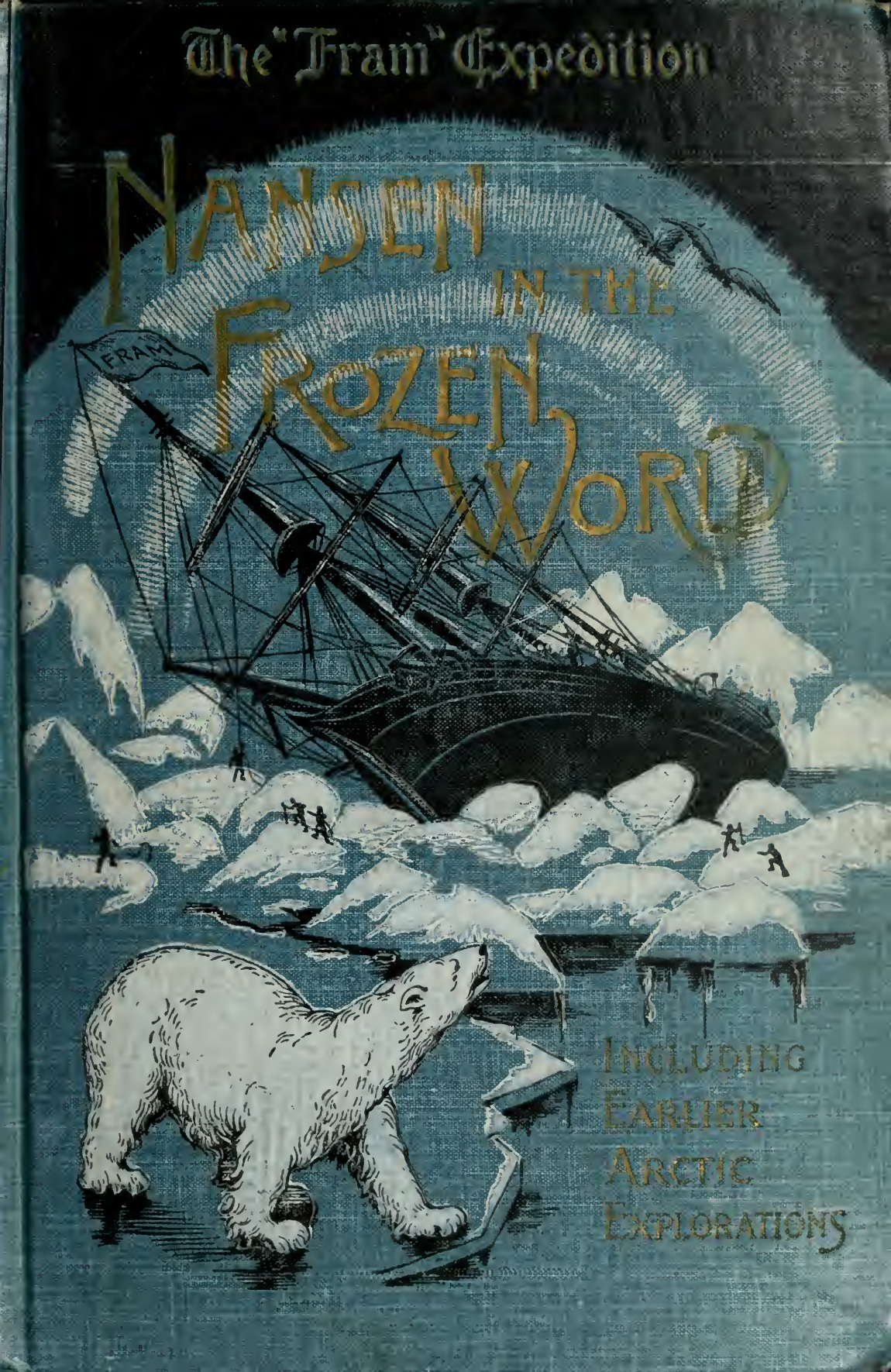
