO. BOSTON


MAP
NORTH
REG
JAPAN
JAPAN CURRENT
PACIFIC OCEAN
Sea of Okhotsk
KAMTCHATKA
SIBERIA
Lena R.
C. Tchelinskia
ARC
NEW SIBERIA
BENNETT I.
JEANNETTE
HENRIETTA I.
BERING SEA
WRANGEL LAND
HERALD I.
East C.
Behring Str.
Icy C.
Pt. Barrow
Beechy Pt.
St. Michael
Yukon R.
ALASKA
Ft. Yukon
(ABANDONED)
Beaufort Sea
Melville S.
Ft. Selkirk
(RUINED)
Ft. Norman
Ft. Franklin
Gt. Bear L.
DOMINION
Ft. Liverpool
Ft. Providence
Gt. Slave L.
Athabasca
Athabasca R.
Kewndeer L.
Cumberland Ho.
Saskatchewan R.
Winnipe
Sitka
QUEEN CHARLOTTE I.
VANCOUVER I.
UNITED STATES
OCEAN
LYNN CANAL AND VICINITY
IRON CAPPED MTN.
Berners L.
Lynn L.
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Chilkat
Chilkoot
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BARANOF
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F THE
POLAR
IONS

SMITH SOUND
and
ROBESON CHANNEL

THE

FROZEN NORTH

AN ACCOUNT OF ARCTIC
EXPLORATION FOR USE IN SCHOOLS

BY

EDITH HORTON

REVISED EDITION

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PREFACE

While abundant material has been put before children with the purpose of making them familiar with the history and industrial development of various parts of the known world, very little has been written to inform them of the work which is now being done in the comparatively unknown regions of the north, or of the history of the early discoveries which have led to it.

The importance of the present determined search for the North Pole is admitted by all thoughtful people, and the subject is one which must increase in interest until the entire North Frigid Zone is correctly mapped and charted.

Accounts of the pioneers in this work of discovery, of Franklin and of Kane, and in our own day of Nansen and Peary, are available only in such exhaustive works as are unsuitable reading for children, and which sometimes tax the patience of the adult. Hence the work done by these intrepid explorers upon the American continent and north of it remains unstudied and unknown.

It is hoped that this book may give our young people sufficient knowledge of the subject to enable them to read farther with intelligence, and that it may also inspire them with interest in the many expeditions that are being sent out.

The descriptions of the strange people who inhabit these cold countries, their dress, their ways of living, their customs, and their manners, all interest the child,

and meet his natural desire to hear about other people than those living in the part of the world about him.

No complete history has been attempted, but rather a series of sketches which, it is hoped, will enable the reader to appreciate the achievements of the brave men who have lent and are lending their best efforts to the task of unlocking and wresting from the Frozen North, the secrets so necessary for the advancement of science.

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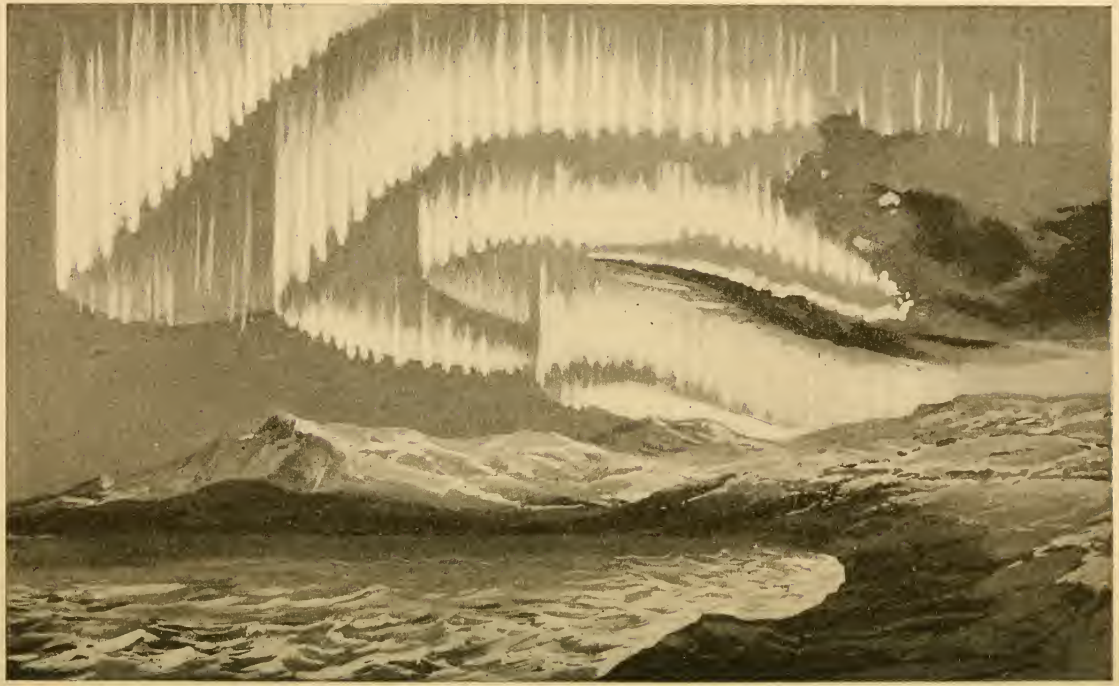


THE AURORA BOREALIS.

THE FROZEN NORTH

I. INTRODUCTION

The north polar regions lie within the Arctic circle, and at their center is the North Pole. The distance from the circle to the pole is more than fourteen hundred miles. Intense cold and the hardships of ice navigation have made the discovery and exploration of this region very slow and hazardous.

It is believed that Norsemen from Norway and Sweden, after colonizing Iceland, made settlements on the Greenland coast and carried their seal hunting beyond the Arctic circle, far into the polar regions. But in 1347 a plague broke out in Norway, and the people forgot their far-off colonies. For more than a hundred years after this no attempt was made to enter the Arctic circle.

It is a singular fact that the famous voyage of Columbus in 1492, although made toward the south, should have influenced to some extent discovery in the north polar regions. After Columbus had really proved that the earth was round, navigators believed that by sailing westward far enough they might reach the rich lands of India and Cathay (China).

The only route then known from Europe to India was through the Mediterranean Sea. At Constantinople, the cargoes of metals, woods, and pitch were unloaded and sent

on by caravan to the East, while returning caravans brought silks, dyewoods, spices, perfumes, precious stones, ivory, and pearls, to be shipped from Constantinople.

When the Turks, through whose country the merchants passed, began to realize how valuable the Eastern trade was, they sent bands of robbers to seize the caravans, making traffic by this route more difficult and more dangerous as time went on; so that European merchants tried to find some other way of reaching that part of the world.

SEBASTIAN CABOT.

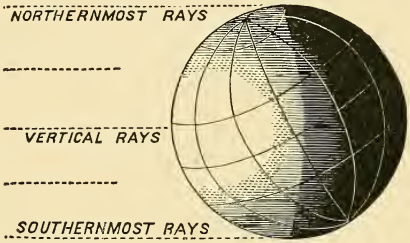
John and Sebastian Cabot, two English navigators, set out in 1497 to sail westward, but finding their way blocked by the American continent, they returned. In 1498 Sebastian Cabot made a second voyage, with the object of finding a passage north of America which would lead to the Spice Islands and rich Cathay. In this way the long hunt for the northwest passage was begun.

The Cabots did not find the northwest passage; and though many voyages were made in search of it by other navigators during the fifteenth and sixteenth centuries, nobody met with success. The severe cold, added to the difficulties of a voyage through the ice of ages, prevented further investigation in that direction for some time.

Meanwhile, the Spanish and the Portuguese had been active in seeking for southern routes to the East, and had discovered two, — one around the Cape of Good Hope and one through the Strait of Magellan. They guarded these waterways jealously, and would not allow the ships of

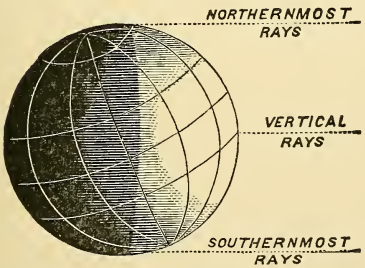
other nations to pass. Thus they succeeded in controlling all the rich Eastern trade, and were growing very wealthy and powerful.

The English and the Dutch, who were also anxious to obtain a share of the rich commerce with the East, saw the importance of finding a northern route to India; consequently they experimented by sailing northeast along the coast of Europe and Asia. The route which they sought was known as the northeast passage.



The Earth on June 21.

England sent out the first expedition in 1553, but the severity of the weather prevented the ships from making much progress. Several other vain attempts were made by the English, and then the Dutch took up the work; but they failed, too, and for a time the search for northern passages to the Indies was abandoned.

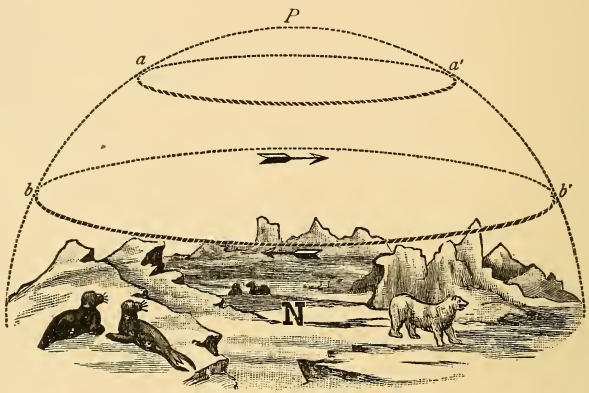


The Earth on December 21.

The total absence of the sun from the Arctic regions during a large part of each year makes the climate severe and the country desolate. Direct sun rays are necessary to insure warmth, and the regions within the Arctic circle receive at the best only slanting rays.

In the temperate zones the sun is never exactly overhead. For people who live within the tropics it is over-

head twice every year. At all places along the equator the sun is overhead at noon on the 21st of March. Each day after, it comes overhead at noon at places farther north, until the 21st of June, when it is overhead at the tropic of Cancer. After this the sun appears to turn and go south, and on September 22 it is again overhead at noon at the equator. The sun then continues to move southward each day until December 21, when it is



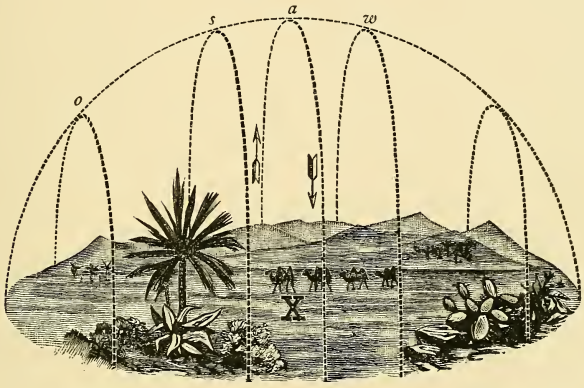
Daily Motion of the Heavens as seen at the North Pole.

overhead at the tropic of Capricorn. And so it goes back and forth the year round.

While the sun is north of the equator, there is constant day somewhere within the Arctic circle; when the sun is south of the equator, there is constant night somewhere within the Arctic circle. The farther a region is from the equator, the longer are the days and nights at different seasons of the year. At the pole there is a night of six months and a day of six months. The night is sometimes lighted by the moon and sometimes by the aurora borealis.

There are but two seasons in the Arctic regions — a

long, cold winter and a short, dry summer. It is during the summer that the explorers do their work. Throughout the dark winter they can do nothing. Even in the summer, navigators meet with many perils, for Arctic navigation is not an easy matter. Besides the danger that the vessel may be frozen in an ice pack, or crushed between icebergs, the navigator is often blinded by fogs and snows, and has to face unknown tides and currents.



Daily Motion of the Heavens as seen at the Equator.

The vegetation within the Arctic circle is scanty. During the summer the bright, warm sun causes the plants to spring up and grow rapidly. Willows, dwarf birches, and rush grasses are plentiful in some localities. In southern Greenland, and in some sheltered places along its western coast, yellow poppies and dandelions grow. Farther north only mosses and lichens are to be found, and beyond the moss line there is no trace of vegetation.

Nevertheless there are plenty of animals in this land of ice and snow. The polar bear, Arctic fox, blue fox, wolf, ermine, reindeer, and musk ox are plentiful. Seals and

walruses come out of the water upon the ice, during the summer, to enjoy the sun, and thousands of snow buntings, auks, and eider ducks visit the shores of the cold seas to build their nests and catch food. When the summer of three months is over, nearly all outward signs of animal and vegetable life disappear and the entire landscape becomes a dreary, white expanse.

The inhabitants of this cold land are called Eskimos. They find it hard to get a living, and their dwellings are of the rudest and most primitive sort. Many of the tribes move from place to place, building their snow huts wherever game is most plentiful, but never going far inland, because fish forms a large part of their food. The Eskimos do not mind the bitter weather. They are quite accustomed to a temperature of 50° below zero.

Within the Arctic circle are two principal areas of great cold, one in North America and one in Siberia. The mildest winters are at Bering strait and in the Spitzbergen Sea, where there is usually open water. The former is affected by the warm Japan Current and the latter by the Gulf Stream.

We have as yet learned but little about the icy North. Nearly three million square miles of our earth lie within the Arctic circle and are unknown to-day. Much more information must be gained before man can hope to understand the physical laws of this mysterious region.

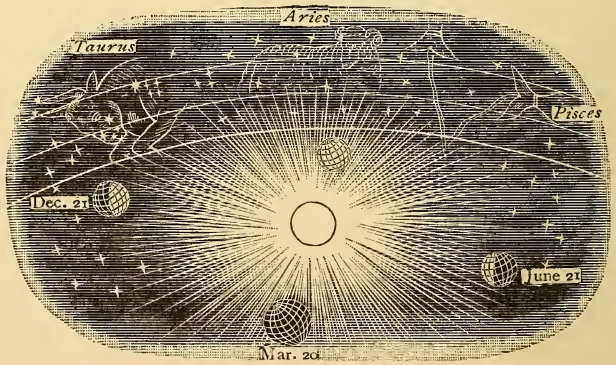
For a century and a half after the sailing ships of the sixteenth century had failed to find the northern passages to the East, little was done in the way of Arctic exploration. The whale and cod fishers were the only navigators who ventured into the frozen seas. These fishermen carried on a profitable business in fish and oil. One of them, a Scotch whaler named William Scoresby, succeeded in driving his

THE MIDNIGHT SUN.

ship as far north as latitude 81° 12′ 42″. He spent all the time that he could spare on this voyage in collecting information about this unknown part of the earth, and on his return to England, he told such wonderful stories that the English people became once more interested in the frozen North.

Accordingly, in 1815, after England's wars with the United States and France were over, the government offered a reward of £20,000 to any one who would make the northwest passage, and a reward of £5000 to any one who would reach 89° north latitude. This offer of prize money stirred the adventurous blood of seafaring men. In 1818 two expeditions were sent out, and others quickly followed.

The vast area of unexplored space within the Arctic circle stimulated men's imaginations almost as much as the Western world beyond the Atlantic had done in the days of Columbus. Many a brave sailor was ready to undertake the difficult work. Famous among those who did valuable service was Sir John Franklin.



THE CHANGE OF SEASONS.

II. SIR JOHN FRANKLIN

1818

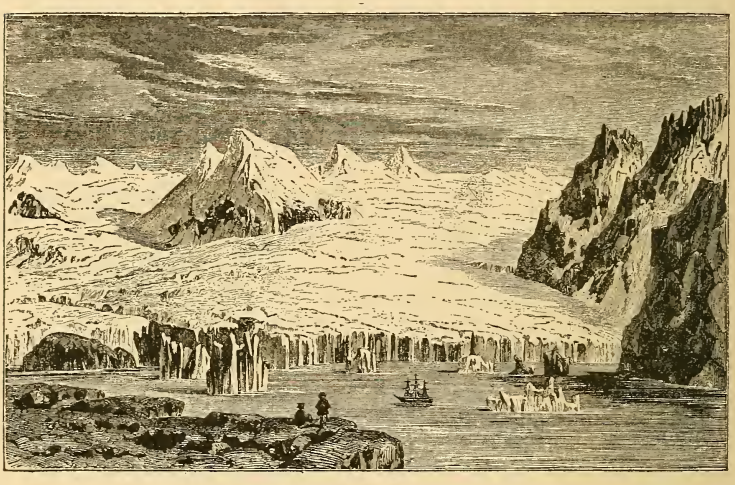
Sir John Franklin was one of the greatest explorers the world has ever known. We owe to him most of our knowledge of the northern coast of America and of the far North.

Sir John Franklin.

Franklin was born in 1786 at Spilsby, a small town in Lincolnshire, England, about ten miles from the coast. As a boy, he one day visited the seaside, which so delighted him that he then and there made up his mind to be a sailor.

Franklin's parents wished him to become a clergyman, and in the hope of curing him of his new passion, they sent him on a trial voyage. This plan did not succeed, for the young man learned to love the sea so much that at last the father yielded to his son's desire, and obtained a position for him in the Royal Navy. While in the navy, John Franklin took part in several of the hardest naval battles the English ever fought. He made a brilliant record as a fearless sailor and a wise and determined leader.

After the wars were over, Franklin began the study of science. But land life was dull for him, and he longed for the dangers and excitement of the sea. When word came that he had been chosen by the government to go in search of the North Pole, he was unspeakably happy. Soon two strong vessels were ready for the voyage. The command of the *Dorothea* was given to Captain Buchan, while Frank-



GLACIER, ENGLISH BAY, SPITZBERGEN.

lin, with the rank of lieutenant, was put in command of the *Trent*. Their orders were to proceed northward between the islands of Spitzbergen and Greenland, and if they found the sea free from ice, to push ahead directly for the North Pole. Should they succeed in finding the pole, they were, if possible, to return by way of Bering strait, and thus prove the existence of a northwest passage.

The ships sailed out of the Thames river April 25, 1818. On May 10 they crossed the Arctic circle, and Franklin

beheld for the first time the grand spectacle of the midnight sun. Shortly after the ships had crossed the circle, a terrible gale arose. The weather was bitterly cold, the snow came down fast, blinding the eyes of the sailors, and ice covered the brigs from bow to stern. Every time the bows came up out of the water a fresh layer of ice was formed upon them, and the vessels became so heavy that the sailors were obliged

A Ship in the Ice Pack.

to chop the ice away with axes. The ropes also were frozen over, and in order to keep them ready for instant use, the sailors had continually to beat off the ice with sticks. The ice pack extended on all sides as far as the eye could reach, and little by little it closed around the ships.

Notwithstanding this, they managed to enter a bay on the coast of Spitzbergen, where Captain Buchan decided to remain until the pack should break up. Neither officers nor men were idle while at anchor in this bay. Some sur-

veyed the harbor and made a map of it, while others measured the depth of the water with instruments which they had brought for that purpose. The magnetic needle was closely watched, and all its changes noted. Many went hunting and supplied the crew with meat of the seal and walrus. Meantime a close watch was kept upon the ice pack.

Franklin learned to like the rugged Arctic scenery. Close to the shores of Spitzbergen were long, snow-covered valleys and high mountains, and between the mountains stood immense glaciers, glistening in the bright sunlight which had so little power to melt their surfaces.

One day Buchan and Franklin were in a small boat at the foot of a glacier. Suddenly they heard a noise like the report of a great cannon, and looking up, they saw a portion of the glacier sliding down the mountain side. This great mass of ice made a grinding noise as it went, and streams of water flowed after it. At length it plunged into the sea and disappeared from view. The water was greatly disturbed and covered with foam. In a few moments the huge piece of ice rose to the surface and surged up to a great height above the sea. Then Franklin and his companion knew how icebergs are formed. This one was a quarter of a mile around, and rose sixty feet above the water. It must have weighed millions of tons.

Franklin was now more anxious than ever to get to the pole. He knew that thousands of years ago a part of America and Europe was covered with ice just as the Arctic regions now are, and he felt sure that if he remained long enough in this land he would be able to explain many things heretofore unknown, in regard to climate, soil, tides, and winds.

Soon the ships, headed toward the north, put to sea

again, but a furious gale arose, and they were once more caught in the ice pack. When the wind went down, the *Dorothea* was so badly damaged as to be almost unseaworthy, and Captain Buchan decided to turn back. The *Trent* also had been injured, but Franklin tried hard to induce Captain Buchan to allow him to go northward

ICEBERGS IN THE POLAR SEA.

alone. Captain Buchan refused, and both vessels accordingly returned to England, where they arrived safely on October 12, 1818. We must not regard this expedition as a failure, even though the pole remained undiscovered, for Franklin had gained the experience which later enabled him to accomplish valuable geographical work in the Arctic regions.

III. FRANKLIN'S FIRST LAND JOURNEY

1819–1821

The next year the British government again decided to send two ships northward. One of these ships was put in command of Lieutenant Parry and was ordered to Lancaster sound. From this place Parry was told to sail westward and seek the northwest passage. He did not find the northwest passage, but he succeeded in sailing inside of the Arctic circle farther west than any one had gone before. For this achievement he received a prize of £5000 from the government and on his return to England was highly honored.

The other expedition was put in command of Sir John Franklin, who, together with four companions, was to proceed to Hudson bay on one of the ships belonging to the Hudson Bay Company. From Hudson bay, Franklin was to make a land journey by means of sledges and canoes across the northern part of North America, to the mouth of the Coppermine river. From this point, he was to turn and follow the coast of North America east. The latitude and longitude of various places were to be noted, maps to be drawn, and capes, bays, and rivers located and surveyed.

At this time that part of North America which borders on the Arctic ocean had never been explored. Only two white men, employees of the Hudson Bay Company, had ever looked upon this ocean from the continent of North

America. The first, Samuel Hearne, traveled northward with the Indians in 1770, and reached the mouth of a large river which was named the Coppermine, because the Indians said that large mines of copper were to be found along its banks.

The second explorer, Alexander Mackenzie, in 1789 traced to its mouth the river which now bears his name. With the exception of these two river mouths, the entire northern coast of North America was unknown. The map which is to-day covered with names of places, was then a blank.

This was the region which Franklin was to explore. Many men would dread such a journey, but Franklin liked it because of the very dangers involved. Dr. John Richardson, midshipmen Robert Hood and George Back, and a seaman, John Hepburn, were selected to go with Franklin on this trip; they were well chosen, for they were worthy companions of the young leader. On May 23, 1819, he and his men sailed on the *Prince of Wales* for the Arctic land. The voyage was long and stormy; several times it seemed likely that the *Prince of Wales* would never touch land again, but at the end of three months she anchored off York Factory, on the southern shore of Hudson bay, one of the posts built by the Hudson Bay Company for the purpose of trading in furs with the Indians.

The people at York Factory received Franklin and his companions kindly and helped them all they could. They gave Franklin a boat for his journey through the lakes and rivers on his way to the sea. The same sort of boat is still in use in that region and is called a York boat. It is forty feet in length, narrow, light, and sharp at both ends. About ten men can manage it. When on lakes or traveling down streams the men use oars, but when travel-

ing against the current of a river they run alongshore and drag the boat after them. This long and narrow boat is well suited for shooting rapids, through which it is guided by means of long poles. Sometimes the rapids are so swift that they cannot be navigated, and falls are often encountered. Then the cargoes are taken out of the boats and carried around the rapids or falls, and afterward the boats also are carried around. Such a place is called a portage.

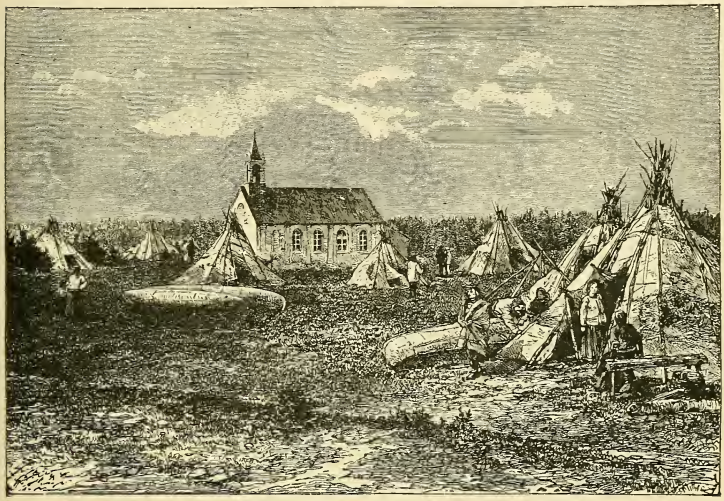
The officers of the Hudson Bay Company, besides giving Franklin a boat, sent word to other trading posts throughout the country, to look out for him and to help him. The party, having secured boats and stores, started from York Factory to continue their journey. After traveling seven hundred miles, they reached another post called Cumberland House, where Franklin expected to find guides and hunters, but every one refused to undertake a journey so full of peril.

Franklin, though disappointed, was not discouraged. He left two men at Cumberland House to wait for supplies and to bring them on. Then, with Back and Hepburn, he started out with dog sledges for another trading post on Lake Athabasca. This journey was begun on January 18, 1820, in the middle of an Arctic winter of prolonged darkness. The suffering of these three explorers cannot be described. The temperature fell as low as 38° below zero, blizzards were common, and the party nearly perished. On some days the mercury froze in the thermometers, and the tea froze in the tin pots before it could be drunk.

At Lake Athabasca Franklin was joined by the men he had left at Cumberland House. They had secured some provisions, and now the entire party proceeded down the Slave river to Great Slave lake. They reached Fort

Providence, on the northern end of the lake, during the latter part of July, and in a few days the little company departed in four canoes, steering northward into a country which had never before been visited by white men.

Soon Franklin met seventeen canoes filled with Indians, who had promised to go part of the way with him and



A Post of the Hudson Bay Company.

hunt game for his party. They all proceeded together through a chain of lakes to Winter lake, where they decided to pass the winter. Here they built a house which they called Fort Enterprise, and from this place they made short trips to explore the country northward. One of the exploring parties reached the source of the Coppermine river.

At first game was plentiful at Fort Enterprise, but as winter advanced the reindeer left the place, provisions became scarce, and ammunition was very low. Back offered

to return to Lake Athabasca for supplies, and Franklin allowed him to go. He left the party in November, and they did not see him again until March. He had made a journey of eleven hundred miles on snowshoes, sleeping in the shelter of drifts, wrapped in a blanket and a deerskin, and had sometimes been forced to go without food for two or three days. But he had saved the party.

When spring came, Franklin and his company started northward again with two large canoes and several sledges. They must have "made a record" for slow travel, for each man had to carry or drag a load of one hundred and eighty pounds, probably more than the weight of any one of them. At the Coppermine they launched their canoes, and were soon shooting dangerous rapids, and carrying their boats over the portages. Franklin did not stop to search for copper; he had other aims.