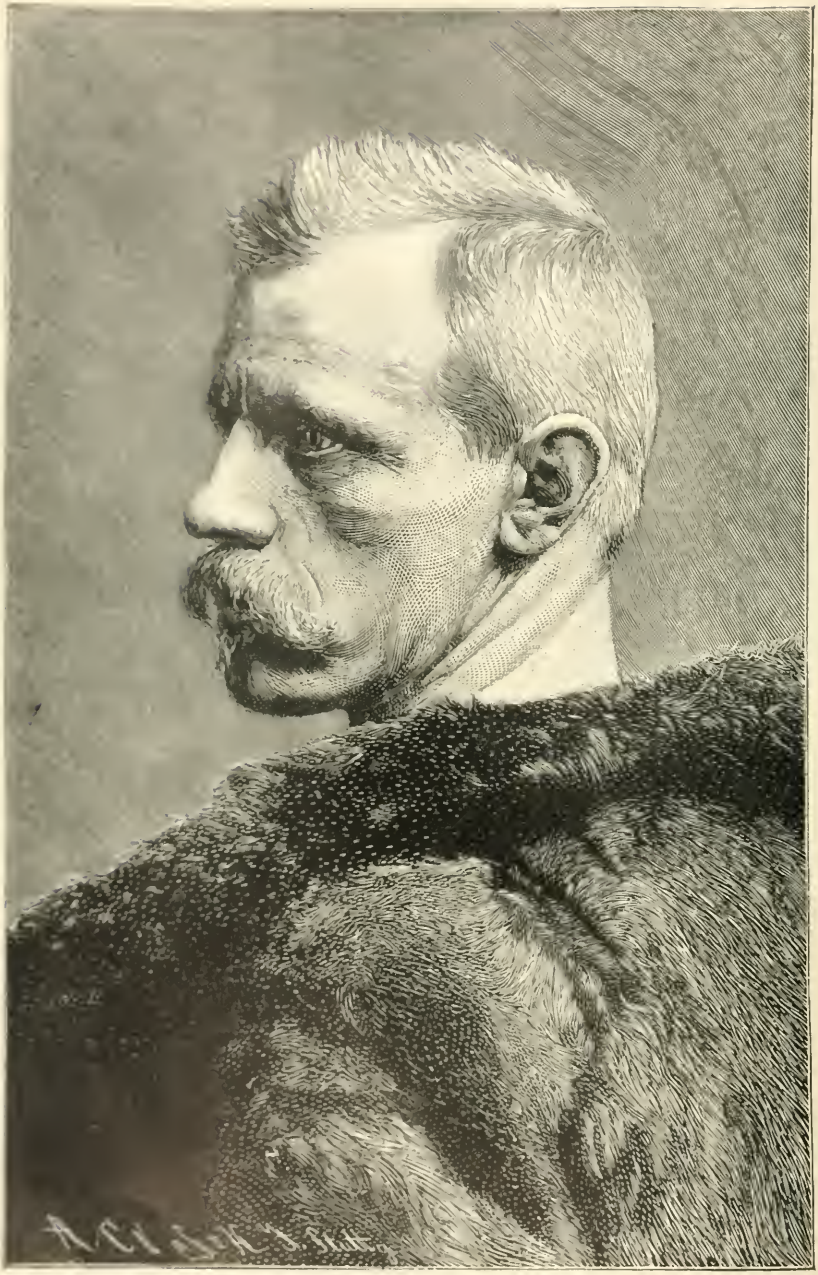
The "Fram" Expedition

NANSEN IN THE FROZEN WORLD



INCLUDING EARLIER ARCTIC EXPLORATIONS



DR. FRIDTJOF NANSEN

THE "FRAM" EXPEDITION.

NANSEN

IN THE

FROZEN WORLD

PRECEDED BY A BIOGRAPHY OF THE GREAT EXPLORER AND COPIOUS EXTRACTS FROM NANSEN'S "FIRST CROSSING OF GREENLAND," ALSO AN ACCOUNT BY EIVIND ASTRUP, OF LIFE AMONG PEOPLE NEAR THE POLE, AND HIS

Journey Across Northern Greenland

WITH

Lieut. R. E. PEARY, U.S.N.

ARRANGED AND EDITED

By S. L. BERENS, Cand. Phil.

FOLLOWED BY A BRIEF HISTORY OF THE PRINCIPAL

Earlier Arctic Explorations

FROM THE NINTH CENTURY TO THE PEARY EXPEDITION, INCLUDING THOSE OF CABOT, FROBISHER, BERING, SIR JOHN FRANKLIN, KANE, HAYES, HALL, NORDENSKJÖLD, NARES, SCHWATKA, DELONG, GREELY, AND OTHERS.

By JOHN E. READ,

Assistant Editor of the "Columbian Cyclopedia."

PROFUSELY ILLUSTRATED.

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PREFACE

Among the subjects that are "old yet ever new," that of Arctic Exploration holds a prominent place. It interested the hardy Northmen a thousand years ago, and it has a still stronger fascination for the people of the present day. It is natural that this should be the case. The human mind is so constituted that it is always seeking to learn about things that lie beyond the immediate range of its knowledge. Among intelligent and progressive people there is always a desire to investigate and explore the unknown. This is followed by efforts to secure the knowledge for which a wish has been formed. In the case of Arctic Exploration, the desire to know whether there were islands or continents beyond the narrow range of their vision led the pioneers in this great work to sail upon unknown seas. Probably a love of adventure also urged them on, but this could hardly have been the leading motive in their dangerous voyages. At an early period in the history of such enterprises the commercial spirit became a factor, and in later days the love of scientific investigation was added to the other elements in the combination of forces which led men to brave the dangers and endure the hardships inseparable from the work of Arctic Exploration.

The latest of the great Arctic explorers to reach his home is Dr. Fridtjof Nansen, a young Norwegian scientist, who went much farther north than man had ever been, farther even than the companion who accompanied him to latitude 86° 14′. In Europe and America he is the hero of the day. His accurate knowledge, wonderful foresight, marvellous skill, splendid executive ability, magnificent courage, and unconquerable determination carried him to a success far greater than any of his predecessors were able to secure. It is fitting that the record of his brilliant achievements should be given to the public in a handsome and a permanent form. With this end in view the present book has been prepared. It also seemed desirable that it should contain a biography of Dr. Nansen and an account of his work, much of which was valuable, previous to the great exploit which brought

him world-wide fame. Thus the people could be brought to know the man as well as to learn of his deeds. In order to add still further to its interest and make it not only an entertaining but also a permanently valuable book, it was decided to add other features. The great journey across the inland ice of Greenland by Lieutenant Peary, of the United States Navy, and Eivind Astrup, is fully described, and a sketch is given of the Second Peary Expedition. The concluding portion of the book is a connected sketch of the principal expeditions to the North from their earliest date down to the time of the ones just described. Thus the entire historical period of Arctic Exploration to the return of Nansen and the *Fram* in 1896 has been covered.

The materials for this work have been obtained from the best sources, and their arrangement has received careful attention. The biography of Dr. Nansen and a description of the planning and executing of the great journey across Greenland were mainly written by two eminent Norwegian scholars, Professor W. C. Brogger and Professor Nordahl Rolfsen, both intimate friends of the great explorer. The story of the Crossing of the Inland Ice is related by Nansen himself, while several of the following chapters were prepared by his Norwegian friends. The description of the Voyage of the *Fram*, of the Great Sledge Expedition and its wonderful success, and of the return of the explorers, is given in Nansen's own words. Across Northern Greenland, an account of the expedition of Lieutenant Peary, is by Eivind Astrup, an entertaining writer and famous explorer who accompanied Peary in the perilous journey to the extreme northern portion of that desolate land. In the preparation of the history of the Earlier Arctic Explorations the works of the best writers upon the subject were consulted. Where discrepancies were found, as they were in several instances, the evidence was carefully weighed and the statements which seemed to have the strongest claim for accuracy were accepted. Of the more than one hundred illustrations, many of them full-page, which not only add to the beauty of the book but greatly increase its utility, a large number are from photographs taken upon the spot and are absolutely perfect representations of the scenes which they place before the eye. For several of these illustrations we are under obligations to Mr. Alfred C. Harmsworth, patron of the Jackson-Harmsworth Expedition, and some were obtained from Nansen's "Fram Over