On July 18, 1821, the party reached the mouth of the Coppermine and camped on the shore of the Arctic ocean. It was a cold place for a camp, but the men were so delighted to reach this point that they did not complain of the temperature.

Franklin here paid a tribute to famous travelers, and to some of his old friends, by naming the capes and bays after them. This might be called a cold compliment, but doubtless the favored ones appreciated it.

The great ocean must have seemed to these men the end of their journey, yet it was only the beginning. On July 21 the canoes were launched and one of the most daring voyages of exploration was begun that has ever been attempted. Canoes built for use only on lakes and rivers had now to battle with rough waters filled with ice. For several weeks Franklin kept on his perilous way eastward, discovering new islands, bays, and capes.

As freezing weather had already set in, and the provisions showed signs of giving out, Franklin decided to return to Fort Enterprise and spend the winter there, hoping to continue his work along the coast the next summer.

He named the place where he decided to return Point Turnagain. The distance from the Coppermine to Point Turnagain is five hundred and fifty miles, and all that length of coast was traversed and charted by Franklin's company.

It was decided to go back to Fort Enterprise by way of the Hood river, because that route was thought easier than the other; it proved to be more difficult. Much of the journey had to be made on foot over a stony country. The men were loaded down with boats, tents, and blankets, and, worst of all, the provisions gave out. All that the adventurers could find to eat was a kind of lichen, which grew like moss on the rocks. Often the men were wet to their waists from having to ford streams and tramp through swamps.

After a time they became so weak and footsore that they could scarcely walk, and when at last they reached Fort Enterprise they found it deserted. The Indians who had promised Franklin to remain and stock the place with food for him, had abandoned the fort. This was a terrible blow. Those of the party who were able to walk, started out to search for the Indians, while the rest remained in the hut, expecting death every moment. While these men sat waiting, they saw a herd of reindeer pass close to the hut. Not a man was strong enough to stand and shoot, and the deer passed undisturbed. At last some Indians arrived. They brought plenty of venison with them, and they stayed with the white men and nursed them back to health.

When the sick men were able to travel, the party started again for Hudson bay. They succeeded in reaching Moose Deer island, and there, under the care of the Hudson bay officials, Franklin and his followers grew well and strong.

When they came again to York Factory, Franklin and his men had traveled 5550 geographical miles and explored thousands of miles of country never before visited by civilized men. This journey is one of the most remarkable in history. Only men of the highest courage and the strongest determination could have accomplished it.

When Franklin reached England his countrymen bestowed upon him honors of all sorts. He was promoted to the rank of captain, and made Fellow of the Royal Geographical Society.

IV. FRANKLIN'S SECOND LAND JOURNEY

1825–1827

After Franklin had been at home about two years, he began to feel restless and to long for action. About this time the English government decided to send Parry, for the third time, in search of the northwest sea passage.

Franklin advised that another land party be sent at the same time to the mouth of the Mackenzie. There, he thought, the party should divide, one branch of it to explore the coast of North America east to the Coppermine river, the other to go westward to Icy cape. Then the entire northern coast of North America would have been covered, and the land party might meet and assist Parry. The government decided to adopt Franklin's plan, and when he begged to be allowed to command this expedition, granted his request, and more than this, permitted him to make all arrangements for the expedition. He first ordered three boats to be built which should be suitable for travel on both rivers and lakes, as well as on the Arctic ocean. They must combine light weight with great strength. In 1824 Franklin sent these boats, filled with stores and provisions, to Great Bear lake in charge of the Hudson Bay Company; and on February 16, 1825, he and his officers sailed.

They traveled through the United States and Canada to Great Bear lake, where they halted for a few days for the purpose of bargaining with the Indians for supplies

of food during the winter. Then the party embarked in canoes and steered for the Mackenzie river.

As the Mackenzie is broad and smooth and without rapids, they quickly reached Fort Norman, the most northern Hudson bay post on the river. It was now early in August, and only a few weeks were left in which to build winter quarters and to lay in a stock of provisions. A place on Great Bear lake was chosen for their village, and Lieutenant Back was given charge of the work of preparation.

Meanwhile Franklin pushed on to the mouth of the Mackenzie. He wished to examine the coast so that he might know just what was needed for travel along that route when spring should come. He found it was an easy journey in his new boat, and when he came to the sea he saw to his joy that it was free from ice and full of seals and whales. When he had made himself acquainted with the character of the coast around the mouth of the river, he returned to the camp on Great Bear lake.

He found that during his absence his companions had named the post Fort Franklin in his honor, and very comfortable arrangements had been made for the winter. Three houses were ready, one for the officers, one for the seamen and Indians, and one for supplies. There were now fifty persons in the party: five officers, nineteen seamen, nine Canadians, two Eskimos, and the rest Indians, including men, women, and children. They were a mixed company, truly, but they passed the season pleasantly together. The officers worked hard collecting important facts about the water, ice, animals, mosses, weather, and sky. They also took charge of a school, which Franklin insisted upon maintaining for the Indians and the Eskimos. Attendance at this school was compulsory,

and you may be sure all the pupils preferred hunting and fishing. The seamen turned carpenters and built boats.

No one was sorry when spring came and the journey could be continued. On June 24, 1826, the company divided into two parties and started down the Mackenzie river. At the mouth of the river they separated; one party under command of Franklin proceeded to the west, the other party under Dr. Richardson, to the east. Each had provisions enough to last from eighty to one hundred days.

Franklin and his men soon fell in with an Eskimo tribe numbering about three hundred. These Eskimos proved themselves such thieves that it seemed likely that they might presently murder Franklin and his companions and take all they had. Lieutenant Back ordered the men in his boat to point their muskets at the Eskimos; whereupon they ran away and left the white men in peace.

The journey along the coast was made through blocks of ice, heavy fogs, and high winds, with a temperature often below freezing. Yet this was midsummer!

But the party kept bravely on their way, taking observations of the sun, watching the magnetic needle of the compass, studying tides, stones, plants, and animals. Among the greatest hardships that the men suffered were attacks from swarms of mosquitoes; they dreaded these more than cold or ice packs.

After three hundred and seventy-four miles of coast had been explored, Franklin decided that if he continued the journey, he would not have enough provisions. They had made half the distance between the mouth of the Mackenzie river and Icy cape. To the most western point visited, they gave the name Beechey point. On returning to Fort Franklin they found that the other party, led by

Dr. Richardson, had also made a successful journey, having explored eight hundred and sixty-three miles of coast line between the mouth of the Mackenzie and the mouth of the Coppermine, and traveled nineteen hundred and eighty[1] geographical miles.

The success of these two explorations put the company in good spirits, and the following winter of 1826 was passed pleasantly at Fort Franklin. Franklin started for home in February, and reached England September 26, 1827, after an absence of two years and seven months.

Two months after his arrival he married Jane, daughter of John Griffin, Esq. This lady, Franklin's second wife, was a very remarkable woman, of whom we shall hear more.

All England was delighted with the results of this second land journey. Franklin and Richardson together had surveyed 37° of longitude along the Arctic shore of North America. The coast from the mouth of the Coppermine westward to Beechey point had been proved to be open for navigation, while from Beechey point to Icy cape it was undoubtedly open.

To complete a northwest passage it was only needful to find a gap to the eastward, connecting this pathway for ships with the older discoveries on the Atlantic side. Over one thousand miles of American coast had been explored, maps and charts had been made, and knowledge in all branches of science had been increased.

The honor of knighthood was conferred upon Captain Franklin, who was afterward to be known as Sir John Franklin. Parry's expedition in search of the northwest passage had been unsuccessful.

[1] Franklin's own book gives 1989 miles. Greely's Hand Book gives 1709 miles.

V. THE *EREBUS* AND THE *TERROR*

1845

At this time, 1827, England, under the rule of George IV, was occupied with her own troubles. The disputes between Catholics and Protestants engaged the attention of the English people so that interest in exploration waned. After a short rest at home, Sir John Franklin was sent in command of her Majesty's ship, *Rainbow*, to the Mediterranean sea. The Greek war of independence was closing, and Franklin distinguished himself by the judgment and skill he showed in following out the work intrusted to him.

Upon his return to England, Franklin was offered the position of Governor of Tasmania, which he accepted, remaining there seven years. When he returned again to England in 1842, he found people once more interested in the discovery of the northwest passage. It was eighteen years since Franklin had returned from the icy North, but the northwest passage had not been found. During those years several expeditions had been at work in the northern part of North America and along the northern coast, thus broadening and increasing the geographical knowledge of the country first entered by Franklin. But the mystery of the northwest passage still stirred men's imaginations, and the Royal Geographical Society decided to send out another expedition in search of it. The command of this expedition was offered to Sir John Franklin.

Some people thought that Franklin ought not to go

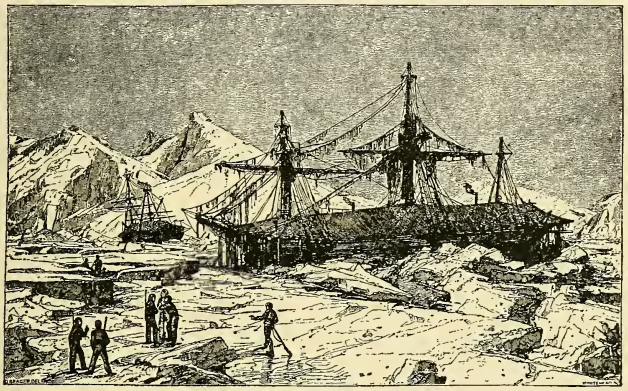
again to the northern land. These people told him that he had already done enough for his country, having risked his life three times, and made more discoveries in that region than any other man. They reminded him that he was now sixty years of age, and ought to be willing to remain at home and let a younger man undertake this hard and dangerous journey.

But Franklin rejoiced at the thought of seeing the far North again. He declared that he was only fifty-nine years of age, and that the discovery of the northwest passage was the object nearest his heart. Two ships, called the *Erebus* and the *Terror*, were given Franklin for this voyage. These ships, propelled by steam screws, were the first vessels of the kind ever used in the Arctic seas. It was thought that the use of the steam screw instead of the paddle wheel would prove of great value to navigators in seas where ice packs and heavy gales were constantly to be feared. Great results, then, were expected from the expedition fitted out in this improved manner. Franklin himself took command of the *Erebus*, while Captain Crozier was given command of the *Terror*. Sufficient provisions were put aboard the vessels to provide for an absence of three years, and nothing was left undone that promised to insure the safety and success of the expedition, or to promote the health and comfort of the explorers.

The ships sailed from England on May 19, 1845. The men were in good spirits and hopeful. They sailed north toward Lancaster sound, and on the 26th of July, 1845, a whaling vessel, called the *Prince of Wales*, sighted them in Melville bay, stuck fast in the ice. The captain of the whaler received a visit from some of the exploring party, and was invited to dine with Franklin, but a breeze sprang up suddenly, and the ships parted company.

That was the last time the *Erebus* and the *Terror*, or any of the men aboard those vessels, were ever seen. They appeared to have dropped off the face of the earth.

When the *Erebus* and *Terror* had been absent two years, and no news of them had been heard, many expeditions were sent out to hunt for them. Some traces of the ships were discovered, and it is believed that the vessels sailed northward through Lancaster sound to Beechey island,



IN WINTER QUARTERS.

where they wintered (1845–1846). On this island were found the graves of two seamen marked with headboards showing the date of their death.

It is thought that when spring came, the ships were released from the ice and proceeded southward toward King William's Land. While near to King William's Land the vessels were probably again caught in the pack. The second winter, with its long, dark night, bitter cold, and absence of proper food, must have been a gloomy one for these poor men.

If they were still alive when spring came, how they must have hoped each day for the freeing of the ships! As the days passed and spring grew to summer, summer to autumn, yet with no prospect of release from the cruel pack, the situation became hopeless and intolerable.

All this misery came upon them with greater force because success was so near. Franklin knew that a distance of but one hundred miles separated him from the object of his search. Almost within reach of the goal, here he was, locked in!

Though the ice did not break up, yet during the spring (May 24, 1847) Franklin sent a party under the command of Lieutenant Graham Gore to explore King William's Land. This party reached Cape Herschel, a point on the southern coast of King William's Land, and in the distance saw the continent of North America.

A navigable passage was known to exist along the northern coast of America from Boothia to Bering strait. Franklin himself and Richardson had discovered and surveyed the greater part of this extent of country.

Franklin had succeeded in reaching King William's Land by entering the Arctic from the Atlantic. Thus the discovery of the northwest passage was reduced to the finding of a link which should connect these two known waterways. This link was found by Graham Gore, when from Cape Herschel he saw the American coast across a narrow channel of water. So the credit of the discovery of the northwest passage must be given to Franklin. Had it not been for the fact that his ships were beset in the ice, Franklin would, without doubt, have sailed in 1846 from the Atlantic to the Pacific along the northern coast of North America.

As it was, Lieutenant Gore's discovery connected the

two known passages and established the fact that an open waterway existed. Gore wrote a brief record of what his party had accomplished and left it on the island, where it was found years later by men who were searching for Franklin; but neither Franklin nor any of his heroic band lived to tell in person the news of the discovery.

When Gore returned to the *Erebus* he found Sir John very ill. He probably came in time to inform Franklin that the northwest passage had really been discovered. Let us hope so. Franklin passed peacefully away June 11, 1847. He had lived a good life and left a glorious name behind him.

Captain Crozier of the *Terror* now took command of the expedition. The prospect of a third winter in the ice made the bravest of the men shrink, but it was too late in the season for them to leave the ships. To do so would have been certain death. It is best not to try to picture the misery of the third winter.

In the spring of 1848 there were one hundred and five men still living. These half-starved creatures decided to leave the ships and travel by sledges to the North American coast, where they hoped to meet some Indians who would give them food and guide them to the Hudson Bay settlements. Their dreadful march has been traced along the western coast of King William's Land, and perhaps a few of the party reached the southern end of that island.

A number of Eskimos saw and camped with some of them, but would not remain, fearing that there was not sufficient food for all. There is no doubt that food gave out entirely, and that the men died of starvation. Many years later an old Eskimo woman reported having seen a party of white men traveling to the south. She said, "They fell down and died as they walked along." It is

inspiring to think of the heroism of these brave men who discovered the northwest passage. Their patience, perseverance, and devotion to their work deserve our highest admiration.

In 1847, when, after two years of waiting, no news of the *Erebus* or the *Terror* came to England, great anxiety was aroused and many searching expeditions were sent out. Lady Franklin offered a reward of £2000 to any one who would bring her news of her husband or his companions. Her courage and her determined efforts to trace the lost vessels aroused the sympathy of the world. Lady Franklin spent her entire private means in the search, and it is largely owing to her efforts that we have any knowledge at all of her husband's accomplishment and of his final fate.

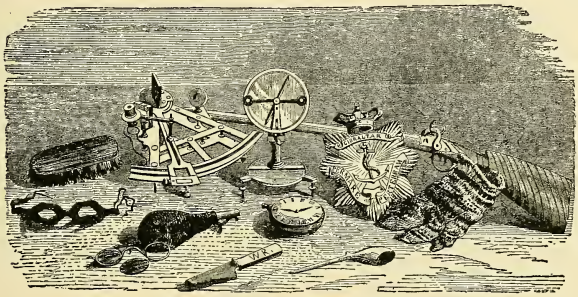
The English government also offered a large reward to any one who would find the lost ships or crews. In the autumn of 1850 there were fifteen vessels in the Arctic ocean, hunting for Franklin and his ships. America joined England in the search, and as a result the Arctic regions became far better known than ever before.

Several of these expeditions discovered traces of Franklin. McClintock found the most important records. He erected on Beechey island a marble slab which was sent out by Lady Franklin in memory of her husband and his brave companions.

If you should go to London, you would find in Waterloo Place another monument erected to the memory of Franklin. There is still another at his home in Spilsby. Lady Franklin also erected a monument to her husband in Westminster Abbey.

Although Sir John Franklin deserves the credit of the discovery of the northwest passage, the first man who

passed through this passage from the Pacific to the Atlantic was Sir Robert McClure, who made the voyage in 1854. McClure was sent to search for Franklin, and entered the Arctic ocean through Bering strait. Being obliged to abandon his ship, he, together with his crew, crossed the ice of Barrow strait by sledge, where a relief party met them. This was the first and only expedition that ever made the northwest passage, which, for purposes of trade, is useless.



RELICS OF THE FRANKLIN EXPEDITION.

VI. ELISHA KENT KANE

1853

One of the most famous efforts to find Sir John Franklin was made by an American, Mr. Henry Grinnell, of New York City. From his own private means he furnished ships and most of their equipment for two separate expeditions. The first Grinnell expedition, under the command of Lieutenant De Haven, was sent out in 1850. It reached Beechey island on August 27 of the same year, and assisted in the examination of Franklin's winter quarters there, but returned without wintering.

Elisha Kent Kane.

The second Grinnell expedition went out three years later. This was commanded by a man who became almost as famous as Sir John Franklin himself, Elisha Kent Kane. Kane had been with De Haven in 1850, and thoroughly understood the work of Arctic exploration. He liked the wild, exciting life, and he had an ardent desire to find the brave men who had been lost, and to bring them home with him.

Kane's plan was to pass up Baffin bay as far north as it was possible to drive the ship. From that point he intended to proceed by boats or sledges toward the pole, examining the coast lines along the way for traces of the lost party.

The strongly built bark *Advance* was selected for this journey, and Kane set sail from New York with seventeen companions, in May, 1853. After a month the *Advance* reached Fiskernaes, a town on the Greenland coast, in-

FISKENAES, GREENLAND.

habited chiefly by Eskimos. To these people a ship was a very unusual sight, and they swarmed upon the rocks to gaze at the strange newcomers. The Danish official who had charge of the colony welcomed Kane and his companions hospitably.

Kane had brought all the dried and salted provisions he could carry, but he knew that his men would need fresh meat in order to keep well in this climate. Besides, they had with them about fifty dogs for the sledge journeys which Kane expected to make when the vessel could no

longer push her way through the ice. But Eskimo dogs have large appetites and need plenty of fresh meat to keep them strong; a good Eskimo hunter was needed to supply such food.

There was a boy about nineteen years of age in the town, named Hans Christian, who was known to be very skillful in the use of the kayak and the javelin. Kane called upon Hans to try his skill. Hans threw his javelin and speared a bird on the wing. Kane said, "That is the man for me," and wished to engage him on the spot. But Hans said, "No, not until you promise to give my mother two barrels of bread and fifty-two pounds of pork." Kane agreed, and then Hans went cheerfully on board the *Advance*, certain that his mother would not suffer during his absence.

Kane made one more landing on the Greenland coast, at Sukkertoppen. The natives of this place collected reindeer skins, and had just sent four thousand to Denmark. Kane bought a stock of skins for clothing, also a large supply of sealskins for boots. The party then bade farewell to the governor of the colony and put out to sea.

The ship sailed northward for several days. Every day the weather became colder and the ice thicker. One day a heavy gale arose, and the ship tossed about so among the icebergs and the floating cakes that her escape from being crushed was marvelous. Captain Kane, who was a very ingenious man, devised a method of avoiding this danger from ice crushing. His plan was to attach the vessel to an iceberg and let her float after it, for there is always open water around a berg. The plan sounded very simple, but Kane had not reckoned on the nature of icebergs. After eight hours of hard work the anchors were fastened, but before the men had time to breathe freely, a few

crackling sounds were heard and pieces of ice the size of walnuts fell on the deck like hail. The sailors had just time to cast off from the berg when it fell, with a crash, into the water around them.

Not long after this the *Advance* became so firmly fastened in the ice that they could not push her in any direction. The party then left the brig and explored the country around, traveling forty miles, and at last climbing to the top of an iceberg, a height of eleven hundred feet above the sea. On every side, as far as the eye could reach from this great elevation, spread out a solid sea of ice.

It was now September, and the temperature fell below freezing. It seemed certain that the *Advance* could not be freed from the ice until the next summer, and the explorers accordingly prepared to pass the winter there. They succeeded in dragging the vessel and wedging it in between two islands. In this harbor, known as Rensselaer bay, the stanch little *Advance* was frozen solidly in, never to be released.

VII. WINTER IN RENSSELAER HARBOR

1853–1854

The Arctic winter had set in. By the middle of September the thermometer had fallen to 14° and the ice was thickening fast. The long Arctic night was upon the explorers. During that first winter in Rensselaer harbor, the sun was below the horizon one hundred and twenty days, and ninety of these days were totally dark; for the remaining thirty days a faint light like our twilight glimmered during a part of every twenty-four hours.

During the time of darkness little exploring can be done. Explorers are obliged to stay on or near their ship and amuse themselves as best they may until the sun shines again.

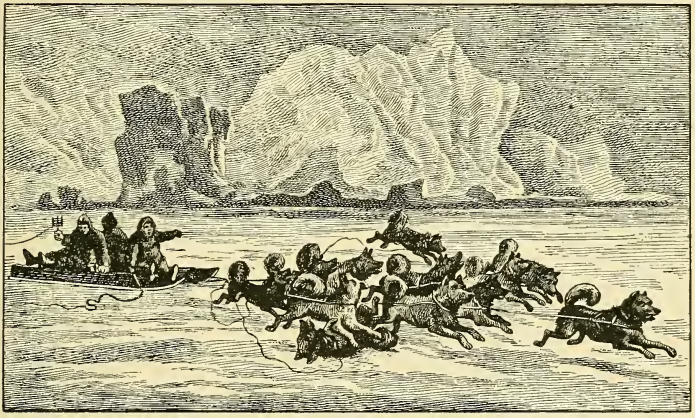
Can you fancy a night which lasts as long as ninety of our days? Think of not seeing the sun for more than three months! These men on the *Advance* suffered from a cold such as we know nothing about, and were often hungry too. Many of them became ill.

Dr. Kane did everything in his power to buoy up their spirits. He was wise enough to know that, if his men had nothing to do, they would become homesick and despairing; so he planned work for all. Some made clothing and boots of the furs and skins they had collected; others made sledges and rope out of hides, or patched up corners of the brig with moss to prevent the cold from entering.

Dr. Kane himself trained the dogs for the sledge jour-

neys. He had ten beautiful Newfoundland dogs which he harnessed to a low, light sled called the "Little Willie." In a short time these gentle, strong, intelligent animals carried Kane on journeys around the ship with ease. He drove them two abreast, in teams of four or six, guiding them entirely by his voice.

With the Eskimo dogs, Kane was obliged to use other means. Eskimo dogs are not easily managed. They are



An Eskimo Dog Team.

near relatives of the wolf, and share the wolf's nature. They are driven in teams of ten or twelve, and must be guided mainly by the whip. Dr. Kane had to use a whip with a lash six yards long, and a handle only sixteen inches in length. It required a sort of "sleight of hand" movement to swing this long lash and hit the right dog with it. Dr. Kane found this driving very lively exercise.

Sometimes Kane wanted to travel with a heavier load than the dogs could draw. For this purpose he used a larger sledge, thirteen feet long and four feet wide, upon

which he could carry fourteen hundred pounds of baggage. This sledge was called the "Faith," and nine men were often harnessed to it. Each man wore a shoulder belt or, as it was called, a "rue-raddy." A walrus-skin trace attached this rue-raddy to the sledge.

In this way heavy loads of provisions were drawn over the ice. Kane stored these supplies along the route that he intended to take as soon as the sun should shine again. By thus sending provisions ahead and burying them, Kane hoped to be able to make the journey without fear of starving; for his whole party could never have carried enough at once to last during the time he expected to be gone.

On long expeditions where the men were obliged to remain away from the ship all night, each man carried his bed with him. An Arctic bed is a bag made of fur, into which one crawls, covering up all save one's nose.

On one occasion some of the men delayed in returning from their trip, and it was feared that they were lost. After waiting twenty days for them to return, Kane harnessed four of his best Newfoundland dogs to the "Little Willie" and started out to search for his missing companions. He took but one man with him. The ice was full of cracks and very dangerous. The dogs galloped swiftly along; whenever they came to a fissure, over it they leaped and over flew the sledge also, simply by reason of its rapid movement. At length the party came to a fissure so wide that the dogs could not leap across it. They were going too fast to stop or turn aside, and dogs and sledge were thrown into the water. The two men, who had been running beside the sledge, quickly cut the harness from the dogs. The faithful animals, freed from the traces, sprang to the ice, and with their intelligent help the sledge was dragged out.

Kane and his companion were wet to the skin with icy cold water, and the temperature was below zero. What could prevent men and dogs from freezing? But not a moment was wasted in thinking about what might happen. They all started on a run for solid ice, and they ran so fast that by the time a safe place was reached, they were quite warm. Several days later they came upon the friends they were seeking. The return to the ship was made more easily, although, while leaping a fissure, one unlucky man was thrown into the water. The rest pulled him out, none the worse for his cold bath.

The men on the *Advance* were delighted to see Kane and their lost comrades again. They rejoiced because every one was safe. They had also another reason for happiness, for the dreary night was passing away, the twilight was growing longer and brighter, and day — a day as long as the night — was coming. Soon after this Dr. Kane climbed to the top of a high hill to see the sun. It was a hard climb, but who would not have taken it for a first sight of the sun, after a night so long?

Each day the sun came and stayed longer, and with the sun came warmer weather. At last the sun rose so high in the heavens that it could not sink below the horizon at all. Then it shone, not only all day, but also all night.

VIII. THE ESKIMOS

1854

One morning in the spring, the deck watch ran into Dr. Kane's cabin, crying, "People hallooing ashore!" Dr. Kane hurried to the deck, and through the gloom saw strange figures all around the harbor. Though it was April, the sun had not yet risen high in the sky, and in the twilight these odd figures seemed to be waving weapons.

Kane soon found that these people were the native Eskimos, and that they were tossing their arms wildly about, as if in great excitement. It is no wonder that they were excited, for they had never seen a white man before; yet they showed no fear, and one of them came close to Kane.

This Eskimo was named Metek. He stood a head taller than Dr. Kane, and was well built and strong, with a dark skin and black, piercing eyes.

Metek wore booted trousers of white bearskin. At the toe the boot ended with the claw of the animal. His coat, or jumper, was of white and blue fox fur, and a hood of the same fur was on his head. Around his neck was tied a dirty, greasy strip of deerskin. At first the white men thought this an ornament, Metek was so careful of it. Later, Dr. Kane found that it was tied closely around his neck to keep out the air.

When an Eskimo is fully dressed in his furs, and his

deerskin is tied closely around the neck so that no air can enter, he is, as it were, in a bag of fur. The heat from his body keeps him warm. As long as he is incased in air-tight clothing, he is safe from the most severe weather.