Polhavet," published in Norway. Messrs. Houghton, Mifflin & Company and The Lothrop Publishing Company kindly furnished several portraits; the publishers of McClure's Magazine allowed the use of a number of fine plates, and through the courtesy of Dr. Robert N. Keely, surgeon to Peary's First Expedition, and Dr. Gwilym G. Davis, member of the Archæological Association of the University of Pennsylvania, many extremely beautiful sketches and photographs are given.

The investigation of the cheerless region of the North has been attended by constant danger and has involved heavy losses of life and property. But the work has not been done in vain. It opened the way for the formation of colonies, for the development of commerce, for extensive and profitable whale and seal fisheries, and has greatly enlarged the bounds of human knowledge. Not only has there been an enormous advance in the line of geographical information, but much has been learned regarding geology, meteorology, zöology, and kindred sciences. Work in this direction has also made known to civilized nations a most interesting race of people who not only live, but who appear to fully enjoy life, in a region of perpetual snow and ice. Then, too, the heroism, fortitude and fidelity of the noble men who, at the imminent risk of their lives, have gone to this inhospitable region and in the face of appalling dangers, and while enduring most terrible sufferings, have struggled on in order that they might open to the civilized world the vast domain which had so long remained unknown, have been object lessons of faith and hope to all the world. And as long as courage is admired, devotion to duty is respected, and self-sacrifice is revered, so long will the deeds of the heroes who have toiled amid the awful dreariness and desolation of the Frozen World be held in honored remembrance.

Further progress in Arctic Exploration will involve difficulty and danger, but the end is not yet. What has been accomplished will stimulate to renewed effort, and the knowledge that has been gained in the past will greatly aid in the future prosecution of the work. The genius and energy of man are pitted against the barriers of nature, and sooner or later nature will be compelled to reveal her secrets to his gaze. Those who are inclined to doubt the probability of carrying further an investigation of the Arctic region should be encouraged by the fact that many things which

were long deemed impossible have been accomplished and that the future may be expected to bring as great surprises as the past has given. A curious illustration of the uncertainty of predictions regarding the success of Arctic Exploration is found in the book of an able English writer. The preface of this work was dated March 25, 1850, a time at which interest in the fate of Sir John Franklin was at its height. The last words of the book express a hope that "England will be careful of again risking the lives of her adventurous sons in further attempts to discover what cannot be looked upon in any other light than that of a geographical *ignis fatuus*, The Northwest Passage." Yet from documents which were afterward found it was proved that the Franklin expedition had discovered this passage not less than three years before its non-existence was so emphatically affirmed. During the last half century great advances along the line of Arctic Exploration have been made and interest has waxed instead of waned. Each new discovery seems to stimulate to still stronger endeavor, and public interest in the subject was never as high as it is at the present time. Projects of various kinds are being considered and preparations for further efforts are under way. Which of the various plans proposed will lead to success, or whether one radically different from any that have been suggested will be required, cannot be affirmed. But it is safe to say that, sooner or later, the great Arctic problem will be solved. The work will be carried on until the region at the North that is now unknown has been explored and a flag has been unfurled upon the precise spot which geographers designate as the Pole.

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(By courtesy of McClure's Magazine.)

NANSEN IN THE FROZEN WORLD

CHAPTER I

ANCESTRY — CHILDHOOD

Hans Nansen, Fridtjof Nansen's ancestor, born November 28, 1598, in Flensburg, had as a sixteen years old lad gone to the White Sea in his uncle's ship — in those days quite an adventurous enterprise. They had practically no charts, they were scantily supplied with instruments, and they had to keep cannon and cutlasses in readiness. In the course of the voyage, indeed, they had been twice overhauled and plundered by the English. Now they were fast in the ice at Kola. But the intelligent boy, eager for knowledge, did not permit himself to be depressed. He employed the time in learning Russian, and in the summer, when the uncle bent his course southward again, his nephew did not accompany him. He preferred to stay behind and learn more. He travelled alone "through several districts of Russia to the town of Kuwantz." From Kuwantz he took ship in September for Copenhagen.

His character came early to maturity, and his powers could not brook inaction. He had not completed his twenty-first year when King Christian IV. placed him at the head of an expedition to the rich fur regions about

the Petschora. But the ice was too much for him. He had to make up his mind to winter at Kola. Here he received a commission from the Czar of Russia, and undertook, by imperial order, an exploration of the coast

HANS NANSEN

of the White Sea. Not until he reached Archangel did he rejoin his ship.

After that he held a command for eighteen seasons in the service of the Iceland Company. He was by nature a keen observer and a born leader of men, full of alert practicality, and yet with a strong literary bent. And he was eminently disposed to share with others the fruits of his

reading. "When I had nothing else to do," he writes, "I copied out extracts from the Bible, and from various cosmographical and geographical works, to serve as an index and commonplace-book for future reference. . . . And when, a little while ago, I read it through again, I thought that perhaps there might be others who would be glad to know these things, but who, on account of other occupations and so forth, had neither time nor opportunity to study the great works on cosmography. For the benefit of such persons I have given to the press this brief digest." The title ran: "Compendium Cosmographicum; being a short description of the entire earth, etc. Treating, furthermore, of the sea and of navigation, with certain serviceable directions thereto appertaining."

The "Compendium Cosmographicum" became a popular handbook, so much read by seafaring men and others, that four editions were exhausted in the author's lifetime. Indeed, we gather that up to a few years ago it had not quite gone out of use. The copy now in the possession of the Nansen family came, according to a well-authenticated tradition, direct from a skipper who sailed by it. Inside the old cover, the late owner of the book has inscribed the following testimonial: —

"*This book is of great use to seafaring folk. Ole Börgersen Aas*, 1841."

Thus the handbook of the gallant old Arctic skipper may be said to have done service down to the very threshold of the time when his descendant was preparing to add new "courses" to those he had so diligently laid down — "courses" across Greenland and to the North Pole.

At the age of forty, Hans Nansen begins to rise in the world; and soon he exchanges the command of a ship's crew for that of the burghers of Copenhagen. He first became town councillor, then one of the four burgomasters, and in 1654 he held the chief place among the four. Shrewd, ready-witted, eloquent, accustomed to command, and endowed with a firm will and invincible energy, he seemed specially created to take part, and a leading part, in the critical times which followed.

In 1658 the Swedish king, Karl Gustav, declared war and invaded Zealand. The Estates met at the Palace, the royal message was read, and the king addressed them in person. It fell to the lot of Hans Nansen to answer that the burghers "would stand by the king through thick and thin," and the populace behind him shouted their assent. Not only was the integrity of their native land at stake, but civic freedom and independence as well. On the following day, the 10th of August 1658, the Privy Council was obliged to issue a proclamation "which was as good as a patent of nobility to all the merchants and handicraftsmen of Copenhagen." Karl Gustav understood its significance. "Since the burghers have obtained such privileges," he exclaimed, "no doubt they 'll stand a tussle." And during this "tussle" the leading burgomaster of Copenhagen had no peace either by day or night. Earthworks had to be constructed, ditches filled, provisions laid in, soldiers quartered, the burghers drilled and commanded, and public order preserved in the midst of a concourse of people crowding into the city from every side. "We find him now at home, opening his plate chest and his money-box, placing great sums at the king's disposal, lending him his carriage and horses,

and all the time doing his best to keep up the spirits of his own family; now in the Town Hall sitting in council or on the bench; now in the Chamber, now with the king; then again at a regimental inspection, or on the fire-watch tower, or at the outworks, with the bullets picking men off on every side; now listening to the sermons which were preached on the ramparts, now going the rounds with the night patrol." And when it comes to meeting the enemy outside the fortifications, the indefatigable burgomaster is still in the van.