All of the Eskimo party were invited to come aboard the *Advance*. They were large, strong men, and many

ESKIMOS AND THEIR DOGS.

of them could hunt the white bear and the walrus single-handed.

The Eskimos had with them fifty-six fine dogs, tied by deerskin traces to their sledges, which were made of bone and lashed together by leather strips. The runners were of polished ivory, from the tusks of the walrus, and glistened like steel. The Eskimos' weapons were knives, which they

carried in their boots, and lances, which were lashed on their sledges. They had no wood for the handles of these weapons, because no trees grow in this cold country. All of the handles were made of bone. You would have thought these natives very rude indeed, could you have seen how they behaved on Dr. Kane's ship. They opened all the doors and rummaged around in the dark corners. They opened boxes, handling everything they saw, and putting all they could inside their jumpers and boots. In fact, they stole so much that Dr. Kane and his companions had to follow them continually and take the things out of their hands.

At last the Eskimos became tired, and when the white men spread a buffalo skin on the floor near the fire, they threw themselves upon it. For supper each man had a large piece of raw walrus meat, from which he ate until he was tired. Then he went to sleep with the raw meat lying beside him. When he awoke he would seize his meat, eat more of it, then drop off to sleep again. Many slept in a sitting position, with their heads falling forward low on their breasts.

Dr. Kane made a treaty with these people. He bought all the walrus meat they had, giving them needles, beads, and old cask staves for it. They promised to bring Kane more food very soon, and also to lend him their dogs for his journey to the north. Then Metek said they must go, and it did not take them long to get ready. They harnessed the dogs to the sledges quickly, jumped on, cracked their long sealskin whips, and off they went, dashing over the ice at a speed of twenty miles an hour.

Some time later Metek again visited Rensselaer Harbor. This time Dr. Kane decided to go with him to his hut, and bring back a load of walrus meat. Kane and Metek

traveled eight miles by sledge, with Metek's excellent team of twelve wild Eskimo dogs. They rode very swiftly over the ice and snow, until at last Kane saw what looked like two dark spots on the pure white surface. These spots were the entrances to two Eskimo huts.

The Eskimo huts are built of large stones and are heavily sodded with turf or moss. They are shaped like

INTERIOR OF AN ESKIMO HUT.

From a drawing by Dr. Kane.

half of an egg, and the entrance is a tunnel, through which the dwellers creep on their hands and knees. The door is a slab of slate or ice. At this time the huts were buried under the snow.

The natives rushed out to meet the travelers. They seemed delighted to see Kane, but the cold soon drove them inside again. Kane and Metek followed, crawling

through a tunnel twelve feet in length, which led them into the hut of one room about six by fifteen feet. It was crowded with persons and served for all purposes. The women were cooking large pieces of walrus meat over small lamps, and men and children were lying about half-clothed, calling to one another with uncouth sounds. Others lay stretched upon the floor sleeping.

The thermometer outside registered 30° below zero. Inside the hut the temperature stood at 90°, nor was there any place for fresh air to enter. Poor Dr. Kane was obliged to take off all his fur clothes like the rest. Being very tired, he soon fell asleep, with an Eskimo boy for a pillow, and a little Eskimo baby under his arm.

Dr. Kane slept well. When he awoke he was offered some breakfast of boiled blubber. But, unluckily, he had seen the women cooking this, and they were so careless and dirty that he could not touch it. Instead he ate some pieces of frozen liver which he had brought with him. After breakfast he started on a walrus hunt.

IX. HUNTING IN THE ICY NORTH

The walrus has been called "the lion of the seas." He is a huge animal, often eighteen feet in length. His head is square, and his cheeks and lips are covered with quills like bristles. From his face also extend the tusks, which on the larger animals are often thirty inches in length, and are prized as ivory. Altogether the walrus is a fierce-looking creature, with a tough hide and an ugly temper.

Like the seal, the walrus has to come to the surface of the water to breathe. So Dr. Kane and his Eskimo friends tried to find open water, or, at least, a place where the ice was thin. The walrus has a habit of bellowing as he lies on the ice, so that hunters are guided by this strange and terrible sound. Every few minutes the hunters took off their fur hoods to listen.

At last a large walrus rose through the ice, breaking it with a loud crash. Just as the animal rose out of the water, Dr. Kane and the Eskimos fell at full length, flat on the ice. As soon as the head of the walrus sank below the water again, the hunters jumped up and ran toward the hole, where they knew it would soon reappear. Every time the head of the animal was seen coming to the surface, the hunters would fall to the ice or hide themselves behind hummocks. In this way — now running, now hiding — they at last came near enough to the walrus to throw their harpoon into its body. Tied to the harpoon was a long

rope of walrus hide, which uncoiled rapidly as an Eskimo ran away to solid ice with one end in his hand. When at a safe distance, he drove a spike of bone into the ice and fastened the end of the rope to it.

Meanwhile, the powerful walrus had been struggling in the water, breaking up the ice around with a frightful noise. The Eskimos tightened the rope whenever they could, and

A Walrus Hunt.

again the walrus rose and threw his powerful body against the ice, breaking it away; now they had to work fast. First one, and then another, would seize the spike and run with it and the rope to a safe place. In this way they tired the animal out, and were able to give him a second wound.

During this battle the walrus roared hideously, using his tusks fiercely. He rushed toward the men and tore away great pieces of ice with his tusks, but though he

received many lance wounds, he never once showed fear or made any attempt to run away.

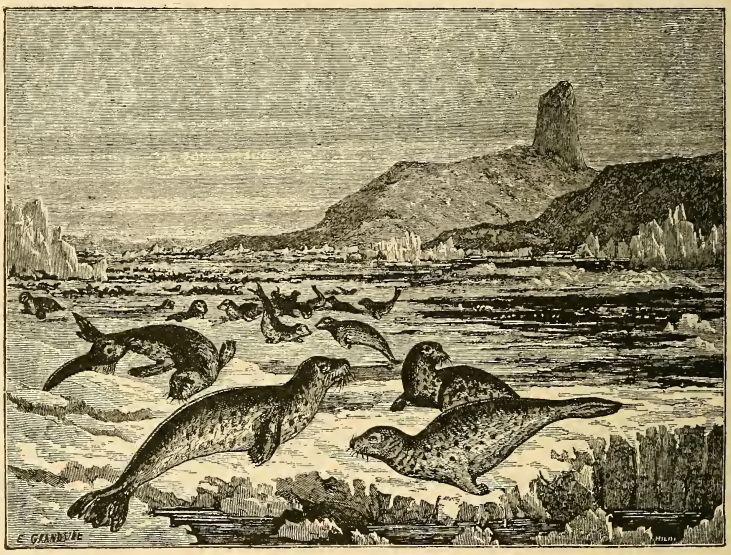
When the great beast was dead, the Eskimos drew it up on the ice, the flesh was divided, and Dr. Kane packed his share upon his sledge. Then with his own four dogs he set out to return to the brig. He himself ran most of the way home, because the dogs had difficulty in drawing the heavy load. The crew were glad to see Kane once more, and glad, too, for what he had brought. During the winter fresh meat had been so scarce that many of the men became sick with the terrible disease which salt meat produces.

Toward spring Dr. Kane and Hans went hunting for seals. The seal comes up under the ice where it is thinnest, and scratches a hole through it with his sharp claws. Then he hollows out the snow above and makes an opening just large enough to allow the air to pass through; this is his breathing hole. It is so small that often one cannot see it, but the seal makes a blowing noise in breathing, and the hunters have learned to listen for this sound.

Kane and Hans often sat many hours on a block of ice beside a hole, waiting for a seal. When the seal appeared, one of them quickly thrust a spear into him and usually killed him. Then Hans would fasten a thong of walrus hide about the neck of the seal and drag him away, across the ice, to the ship. The meat of the seal is delicious, and great was the rejoicing among the men when a hunting expedition was successful.

When the sun begins to shine, the Eskimos hunt in a different way. They know that the seals like to creep out of the water and lie on the ice in the sunshine. The hunters take with them a sledge with a white screen

fastened across it, which they push along in front of them, the screen hiding their bodies from view. A hole in the middle of the screen gives them a chance to see ahead, and provides an opening through which they can point a rifle. When the hunter sees in the distance the bodies of seals lying on the edge of the ice, he pushes his sledge toward

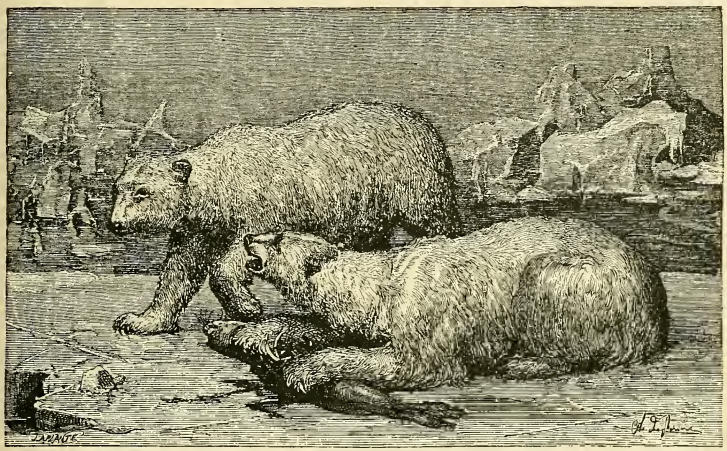


A Herd of Seals.

them. So quietly and so steadily does he move, that the seals do not become alarmed. They lie still, watching the strange object, until the hunter is near enough to shoot.

When the summer comes it is still easier to hunt seals, for their eyes are blinded by the bright sun shining on the snow and ice, and the hunters can often walk within gunshot of them without using the screen.

Kane's party had plenty of fresh seal meat to eat in the summer time. From the fat of each animal they obtained about five gallons of oil, which they used in their lamps. The fur made warm coats and trousers, while the hides were used for covering the boats and for whiplashes. Dr. Kane learned not to waste any part of the seal's body; even the bones could be used for hooks and for the handles of tools.



Polar Bears.

There is another animal in the cold regions which hunters are eager to slay. This is the large, fierce polar bear. He has a flat head, a long neck, and smooth, white fur. He is always found near the sea, where he pursues seals both in the water and on ice, and preys upon fishes and birds.

Kane had many a chase over the ice after the bears. When a bear track is seen on the ice or snow, the dogs are immediately set upon the trail. The hunters follow the dogs quickly and silently. When they come within sight

of the bear, the hunter releases the dogs from their harness, so that they may surround the bear and cut off his retreat. The dogs are carefully trained not to fight the bear, but to annoy him. They run around him in circles and prevent him from making his escape. The bear, when brought to bay, rises on his haunches, seizes the nearest dog in his teeth and tosses him to one side. The dogs instinctively relax their muscles in falling, and are seldom hurt; they usually rise immediately and return to the conflict. In this way the bear is detained until the hunters arrive.

Sometimes two hunters engage one animal, striking at him with their lances. Two men can easily kill a bear. As one man pretends to thrust his lance into the right side, the animal turns, and tries to protect himself with his fore paws. Then the other hunter gives him his death wound in the left side.

A man must have a great deal of skill and courage to be able to kill a polar bear single-handed. The single hunter provokes the bear to follow him by running as if trying to escape. The bear comes down on all four feet and prepares to pursue the man. With a rapid jump to the right, the hunter runs back to his first position. The bear turns in the same way to follow, when the hunter skillfully plunges his lance into the left side just below the shoulder. Even then the most expert hunter sometimes has to leave his spear in the animal's side and run for his life, though a wound given in that spot is usually fatal. The Eskimos hold in highest esteem the hunter who can kill a bear single-handed.

The flesh of the bear is used for food, and the fur for clothing. Dr. Kane killed so many of these animals that he actually tired of the sport.

X. HOME AGAIN

1855

Dr. Kane and his companions passed two winters in the ice regions, living in a place farther north than any explorers had ever lived in before. Few Arctic explorers at that time had passed two winter seasons in the ice.

During the cold months the average temperature at Rensselaer harbor stood at −29°, during the summer months at 33°. When you consider that the summer was colder than the average winter in the vicinity of New York City, you will understand in part what were the severities of the climate that these men endured. The first winter, with the long, dark night, was dismal and gloomy, and there was a great deal of sickness and suffering among the men. When summer came, Kane hoped that his ship might be released from the ice. He waited a long time, but the ice did not thaw, and again winter came upon them suddenly. It was then too late for the men to escape to the south; so a second winter was passed on board the *Advance*. It was a sad time: many of the men died and many suffered terribly from disease and want of food.

When the spring of 1855 came, Kane again hoped that the ice around the brig would thaw and leave her free, for he was a good commander and could not bear to desert his ship. At last it became certain that the ice would not break away, and that the *Advance* could not be released that spring.

Then Kane decided to leave the ship and try to reach some settlement on the Greenland coast. The men promised to follow him and to obey him in all things. They knew the danger of the journey, but they also knew that a third winter on the *Advance* would probably cost them their lives. At this time the company had provisions enough to last them thirty-six days. These provisions were packed in small boats, ready to be dragged over the ice to open water. All the baggage and the articles necessary for use in cooking, eating, and sleeping, were at last ready to be placed on the sledges. Four of the men were so ill that they also had to be carried.

Each man in the party wore a woolen underdress and an Eskimo suit of fur. The men's boots were of their own make, fashioned of canvas and lined with walrus hide. Inside of these boots each man wore another pair, made of carpeting which had been taken from the cabin of the *Advance*. To save themselves from becoming snow-blind, they wore large goggles, made by cutting a small slit in a piece of wood. Some had entire masks made of gutta percha.

It was May when Kane and his companions bade farewell to the brig and set out to cover the thirteen hundred miles of ice and water which lay between them and the place where they hoped to find a settlement. Yet they did not despair. The men who were able to work, dragged sledges and boats as far as the spot selected for a camp. Here they built a hut or erected a tent for the sick, making them as comfortable as they could. Then the workers went back over the same route and brought along the baggage, which had been left behind because they could not carry it all at one time. Thus they were obliged to travel back over each day's march, and each following day

to bring ahead the baggage that could not be carried the first time.

It was slow progress, but they kept on bravely. Often they were delayed by heavy snowstorms. As they could not drag the sledges through the deep drifts, they crept into their tents and slept, waiting for the storm to pass away. When it became possible for them to travel again,

TRAVELING OVER THE ICE HUMMOCKS.

they started out, plowing their way through the snow, often so tired that they could hardly lift their feet. Sometimes they journeyed over thin ice, and many a man fell through and just escaped drowning.

It was near the middle of June when the party reached the shores of Baffin bay and began to launch the boats. The launching took a long time, for the surf beat high along the shore, and great masses of drifting ice were dashed about.

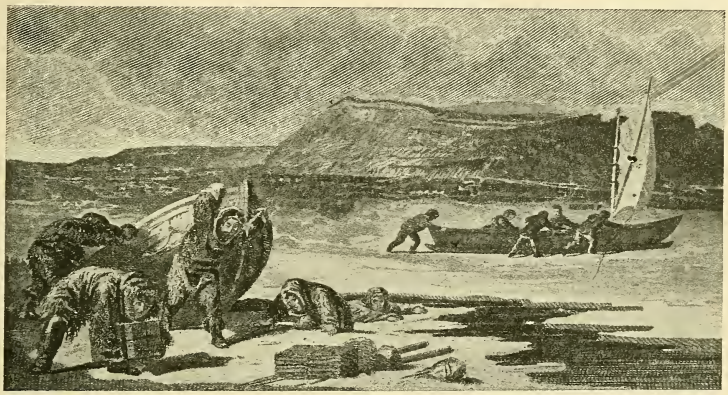
A severe gale arose, and the boats were nearly crushed in the ice, but a day later they succeeded in putting off from the shore. The *Faith* led the way, with Captain Kane aboard. Then followed the *Red Eric*, with most of the provisions, and last of all, the *Hope*. These three small boats were now embarked on a sea in which the hardiest whaling vessel might easily founder.

The party were all hopeful until provisions were exhausted; then the stoutest hearts failed. Even Kane despaired of ever reaching a settlement, but he was too brave a leader to allow his men to know this, and he encouraged them in every way possible. The men grew so weak from want of food that they were scarcely able to guide the boats.

The ice had knocked holes in each of the boats, and they had to be constantly baled to keep them from sinking. When everything looked darkest, one of the party saw a large seal floating on a piece of ice a short distance away. The half-starved men became so excited that they could hardly handle the oars. Every preparation was made to steal quietly toward the animal, which seemed to be asleep. Stockings were placed over the oars to deaden the sound, and a man named Peterson, who was thought to be the best shot of the party, was stationed in the bow with the rifle.

Silently the oarsmen guided the boat toward the piece of ice where the seal was lying. When they were almost within rifle shot, the seal lifted its head and saw the boat. The men were filled with despair as they saw the animal move toward the sea as if to plunge in. They all looked anxiously at Peterson, for their lives depended upon him. Poor Peterson was trembling with nervousness and weakness. His hands shook, but with a great effort he steadied himself and fired. Instantly the seal fell over on its side.

With shouts of delight the men pushed the boat to the ice, climbed upon it, and seized the animal. They were half mad with joy, and ran over the ice, crying and laughing, and waving their knives. Soon every man was eating raw blubber and licking his bloody fingers with relish. It was a savage meal, but starved men may be pardoned for being fierce.



DRAGGING THE BOATS OVER THE ICE FLOES.

Other seals were shot, and soon land was sighted. Kane directed the course of the boats southward along the coast, and a few nights later the men landed on the rocks for rest and sleep.

One morning Peterson, in great excitement, awoke Kane and told him that he had just seen a native in a kayak, searching among the rocks along the coast for eider down. Peterson knew him, and called to him: "Don't you know me? I am Carl Peterson." "No," the Eskimo answered; "Peterson's wife says he is dead." Then he paddled away very fast as if in fear.

A few days later Kane and his companions were rowing along in their boats, when the mast of a vessel loomed in the distance before them. Peterson burst into sobs in his excitement, and in broken English and Danish exclaimed, "It's the Upernavik oil boat!" Indeed, it was the vessel that goes once a year to Upernavik for a supply of blubber to make oil. Soon the vessel came near enough for the crews to talk to each other. You may be sure that

UPERNAVIK, GREENLAND.

Captain Kane's party wanted to know what had happened during their long absence from home. The first question Kane asked was whether Franklin had been found.

The sailors told him that some traces of Franklin had been seen, but that it was now supposed that he and all of his companions had perished. This news made Kane very sad, for no one knew better than he what suffering Franklin and his men must have endured.

After learning all that these men could tell him, Kane journeyed on. After another halt for sleep, and another

long pull at the oars, the men heard the welcome sound of barking dogs at the settlement.

The people of Upernavik were very kind to Kane and his men. They fitted up a loft for them to sleep in and shared their stores in a liberal manner.

A Danish vessel, starting for home early in September, took Kane and his party on board, promising to land them at the Shetland islands. On the 11th the vessel reached Disco, where another steamer was sighted in the distance. As she drew near Kane's men saw with joy that she carried the American flag. The vessel proved to be a relief ship sent out by the United States to search for Captain Kane. The men, under command of Lieutenant Hartstene, greeted Kane and his companions with cheers and took them aboard. The *Faith*, which had done such excellent service, was taken on board also, and may now be seen at the Brooklyn navy yard. Though Kane had been compelled to leave the *Advance* in the ice, had lost his equipment, and had found no trace of Sir John Franklin, yet his expedition was by no means a failure. The geographical and scientific value of the knowledge which he gained during his stay in the icy North was very great.

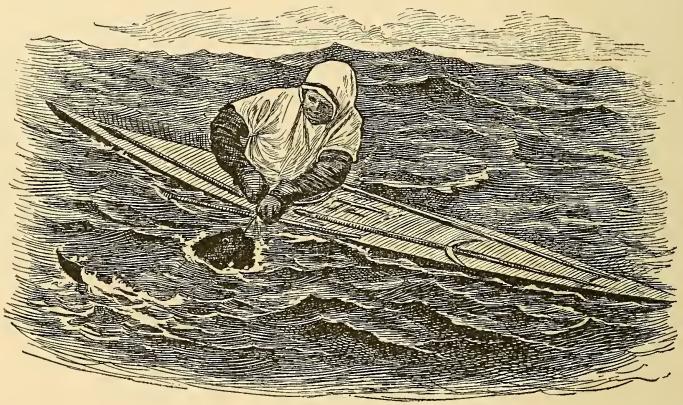
Large tracts of country, before unknown, had been discovered and surveyed; the coast of Greenland had been explored as far north as latitude 81°, and the great glacier of Humboldt, with a sea face forty-five miles in length, discovered. New land to the north of Humboldt glacier was also discovered and named Washington Land.

A great channel to the northwest, free from ice, was supposed to lead into an open polar sea. The theory of an open polar sea, however, has not yet been proved.

Grinnell Land was discovered, and a survey made of the lands bordering on Smith sound. Valuable facts in rela-

tion to the tides, climates, and plants were compiled, and a study was made of the Eskimos of Smith sound. Kane received gold medals from the Queen of England, the Royal Geographical Society of London, the American Congress, and the New York Legislature.

But Kane's health, never of the best, now began to fail. He went to England, but while there grew rapidly worse. He then sailed for Havana, hoping that the balmy climate would benefit him; but it was too late for him to recover his health, and he died at Havana, February 16, 1857.



A Greenlander in his Kayak.

XI. NORDENSKJÖLD AND THE NORTHEAST PASSAGE

1878–1879

The next man to journey into the frozen North was Adolf Erik Nordenskjöld.[1] He was born in Finland and educated at its university; but when he was about twenty-two years of age he fell under the suspicion of the Russian government and was compelled to leave his native country. Nordenskjöld then took up his residence in Sweden, and in 1858 began his career as an Arctic explorer by going on a journey to Spitzbergen. Five voyages in the Arctic regions followed, during one of which Nordenskjöld visited Greenland and made an inland journey over the ice.

The interior of Greenland is believed to be one vast glacier, moving slowly to the sea. This movement causes the formation of deep chasms and clefts which are almost bottomless, and which prevent the traveler from making rapid progress.

Notwithstanding the dangers and hardships of the journey, Nordenskjöld advanced thirty miles over the glacier to a height of twenty-two hundred feet above the level of the sea. Upon returning to the coast, he visited Disco Fiord, and then went home to Sweden.

About the time that Nordenskjöld reached home, the Swedish government decided to send a sledge expedition

[1] Pronounced *Nor'den sheld.*

from Spitzbergen to the North Pole. The nation which should first succeed in reaching the pole would gain the admiration of the civilized world, and Sweden hoped to win this glory.

The government began at once to look for a leader for this expedition, and very naturally selected Nordenskjöld, who had already made Arctic voyages and had thereby gained experience which made him a valuable commander.

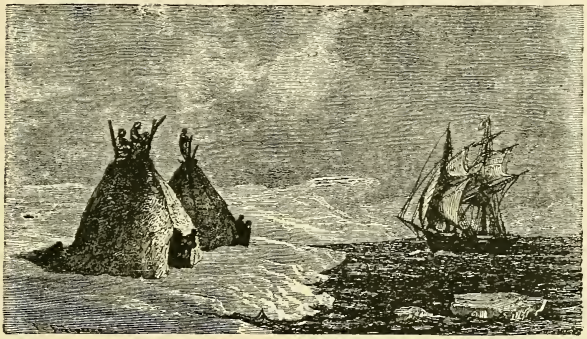
The party was sent out in 1872, but did not succeed in advancing far toward the pole; yet the results of the journey were important, for the island of Spitzbergen was explored and a good deal of scientific information was acquired.

When Professor Nordenskjöld returned from Spitzbergen, he gave his attention to the northern coast of Asia. Some few whalers had sailed round Nova Zembla and entered the Kara sea, but the idea prevailed that this sea was always full of ice and dangerous to navigate. Nordenskjöld, however, made up his mind to explore the Kara sea and sail along the coast of Siberia to the mouth of the Yenisei river.

Supported by Mr. Oscar Dickson of Gothenburg, Nordenskjöld sailed on the *Proven*. He first visited Nova Zembla, and then, passing through Jugor strait, entered the Kara sea, which was entirely free from ice, and reached the Yenisei river without much difficulty. During this journey, he and his assistants made valuable collections of the products of the animal, mineral, and vegetable kingdoms. They succeeded in increasing the number of known insects to be found in Nova Zembla from seven to one hundred, and in the Kara sea, which had been thought barren, they found five hundred species of animal life. Upon reaching the mouth of the Yenisei river, Nordenskjöld

sent the *Proven* home, while he and a few chosen companions proceeded up the river in a small boat.

It was summer time and the tundras were covered with a scanty vegetation. The tundras are the plains of Russia and Siberia which lie between the tree limit and the Arctic ocean. Most persons think of them as entirely barren;



SAMOYED HUTS IN SUMMER.

in some parts the soil is fertile and would be suitable for cultivation, if the climate permitted. In the winter they are frozen, but in the summer they afford pasture to herds of reindeer.

All Siberia is colder than other places in the same latitude. One of the best-known cold regions on the earth is in Siberia, in latitude 67° 54′ N. Here the average temperature of the winter months is often as low as −53°, while some days the thermometer falls to −75° and −85° F.

The tundras are inhabited by a tribe of Siberian Indians called Samoyeds. These natives travel about during the summer, hunting and fishing, setting up their skin tents wherever they find game plentiful. They usually have with them a large number of dogs, which they use for

sledging in winter and drawing boats against the current during the summer. The dogs run alongshore and drag the boats after them up the river, very much as mules draw our canal boats. The Samoyeds are small of stature and very dirty. Their hair is matted and unkempt, and they wear clothes of skin, with sometimes a bright-colored cotton shirt over the skin blouse.

These people worship idols, which look like dolls made of skin, and which they always carry with them on their travels. Some of these idols, or gods, have faces of brass or copper, and some carry bows made of forged iron. The Samoyeds worship by making pilgrimages to certain spots, where they offer sacrifices and make vows; they eat the flesh of their victims, and besmear their idols with the blood. At these sacred places there are piles of bones and skulls of the reindeer, with the horns. Near by are also found quantities of old iron, and hundreds of small wooden sticks, carved to look like human faces.

A Samoyed Family in Winter Costume.

It was to this Samoyed country that the Russian government used to send her criminals, and there are many exiles living there now; but the natives treat them very kindly and never inquire into the cause of their banishment.

As Nordenskjöld and his companions traveled on, they saw large masses of driftwood lying along the shores of the river. This driftwood is carried by the current out

into the Arctic ocean, and is often picked up by explorers on the North American and Greenland shores, a fact which seems to prove that the ocean currents carry it across the polar sea. At length the travelers entered the region from which this driftwood comes. This is the great forest belt of Siberia, the largest in the world, extending, with but little interruption, from the Ural mountains to the Sea of Okhotsk. It consists mainly of enormous pines, growing thickly, and untouched by the ax of the lumberman. Many trees are withered with age; others are fallen, and their decayed trunks are covered with mosses and lichens. The wilderness is so vast that a man might wander hundreds of miles without meeting a human being.

Beyond the forest belt lie the fertile plains, which are partly cultivated and which supply Europe with wheat. Nordenskjöld visited these plains, or steppes, and then proceeded homeward overland, by way of St. Petersburg. The next year, 1876, Nordenskjöld made a second voyage from Sweden to the mouth of the Yenisei river, proving beyond a doubt that there is a sea route from the Atlantic to the mouth of the great Siberian river. For this achievement he was regarded by Russia as a national benefactor and publicly thanked.

Nordenskjöld hoped that the rich produce of central Asia, the gold, silver, copper, iron, and coal, the ivory, timber, wheat, and furs, might now be shipped through the rivers to the Arctic ocean and thence to Europe. The dangers of navigation through the ice, however, are so great that it is doubtful whether this route can ever become an important one for purposes of commerce.

Nordenskjöld was not yet satisfied with the work he had accomplished in the Arctic regions. He longed to do what Arctic explorers had been trying to do for three hun-

dred years; namely, to find a northeast passage to the Pacific. Supported by King Oscar of Sweden and by Mr. Oscar Dickson of Gothenburg, Nordenskjöld sailed from Tromsö in his ship, the *Vega*, July 21, 1878, accompanied by three other vessels. Two of the vessels left him at the mouth of the Yenisei and proceeded up that river, while the other, the *Lena*, accompanied the *Vega* eastward. The fog caused the sailors more trouble than the ice, but one day the mist rose, showing a dark ice-free cape. Then Nordenskjöld knew that he had succeeded in reaching the northernmost point of the Old World, Cape Tcheliuskin (Chelyuskin).

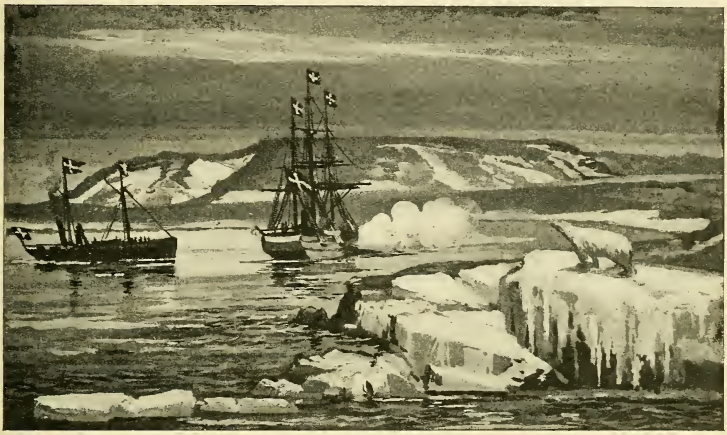
More than a century earlier, Lieutenant Tcheliuskin, a Russian officer, had succeeded in reaching this most northern point of Siberia, traveling overland by sledge. Many explorers had tried to reach Cape Tcheliuskin by water, but up to this time all had failed. Nordenskjöld and his companions were very proud of their success. Flags were hoisted, salutes fired, and the officers drank toasts in honor of the occasion.

A heap of stones, called a cairn, was erected on shore as a memorial, and soon the two vessels started again on their journey eastward. When the mouth of the Lena river was reached, the ship *Lena* headed toward it and, after exploring the river, returned home.

After parting from the *Lena*, the *Vega* continued her voyage to the New Siberian islands and thence along the coast of Asia, nearly to Bering strait. When within a day's journey of the strait, the *Vega* was beset in the ice; and, much to Nordenskjöld's regret, he was obliged to pass the winter at the very entrance to the Pacific ocean. Had he been a few hours earlier, he might have forced his way through the ice and completed the northeast passage

in 1878. But in that case we should never have known all the interesting facts which he has told us about the strange people who inhabit the northeastern peninsula of Asia.

These people are a Siberian tribe, called Tchuktches.[1] There are two divisions of the tribe, the reindeer Tchuktches and the coast Tchuktches. The former own herds of reindeer, and travel about, pitching their tents wherever the pasture is good. They also trade in skins, hides, furs,



THE "VEGA" FIRING A SALUTE AT CAPE TCHELIUSKIN, THE MOST NORTHERN POINT OF THE OLD WORLD.

and whalebones with the most northern Indian tribes of America and with the Russian fur dealers, often making long journeys for this purpose. The coast Tchuktches live along the shore, and hunt and fish for their living.

The reindeer Tchuktches were encamped near the *Vega's* winter quarters. As soon as these people saw a strange ship anchored off the coast, they launched a large skin boat very skillfully, and men, women, and children jumped

[1] Pronounced *Chook'chez.*

in and rowed through the thin, newly formed ice to the vessel. They climbed aboard and seemed as pleased to see the white men as if they had been old friends. The deck of the *Vega* became a reception room, for not a day passed without a visit from the natives.

The Tchuktches are a strong, hardy race, but very lazy. Nothing but want of food induces them to work. Many

TCHUKTCHE AND REINDEER.

are tall, with brown skin and raven-black hair, and a large nose like that of our North American Indians. Some have high cheek bones and slanting eyes, like the Mongolian race. They live in tents, which are made double to insure warmth during the winter. The inner tent is the sleeping room. The framework is of wood, and over this are spread thick reindeer skins. The floor is a walrus skin, and at night extra reindeer skins are thrown down like a carpet. The inner tent is heated by three train-oil lamps, which,

together with the heat from the bodies of the many human beings who are packed in this small space, raise the temperature in the tent to such a degree that even in the most severe weather, the natives strip off all their clothing. In the winter they live, cook, and work in the inner tent; the outer tent, used in summer, is built around the inner tent. The skins of the outer tent are older and thinner than those of the inner one.

The Tchuktche women work very hard. They take care of the children, cook, sew, and keep the tent in order. They receive the game and cut it up, in winter in the tent and in summer on the beach. They help with the fishing; they tan the hides and prepare thread from the sinews. The men provide the food, which they obtain by fishing, hunting, and trading. But in and around the tent they do nothing but put their hunting tools in order, or play with the children.

Tchuktche children are healthy and hearty. They often cross from one tent to another entirely naked, when the weather is bitterly cold. The children are petted and treated very kindly. The older people never utter an angry word to them, or punish them. For playthings they have dolls, bows, and windmills with sails. Tchuktche children are very well-behaved. A little girl fell down the ship's stairs head first, and received so severe a blow that her hearing was nearly destroyed, yet she scarcely uttered a cry. A small boy of four years once visited the ship. He was so wrapped up in furs that he looked like a ball and could hardly move. He fell into a ditch which had been cut in the ice on the deck, and could not get out. The small Tchuktche did not make a sound, but waited patiently until some one saw him lying there and rescued him.

When the ice became solid, the natives came on their dog sleds from villages far away. Sometimes they brought skins and whalebones to exchange for tobacco and brandy, but they obtained very little of the latter from the men on

TCHUKTCHE MAN AND WOMAN.

the *Vega*. As winter advanced, the natives' provisions gave out. Then they gathered around the ship at the time when they knew the crew were at dinner, and begged for food so hard that one day the cook himself came out with a large kettle full of meat soup. The Tchuktches seized

it like starving animals and bailed it out with spoons, empty tin cans, and even with their hands. Nordenskjöld gave them all the food he could spare, but in spite of his kindness the plump little babies grew thin and hollow-eyed. One day the Tchuktche hunters killed a polar bear and several seals. Then begging ceased for a few days, and they rested from hunting and lived on the fat of the land, without any thought of the future.

HUNTING REINDEER.

A few days later a procession of Tchuktches was again seen, coming in single file over the ice toward the ship, each man carrying a piece of ice on his shoulder. This he gave to the cook, begging for something to eat in return; and you may be sure that all the food that could be spared was given to these poor people.

One morning a number of men approached the ship, dragging a dog sledge on which a man lay so quietly that

Nordenskjöld thought he must be ill or dead. To his surprise, when the sledge reached the side of the vessel, the man climbed rapidly to the deck and saluted. He then informed Nordenskjöld in broken Russian that he was the great chief of the Tchuktches, and, as a mark of his high rank, he had been drawn over the ice by men instead of dogs.

This man's name was Menka. He gave Nordenskjöld two roasts of reindeer meat, and in return received some tobacco and a woolen shirt. Finding that Menka was going to a Russian town some distance away, Nordenskjöld asked him to carry a letter to the Russian authorities there, as he wanted to let King Oscar know where he was. Menka consented, and Nordenskjöld wrote the letter and gave it to him. Whether Menka misunderstood or not, no one knows; but when he reached shore he assembled the Tchuktches, opened the letter, and, holding it upside down, gravely read it in his own language to his admiring audience. His hearers thought him very learned indeed.

The next day the great chief again visited the *Vega*, but no one mentioned the letter for fear of hurting his feelings. Menka doubtless meant no harm. The Tchuktches seem to have been very democratic in their sentiments; they refused to admit that Menka was their chief, saying that they were just as good as he was.

When Christmas came, some of the whites persuaded the Tchuktches to bring them a load of willows from the valleys in the south. They took a piece of wood for the stem and, tying on the willow bushes for branches, called it a Christmas tree, and decorated it with flags, colored papers, and wax lights. A box of Christmas presents had been placed on board by their friends at home; this was opened and the presents distributed. Then the men danced

a polka around the tree and drank the good health of all their friends.

The spring came slowly, and time dragged, though the men were very busy collecting specimens and noting the curious changes in the atmosphere and vegetation. It seemed as if the ice would never break up. On July 18, 1879, Nordenskjöld and his companions sat down to dinner as usual. During the meal the vessel, which had been motionless for months, moved slightly. It was a moment of intense excitement, and everybody rushed on deck. The ice was moving! It did not take long for the engineer to light the boiler fires, and in two hours the *Vega* was free and on her way to Bering strait. There was not much time to say farewell to the Tchuktches, who gathered on the shore and watched the departure of their white friends.

The *Vega* encountered but little ice, and at 11 o'clock on the morning of July 20, 1879, she sailed into the middle of the strait that connects the Arctic and Pacific oceans. Salutes were fired and flags raised. The northeastern passage was accomplished. In a single voyage Nordenskjöld had succeeded in doing what Arctic explorers had been trying to achieve for three hundred years.

On his way home Nordenskjöld visited Japan. He remained there two weeks, collecting facts which contributed a great deal to our knowledge of that country. When Nordenskjöld reached home, King Oscar made him a baron, and commander of the Order of the North Star. The remainder of his life was spent in scientific work. In August, 1901, this great man passed away, leaving behind him a lasting fame.

XII. VOYAGE OF THE *JEANNETTE*

1879–1881

During the same month, July, 1879, that Nordenskjöld completed the northeast passage by sailing through Bering strait into the Pacific ocean, an expedition sailed from San Francisco northward through Bering sea on a voyage of discovery in Arctic regions.

This expedition was sent out by Mr. James Gordon Bennett, the owner of the *New York Herald*. Mr. Bennett bought and equipped a vessel, which he called the *Jeannette*. By special act of Congress, the *Jeannette* was conducted by the United States Navy, with the rights and privileges of a government vessel.

The command was offered to Lieutenant George W. De Long and he accepted, after the expedition was made national. De Long, it is said, believed that an expedition might reach the North Pole by following a branch of the Japan Current through Bering strait and into the Arctic ocean, a route which had never been attempted.

Many explorers who had made trips to the Arctic regions observed that the ice always drifted toward the southeast, and entered the Atlantic ocean between the islands of Spitzbergen and Greenland. It was thought that there must be a strong southeast current to carry this pack of floating ice always in the same direction. Instead of trying to sail northward between Spitzbergen and Greenland, where they must meet that great ice pack,

these men said: "Let us enter the Arctic ocean through Bering strait and sail northward toward the pole. If the ship is caught in the ice pack, she will drift along with the pack into the Atlantic ocean. Perhaps the drift will carry the ship across the North Pole."

De Long sailed from San Francisco on the *Jeannette*, July 8, 1879. It was a beautiful sunny day, and many vessels were gathered in San Francisco bay to attend the departure. Guns were fired, flags waved, and cheers given with a will for the brave men who were going to risk their lives in the search for the North Pole.

The *Jeannette* sailed away through the Pacific ocean. She crossed Bering sea in a heavy gale, and passed through Bering strait in safety. After rounding East cape, the watch in the crow's nest saw some rude huts along the beach. They were the homes of the Tchuktches, the Siberian race which inhabits this peninsula.

The ice alongshore prevented De Long from landing, and the natives, seeing this, launched a large skin boat and went out to the ship. The Indian chief went with them, and they all boarded the *Jeannette*. These people could furnish very little information, because no one on board knew their language and they could speak no English. But De Long learned, by means of signs and motions, that Nordenskjöld, with the *Vega*, had wintered to the northwest of them, and that a few weeks before he had passed out through Bering strait.

The Tchuktches had a delightfully original way of asking for liquor. They bent their elbows and uttered the word "Schnapps." But they did not get anything to drink, and soon returned to the shore.

The next day some men from the *Jeannette* succeeded in landing. They found the Tchuktches living in tents

made of skin, and very dirty. They ate the raw flesh of the walrus and drank the blood. Their chief wore a red calico gown as a mark of his high rank. It was a cool garment for so cold a place, but the natives do not feel the cold as keenly as we should.

After sailing along the Siberian coast for a short distance, the *Jeannette* bade farewell to land and started on her perilous journey.

In the Arctic regions the ice is divided into what is known as young ice and the pack. Young ice is that which is forming all the time. It is thin at first, and vessels can usually cut their way through. The pack is the old ice which has been formed for many years, and is composed of large pieces, called floes, which are often thirty or forty feet thick and extend over a great surface both above and below the water.

The floes sometimes close up and float together as a pack, squeezing in everything between them. Sometimes they separate, leaving channels of water between. The pack floats with the wind and the current, and there is little chance of escape from it. If a ship is caught in the ice pack, it must float with it until a storm or some other change of weather breaks up the pack. When a ship is strong enough to resist the pressure of the ice pack, there is some chance of escape in the spring, but so tremendous is the power of the ice that Arctic voyagers avoid the pack if possible.

It seems to have been De Long's intention deliberately to enter the pack and drift with it, for when, on September 6, he saw an opening between the Siberian and the American packs, he slipped in. At first the *Jeannette* pushed her way bravely, but after a few hours she was unable to proceed, and soon she was frozen in solidly.

To the southwest lay Herald island, which the men attempted to explore. Taking a dog sledge, they traveled to within six miles of the beach, where they found open water, so that they were obliged to return to the ship without setting foot on land. They found the ship drifting with the ice, and in danger of being crushed between the

THE "JEANNETTE" IN THE ICE PACK.

huge masses which surrounded her. Thundering noises from far away could be heard as the blocks of ice ground and grated together. At times the ice separated near the ship, leaving it in clear water. Again, the pack closed up about the stanch little vessel, which was like an eggshell at the mercy of enormous blocks of floating ice.

But all this time the *Jeannette* was drifting, and at length she came in sight of Wrangel Land. Before De Long lost sight of this land, he satisfied himself that it was an

island, and not a part of Greenland as some explorers had supposed.

On November 10 the black Arctic night began, which lasted until January 25. The bitterness of the cold during this long period of darkness is inconceivable. The surface water was usually at a temperature of 29° F., the freezing point of salt water.

Notwithstanding their discomforts, the men followed a regular routine. At seven o'clock in the morning all on board were called and the fires were started in the galleys. At nine o'clock the explorers ate their breakfast. From eleven until one o'clock every man took his gun and went out on the ice to exercise. At three in the afternoon dinner was served, and the galley fires were put out in order to save coal. Between seven and eight o'clock tea was made. The crew lived on pork and beans, salt beef, and canned goods. Sometimes, when the hunters were successful, they had the meat of the seal, bear, or walrus. For amusements there were theatricals and a navigation class.

For one year and nine months the *Jeannette* floated in the pack, at the mercy of wind and tide. The coldest weather came in February, when the thermometer registered 58° below zero. In spite of the windings and turnings of their course, the general direction was toward the northwest. De Long trusted to the strength of his ship to withstand the pressure of the ice, and float across the pole out into the Atlantic ocean. At length, on May 17, 1881, land was sighted. It proved to be an island not indicated on the chart of that region. De Long therefore claimed it as a discovery, and named it Jeannette island. Another island was discovered not far away, and called Henrietta.

A sledge party under Melville was sent out from the ship to explore this island. The ice over which they

traveled consisted of large blocks that floated rapidly and were constantly changing their position. Sometimes the men were obliged to jump into the water and swim from one block to another. The dogs were almost useless; they refused to jump, and tried to run away. The men pushed them into the water, and then they had to swim for their lives. This seems cruel treatment, but Arctic exploration means severe suffering for all who engage in it, and the help of the dogs was absolutely necessary.

Henrietta island was rocky and ice-capped, not in itself a very valuable possession for the United States of America; yet the Stars and Stripes were set up there, and a square copper case, containing copies of the *New York Herald* and a record of the voyage, was placed in a cairn. Then the sledge party returned to the ship. The *Jeannette* was in dire distress, for the ice around her, now rapidly breaking up, was by turns receding and closing in. Every time it closed in, it pressed against her sides with tremendous force, so that her timbers fairly creaked.

But brave Captain De Long would not leave his ship until he was quite certain that she was going to sink, and her hold was full of water before he gave orders to abandon her. Then the crew had to work with desperate haste to transfer provisions, tents, and boats to a safe place on the ice. At four o'clock in the morning of June 13, the *Jeannette* sank to the bottom of the Arctic ocean. The ice closed over the place where the little vessel had endured such terrific grinding for twenty-one months, and only a cabin chair and a few pieces of wood remained to mark the spot.

Imagine the condition of the men left on the ice so many miles from land. But they worked with calm courage to arrange their provisions and all the articles which were

needful for camping on the sledges, and four days after the *Jeannette* had sunk, the retreat across the ice began.

This march was one of the most difficult ever undertaken. In one day the travelers could cover a distance of only a mile, or at most a mile and a half. Thirteen times they were compelled to go over the road, seven times with loads, six times without, traveling a distance of twenty-six miles in order to cover an advance of two miles. Many of the party were taken ill and had to be carried by their companions.

At the end of the week, De Long found that the ice over which they were traveling had floated northwest faster than they had traveled south; consequently the party was twenty-seven miles farther away from the Siberian coast than when they started. De Long kept this disheartening fact a secret from his men, lest they should despair.

On and on they traveled, day after day, until at last a dim line of land came into view; it proved to be a new island, with rocky shores and steep sides. It was a difficult task to cross the channel of water which separated the ice pack from this bleak coast, but Captain De Long ordered all his men to attempt the crossing. They raised the American flag and took possession of the island in the name of the President of the United States. This land De Long called Bennett island. Thousands of birds were found among the rocks, and the men had a refreshing feast after their weeks of weary work. The sides of Bennett island were bold and steep, and landslides occurred several times.

It was thought best to continue the journey by water. There were three boats, and a part of the supplies was placed in each boat. De Long commanded one, Lieutenant

Chipps another, and Engineer Melville the third. When the New Siberian islands came in sight, the voyagers knew that they were nearing the mouth of the Lena river. This large stream flows across Siberia into the Arctic ocean. Its banks are usually occupied by tribes of Indians, who remain there during the summer season to fish and hunt. It was encouraging to know that land was so near, and the weary travelers kept bravely on, working with all their strength to steer through the masses of ice. It seemed as if two new perils sprang up for every danger escaped. In a heavy gale Lieutenant Chipps's boat went down, and De Long and Melville lost sight of each other. Melville at length succeeded in guiding his boat to the mouth of the Lena river.

The country appeared to be deserted, and it seemed probable that they had escaped from drowning, only to perish from cold and starvation. But after they had traveled some distance up the river, and were just about to give up in despair, they met some natives.

Melville ordered the natives to spread the report of the two missing boats wherever they went. Two of them were sent with dog teams as a searching party to the different towns on the delta. After thirteen days they returned with tidings of the missing crews. They had met two men of Captain De Long's party, Noros and Nindemann, who had succeeded in making their way to a deserted fishing station; but they were in a pitiable condition. Although a severe storm was raging, Melville started immediately for this place with his dog team, carrying food with him.

He found Noros and Nindemann in a small hut, nearly dead from cold and hunger. After making them comfortable, and learning from them where they had left De Long, Melville pushed on. Storms delayed him in his

search, so that when he reached the part of the river where De Long's party was last seen, he abandoned all hope of finding any of them alive, for they had been without provisions two days when Nindemann left them, and that part of the country was entirely destitute of food.

Yet Melville continued his search, determined to find the missing men, alive or dead. After heroic, untiring efforts, he found the dead bodies of his shipmates. They had perished five months before.

After attending to the burial of his brave comrades, and rewarding the natives who had assisted him, Melville set out for home. He arrived in New York, September 13, 1883, just one year from the day on which the three boats were separated in the gale. Due credit has been given Engineer Melville, both at home and abroad, for his promptness and energy in conducting the search for the lost crew of the *Jeannette*.

The fate of the *Jeannette* and her crew often leads people to overlook the results secured by her voyage. The long drift of twenty-one months enabled the voyagers of this expedition to acquire considerable knowledge of the ocean. The ship traveled over a large area, sometimes moving almost in a circle. The depth of the ocean, the character of its bed and its drift were determined. Many kinds of animal life were studied, and two islands were discovered.

XIII. GREELY IN GRINNELL LAND

1881–1883

Interest in the Frozen North became so great, that a conference of nations was held in Hamburg, Germany, in 1879, to discuss plans by means of which knowledge of that part of the world might be advanced. Eleven countries were represented, and it was decided to send out expeditions and establish stations for the purpose of making scientific observations. Fifteen expeditions were sent out by different countries, and fourteen stations were established. These stations were known as the International Circumpolar stations, and their work was to be coöperative.

The United States decided to establish two stations, one at Point Barrow, Alaska, and the other in Lady Franklin bay. The command of the expedition to Point Barrow was given to Lieutenant Ray. Adolphus Washington Greely, a lieutenant in the United States Army, was offered command of the other, and when the enterprise was made national in 1881, he accepted the commission.

The arrangements necessary for the journey were soon made, and Greely and his companions sailed on the *Proteus* to Newfoundland. They left that island on July 7, 1881, and headed for the north. The *Proteus* sailed through Davis strait and Baffin bay, passing the wonderful "bird cliffs," which rise perpendicularly for

over a thousand feet out of the sea, and are broken only by narrow ledges. Neither Eskimo nor animal can reach these rocks, and here, safe from harm, the birds lay their

BIRD CLIFFS.

eggs and hatch out their young by the tens of thousands. Greely's men shot many birds and secured hundreds of eggs.

The *Proteus* passed through Smith sound and Kennedy channel, and reached Lady Franklin bay in safety. She

anchored at last in Discovery bay, on the coast of Grinnell land, where Greely and his men went ashore to select a place suitable for a camp, to be named Fort Conger. Then the *Proteus* steamed away, leaving a small company of men alone in the Arctic solitude. But they were too busy to feel lonely, and began to work hard in order to make a comfortable home for themselves. The house was built of wood covered with tarred paper, and stations for the instruments were erected near at hand.

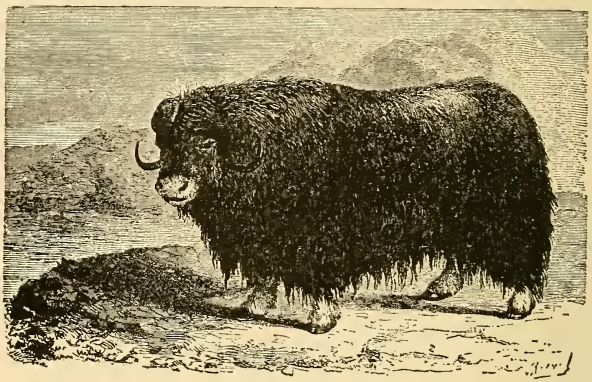
The cliffs around Discovery harbor rise from a hundred to a thousand feet in height and nearly surround the bay, which contains about twenty square miles of ice floe. Game was plentiful. Large flocks of eider ducks visited an open pool near by, and herds of musk oxen were to be seen in the distance, grazing quietly. The Arctic summer was at its height, and the slopes were covered with grasses, mosses, and buttercups.

Under the direction of Lieutenant Greely, the men took observations, explored the country, and built depots. The depots were built at convenient distances from Fort Conger, and were stored with supplies of food for the use of exploring parties. At last so much had been accomplished that Greely thought he might safely leave the camp and try to reach the interior of Grinnell land.

With three companions he started from Fort Conger, April 26, 1882, traveling over ice which was in good condition, so that the party moved rapidly. Greely found that two openings along the coast, which he had supposed to be bays, were large fiords. Here he came upon layers of remarkably clear fresh-water ice. It was deep blue in color and contrasted beautifully with the opaque white ice of the ocean floes. Without doubt a river or glacier emptied into the fiord. Magnificent moun-

tain peaks round about rose to heights of thousands of feet above the sea level, and through the valleys, which were bare of snow, there were frequent traces of the musk ox, the fox, and the hare.

A sharp turn brought the party to a large icebound lake about five hundred square miles in area, which Greely named Lake Hazen. To the north rose ranges of moun-



Musk Ox.

tains, snow-covered and majestic, known as the Garfield range; beyond these lay the United States range, also snow-covered.

The next day Lake Hazen was crossed and a beautiful glacier discovered. It was five miles wide, and rose perpendicularly one hundred and seventy-five feet out of the lake. Greely named it the Henrietta Nesmith glacier, in honor of his wife.

The top of this glacier was white, like unpolished marble. Lower down, the ice shaded into a bluish color, growing more delicate as it reached the foot, where it became white, with yellow and rose-colored tinges. There

were three deep gullies or channels in the glacier, through which a torrent had evidently rushed at some time; and, strange as it may seem, the hills and slopes next it were covered with plants, lichens, willows, and Arctic poppies. In the valleys there was enough vegetation to serve as pasture for musk oxen and other animals. The interior of Grinnell land was a pleasant country, and Greely felt sorry to leave it and return to the coast. He had discovered and explored a large tract of land never before visited by civilized men.

In June, 1882, Greely went again to the interior of Grinnell land. This time he discovered a number of small lakes, connected by streams with Lake Hazen.

He also made the ascent of a mountain forty-five hundred feet in height. When he had climbed within half a mile of the top he was so tired that he felt he must give up. To urge himself onward, he kept throwing his field glasses ahead of him, and crawling on his hands and knees to the spot where they were. At last he could advance only fifty steps at a time, but he persevered and reached the top, to which he gave the name Mount Arthur. It is in all probability the highest peak in Grinnell land, and from its summit Greely saw the entire island spread out like a map before him. North of Lake Hazen rose the snow-clad mountains, extending range beyond range. A like view met his eye as he surveyed the country to the south, while in the interior he was gazing upon fertile valleys dotted with lakes, which supported herds of musk oxen.

Greely spent only twenty minutes on the top of Mount Arthur. The temperature was far below zero, and he was in danger of freezing. When he began to descend, he decided to slide down a precipice a hundred feet in height, in order to save a long walk around the snow-

drifts. Luckily he landed in the soft snow. At the foot of the mountain Greely met his companions, and they returned all together to Fort Conger, well pleased with their journey.

The next year Lieutenant Lockwood crossed Grinnell land, and on the western coast discovered a large fiord which he named Greely fiord. Both north and south of this region were large ice caps, which constantly discharged glaciers into the lakes and fiords. At Lake Hazen, as well as at many other places on the island, abandoned Eskimo huts were found, showing that the Eskimos had at one time occupied the island; and many relics of these people were collected, among them a stone lamp, a bone spear-head, and a sledge. But at this time the island was entirely uninhabited.

XIV. FARTHEST NORTH OF THE GREELY PARTY

1882

While Greely was exploring Grinnell land, another party from Fort Conger, under Lieutenant Lockwood, had forced its way across Robeson channel to the Greenland coast. Lockwood's party proceeded northward in the face of many severe trials. The thermometer registered 81° below the freezing point; add to this rough ice and severe winds, and we may faintly imagine the suffering endured.

During a snowstorm the men were obliged to dig a hole in a snow bank and crawl into it for protection. But the opening soon filled up with drifting snow, and the air became so foul that the men were glad to creep out again. Sometimes the wind blew them over while they were at work, and once a fierce gust lifted one of the dog sledges, with its load of two hundred pounds, from the ground. Nevertheless, on April 27, 1882, the party reached Cape Bryant, where they camped and proceeded to explore the surrounding country. The men of the supporting party, as had been agreed, turned back at this point and returned to Fort Conger.

Then Lieutenant Lockwood, Sergeant Brainard, and an Eskimo named Christianson set off to the north to Cape Britannia, taking with them enough food to last twenty-

five days. The ice was in fair condition for pushing rapidly forward, and they soon reached Cape Britannia, a

AN ARCTIC SNOWSTORM.

towering cliff. The men climbed to the top and gazed around over the snow-covered mountain peaks. Then they

descended and traveled on over land never before trodden by white men. They crossed Nordenskjöld inlet and Chipps inlet, and at length reached a new island, which was named after Lieutenant Lockwood. It lies in latitude 83° 24′ north, but four hundred and fifty miles from the pole, and was at that time, 1882, the northernmost point yet attained by any nation.

For three hundred years England had held the honor of penetrating farthest north. From the time of Henry Hudson, who, in 1607, reached latitude 81° 30′, the English sailors had succeeded in going nearer to the pole than the explorers of any other nation. In 1875, an English Arctic expedition under Captain Nares, reached latitude 83° 20′ north. Now, Lockwood and Brainard had gained for America the glory of penetrating the farthest north.

From a height of twenty-six hundred feet these two men saw fields of ice extending to the north as far as the horizon. To the northeast they saw Cape Washington, which is twenty-eight miles above Cape Columbia, the most northern point of Grinnell land. Cape Washington is the northernmost known limit of Greenland, lying in latitude 83° 38′. After battling so long with the fierce gales and severe weather, the two men were so exhausted that they could with difficulty return to the camp. Shortly after their return it was decided to go back to Fort Conger. Two of the party were snow-blind and had to be led. The three brave travelers were greeted with delight by the rest of the party.

Their success in reaching the highest latitude yet attained was discussed at every meal. The time passed rapidly at Fort Conger, for the men were very busy, but presently they became anxious. The visiting ship which was expected in the summer of 1882, with supplies and

recruits, did not arrive, and Greely prepared to pass a second winter at Fort Conger. When August, 1883, came and no visiting ship had yet made its appearance, it is no wonder that the men were disheartened.

At length, weary of waiting, and certain that it meant death to remain a third winter at Fort Conger, Greely decided to retreat to the south, hoping to meet the ship. He expected, at least, to find that provisions had been placed in depots, for his relief. The little steam launch, the *Lady Greely*, towed two other small boats through the narrow channels. Small amounts of food were found in different caches or depots along the route, though not enough to bring much relief. The party was now on the verge of starvation. Only after a desperate struggle did they succeed in reaching Cape Sabine, where they erected stone huts and prepared to pass the winter as best they might. Some of the party tried to hunt, but game had disappeared and darkness was close upon them. Their condition was indeed pitiable; their clothing was in rags, they had no fuel and but forty days' rations.

But the United States had not forgotten the brave men who were risking their lives to make her name glorious. The *Neptune*, the *Proteus*, and the *Yantic* had been sent to relieve Greely during 1882 and 1883. Every one of these vessels, however, failed to reach him; moreover, they neglected to deposit supplies where he might have found them.

In the winter of 1883 and 1884, under the personal direction of Secretary Chandler, two vessels, the *Thetis* and the *Bear*, were bought and equipped for the relief of Greely. The *Thetis* was commanded by Commodore W. S. Schley, and sailed from New York on May 1, 1884. On board the *Thetis* was Chief Engineer Melville, who had

made the heroic search for De Long of the ill-fated *Jeannette*. Melville himself had urged this relief expedition for Greely, and his energy and knowledge brought success.

Congress offered a reward of $25,000 to any vessel not in the navy, which should first find the missing men, and many a whaler went north in the attempt to win the prize. These vessels, though unsuccessful in the search, did some good, for they helped to break a passage through the ice.

The men of the *Thetis*, under Commodore Schley, did not delay a moment, or wait for favorable leads. When they could not advance in any other way, they tried to blast the ice in front and so force a passage. They fought the ice as they would fight a foe, never swerving from their one object — to reach Greely in as short a time as possible. Every possible effort was made, and by June 6 the *Thetis* reached Melville bay. Little by little she forged ahead, and reached the neighborhood of Smith sound.

Here all the men who could be spared were sent ashore to search for records, and at last one of the men came upon a cairn, which he opened. In it he found a bundle of Greely's papers, photographs, and records. The most recent record was dated September, 1883, nine months before. It stated that the party had gone into camp four and a half miles west of Cape Sabine. Commodore Schley immediately ordered a party of men to take the steam cutter and find the camp. The *Thetis* then blew her whistles to call the search parties back to the ship.

The men of Greely's party in the wretched tent at Camp Clay heard the whistles and knew that a vessel must be somewhere near, yet they were too weak to go in search of it, and too hopeless to believe that any one was near enough to find them. One man did crawl out and

try to raise an oar with three rags on it, as a signal of distress, but the furious wind tore it down.

The sharp eyes of the men in the steam cutter saw this man. They ran the boat inshore and were soon questioning him about his companions. He told them that they were over the hill, and that seven of them still lived, among them Lieutenant Greely. The ice pilot jumped out of the boat and ran to the camp. He was the first of the party to speak to Lieutenant Greely, as he had been the last to see him when the *Proteus* steamed away from Discovery harbor three years before. Greely directed him to cut the back out of the tent with his pocket knife. When this was done, Greely on his hands and knees in his sleeping bag peered out. His hair and beard were long and matted, his face was covered with soot and dirt, and his eyes glittered with excitement. He heard with joy that help had arrived and that he and his companions were saved. In the midst of a terrific wind storm, the surviving men of Greely's party were transferred to the *Thetis* and made comfortable.

Then came the dreadful work of collecting the bodies of the dead and carrying them aboard the ships, after which the *Thetis* and the *Bear* set sail from Camp Clay and headed for home. The ship reached Portsmouth, New Hampshire, August 1, 1884, where Greely and his command were transferred to the navy yard, while the bodies of the dead were taken to Governor's island in New York harbor.

Thus ended one of the most successful and rapid relief voyages ever made. Had Commodore Schley been more cautious, not a man of Greely's party would have been found alive. But Schley knew that this was a time for both courage and daring, and neither he nor any of his command lacked in these qualities.

Greely and the other survivors of his expedition received a royal welcome home. The President of the United States thanked them publicly on behalf of the nation, the Queen of England sent messages of inquiry and sympathy, and the people of Portsmouth held a grand reception in their honor. The government sent several large war vessels to the harbor, and Mr. Chandler, Secretary of the Navy, and other prominent men came with them. The shores of the river were lined with people and the harbor was filled with steamers, sailboats, and smaller craft, all gayly decorated with flags and bunting. Everybody was eager to welcome the brave men who had risked their lives and suffered so much in seeking to penetrate still farther into the Frozen North.

Those members of the expedition who lost their lives in this journey were not forgotten. A public funeral was held at Governor's island, and every respect was paid to the memories of these men.

The results of Greely's work in the Arctic regions were many. The programme for international scientific work had been carried out daily. All magnetic and climatic changes had been noted. The effect of the sun's rays, the earth and ocean currents, the atmosphere, electricity, ice, and tides had been observed. A study had been made, also, of the animal and vegetable life of the locality, and of the Eskimos.

Both this Circumpolar station and the one established at Point Barrow were abandoned in 1883, but the value of the work accomplished through them was very great.

XV. LIEUTENANT SCHWATKA IN ALASKA

1883

Alaska was purchased by the United States from Russia in 1867. It was supposed to be a barren region of ice and snow, and many people thought that the price of $7,200,000 was an amount far in excess of the value of the land.

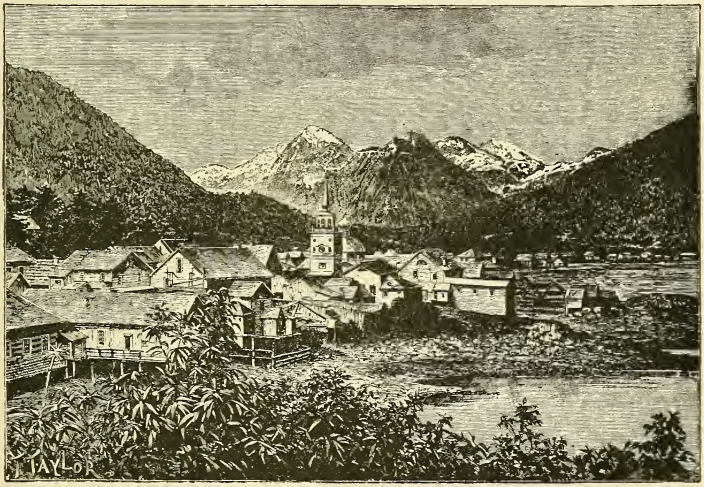
For many years no attempt was made to form a territorial government in Alaska, and the country remained in charge of the military forces of the United States. In 1883, Lieutenant Schwatka determined to conduct an exploring expedition into the interior, for the purpose of gaining such information of the country and its wild inhabitants as would be of assistance to the soldiers stationed there. This expedition did not have the support of Congress and was kept as secret as possible. Lieutenant Schwatka feared that, if attention were attracted to the expedition, Congress would forbid its departure.

All Schwatka's plans worked well. With six companions he left Portland, Oregon, at midnight, May 22, and sailed northward, taking the inland route to Alaska. The inland route consists of a channel which lies between the coast of Washington and British Columbia and southeastern Alaska and the line of islands which lie off that coast.

Sitka, then the capital of Alaska, was reached in a little more than a week, and two days later the ship dropped anchor in a pretty port called Pyramid harbor, near the mouth of the Chilkat river. The villages of the Chilkat

Indians, consisting of from fifteen to fifty houses each, are built along this river. At these villages Lieutenant Schwatka secured the services of about sixty Indians to go with him on his journey.

The party started over a good trail and soon reached Haines's mission on Chilkoot inlet. Here more Indians



SITKA, ALASKA, IN 1880.

were added to the number already employed, and the tramp began over the mountains to the head waters of the Yukon. At first the party traveled through a river-like channel between high, steep mountains, which were covered nearly to the top with pine, cedar, and spruce trees. The summits were covered with snow and ice, which melted and formed cascades and torrents, and rushed down the slopes, dashing over precipices and flinging spray in all directions.

This journey brought them to the mouth of a river called the Dayay, where they camped. Schwatka now explained his plan to his Indian guides. He told them that when he should reach the Yukon, he intended to build a raft and float down the great river to its mouth. The Indians were astonished at this bold project. They ridiculed the idea, saying that no raft could make such a journey. There were lakes to pass through, they said, and miles of raging rapids, which would twist and tear any raft to pieces. But Schwatka paid no attention to their opinions. He kept steadily on his way, and the journey continued pleasant and easy through the Dayay river.

On June 10, the course lay over the spurs of the mountains, and travel became difficult. The trail was up and down hill, over huge trunks of fallen trees, and through boggy swamps. Each man carried one hundred pounds of luggage on his back, and when he sank into a bog up to his knees, it was far from easy to get out.

The snow line reached, the ascent of the pass over the Coast range was begun. Behind one another, in single file, the men scrambled up precipices and through valleys. Sometimes they crawled along on their hands and knees, often using their teeth to grasp a dwarf bush. In many places a single misstep would have resulted in death, but they persevered and at length succeeded in crossing the mountains without accident.

Most of the Indians left Schwatka at this place and returned to their homes. Those who were to accompany him down the Yukon river to the coast camped with the white men, late in the evening, by a small lake called by Schwatka, Crater lake. It is the source of the great Yukon river.

At Lake Lindeman the raft was built, and the stores

and provisions were placed upon it. Then began the longest raft journey ever made for purposes of exploration.

Lieutenant Schwatka and his companions propelled the raft, by means of rowing and sculling, through Lake Lindeman into another lake called Bennett lake. On the mountains around Bennett lake were beautiful blue glaciers,

Crossing the Coast Range.

and among them shone peaks and ridges of a reddish color. Schwatka concluded that the red color was due to the presence of iron in the soil, and he accordingly named the range the Iron-capped mountains.

The explorers now traveled through a chain of lakes connected by streams of water. The last lake led them into the Yukon river, which flowed rapidly, so that for a while the raft made good time. On July 1, the party came in sight of the upper end of the Grand Cañon of the

Yukon, where the river, which had been about three hundred yards in width, grew narrower, until it was about thirty yards wide.

The walls of the cañon are nearly a mile in length and are perpendicular columns of rock. The center of this cañon expands into a large basin full of whirlpools and eddies. The waters, white with foam, tear through this narrow passage of rock at the rate of six or seven miles an hour, with a roaring that can be heard at a great distance.

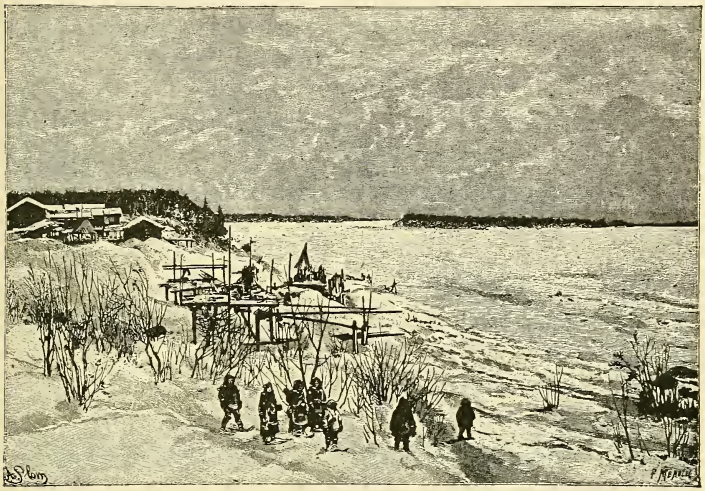
At the northern end of the cañon the rushing river widens again, but for four miles it seethes, foams, and falls in cascades. The luggage was sent round by portage, and Schwatka prepared to shoot his raft through the rapids. Once started, the men could not control or guide the raft at all, but left it to work its own way. This it did very successfully, though many times they thought it would surely be dashed in pieces.

After the rapids were passed, the men drew the sturdy raft ashore, and found that it needed but few repairs. While some of the men were engaged in mending the raft, the others fished. Schwatka found this the best fishing ground on the entire river; in a short time between four and five hundred fine grayling were caught with rod and fly.

The raft was ready for use again by July 5, and on that day Schwatka and his party started once more down the Yukon, and soon passed through the last lake they were to encounter. After this the river became wider and was dotted with islands; then the site of old Fort Selkirk came into view.

Fort Selkirk was built in 1850 by the Hudson Bay Trading Company for a trading post with the Indians. But

the Chilkats wanted the furs from the interior for themselves; so they gathered a war party together, descended the Yukon river to Fort Selkirk, burned the building, and carried off the goods. Now all that remains of Fort Selkirk is a group of three old chimneys.



TANANA STATION, RIVER YUKON, IN WINTER.

Schwatka camped at this spot several days. Near the river bank he came upon a burial ground of the Ayan Indians, who inhabit this part of the country. A fence of rough boards, bound together by willows, is built around each grave. Above the grave there stands a long, light pole about twenty feet high, with a piece of colored cloth hanging from the top. Near the grave, but outside the inclosure, stands another pole of about the same height. To the top of this second pole is fastened a rude carving of a fish, duck, goose, bear, or some other animal or bird.

These poles are called totems. They represent the most clever workmanship of these Indians, and are collected and sold as curiosities. Some of the carvings are very old and display remarkable skill. No one knows exactly what these totem poles mean, as the Indians are unwilling to talk about them, but they are supposed to indicate in some way the history of the buried person or of his tribe. The Indians do not make totem poles any more, but they carefully preserve those which they already have.

At Fort Selkirk the Yukon begins to cut through the northern spurs of the Rocky mountains. This part of the river is known as the Upper Ramparts, and the scenery along the banks for one hundred miles is wondrously beautiful. Schwatka and his party left Selkirk July 15, and traveled through this beautiful country. As they rounded one of the islands, they saw about two hundred Ayan Indians gathered on the beach opposite, waiting to receive them.

The Ayans had heard of the approach of the curious raft with its white owners, and were anxious to show them some attention. Many of the Indians ran up and down the bank, shouting, screaming, and waving their arms wildly. Others in birch-bark canoes surrounded the raft, and escorted it to shore. When the raft came near the shore, men, women, and children waded out to their waists in the ice-cold water and helped to drag it in. Schwatka feared at first that the Indians might do the party some harm, and ordered his companions to keep their guns near. But the Indians were very friendly. They began singing and dancing, while their medicine-man went through the most unheard-of performances.

The Ayan huts are made of spruce brush. Over the top is thrown a piece of dirty canvas or a moose or caribou

skin, and the huts are built so low that a man can scarcely stand erect inside. Quantities of salmon hang from the roof, partly dried, but still undergoing a smoking process from the dense clouds of smoke that arise from the fire. The dogs sleep in the house, lying around on the floor. In the winter the Ayans cover their tents thickly with skins and then bank them about with snow.

As the party followed the river from this Indian village, they found the mountains becoming higher and grander, while — by way of contrast — the mosquitoes grew more annoying. The whole region swarmed with them, and the newcomers longed for veils. They were obliged to use small bushes to brush away the mosquitoes.

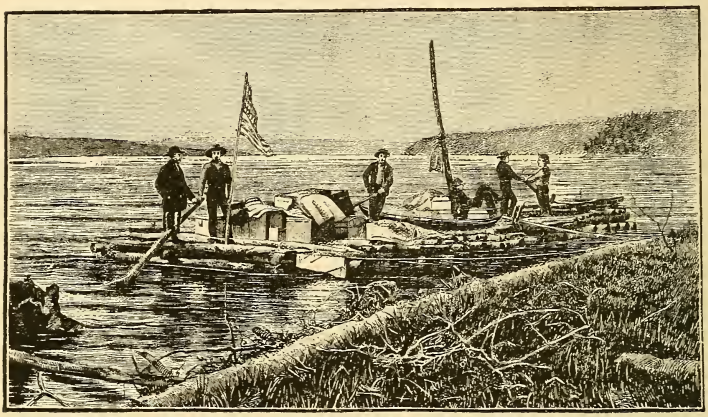
The water of the Yukon became very muddy, so that it was impossible to fish with a rod and fly. At the Yukon flat lands, reached by our travelers after three weeks of traveling through this flat region, the river widened and was filled with low, sandy islands. The fort is situated on a curve of the river which happens to be almost directly upon the Arctic circle, and is called the Great Arctic bend.

Fort Yukon is about one thousand miles from the mouth of the river, which at this point is seven miles wide. The river steamer, named the *Yukon*, was moored at the fort, and her cannon greeted the raftsmen. The settlement consists of a few old houses and the old fort built by the Hudson Bay Company. The Fort Yukon tribe of Indians live in the vicinity, but the hunting and fishing are poor, and the tribe is small and nomadic.

After the river men had traded with the Indians the steamer proceeded upstream, while Schwatka and his party started downstream again on the raft. In a little while the country began to grow hilly once more, greatly to the delight of the travelers, for the low region had been

unendurably dreary. The hilly region is known as the Lower Ramparts, and its scenery is much like that of the Upper Ramparts.

Another trading station was soon reached, where Schwatka saw the northernmost garden in the United States. This garden, within two days' journey of the polar regions, belonged to the white man who was in charge of the station at that point. In it were growing



THE RAFT ON WHICH A JOURNEY OF THIRTEEN HUNDRED AND THREE MILES WAS MADE.

turnips and other hardy vegetables, which tasted delicious to the men, who had been living so long upon canned foods.

The raft was laid away at this place, after its journey of thirteen hundred and three miles, and the party embarked on a schooner, hoping to make better time. But they were forced to work their way down the river inch by inch, for heavy winds sprang up and more than once threatened to wreck the schooner. The *Yukon* at last overtook them,

on her return to the mouth of the river, as Schwatka had expected.

The great delta of the Yukon soon came into view. It consists of many islands and channels which have never been entirely explored. From the most northern mouth of the delta to the most southern is a distance of ninety miles. After the Alphoon, the northernmost mouth, was reached, a weary time began. The vessel slowly threaded her way through shallow channels of water and between mud banks, until she crept into the harbor of the little village of St. Michael on the coast. From this place Schwatka and his party embarked for San Francisco on the *Leo*, which had stopped at St. Michael on its way from Point Barrow.

By this raft journey of Lieutenant Schwatka, the Yukon was navigated from its source to its mouth, a distance of two thousand and forty-four miles.

This river is the fifth in length in the United States, and sends forth such a volume of water that it freshens Bering sea to a distance of ten miles.

XVI. NANSEN CROSSES GREENLAND

1888

Schwatka had explored the interior of Alaska, but the interior of Greenland remained as great a mystery as ever. The only man who had attempted to cross the inland region was Nordenskjöld, who had penetrated only a few miles.

In 1888 a young Norwegian named Fridtjof Nansen determined to cross the ice cap of Greenland.

Nansen was an expert in the use of the ski. Ski are Norwegian snowshoes. They consist of long, narrow strips of wood, which are fastened to the shoes in about the same way in which we fasten skates. The ski are about eight feet in length and three or four inches in breadth. In front they are slightly pointed and curved up; often the back is pointed also. A man who is skillful in the use of ski can travel over the snow by means of them at a rate of eight or nine miles an hour. In Norway and in some other cold countries, where the snow lies deep a larger part of the year, ski are much used for traveling.

The people of Norway love the sport of ski-löbning. During the long winter the boys and the girls go to and from school on ski. At recess they take a run on their ski, and often the teacher goes with them.

Nansen learned to use the ski when a boy, and after he was grown up he took great pleasure in strapping

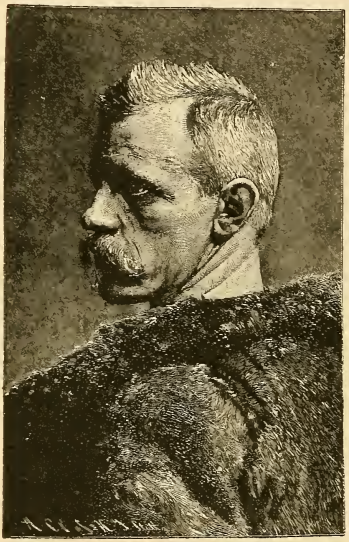
these queer shoes to his feet and trying to climb the high mountains.

One day this question came suddenly into Nansen's mind: Why might not a party of good ski-löbners cross Greenland from coast to coast? After thinking the matter over for a time, Nansen concluded that it could be done. From

A Man on Ski.

that moment he devoted all his time and energy to carrying out his idea. He decided that the best plan would be to start from the east coast and travel across to the west. The east coast was barren and uninhabited. Sometimes a few wandering Eskimo tribes found their way there, but no settlements had been made. On the western coast there were settlements.

Nansen knew that if his party landed on the east coast and traveled west, they would travel toward safety. If this route were reversed, they would leave comfort and safety behind at every step, and move continually toward unknown dangers. The men might become discouraged, give up the expedition, and return to the settlements. So Nansen coolly made his plans to land on the east coast and cross Greenland to the west coast. By this arrangement the men would perceive that they must reach the west coast or die.

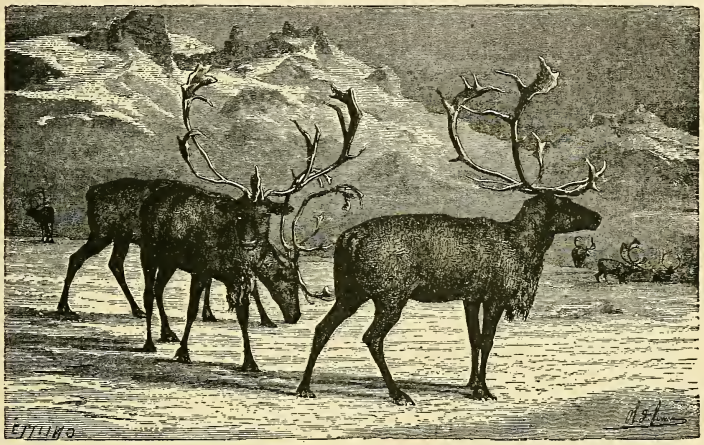


FRIDTJOF NANSEN.

The government of Norway would not assist Nansen. His plan was considered that of a madman. Many people said that he was attempting to do an impossible thing. Others said, "Of what use is this exploit, even if he does succeed?" These people did not know that a large portion of our earth was once ice-covered, as Greenland is to-day. If we would know the cause of many curious phenomena that now exist in our own land, we must study Greenland. As Greenland is now, so, probably, was a large part of the earth during the ice age, thousands of years ago.

Though Nansen met with discouragements on every side, he continued to plan for the trip. At length a wealthy Danish gentleman gave him enough money to equip an expedition. It was not easy for Nansen to find

companions for this journey, but he at length succeeded in securing the services of three Norwegians and two Lapps. The Norwegians were Otto Sverdrup, a retired ship captain, Oluf Dietrichson, a lieutenant in the army, and Kristian Kristiansen Trana, a peasant. The Lapps were named Balto and Ravna. Balto was a good-looking young man, who spoke a little English; he was a sea Lapp



A Herd of Reindeer.

and lived in a town. Ravna was a mountain Lapp, forty-five years of age. He was short, and had long, black hair hanging over his shoulders. Ravna's home was on the mountains, where he lived in a skin tent and took care of herds of reindeer.

Nansen made sure that all these five men were skillful ski-löbners, for he thought that, when they reached the inland ice of Greenland, the journey would be rapid and easy on ski.

Then Nansen arranged with the captain of a sealing

vessel to carry him and his companions to the Arctic ocean. After collecting tents, clothing, food, sleeping bags, and scientific instruments, the party proceeded to Iceland, where the captain of the sealing vessel had promised to call for them. On June 3, 1888, the sealing vessel, the *Jason*, arrived off the coast of Iceland, and Nansen and his companions were taken aboard. The *Jason* headed directly for Denmark strait, where seals abound, and in a short time the ship was among the ice floes. Every one on board was watching eagerly for seals, and at last a large number of the quiet creatures were seen lying like black dots on the floes.

On board the *Jason* there was great excitement. The men flew about, making sure that rifles were clean and in good order and that cartridge boxes were filled. Then the hunters rushed to the boats and the capture began. One hundred and eighty-seven seals were shot that day. The sealers thought this a small number, but Nansen, who had never hunted seals before, thought it a very good day's sport.

Sealing vessels, in their efforts to make large hauls, usually push steadily on through the ice, until they are in the midst of crowds of seals. The force of the ice against the ship is often so great as to throw the sailors off their feet. When the vessel is well in among the seals the engines are stopped, and the men are ordered to start out in the small boats. There are three or four oarsmen with one shooter in each boat. Away they go in different directions, each boat trying to secure the greatest number it can carry and to return first to the ship. The seals lie all around on the edges of the ice floes, and at first pay no attention to the boats. They lift their heads and see the boats coming from a long distance away; then, ignorant

of their danger, they lower their heads again and lie quiet.

As the boats draw nearer, the seals sometimes slide off into the water. The hunters are quick to see any movement on the part of the seals. As soon as one moves toward the water, the men in the boat begin to shout as loudly as they can. The seal is so astonished by the unusual noise that he lies still awhile to think it over.

Then the hunter takes aim, and if he shoots the animal through the head, it drops down on the ice again and dies. The other seals near by are not disturbed. They seem to think that their companion has gone quietly to sleep again, and that there can be no danger. Often several seals are shot in this way before the rest become alarmed.

Sometimes the shooter misses his mark and wounds the seal instead of killing him instantly. The wounded seal in his pain splashes around on the ice and in the water, and the others take fright and plunge into the sea. A great deal, therefore, depends upon the skill of the shooters, most of whom are accurate marksmen.

When several seals have been shot, the men in the boat spring to the floes where they are lying and skin them. The skinning is done rapidly with long, sharp knives, and nothing is saved except the skin and the layer of blubber lying next it. The entire body of the seal is left on the ice. The Eskimos would think this practice very wasteful, for they make use of every part of the seal, including the bones.

As sealers sometimes return from a trip to Denmark strait with five thousand skins aboard, it is not surprising that seals are becoming scarce in that locality.

Nansen was glad when the haul of seals was over and the *Jason* steamed away again toward Greenland. Several times the coast had been sighted, but the ship had never

drawn near enough to make it possible to land. Balto was not very well pleased with his first glimpse of Greenland. In his account of his voyage, he said that the coast had no beauty nor charm to the eye, but was dismal and hideous to look upon; that the mountain peaks were very high and rose like church steeples into the clouds, which hid the summits.

But Nansen thought the coast beautiful. The snow-covered peaks glittered in the sunlight and extended as far as the eye could reach, while far to the west stretched the vast white plain of inland ice.

On July 17, 1888, as the *Jason* was not more than ten or twelve miles from the coast of Greenland, Nansen made up his mind to leave the ship. All the baggage was brought on deck, farewells were said, and at seven o'clock in the evening Nansen and his five companions climbed down the ship's ladder and embarked in two boats. The *Jason's* guns saluted; the *Jason's* crew cheered. But deep down in their hearts the sailors believed that Nansen and his men were going to certain death. No thought of fear, however, disturbed the brave band. With the exception of Balto and Ravna, they were all delighted to enter upon the perilous journey.

At first everything went well. There were channels of water between the floes, wide enough for the boats to pass through. But soon the ice began to pack, and the boats had to be pulled up upon the floes and dragged across to open water. It was hard to keep the light craft from being crushed between the ice masses. Then the current became so strong that the men were obliged to draw the boats up on a floe, in order to escape from it.

The ice which had collected around them threw the smaller floes upon the larger ones, making the ice uneven

and difficult to traverse. After working all night, the men crawled into their sleeping bags, and were soon asleep.

For several days little progress was made toward land. Then a heavy swell arose and the breakers dashing over the floe where the tent had been pitched threatened to wash it away.

NANSEN'S CAMP ON THE DRIFT ICE.

Suddenly the floe split through the middle, and the travelers were obliged to remove to a larger one and camp again. The tent stood now on a piece of drifting ice, about ten miles from land, with every prospect of being carried out to sea, where small boats could not live in the heavy waves. The outlook was certainly gloomy.

One morning Nansen missed Balto and Ravna. In searching for them he lifted the canvas covering of one of the boats, and saw the two Lapps lying in the bottom of

the boat, side by side. Balto was reading to Ravna from his Lappish New Testament, for both had made up their minds that they must drown, and were preparing for death.

That day the ice tilted and rolled like a raft on the angry waves, so that it was almost impossible to cook the soup for their dinner. The poor frightened Lapps did not speak a word, but the rest of the men knew no fear, and laughed and joked as usual.

When night came, all the men, except Balto and Sverdrup, went to bed in the tent; Balto preferred to sleep in a boat, and Sverdrup was to keep watch.

Slowly and calmly, brave Otto Sverdrup paced up and down the ice. The floe rocked like a ship at sea, and the heavy waves dashed over it, threatening to wash away the entire camp. Several times Sverdrup was obliged to hold the boat in which Balto was sleeping, to keep it from being swept off the ice. Once it seemed that the tent must be washed off also, and Sverdrup stepped up to it and unfastened one of the hooks. He meant to call the men, so that they might get into the boats, and, if possible, escape with their lives. But Sverdrup paused a moment. The sea seemed to grow quieter, and a current arose which quieted the breakers and changed the course of the drifting ice, which, instead of sailing out to sea, now floated in the opposite direction.

When Nansen awoke in the morning, he was surprised to find the open sea far off, and the ice drifting calmly toward the land. All the party rejoiced that they had remained on the ice, which at one time seemed so dangerous. Their safety was due to the fearlessness and calm judgment of Sverdrup.

The work of launching the boats and dragging them over the ice continued for a week longer. One morning

Nansen was resting quietly in his tent, when Ravna, who was on watch without, pulled aside the canvas and peered in. He appeared so excited that Nansen asked him if he could see land. "Yes, yes," replied Ravna, "land too near!" — meaning, "land very near." Nansen sprang from his sleeping bag and looked out. Land was very near, and there was open water in front of them. The boats were quickly launched. After some hours of hard pulling the party found a harbor and landed.

The voyagers rejoiced to be on land once more. They walked over the stones and rocks, and picked moss and a stalk or two of grass. They had a good dinner to celebrate the landing: biscuit, cheese, and jam to eat, and hot chocolate to drink. When dinner was over, they started north again in boats along the coast, for Nansen wished to begin his journey across Greenland farther to the north than the place where he had landed.

The travelers picked their way on along the coast until a great glacier came in sight, which Nansen knew to be the famous Puisortok. Puisortok means the place where something shoots up, and the Eskimos regard the spot with fear. When they pass this dreadful place they will not speak, laugh, eat, nor smoke. They will not look toward the glacier, or even mention the name Puisortok. They believe that if they do any of these things the glacier will become angry and cause their death.

Balto was one day gazing through the telescope near this place, when he saw two small black spots in the distance which seemed to be moving rapidly toward him. As they grew more distinct, he shouted to Nansen that two men were coming. When they came nearer, the strangers proved to be two young East Greenland Eskimos traveling through the ice floes in their kayaks.

These Eskimos were short in stature and very good-looking. Their faces were broad and round, and their features regular. Their skin was chestnut-brown, and their hair long, black, and shiny. One wore a jacket and breeches of sealskin, with strings of beads in his hair, while the other

A Group of Greenland Eskimos.
After photograph by Nansen.

wore sealskin trousers and a jacket of blue cotton. On their heads they wore large flat-brimmed hats, made of blue cotton stretched across a wooden ring. On the crown was a large red cross.

The Eskimos showed great astonishment at the boats and other strange things that they saw, and when Nansen gave them some food, they seemed much pleased. By

gestures they warned Nansen about the dangerous Puisortok, and then set off northward again in their kayaks.

Nansen and his men passed Puisortok without any trouble, though they talked and laughed as usual. They looked at the dreaded glacier, and admired the beautiful color of the ice, which shaded from blue to a milky white. Yet old Puisortok showed no signs of anger. Soon the wayfarers came upon an Eskimo camp. High up among the rocks stood the skin tents, while the Eskimos themselves were gathered outside, running about in a highly excited manner, chattering and waving their arms. As the boats came nearer, the people on the land yelled and shrieked. Some ran to the shore, and some to high points on rocks, where they could get a better view of the strangers.

They welcomed the newcomers with smiles of delight, and helped them in every possible way. Nansen and his friends were invited into the Eskimo tents. They remained inside as long as possible, but the filth soon drove them out. When Nansen and his men went to bed in their own tent, the Eskimos stood around in crowds, gaping curiously to see them undress and crawl into their sleeping bags.

The Eskimos gave the white men pieces of sealskin, and in return their guests presented them with the empty tin cans in which their meat had been packed. These gifts pleased the natives very much. They contrived to make Nansen understand that two tribes, one traveling north and the other south, had met at this place, and that now they were preparing to separate and continue their journey. Nansen determined to accompany the tribe which was going north, because he thought that their knowledge of the coast might be of assistance to him.

The accomplished Eskimos were not long in preparing

for the journey. In a twinkling the tents were down and everything was packed. Before they parted, the members of the different tribes bade one another good-by, rubbing their noses together, instead of kissing. A few remained behind the others for a specially tender farewell. They drew up in a line like soldiers, and brought out snuff horns. One man would take snuff from a horn, and pass it on to the next. They spent several hours in this ceremony, each man taking snuff many times. Nansen thought they would sneeze themselves to death.

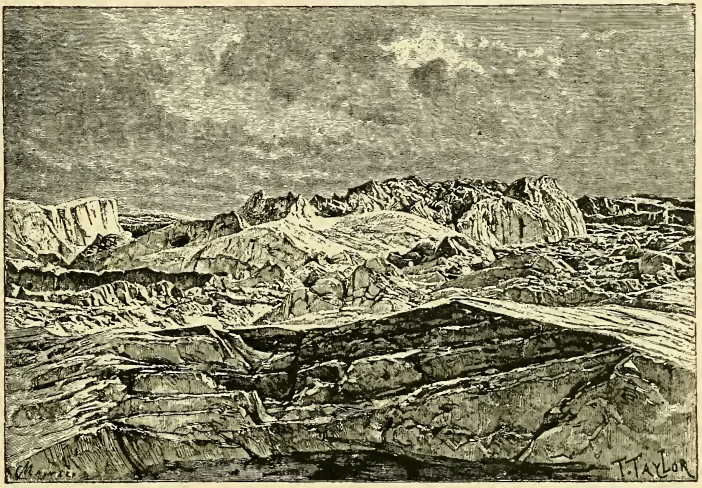
Only the Eskimos who had come from the south had their horns full of snuff. The tribe from the north was bound for the Danish colonies on the southern coast, to procure this important article. The journey takes about two years, one year to reach the Danish colonies, and one year to return. When the colonies are reached, the Eskimos spend an hour or two in trading. After they obtain the snuff, they start on their homeward journey. Their form of snuff is simply tobacco, ground to a powder between stones. In exchange for the tobacco, the Eskimos give large, fine bearskins, foxskins, and sealskins. They pay high prices for articles which cost the white men very little money.

When the farewell was over, the Eskimos parted, and Nansen tried to keep the north-bound travelers in sight, but he soon found that he must depend upon himself and break his own way through the ice. The journey grew harder and harder, and in camp the travelers were often tormented by swarms of mosquitoes. Clouds of the small insects swarmed around them and annoyed the men almost beyond endurance. Any amount of work in the ice was to be preferred to an attack by mosquitoes.

The party traveled through the water among huge ice-

bergs; they plodded wearily over ice hummocks; finally, they drew up their boats for the last time at a place where Nansen thought they could climb the steep ascent from the coast, and reach the inland ice.

The boats were left in a cleft in the rocks, carefully blocked with stones to keep them steady. Then began

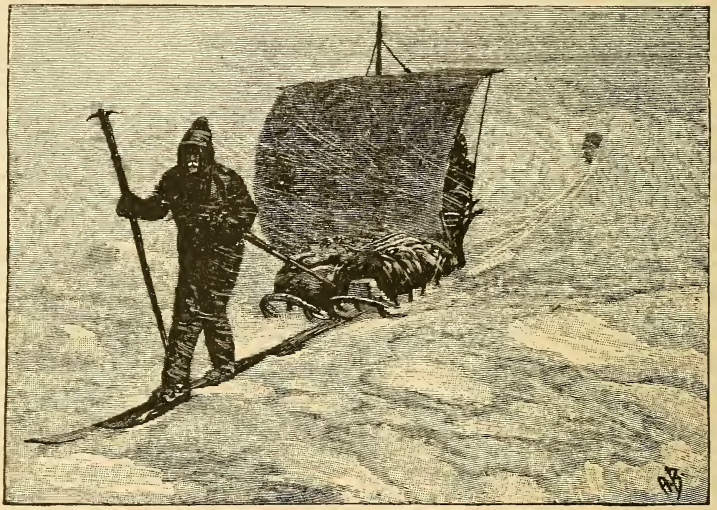


A View in the Interior of Greenland.

the climb up the mountains to the plateau. The ascent was steep, and the men had hard work to drag up the sledges. Often one of the climbers would sink into a deep crevasse and have to be rescued by his companions.

The crevasses grew deeper and more dangerous as the party advanced, and soon a rain storm set in, which delayed the travelers three days. While they were lying in the tents, the men followed the wise example of the bears and did no work. They ate very little and only once a day, but slept a great deal.

When they took up the journey again, they found the ice hard. But a heavy snowstorm began, and it was difficult to drag the sledges through the deep drifts. At last, when they reached a point six thousand feet above the level of the sea, the wind was blowing fiercely and the temperature stood at zero.



SLEDGING ACROSS GREENLAND.

Nansen decided to rig a sail for the sledges, hoping by this contrivance to make the wind serve as an aid. Old Ravna was disgusted with the plan, and Balto, too, thought it absurd to try to sail on the snow. But Nansen made the sails, and the two Lapps were soon forced to admit that their use made the load lighter to draw.

The snow was still very deep, and when, on August 30, it was in condition for the men to use the ski, they joyfully strapped them on. In a short time they had attained the

plateau, and then for days they toiled over a flat, wide expanse of snow. The highest elevation which Nansen reached during this journey was nine thousand two hundred and seventy-two feet, and the lowest temperature he experienced was 49° below zero.

The sledges were heavy, and the Lapps grumbled all the time, Ravna especially being very low-spirited. One day he said to Nansen: "I am an old Lapp, and a silly old fool, too. I don't believe we shall ever get to the coast."

Nansen answered: "That is quite true, Ravna. You are a silly old fool."

Ravna's spirits grew lighter when the party reached the highest part of the plateau and began to descend, for then they went along swiftly on their ski, or coasted down the slopes. Sometimes they encountered crevasses and had to pick their way carefully, and once Nansen fell into a deep chasm and had to scramble desperately to get out. When the bare rocks came in view, Ravna was so delighted that he insisted upon carrying a double load. He said that the mountain grasses and the reindeer moss reminded him of his own mountains at home.

At last the travelers reached the sea and encamped in a sheltered valley. Nansen and Sverdrup built a rude boat and embarked for Godthaab, the nearest town on the coast, whence they sent back natives to bring their comrades to town.

The Greenlanders took the two Lapps for women, because of their long tunics of reindeer skin. But Ravna and Balto did not resent this mistake; they were perfectly happy now and at ease. They told the natives about the wonderful things that they had seen during the journey over the inland ice.

Nansen was sadly disappointed when he heard that he could not sail for home until the spring, for the ship on which he had hoped to sail had already gone. He sent two swift kayak travelers with letters, to try to overtake the ship at another town where she was to stop.

SKATING OFF THE COAST OF GREENLAND.

Nansen and his companions spent the winter comfortably at Godthaab. They found plenty to keep them busy. Nansen learned to use the kayak skillfully; he hunted and fished, and made two trips upon the inland ice.

In the spring, when the ship arrived which was to take them home, all the party felt sorry to part with the good friends they had made in Greenland. The farewells over, Nansen was soon homeward bound. On May 30, 1888, the ship entered Christiania fiord. The harbor was filled

with steamers and sailing vessels, all crowded with people, assembled to greet the man who had succeeded in crossing the inland ice of Greenland. Flags were waved, bells rung, and cheers were given with a will, to show the honor which Norway would pay her son, Fridtjof Nansen.

When Nansen had disembarked and entered a carriage to be driven home, the people were so excited that they dashed forward, unharnessed the horses from the carriage, and seizing the pole, drew him in triumph through the city.

The scientific and geographical results of this journey of Nansen's were very great. Much valuable knowledge was gained concerning the character of the interior of Greenland.

XVII. THE VOYAGE OF THE *FRAM*

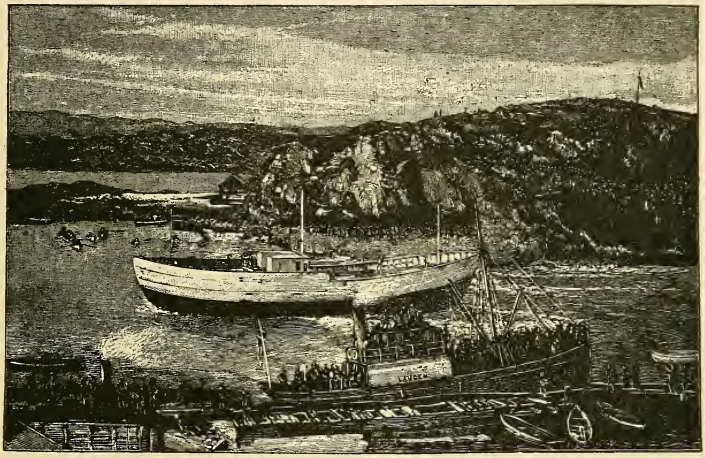
1893–1896

NANSEN had not been at home very long before he began making preparations for a second voyage to the icy North. This time he meant to find the North Pole if possible.

Nansen believed the theory that a current in the Arctic ocean passes over the pole. His plan was to work his way through the ice to the New Siberia islands, and then allow his vessel to be frozen in the ice pack. He believed that the vessel would be carried with the drift across the pole, to the east coast of Greenland. It was a daring plan, but the people of Norway now believed in Nansen and were willing to assist him. They gave him an amount equal to $75,600 of our money, so that he was able to equip his expedition.

First of all he had a vessel built which would resist ice pressures. The hull was shaped so that the pressure would raise the vessel up on the ice, instead of crushing her. This vessel was called the *Fram*, a Norwegian word which means "onward." Nansen chose his crew, all natives of Norway, and made the necessary preparations for the voyage. Enough provisions were put on board to last five years. Sverdrup, who had been so brave and helpful during the trip across Greenland, was chosen to command the *Fram*.

At last everything was ready, and the day of departure arrived. The *Fram* was lying in Christiania harbor when Nansen boarded her (1893). While they were still sailing along the coast of Norway, a severe storm arose. The sea broke over the rails of the vessel, and for a while Nansen feared that the deck cargo would be



THE LAUNCHING OF THE "FRAM."

carried overboard, and that the *Fram* would meet with disaster before she reached the ice. But the storm cleared, the sun shone again, and the men had a last glimpse of their native land.

Then a dense fog surrounded the vessel, and she headed for the dreaded Kara sea. The Kara sea was filled with ice, but the *Fram* behaved admirably. Nansen said that it was a pleasure to take her into difficult ice, because she was so strong, and that she turned and twisted as easily as a ball on a plate.

The *Fram* proceeded along the bleak Siberian coast. One

morning a herd of walruses came in sight. Nansen and two companions jumped into a boat and went after them. One of the men threw a harpoon at the nearest walrus, but did not hit him. This proceeding so startled the other walruses that they plunged into the water, but not before Nansen had shot two of them. They rose again around the

BOAT ATTACKED BY WALRUS.

boat, bellowing and roaring, and lashing the sea into a foam. It seemed likely that the powerful animals would overturn the boat or pierce it with their tusks. But no accident happened, and Nansen secured several walruses, which served as food for the crew.

By September 25, 1893, they had reached the New Siberia islands, where the *Fram* was unable to push her way farther, and was soon frozen in the pack. Now there was nothing to do but to wait. At first the time passed pleasantly enough. The men amused themselves by playing games,

caring for the dogs, taking observations, and making various kinds of tools; but soon they had to bestir themselves, for on October 5, the first severe ice pressure took place.

Nansen was in the cabin chatting with his companions, when they heard a terrific noise and felt the ship tremble from bow to stern. Every one rushed to the deck to see how the *Fram* would conduct herself. The noise steadily increased, and the ice cracked on every side. The sea tossed the floes, which were from ten to fifteen feet thick, one upon another, until immense piles of ice were heaped around. The *Fram* quivered all over and then was lifted gently up. After a few moments the uproar had ceased, and the ship sank slowly down again into her old position. Nansen was delighted, because the *Fram* had behaved during the nip just as he had hoped. Had she not risen and pushed the floes down beneath her, she would have been crushed among them.

The autumn passed away pleasantly. Polar bears were numerous, and the men enjoyed the sport of hunting them. When Christmas (1893) came, the day was celebrated by a very good dinner. The men made speeches and gave one another Christmas gifts. They did not dream that another Christmas would find them still drifting, with the knowledge that little headway had been made.

At last Nansen made up his mind to leave the ship and journey by sledge with one of his companions toward the North Pole. All the crew set to work to prepare for this dangerous trip. The dogs were exercised and trained, sledges and kayaks were built, and provisions weighed out and packed. The weather was bitterly cold, the wind blew fiercely, and ice pressures were increasing in number and severity.

On January 3, 1895, the *Fram* encountered the most severe pressure which she had to meet. The accumulated floes formed a ridge of ice which reached to the ship and was level with the rails. Masses of ice dashed over the decks, and the crashing and grinding were terrible to hear.

NANSEN AND JOHANSEN LEAVING THE "FRAM."

Nansen feared that the ship would be crushed, and orders were given to put everything in a place of safety. But the stanch vessel held her own, and came out of the pressure safely. When the danger was over, the *Fram* was found to be uninjured, but one of her sides was buried in the ice mound, which reached six feet above the rails.

About two months later, Nansen set out upon his daring trip toward the pole. He took Johansen with him, and

left the *Fram*, then in latitude 84° north, in command of Otto Sverdrup. The journey northward had to be made over difficult ice filled with hummocks, and, worse than this, a southerly drift set in, which carried the whole pack south almost as fast as they traveled north. Many of the dogs became utterly exhausted and had to be killed. It made Nansen very sad to be obliged to part with the faithful animals who had helped him so much.

At night Nansen and Johansen were so tired that they often fell asleep while eating their supper. When they crept into their sleeping bags, their clothes were sometimes frozen stiff, but the heat of their bodies in their bags thawed them out.

Notwithstanding all these hardships, Nansen and his companion succeeded in reaching 86° 14′ north latitude on April 8, 1895. This was the highest latitude so far reached by any explorer. The North Pole was but two hundred and sixty-one miles farther north. Nansen knew he could not reach the pole through such masses of floes and hummocks, and accordingly he decided to return, changing his course to the south. The travelers found many channels between the ice floes, which were difficult to cross. The dogs were now so few in number that the men had to do dogs' work, and drag the sledges. The ice became soft, so that the ski and the sledges sank deep into it. Sometimes the men sank in up to their armpits.

Nansen's report of this journey has led many people to believe that the warm and the cold ocean currents meet at the pole, and that the effect of the united currents is to make the ice rotten and dangerous for travel. Some explorers believe that it is impossible to travel the last hundred miles of the journey toward the pole by sledge or boat. They think that the ice is too soft for sledge

travel, and too compact for travel by boat. If this be true, a balloon or airship will have to be used in order to reach the pole. It is no wonder that Nansen and Johansen became discouraged.

By June 30, 1895, the two explorers were certain that they would have to pass the winter in the ice. Nansen knew that he must secure some game, for his provisions would not last through the winter; therefore he and Johansen pushed on south as fast as they could, and at last shot a seal and a bear. Only two dogs were left, and at length they too had to be shot. One dog was Nansen's favorite, and the other was Johansen's. Nansen took Johansen's dog behind a hummock, and Johansen did the same with Nansen's. Then both guns were fired together and the faithful dogs were dead. This was the hardest thing these two men had to do during the journey. When they met again, they felt so sad that neither of them could speak.

One day, while looking through the telescope, Nansen saw land in the distance. The two men hastened toward it, and for the first time in two years they felt the naked earth beneath their feet. It was summer, and seals, birds, and flowers were all about them. In front lay the open sea, and Nansen thought he might sail on, and perhaps reach home. But he was disappointed, for after sailing a short distance, he again found ice and was obliged to return.

It was now certain that Nansen and Johansen would have to pass the winter on the island, and they began their preparations for it. They built a hut of stone, and stretched walrus hides over the roof and floor. Fortunately game was plenty, so that they shot many seals and walruses. The blubber of the walrus was a favorite article of

diet, for in cold countries men long for fatty food. It was so cold that often Nansen and Johansen had to sleep in the same bag in order to keep warm. Sometimes they drew pieces of blubber out of the lamp and ate them. These favorite dainties they called biscuit. The walrus hides attracted the bears and foxes to the hut, so that often during the winter the men succeeded in securing fresh meat.

The winter was a long and weary one. Though Christmas, 1895, found them rather low-spirited, they made up their minds to observe the day. Their celebration consisted of reversing their shirts, and treating themselves to bread and chocolate. They broke up their camp in the spring (May, 1896), and started southward by water.

During this trip Nansen nearly lost his life. The men left their kayaks one day fastened to the edge of the ice, while they went to the top of a hummock to look around. Presently Johansen shouted, "The kayaks are adrift." Both men rushed for the water, and Nansen, reaching it first, jumped in and swam for the boats. The water was terribly cold and the boats had drifted a long distance, but Nansen knew that the loss of the boats meant death to him and his companion. He swam as long as he could, and then lay on his back and floated, to rest. Again he tried to swim, but his limbs became stiff and numb so that he could scarcely move them. Feebly he pushed on until he succeeded in grasping a ski which was lying across the bow, and so drawing the kayak to him. It was almost more than his chilled and weary body could accomplish to pull himself into one of the boats and paddle back. Johansen, who was anxiously watching, expected every moment to see his companion sink down unconscious. But Nansen's iron will and strength conquered. Johansen gave

Nansen a warm drink, and put him to bed in his sleeping bag.

Two days later Nansen went walrus hunting, and had another narrow escape. One of the walruses stuck his tusks through the side of the kayak and nearly upset it, but Nansen struck the walrus with the paddle until he loosed his hold and swam away.

Shortly after this adventure, Nansen was one day standing on a hummock, looking round over the vast desert of snow, ice, and rock. Suddenly he heard a sound like the bark of a dog, and then something very like the report of a gun. He shouted to Johansen, who called back that he heard nothing. Nevertheless, Nansen resolved to go in the direction of the sound, and find out what it was. Off he started over the hummocks. After traveling some distance he came upon the footprints of an animal. It might have been the track of a fox or a wolf, but it looked strangely like the track of a dog. Then Nansen distinctly heard a dog barking in the distance. Very soon he heard a human voice also. Wild with excitement and joy, he mounted a hummock and shouted at the top of his lungs.

An answering shout started him off at full speed in the direction from which it came. Amid a sea of hummocks, Nansen soon saw the figure of a man, followed by a dog. The two men walked toward each other, waving their hats. When they met they shook hands, and after they had exchanged a few words the stranger looked sharply at Nansen, and said, "Are you not Nansen?"

"Yes, I am."

"By Jove! I am glad to meet you."

The two shook hands again and again. The stranger was Jackson, the English Arctic explorer, and his ship, the

Windward, was expected every day. Jackson told Nansen that the land on which he stood was Franz Josef land.

Jackson then sent a man to bring Johansen to his camp, and soon both he and Nansen were enjoying the comforts of civilized life. After fifteen months of blubber and bear meat, it was a welcome change to eat the food of white men, to sleep in beds, to read newspapers and books, and to have a change of clothing.

It was arranged that Nansen and Johansen should sail with Jackson on the *Windward* for Norway. The ship arrived July 26, and August 7, under a favorable wind, the whole party embarked.

A pilot boarded the vessel when she reached the coast of Norway, and when he found that Nansen was a passenger, he was amazed. The pilot told Nansen that everybody thought him dead, for the *Fram* had not been heard from. Nansen assured him that the *Fram* was safe, for he felt sure that Sverdrup would bring the vessel home.

Immediately after landing, Nansen and Johansen went to a telegraph office, where they sent many dispatches, so that the wonderful news of their return was soon received over all parts of the civilized world.

Nansen had succeeded in reaching latitude 86° 14′, farther north than any other explorer had yet attained, and had returned safely. Millions of people rejoiced, and Nansen's name was upon every tongue.

At Hammerfest, Nansen met his wife and Sir George Baden-Powell, who had been on the point of sending out an expedition in search of him. But Nansen's heart was heavy in the midst of all the rejoicing, for no news had been heard from the *Fram*, and although he had perfect confidence in Otto Sverdrup, he began to fear that harm had befallen his brave comrades.

One morning he was awakened by Sir Baden-Powell knocking at his door. "Come down immediately," said Sir Baden; "a man wishes to see you." Nansen hurriedly dressed and ran below.

There stood the manager of the telegraph office. The manager handed Nansen a telegram, which he opened with trembling fingers. It read as follows:—

"*Fram* arrived in good condition. All well on board. Am going to Tromsö. Welcome home. O. S."

Nansen nearly fainted with excitement and relief from his terrible anxiety. Sir Baden shouted with joy. Johansen smiled until his face looked like a full moon. As soon as the good news of the *Fram's* return became known, the general rejoicing in Hammerfest spread to all parts of the world.

Nansen's daring expedition to the North had ended successfully, and without the loss of a single life. Although Nansen had not reached the pole, he had come within two hundred and sixty-one miles of it. This was two hundred miles nearer than any previous explorer had penetrated. The theory of the southeast current was proved to be correct, for the *Fram* had drifted into a high latitude, and then out into the Atlantic between Spitzbergen and Greenland. If the *Fram* had entered the ice pack three hundred miles farther east, Nansen believes that she would have drifted in a course parallel to the one she actually followed. This course would have carried her over the pole.

XVIII. PEARY CROSSES GREENLAND

1891–1897

While Nansen was busily exploring, Robert E. Peary, a civil engineer in the United States Navy, determined to make an attempt to cross the inland ice of Greenland. Peary was making his plans for this journey when the news came that Nansen had succeeded in crossing the ice cap from the eastern coast of Greenland to the western.

Upon hearing this, Peary changed his plans and decided to try to reach the northern point of Greenland overland. This journey would take him across the inland ice by a route much farther north than that taken by Nansen. It would also enable Peary to discover whether Greenland was a continent, as many supposed, or merely an island.

Funds for the trip were raised by private contribution through the efforts of Lieutenant Peary's friends, and on June 6, 1891, the expedition sailed from Brooklyn on the steamer *Kite*. Peary had already made one trip to Greenland, and his friends waved their farewells cheerfully, feeling certain that he would succeed in his undertaking.

After a pleasant voyage, the *Kite* reached Upernavik, where she anchored. Peary hoped to secure the services of an interpreter at this place, but he was unable to do so. Soon the party set sail again, leaving behind them the northernmost town on the globe. The *Kite* steamed along for some time without meeting much ice, but when

she entered Melville bay the pack closed round her, and the 4th of July found the little vessel snugly frozen in.

Here she remained for a week, during which the average temperature was about 31° F. On July 11, the ice separated and the ship began to move. The engines were started in a hurry. After forcing a passage through a mass of thick ice, the ship was freed and proceeded on her journey.

While the process of ramming the ice was going on, Mr. Peary met with an accident. A large cake of ice struck the rudder, tearing the wheel from the hands of the two men on duty. Peary's leg was caught between the iron tiller and the house, and both bones snapped above the ankle. The ship's surgeon set the broken leg, and Peary recovered rapidly. He was, however, unable to use his leg for many weeks.

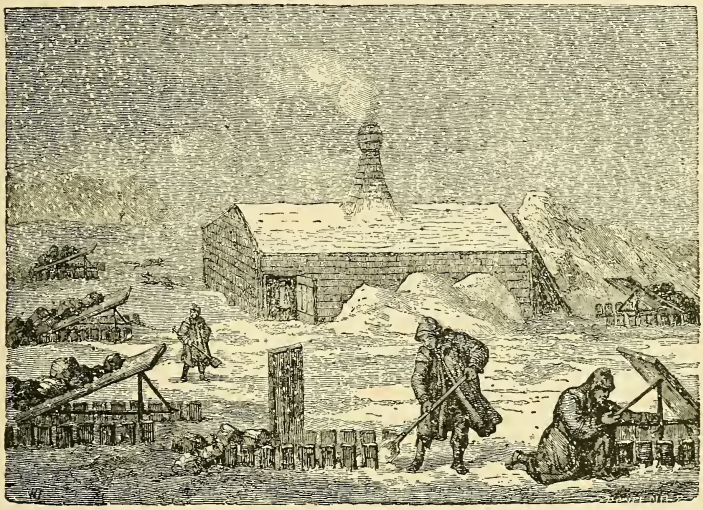
Soon the *Kite* ran into McCormick bay, where a site for a house was selected. It was now about the middle of July, and the short summer was at its height. The sun was bright and warm, and the temperature about like that of an April day in the temperate zone.

The ice still filled the bay, but narrow streams of water trickled through in all directions, cutting the ice into great pieces which rose and fell with the tide. Little brooks ran down the mountains and through the valleys by the side of great glaciers, while the snowbirds chirped and twittered, enjoying the brief summer time.

The country around was bright with flowers. Tracks of reindeer, foxes, and hares were repeatedly noticed, and seals and walruses abounded, so that the party had no fear of suffering for want of fresh meat.

The wood for the house was taken off the ship. In order to insure warmth, the walls were made double, with

an air space of ten inches between the outer and inner wall. The house was then covered with tarred paper, and the inner walls lined with thick, red, Indian blankets. In addition, a wind-break of stones, turf, empty barrels, and boxes was built around the house. The dwelling was roofed with canvas, and in the winter was to be banked



SETTING FOX TRAPS.

with snow. When the little building was completed, they christened it Red Cliff House, because of the cliffs of sandstone which rose behind it.

When the stores were safely stowed away within the outer wall, the *Kite* steamed away home, leaving Peary, with his wife and his assistants, to spend the winter within seven hundred and forty miles of the North Pole.

Peary and his party were very comfortable and contented. They enjoyed the crisp air and the bright sun-

shine, and they liked to watch the beautiful blue-green colors in the ice of the glaciers.

The men hunted, and secured numbers of reindeer skins and furs of all sorts. They fished, and explored the surrounding islands. While on these trips they sometimes met Eskimos, who often accompanied them to Red Cliff House. Some of the Eskimos came with their dog teams, and Peary was always glad to buy the dogs from them. By November 7 there were seventeen men, women, and children at the camp, and Peary built a large snow hut for them to live in.

Soon the long night began and all hunting came to an end. Then the members of the party busied themselves preparing for the great journey over the inland ice which Peary intended to make in the spring. The reindeer skins were stretched and dried and prepared for clothing by the Eskimo women. In order to soften the skin so that it could be used for clothing, the women folded it once with the hair inside. Then they chewed it all along the edge until the fold was made pliable. Another fold was then made, and treated in the same manner. This process was continued until the entire skin had been carefully chewed. It was then scraped, and if necessary, the work was repeated. It took two of Peary's best workers about a day to prepare a large buckskin. The teeth of the Eskimo women are often worn down nearly to the gums by doing this work.

Peary himself cut the patterns of the clothes and sleeping bags, and the Eskimo women did the sewing. Peary's men busied themselves in trying to make sledges lighter and stronger than anything they had yet found. They fashioned ivory and horn braces for the sledges. Some of the Eskimo men helped to make ivory rings for the dogs'

harness. The Eskimo women chewed and sewed, and everybody was busy and happy.

A large number of Eskimos visited Peary during the winter, some coming from a distance of two hundred miles. When the white men could not pronounce the queer names of the Eskimos, they gave them nicknames. A certain trio were known as the Priest, the Smiler, and the Villain. The Villain was an entirely harmless Eskimo, whose chief failing was his huge appetite.

On Christmas Day, Peary invited his Eskimo friends to dinner. After his own party had partaken of a remarkably good Christmas feast, a fine venison stew was prepared for the Eskimos. Dr. Cook, the ship's surgeon, saw that the guests were clean, to outward appearance at least, and a jolly, happy party they were, sitting down at a civilized dinner table for the first time in their lives.

The Eskimo men wore sealskin coats and bearskin trousers, while the ladies appeared in foxskin jackets and trousers. The Villain sat at the head of the table and served the repast. The Daisy poured tea in Mrs. Peary's place, and conducted herself very gracefully.

Myah, who was called the white man, insisted upon holding both his knife and spoon in his right hand, and then using his fingers to carry the food to his mouth. He was rude enough to stand up and try to harpoon some choice pieces of meat from the stew with his fork. The Villain reproved him so gravely that he stopped harpooning and turned his attention to his own plate. It is barely possible that the Villain was not shocked at the manners of Myah, the white man, but that he wanted the choice piece of meat himself.

After the stew they had coffee, candy, and raisins, and then the Eskimos and the white men played games together.

Gradually the long night passed away, and at length it was almost time for the sun to appear. Peary had ordered an igloo to be built on the ice cap at an elevation of about two thousand and fifty feet, so that he might use it when he went up to see the sun rise.

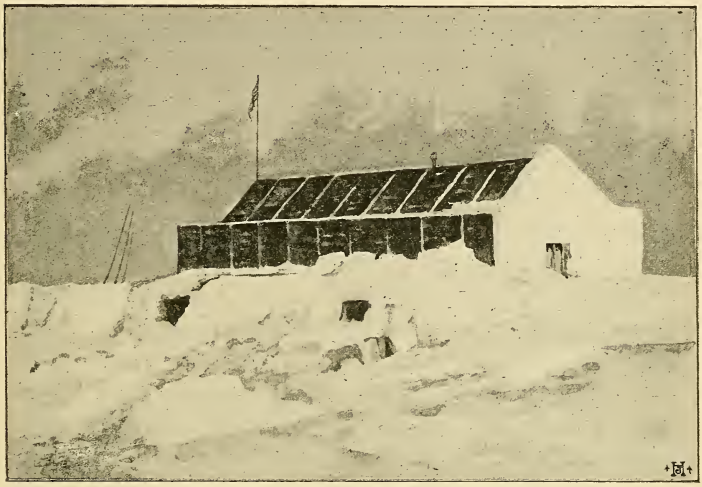
When this igloo was completed, Peary, Dr. Cook, and Astrup started out one morning, with provisions and sleeping bags, in the hope of catching a first glimpse of the sun. When they reached the igloo they were very tired. After supper they took off their fur clothes, crawled into their sleeping bags, and went to sleep. When Peary awoke, the fine snow was drifting in his face, and the wind was blowing a terrific gale. The entrance was blocked with snow, and the three men were buried beneath the drifts.

Peary rolled himself out with great difficulty, and succeeded in finding a shovel. Then he and Dr. Cook pulled Astrup out, and the three men found themselves on top of the drift under which the snow house was buried. They were without shelter, two thousand feet above sea level, while the storm was raging so fiercely that they had to shout to one another in order to be heard.

After a while the snow turned to rain, which froze and covered everything with ice. Their heavy outside clothes were buried in the snow house, and they were clad only in their under garments. If it had not been for the sleeping bags, they would have frozen to death, and even as it was, their condition was serious. But at length the storm ceased and the half-frozen men succeeded in digging out their garments. They were obliged to dress in the open air, with the wind blowing and the thermometer standing at 3° above zero.

As soon as they were dressed they started for home, and reached Red Cliff House in safety, warm with exercise. Here, they were informed, the storm had likewise been

terrific. The rain had fallen in torrents, washing away the snow covering of the house and soaking through the canvas roof. But Red Cliff House was stanchly built and stood firm.



RED CLIFF HOUSE AFTER THE STORM.

The long Arctic night had passed away with the storm, and the western sky was aflame with gorgeous colors; brilliant yellow shaded into pale rose and green. Misty lights of purple and green floated over the ice, and the storm was forgotten in the beauty of the new day.

Now that the sun had made its appearance, Peary decided to start on his white march over the ice cap. On the last day of April three of the party, accompanied by five Eskimos, left Red Cliff House with two sledges and twelve dogs. Three days later Peary followed with one man and a sledge drawn by eight dogs. In a few hours he overtook his friends and proceeded with them as far as

Humboldt glacier, where he asked for volunteers for the long trip. All of the men were eager to accompany him, but Astrup was chosen for his companion, and the rest of the party returned to Red Cliff House.

Peary and Astrup now began their journey to the northern end of Greenland. They slept during the day and traveled by night, when the glare of the sun was less trying to their eyes. Peary himself went first, leading the way. He was followed by three of his best dogs, harnessed to a light sledge which carried two hundred pounds. These dogs had become so fond of Peary that they tried always to keep as near him as possible. They needed no driving or urging, but followed him into the most dangerous places. In the rear came Astrup, with ten dogs attached to the big sledge which carried the bulk of the luggage.

Peary had thought himself on top of the ice cap at Humboldt glacier, but he found that he must climb still higher. As he ascended the weather became colder, and soon snow began to fall. Worse than all, the large sledge broke down, but Peary and Astrup mended it and kept on bravely. At last the weather grew so cold that the snow froze hard, and the two men were able to travel twenty miles a day.

For weeks Peary and Astrup marched over the great ice, through snowstorms and furious wind. Whenever fine weather came and the ice became firm and smooth, they dashed along, forgetting the hardships they had endured. At length Peary saw land in the distance. Dark brown and red cliffs, precipices, valleys and mountains, rivers and lakes, lay stretched out before them. The dogs saw land also, and were as delighted as the men.

This land looked near, but it was not easy to reach. Men and dogs slipped and scrambled down the ice crest,

through slush and water, over sharp rocks, across streams, and through valleys. The sun was very hot, and all the travelers felt the change from the clear cold air of the inland ice to the heat of the coast region.

The dogs especially suffered from the heat, and this discomfort, together with their need of fresh meat, made some of them ill. Pau, the leader of the team, seemed very weak, and Peary feared that he would die. Pau was a very brave dog, who had killed many polar bears. He must have had some knowledge of magic; at any rate, he was an expert in slipping his harness. Whenever he wished to, he could slip out and away on a trip of his own in search of food. When the other dogs saw Pau free, they tried to break their harness and follow him, often with success.

One day Peary saw two black objects on the opposite side of a valley. At first he thought they were large rocks, but soon he became certain that they were musk-oxen. Peary patted poor Pau's head, as if to tell him that he was going to try to get food for him. Pau seemed to understand, for his eyes brightened and he wagged his tail.

Peary took his gun and started off in pursuit of the musk-oxen. At last he came very near them, but so much depended upon his success that he was seized with trembling. It required a tremendous effort to point the gun and pull the trigger. The enormous ox looked up curiously, and walked toward the man, as if to see what the trouble was. Peary then took aim, fired, and killed him. The other musk-ox tried to run away, but Peary shot him also.

Astrup and the dogs were frantic with delight. Peary patted each dog on the head when he returned, as if to assure him of the feast he was to have. Soon the great, shaggy musk-oxen were skinned and prepared for food, and a huge hind quarter was carried to the dogs.

The half-starved animals had a royal banquet, and for a while nothing could be heard but the crunching of bones, and now and then a deep growl. Pau brightened up and took his place again as leader, seizing the largest piece of meat without any interference from the other dogs.

Lion was the beautiful leader of the Cape York team. His thick fur was snowy white, and his mane long and shaggy. Lion knew as much about ice travel as Peary himself, and he never got tangled in his traces or tried to eat his harness. Upon this occasion, however, Lion actually slipped harness. When Peary called him to have it replaced, Lion obeyed instantly, crouching obediently at his master's feet.

While Peary was caring for the dogs, Astrup had fashioned a fur couch from the hides of the musk-oxen, and had broiled some delicious musk-ox steaks. That night men and dogs fell asleep happy and comfortable.

After climbing over another slope, the company halted on the edge of a high cliff, the northeastern point of Greenland. Beyond the mainland they could descry islands in the distance. An icebound channel marked the northern boundary of Greenland. The large bay spreading out before them Peary named Independence bay, in honor of the day of discovery, July 4, 1892. The cliff was called Navy cliff. A cairn was erected upon Navy cliff, and the stars and stripes was unfurled.

Peary felt well repaid for his weary march. He had succeeded in reaching latitude 81° 37′ 5″ north; he had crossed the great ice cap, and had proved that Greenland is an island; he had looked out upon the Arctic ocean from a point of land never before reached by civilized men; and he had gained a clear idea of the northern coast of Greenland.

On the return trip Peary reduced the weight of the packs by throwing away those articles which he did not expect to need again. On the evening of July 7 the two men began the climb up the slope to the inland ice. At one time they were eight thousand feet above the level of the sea. While they were upon a lofty elevation, a severe storm kept them prisoners in a snowdrift for sixty hours. Peary and Astrup slept most of the time. When the wind died away and they crept out of the drift, dogs and sledges had disappeared. These were soon dug out from the snow, and the journey was resumed.

About this time Peary discovered, to his alarm, that a quantity of his canned provisions had spoiled, and there was danger that he might run short of food. The dogs, too, seemed fagged and low-spirited. They pulled away in a lifeless manner, with drooping tails and as if they were utterly discouraged by this endless journey. So many of them died that only five lived to reach home. When these five dogs at last scented land, they were filled with new life, and dashed merrily along down the slope toward McCormick bay.

One day a number of black spots appeared on the white surface of the snow. These spots proved to be people from the *Kite*, which had arrived in the bay and was now waiting to carry Peary and his party back to the United States. Peary met the new arrivals joyfully, and soon all were assembled at Red Cliff House. Great was the rejoicing when Peary told of the success of his journey over the inland ice.

The results of this great sledge journey of twelve hundred miles across Greenland were very important. Greenland was proved beyond dispute to be an island. Smaller islands free from ice had been discovered north of Green-

land. A large part of the inland ice had been traversed and its character studied. The shores of Inglefield gulf and Whale and Murchison sounds had been charted. Many glaciers were discovered, and careful observations made of the climate and tides. Considerable information had been gained concerning a tribe of Eskimos called the Arctic Highlanders, heretofore almost unknown.

In a few weeks preparations began for the return voyage. During the latter part of the summer, Mr. and Mrs. Peary and their companions bade farewell to Red Cliff House, and sailed for home on the *Kite*. Together with the members of the Red Cliff household who embarked on the *Kite* were the five faithful dogs that had helped to carry Peary to Independence bay and back again. Among them were Pau and Lion.

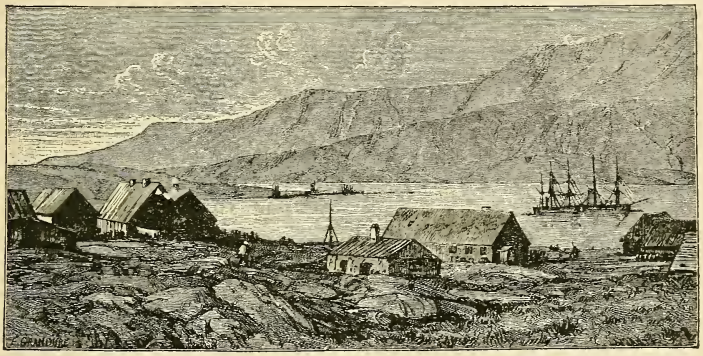
The *Kite* stopped at Godthaab on her way southward, and again at St. John's, Newfoundland. From St. John's the vessel was detained by head winds, but at last the Delaware breakwater was reached. A short distance below Philadelphia the *Kite* was met by a tugboat, carrying a party of Mr. Peary's friends. They were soon on board the *Kite*, listening to the wonderful story of the discoveries and adventures of the Arctic travelers.

In 1893 Peary made another trip to North Greenland, and this time remained two years and one month. He made a second sledge journey of twelve hundred miles to Independence bay, and surveyed a large area of the country around Whale sound. During this trip, he also discovered the great Cape York meteorites.

Meteorites are stones, largely composed of iron, which fall to the earth from the heavens. They are supposed to follow in the train of meteors, or shooting stars. These pieces of meteoric iron differ from any kind of rock found

upon the earth. They are covered with a thin, brownish black crust, and look very different from the iron which we obtain from mines. All meteorites are carefully preserved, placed in museums, and studied.

Many Eskimos had already told Peary of the wonderful iron mountain near Cape York, but up to this time he had been too busy to search for it. Now he found an Eskimo



GODTHAAB.

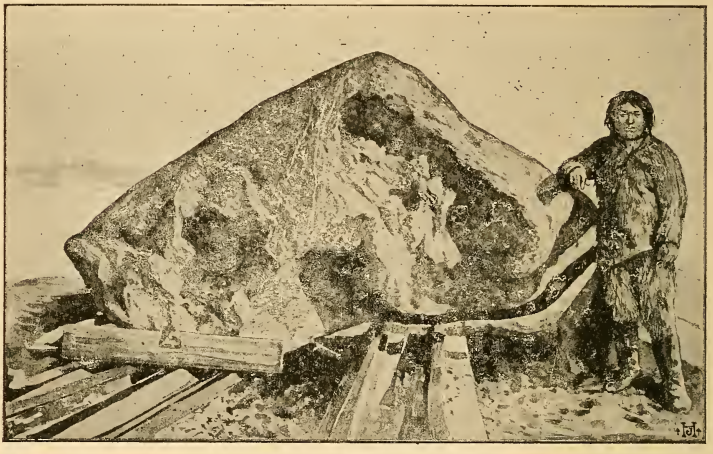
who promised to conduct him to the spot. This Eskimo said that he would find three great pieces of iron, the smallest about the size of a dog. One was near the water, and the other two were upon the side of the mountain.

With fresh dogs Peary and the Eskimo were soon galloping over hard ice toward Cape York. After a long journey the Eskimo conducted Peary to the great brown mass.

He told Peary that his people believed that the iron mass had been an Eskimo woman, who with her dog and her tent was hurled from the sky by the Evil Spirit. One of the great piles used to look like the figure of a woman in a sitting position, but the natives had chipped off many

pieces of it and carried them away. They used these pieces of iron for making knives and for harpoon points.

One tribe attempted to carry off the entire head. They lashed it to a sledge and started for home, when suddenly the sea rose with a loud noise, and the head disappeared into the water, carrying the sledge and dogs with it. The



THE "TENT" METEORITE.

Eskimos barely escaped with their lives, and since that time not the smallest fragment of the heavenly woman had been disturbed.

Near the great mass of iron, called "the woman," was another, called "the dog." About six miles south of these was the third and largest, called "the tent."

The coast where these meteorites were found is the bleakest and most desolate region of the Arctic land. Biting winds blow almost continuously, and iceberg after iceberg drifts slowly past on its journey southward. It is almost impossible for a vessel to reach this coast.

Notwithstanding the difficulty and danger of the work, Peary succeeded in bringing all of these meteorites to New York. Those known as "the woman" and "the dog" reached New York in 1895, and on October 2, 1897, the *Hope* deposited the one known as "the tent" at the Brooklyn navy yard. This weighs ninety tons and is the largest known meteorite in the world.

Peary's two trips across Greenland are classed among the most brilliant geographical feats of recent years. His efforts extended the exploration of the east coast of Greenland two degrees.

In 1899 Peary again visited the Arctic regions. He reached Fort Conger in March, 1900, and the next month, with his colored servant, Matthew Henson, and five Eskimos, started to explore the northern coast of Greenland. He reached Cape Washington, where he erected a cairn, and then pushing on, he rounded the northern limit of the Greenland archipelago at latitude 83° 39′ north, from which point the coast extended southward.

At this place, the most northerly known land in the world, Peary built a cairn and inclosed records of his trip. He then changed the direction of his course and turned northward, traveling over sea ice toward the pole. He proceeded in this direction until he reached latitude 83° 50′ north, where he found it impossible to continue the journey farther. He therefore returned to the Greenland coast, and made explorations which enabled him to complete a chart of the northern coast of that island. Upon the completion of this work he returned to Fort Conger, arriving there June 10, 1900, without accident or illness. During this trip, the temperature ranged from 20° above to 35° below zero.

The winter of 1900 and 1901 was spent at Fort Conger,

where game was plentiful. The men passed most of their time hunting, and succeeded in slaying nearly two hundred musk-oxen.

In the spring of 1901 Peary made a second attempt to reach the pole, this time from the northern point of Grinnell land, using Fort Conger as a base. But he was again obliged to turn back. Still undismayed, Peary planned to make another dash for the pole during the spring of 1902. This expedition was also unsuccessful, and Peary returned to the United States in the fall of 1902, without having discovered the North Pole. But he accomplished valuable geographical work, and has added greatly to our knowledge of Greenland and Grinnell land.

Among the important results of Peary's work are: —

First: The rounding of the northern limit of the Greenland archipelago, the most northerly known land in the world.

Second: The attainment of the highest latitude in the Western Hemisphere, 83° 50′ north.

Third: The discovery of the character of the inland ice.

XIX. ANDRÉE'S BALLOON EXPEDITION TO THE POLE

1897

One of the most hazardous attempts to reach the pole was that made by S. A. Andrée in his balloon. Andrée was born in Sweden in 1854, and was carefully educated. He became a mechanical engineer, and held an important position under the Swedish government.

In 1876 he visited America to attend the Centennial Exposition in Philadelphia. While crossing the ocean he noted the regularity of the trade winds, which led him to believe that balloon voyages might be made across the Atlantic. Some years later Andrée passed a winter in Spitzbergen, directing experiments and observations in atmospheric electricity. This scientific work strengthened his belief that a balloon might be navigated through the air in much the same manner as a ship through water.

From this time Andrée studied the construction of balloons with great care, and in 1895 he astonished the world by making known his plan to reach the North Pole by means of an air route. He needed the sum of $36,000 in order to carry out his project. This amount was generously provided by King Oscar and two citizens of Sweden.

Then Andrée set about the work of having a balloon constructed which would suit his purpose. He went to Paris, and secured the services of the most noted balloon maker in the world. This man built a balloon for Andrée

which was ninety-seven feet high by sixty-seven feet in diameter. It was made of three thicknesses of silk, and varnished over twice, inside and out. It was handled by means of valves. The whole balloon was covered with a network of hemp, ending in forty-eight suspension ropes, to which the wooden bearing ring was attached.

The car, shaped like a cylinder and made of wicker, was covered with tarpaulin, and was intended for rest and sleep. The place for work and observation was a swinging gallery, which also served for the roof of the car. In this gallery the scientific instruments were kept. Andrée took with him thermometers, barometers, cameras, and every sort of needful apparatus. The car contained a sleeping bag, and stores of books, maps, toilet articles, arms, and ammunition. The balloon was built to carry three passengers. While one slept, the other two expected to remain on the roof, taking observations and guiding the balloon.

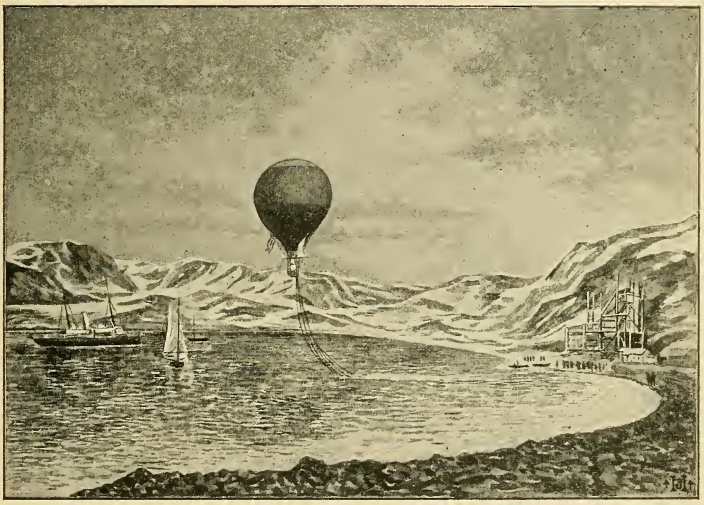
The bearing ring was the main storeroom. Crosspieces of wood formed a floor, upon which many necessary articles were packed. Boats, sledges, sails, ropes, and provisions of all kinds were stored away in forty-eight large sacks, which were hung to the bearing ring. Andrée had provisions enough to last for nine months, and everything was packed so as to occupy as little space as possible.

Three sails and three guide ropes were arranged to aid in steering the balloon. The long guide ropes trailed behind the balloon, serving the purpose of a rudder. The sails caught the wind, increased the speed, and permitted change of direction.

In 1896, the balloon and all the supplies were taken to Dane's island, near Spitzbergen, but as the desired south wind did not blow, Andrée returned to Sweden. In May, 1897, Andrée and his companions again went to Dane's

island. A balloon house was built, engines were set up for producing hydrogen gas, and in due time the balloon was inflated. By July 1 everything was ready.

Andrée and his two companions now waited anxiously for a south wind, which they believed would blow them to the North Pole. They waited ten days, until, on the morning of July 11, 1897, a strong, steady wind from the south was blowing.



ANDREÉ BEGINS HIS JOURNEY.

Great was the excitement on Dane's island when the men began to tear down the house where the balloon was imprisoned, and attach the car. At 2.30 P.M., July 11, 1897, Andrée and his two companions, Nils Strindberg and Knut Fraenkel, jumped into the car, and gave orders to cut the last ropes.

Slowly the immense, airy structure rose to a height of a few hundred feet, and sailed in a northerly direction out

over Dane's gate. Then it dropped suddenly, as if it had received a current of air from above, and almost touched the sea. Andrée threw out some sand bags, when the balloon rose again to a height of about three thousand feet, and sailed away in the same northerly direction. About an hour after the start, it was lost to sight in the clouds.

Some days later a carrier pigeon was shot in the rigging of an Arctic schooner off Spitzbergen. The pigeon had a message from Andrée tied under its wing. The message was dated July 13, and stated that the balloon sailed one hundred and forty-five geographical miles to the northward, and then headed east. It had traveled forty-five miles eastward when the pigeon was sent out.

From that day to this, no other message has been received from Andrée. Andrée believed that his balloon would float for six weeks, but the men who watched the start, said that it lost much gas and much ballast before it passed out of sight. They thought that it might have floated about fifteen days. Two thirds of the guide ropes, upon which Andrée depended for steering, were also lost at starting. At first the balloon traveled about twenty-five or thirty miles an hour. At this rate of speed, sailing northward, Andrée should have reached the pole in less than two days. But every ray of sunshine, every puff of colder or warmer wind, cause a balloon to rise or fall, and the methods of guiding and handling the delicate appliance are not yet thoroughly understood.

No one knows what happened to the balloon after it rose out of sight of the men on Dane's island. For several years Andrée's friends refused to believe that he had perished. They thought that he might be wandering about in the Frozen North in the care of some of the

Eskimo tribes. Many stories have reached us from time to time bearing upon the fate of Andrée, but upon investigation they have all proved to be false. The only authentic trace which has been found is a buoy picked up northeast of Spitzbergen in 1899. This buoy was taken to Sweden, and proved to be the one which Andrée had taken with him for the purpose of dropping it, with a letter, in case he crossed the pole. No letter was found, but an anchor was attached to the buoy. This led to the supposition that the buoy and anchor were thrown out to lighten the balloon and keep it afloat a while longer, or else that the balloon had been lost in the sea and the buoy and anchor had drifted away.

It is now generally believed that Andrée and his two companions lost their lives through the descent of the balloon into the ocean.

XX. EXPEDITIONS OF 1902

During the spring of 1902, several expeditions were at work in the Northern regions, each hoping to be the first to reach the pole.

One of the most important was the Ziegler-Baldwin expedition, equipped by Mr. William Ziegler of New York, and commanded by Mr. Evelyn Briggs Baldwin. This was the largest and probably the best equipped expedition sent out. Baldwin had two ships, four hundred Eskimo dogs, and fifteen Siberian ponies. His flagship, the *America*, was a stoutly built whaler and carried a cargo of six hundred tons. His other ship, the *Fridtjof*, carried the scientific instruments.

Through the generosity of Mr. Ziegler, practically perfect scientific apparatus accompanied the expedition, and Mr. Baldwin was assisted by experts in geographical charting, geology, botany, and meteorology. Both the *America* and the *Fridtjof* reached Franz Josef land, but very little significant work was accomplished. Instead of wintering in the North as had been planned, Mr. Baldwin returned to Norway. Mr. Ziegler, however, has not faltered in his determination to find the pole, and he has sent out another expedition for that purpose which is now in the North.

A Russian expedition excited widespread interest. Admiral Marakoff constructed an ice-breaking steamship, and

with it expected to force his way through the ice to the pole. The steamer is called the *Ermack*, and is a very powerful ship, able to stand fifteen times the strain which may safely be brought to bear upon the average steel ship. In breaking the ice, the *Ermack* rises upon it and crushes it down. The forward propeller sucks away the water underneath the ice, and thus reduces the resistance.

Admiral Marakoff believed that the ice near the pole was thin, and that his ship would be able to steam directly to that long-sought-for goal. But in battling against the wide and heavy ice floes of the Arctic ocean, the *Ermack* proved a failure. It is said, however, that she made five successful trips between Nova Zembla and Franz Josef land.

Another expedition, the progress of which was watched with interest, was that of the Duke of Abruzzi, who is cousin to the king of Italy. He started for the North Pole in the *Stella Polare*, in 1899. In the spring of 1900, he succeeded in arriving within 239.15 statute miles of the pole. This record surpassed Nansen's by twenty-three miles, and is, therefore, the best yet made.

It is said that Abruzzi and Nansen will join in command of an expedition which will start from Franz Josef land. Both men have done valuable work in the icy North, and important results are expected from their united efforts.

Captain Bernier, a French Canadian, planned to enter the Arctic by way of Bering strait. He expected then to travel over the route taken by the *Jeannette*. Bernier hoped to be carried near the pole by the ice drift. When he had reached a suitable place, he intended to leave his ship and proceed to the pole by means of dog sledges, reindeer sledges, and boats. The newly invented system

of wireless telegraphy was to be used by Captain Bernier, as a means of communication with his ship.

Captain Otto Sverdrup, in command of the *Fram*, was already in the North in 1902. Sverdrup won his spurs, you will remember, while on the famous Nansen expedition. He was sent out by the Norwegian government to explore the northern coast of Greenland, and to connect Peary's work on the east coast with that of a German expedition on the west coast.

Robert Stein's expedition had not the proper equipment to seek the pole, but was designed for the exploration of Ellesmere land. Stein returned without accomplishing much valuable work.

A novel plan has been announced by Dr. Anschutz Kampfe. Dr. Kampfe proposes to build a submarine boat, and proceed to the pole beneath the ice.

For more than three hundred years, men have struggled to reach the North Pole. They have braved bitter winds and faced starvation and death, in order to wrest the secrets of nature from the great white North.

Since Sir John Franklin's first trip to the Arctic regions, interest in the Frozen North has never flagged. Very grave doubts as to the wisdom of spending so large sums of money and of risking so many human lives have arisen in the minds of those who have followed the story of suffering and death. It is natural in this century, when men are counting the cost of every project, to ask wherein lies the advantage of exploring the polar country, since the work is in every case so difficult, so dangerous, and in many cases fatal. But we may feel sure that the work will never cease until every part of the Frozen North is known.

Beyond the additions to our store of meteorological

knowledge, and of botanical and geological facts, there has been a decided addition to the world's wealth by Arctic exploration: not in money, but in character; not in conquest, but in heroism; not in material success, but in those experiences which make men strong and enduring. The world is already richer in mines and money than it is in men of courage and in high acts of duty and bravery. Thrilling deeds, glorious perseverance, and unwearied patience are the noblest fruits of Arctic exploration.

XXI. THE DISCOVERY OF THE NORTH POLE BY ROBERT E. PEARY

1909

The struggle to reach the North Pole was still waging. Robert E. Peary was not a man to give up until he had reached the goal. The Peary Arctic Club again gave him financial assistance, and a vessel was constructed that could be forced through dense ice. Theodore Roosevelt was then President of the United States, and Commander Peary called his ship the *Roosevelt*, because, as he said, the name stood for strength and determination.

In June, 1905, he set sail, and reached the north coast of Grant Land, where he spent the winter, and in the spring he started northward with sledges and dogs. He made his way to 87° 6′ on April 21, 1906. This was less than two hundred miles from the Pole, and was the best record as yet.

Even for the far North that season was unusually severe. Violent winds and snowstorms separated the explorer from his supply depots, and he was forced to return, killing his dogs for food on the way. He was not discouraged, for he felt that every failure gave him more experience, which would enable him to achieve success some day.

The Peary Arctic Club again helped him, and Zenas Crane and many other public-spirited men sent donations of money. The death of Morris K. Jesup was a severe blow to him. Mr. Jesup had given him much support,

PEARY IN ARCTIC COSTUME.

both by his belief in Peary's ability to reach the Pole, and by rendering financial aid to the expedition.

When, through the efforts of General Hubbard, president of the Peary Arctic Club, the needed money was at last procured, Peary completed his plans. He believed that in order to reach the Pole he must adopt the manner of life of the Eskimos. These natives of the Arctic zone know how to travel over the icy seas with less discomfort and danger than any other people.

Peary again, as in his previous expeditions, decided to engage the hardy Eskimos from Whale Sound, with their dogs, for the mainstay of his party, and to take with him as few white men as possible. The expedition was thus mostly made up of natives accustomed to the difficulties and hardships of Arctic travel.

Then came the question of selecting the white men who were to accompany him. The following were chosen: Captain Robert A. Bartlett, as master of the *Roosevelt;* George A. Wardwell, chief engineer; Dr. J. W. Goodsell, surgeon; Matthew A. Henson, Peary's negro assistant, who had been with him on many Arctic voyages, an excellent dog driver, and able to manage a sledge nearly as well as the best Eskimo driver; Ross G. Marvin of Cornell, Donald B. McMillan of Worcester, Mass., and George Borup of Yale, as assistants.

On July 6, 1908, the expedition sailed from New York on the *Roosevelt,* and July 17 from Sydney, Cape Breton. At the start, the white members of the party numbered twenty-two, and at Etah Peary found plenty of Eskimos willing to go with him.

These Eskimos, known as the Whale Sound Eskimos, are the most northerly race known. They migrate along the coast from Cape York to Etah, and are remarkable

for their strength and endurance. From among them Peary selected his company; here, also, he procured many fine dogs, without whose help and service the Pole could not have been reached.

The *Roosevelt* steamed northward from Etah, pushing her way through the ice pack towards Cape Sheridan, on the northern coast of Grant Land. During the trip the Eskimo men were put to work making sledges and harness, and the women began to make winter garments for the men. There was much sewing to be done, for the white men wore in winter just the same kind of clothing that the Eskimos did.

McMillan, Borup, and Dr. Goodsell found amusement in watching the women at their sewing. Sitting on the ground or whatever is nearest, they take off their footgear and put out one foot. Then holding one end of the material between their toes, using the foot as a third hand, they sew the seam away from them, instead of toward them as our women do. It looked odd enough, but the spectators had to admit that the work was done well. The Eskimos sewed the furs and skins together so closely and skillfully that the cold could not creep through.

These industrious women made stockings and mittens of fur, boots of skins, trousers of skins of the polar bear, jackets of deer or fox skin, and hoods of fur, finished around the face with thick rolls of foxtails.

All were happy and comfortable for a while, but as they advanced the ice became thicker and the ship was in great danger. It took all Peary's knowledge of the coast, and all Bartlett's skill in navigation, to keep the *Roosevelt* from being crushed in the ice.

Every person on board, both whites and Eskimos, tied his most necessary belongings into a bundle and stood

ready to jump over the side of the boat at a moment's notice in case the ship should be destroyed. But skill and perseverance conquered, and the *Roosevelt* reached Cape Sheridan in safety.

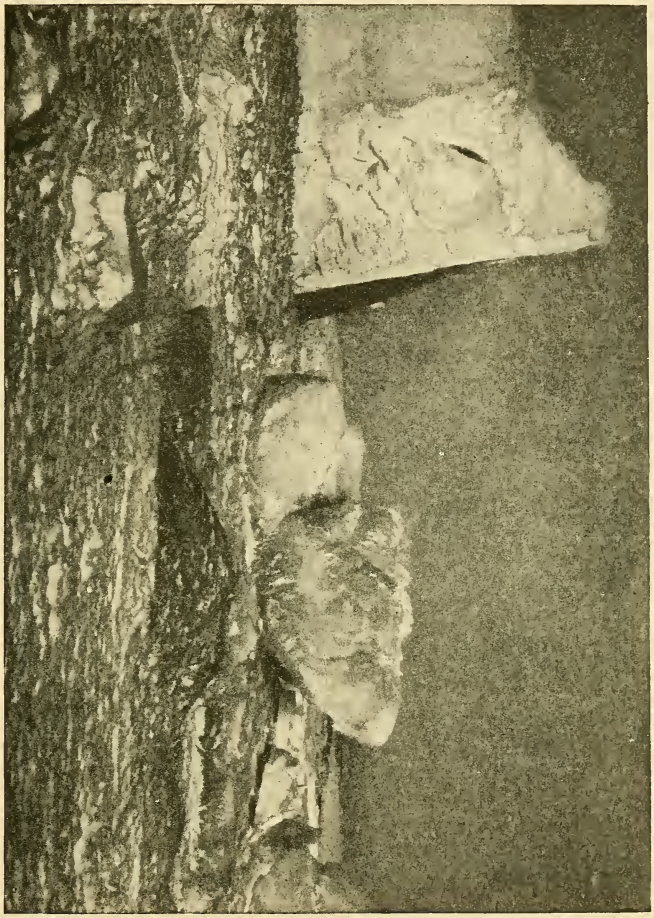
Here on the shore of the Arctic sea the party wintered, spending their time in massing supplies at places farther north, where they were likely to be needed later. Hunting was good, musk oxen, bear, and deer were plentiful, and large supplies of fresh meat were obtained. The men of science took tidal and meteorological observations, and a happy and busy winter was spent.

On October 12 the party said good-by to the sun; the twilight darkened and the long Arctic night set in. Peary did not wait for the sun to return, but as soon as it was light enough to travel he renewed the journey to the Pole.

On February 15, 1909, the first detachment of the sledge party under Captain Bartlett left Cape Sheridan for Cape Columbia, the most northern point of Grant Land. The other detachments followed on successive days, and on February 22, Peary started the last of all. From Cape Columbia he planned to travel directly north over the ice of the Polar sea for a distance of four hundred and thirteen geographical miles. This would take him to 90° north latitude, *i.e.*, to the North Pole.

By traveling in detachments a path once opened was kept open. The first detachment accomplished the difficult work of breaking a way through the ice, the second detachment found travel easier, and the third found it still easier. Thus the strength both of the men and the dogs of the last detachment was saved for the final march.

The party was to return by the same route as the one they advanced by, the supporting parties keeping the trail open for the rapid return of the main party. They were also



MOONLIGHT IN THE ARCTIC REGIONS.

From "Fighting the Polar Ice," copyright by Anthony Fiala.

able to use many of the same igloos in returning, so that the labor of building them was avoided and the strength of the men economized. The plan of march resembled that of a relay race, with which all girls and boys are familiar.

The entire sledge party on leaving the ship numbered seven whites, nineteen Eskimos, one hundred and forty dogs, and twenty-eight sledges. On March 1, 1909, Bartlett's party left land, setting out over the sea ice for the north, the distance from the mainland to the Pole being four hundred and seventy-five statute miles.

Think of starting on a journey of that length on foot with no certainty of even necessary food, and over a rough expanse of ice and snow. These brave men never faltered. As the party drew near the Pole, the supporting detachments were sent back one after another. The last detachment sent back was that under Captain Bartlett, who had given such valuable assistance in leading the pioneer party.

Peary felt sorry to part with Captain Bob, as he familiarly called him, and Captain Bob was sorry in his turn to go. He had reached 87° 47′ north latitude, and was nearer to the North Pole than any other explorer had yet been. It had been his ambition to reach 88°, but there was no time to spare, and though disappointed, he obeyed his commander cheerfully, like a good soldier. He had surpassed the Italian record by one degree and a quarter.

Peary was now left with only five companions, — Matt Henson, his colored servant, and four Eskimos; he also had forty dogs and five sledges. He was one hundred and thirty-three nautical miles from the Pole, and he planned to make five marches of at least twenty-five miles each, and then cover the remaining distance by pushing on with a light sledge and a double team of dogs.

After a rest and some repairing of the sledges the little party started northward. The sun shone brightly out of a deep blue sky, and a finer morning for the journey could not be imagined. Except for some pressure ridges which were nearly fifty feet in height, the ice was hard and level.

The ridges corresponding to hills on land were not as hard to pass over as were the leads of water which Peary had met with before during the journey.

With weather in their favor the party made great progress. In one march of twelve hours thirty miles were covered. As they neared the Pole, the wind grew bitterly cold. Even the Eskimos complained of it, and said that their noses would freeze. This was unusual, for the nose of an Eskimo is supposed to be so hardy that no frosty winds could freeze it. But all soon forgot the cold in their joy in drawing near the Pole.

On April 6, 1909, at ten A.M. the last march ended, and Peary found by his observations that he had arrived at 89° 57′ north latitude. Here the party camped, and Peary called the place Camp Morris K. Jesup in honor of the man who had done so much to further discoveries in the Arctic regions.

From Camp Jesup, Peary traveled on about ten miles beyond the Pole, crossing and recrossing in several directions over a radius of ten miles. Strange were his feelings when he stood at the place where north, east, and west were eliminated, and every direction was south. He was also at a place where there is in the year but one night and one day, each six months in length. The stars circle round overhead during the night and the sun during the day.

As far as the eye could reach was a vast, white expanse of ice. No living creature was to be seen, no sign of life anywhere, only a great silence, a great whiteness, and dazzling sunlight. Peary placed the American flag in the ice. The Eskimos and Henson gave three cheers, and all shook hands.

The Eskimos did not understand what made Peary so happy, but they did know that he had succeeded in reach-

ing a wonderful spot, which he had searched for during many years.

Thirty hours were spent at the Pole taking observations and photographs. The maximum temperature was $-12°$ and the minimum was $-30°$ Fahrenheit. Peary put records of his journey and a piece of the American flag in a glass bottle, and wedged it in between blocks of ice and left it. As the ice is constantly shifting and changing its position, it is hard to tell where this bottle may drift.

The ice at the Pole was too thick for Peary to measure the depth of the ocean. But on returning he found a place, five miles from the Pole, where the ice was thinner. He succeeded in making a hole with a pickax and dropped his sounding lead. The wire ran out to a depth of fifteen hundred fathoms (nine thousand feet) without touching bottom. Then the wire broke, and it and the lead were lost. We do not know how much deeper the Polar ocean may be.

The return journey to land was made by forced marches of about twenty-nine and a half miles a day. This speed was made possible by the lighter sledge loads, and the fact that they were retracing their steps over a trail kept partially open by the other detachments. But the Eskimos said, "The devil is asleep, or we never should have come back so easily!" Peary knew that they came back easily because of favorable weather and ice conditions, and because his plans had been wise.

When the party came in sight of the *Roosevelt* again, the joy of the men cannot be described. Captain Bartlett saw them and went out to meet them. His face was sad, and Peary felt that he was to hear some bad news. Bartlett then told him of the death of Marvin by drowning while on his return march. Peary felt keenly the loss

ESKIMO DOGS.

From "Fighting the Polar Ice," copyright by Anthony Fiala.

of his brave companion who had accomplished so much valuable work, and who had made himself respected and loved.

All the members of the party resumed their duties, and the first was to reward the faithful Eskimos who had

worked and served so well. Peary gave them hatchets, knives, shot-guns, rifles, and tools of all kinds. They were much pleased and felt as rich as millionaires.

As soon as the ice permitted, the *Roosevelt* left her winter quarters and sailed southward, stopping at Etah and Cape York, and arriving at Sydney, Cape Breton, September 21, 1909, where she received an enthusiastic welcome.

On September 1, 1909, while Peary and his party were still in the north, the world was startled by a telegraphic message from a Danish steamer, saying: "We have on board the American traveler, Dr. Cook, who reached the North Pole, April 21, 1908."

The next morning the *New York Herald* published an account of the great discovery cabled by Cook himself. It said that he had reached the Pole on the date just mentioned, and that "it was a cheerless spot, an endless field of purple snows." Two days later Dr. Cook landed at Copenhagen and was greeted with cheers, and great honors were bestowed upon him.

Two days later another telegram was received by the Associated Press of New York, which read:

"Stars and stripes nailed to the North Pole.

"PEARY."

There was great excitement all over the civilized world. Messages continued to arrive from Peary fixing the date of his arrival at the Pole, April 6, 1909. Cook claimed to have reached the pole a year earlier, April 21, 1908. Why had he kept silent so long? Discussion grew, and scientists demanded proof and data from both men.

The records of Dr. Cook were submitted to the University of Copenhagen, and their final report was made public December 21, 1910. It declared that the papers

and documents submitted to it by Dr. Cook contained no observations or explanations to prove that Dr. Cook had reached the Pole.

That Peary reached the Pole was never doubted. The National Geographical Society after careful examination of his records reported that they were unanimous in the opinion that Commander Peary reached the North Pole, April 6, 1909.

The following resolutions were adopted:

"*Whereas*, Commander Robert E. Peary has reached the North Pole, the goal sought for centuries, and

Whereas, this is the greatest geographical achievement that this society can have opportunity to honor, therefore

Resolved, that a special medal be awarded to Commander Peary."

Medals and honors were bestowed upon him by many scientific societies at home and abroad, and he was promoted to the rank of Rear Admiral in the United States Navy, and given the thanks of Congress.

The Frozen North has given up its secret. Man's persistence has conquered, and 90° north has been attained.

Rear Admiral Peary and all the brave men, who for nearly four hundred years struggled to reach the North Pole, will be held in honor by their countrymen for all time.

NOTE. — A fathom is six feet; a statute mile 5280 feet; a geographical mile 6080 feet.