It is certain that there are remarkable points of similarity between the old burgomaster and his grandson's grandson's grandson.

It would seem as though Fridtjof Nansen himself were conscious of this hereditary strain in his character. In one of his letters to his father, he speaks of the Nansen pride, which in his case, when occasion demands, takes the form of an adamantine stubbornness.

But this pride does not descend to him on the male side alone; through his mother he inherits the blood of the Wedels.

Count Herman Wedel-Jarlsberg, the famous political leader of 1814, afterwards Viceroy (Statholder) of Norway, had a younger brother, Baron Christian Frederik Vilhelm of Fornebo, whose daughter was the mother of Fridtjof Nansen. Thus, if pride and spirit of adventure may be said to lie at the root of the father's family-tree, every branch of the mother's bears evidence of the same qualities.

A few words more about the Nansen family. Hans Nansen, Municipal President, Privy Councillor, and Judge of the Supreme Court, died at Copenhagen, November 12,

1667. A daughter of his eldest son, Michael Nansen, was married to the celebrated Peter Griffenfeld. A younger son, Hans Nansen, was Municipal President of Copenhagen at the time of his death in 1718. His grandson was Ancher Anthony Nansen, with whom the male line

BARON CHRISTIAN F. V. WEDEL-JARLSBERG (NANSEN'S GRANDFATHER)

removed to Norway. In 1761 he became district magistrate of Outer Sogn, and there married a lady of the name of Leierdahl, a member of the Geelmuyden family. His only son was called Hans Leierdahl Nansen, who in

September, 1809, became judge in Guldalen, and later representative for Stavanger district in Storthinget. He was divorced from his first wife and married again, 1810, a daughter of court-printer Möller of Copenhagen. They were Fridtjof Nansen's grandfather and grandmother.

BARONESS C. F. V. WEDEL-JARLSBERG (NANSEN'S GRANDMOTHER)

Fridtjof's father, Baldur Fridtjof Nansen, was born in Egersund in 1817. After the death of his father in the twenties, Baldur Nansen's mother removed from Egersund to Stavanger, for the sake of her son's education. Here

she lived till 1835, when he matriculated at the University of Christiania.

"He was industrious," says an intimate friend of the Nansen family in a letter, "well-behaved and exemplary in every respect. His abilities were not brilliant, but, being strictly and plainly brought up, and stimulated by the influence of his clever mother, he passed all his examinations with a certain distinction, and became an accomplished jurist. He had none of his parents' wit and fancy; but he was noted for his thoroughly refined, amiable, and courteous manners and disposition."

FRIDTJOF NANSEN AND HIS FATHER

He became Reporter to the Supreme Court; but he was principally employed in finance and conveyancing. He enjoyed unbounded confidence.

Baldur Nansen's first wife was the daughter of Major-General Sörensen, and sister to the wife of the poet Jörgen Moe. His second wife (Fridtjof's mother) was Adelaide Johanna Isidora, *née* Wedel-Jarlsberg, who also had been married before. Mrs. Adelaide Nansen is described as a tall and stately lady, capable and resolute, even-tempered

and straightforward, without any pretension on the score of birth and ancestry. She had a masculine will. It was greatly against the wishes of her strict and aristocratic father that she married a baker's son for her first husband. However, she carried her point, and her mother appears to have sided with her in this affair of the heart. The parents were not at the marriage, although they had given their consent.

As a young girl she had defied opinion and cultivated that sport which her son was afterwards to render world-famous. She was devoted to snow-shoeing, which was at that time thought unwomanly and even improper. As a housewife she was one of those who know every nook and corner of the house from attic to cellar — active, managing, ready with her hands and not afraid of the coarsest work. If the servant had blistered her fingers, the lady of the house would herself take hold and wring out the wet linen. She worked in the garden, and she made her boys' clothes. They had no other tailor until they were eighteen years old. Nevertheless, she found time to acquire the knowledge she had not stored up in early youth. Her will power and love of activity, her intrepidity, her practical and resolute nature, have descended to her son.

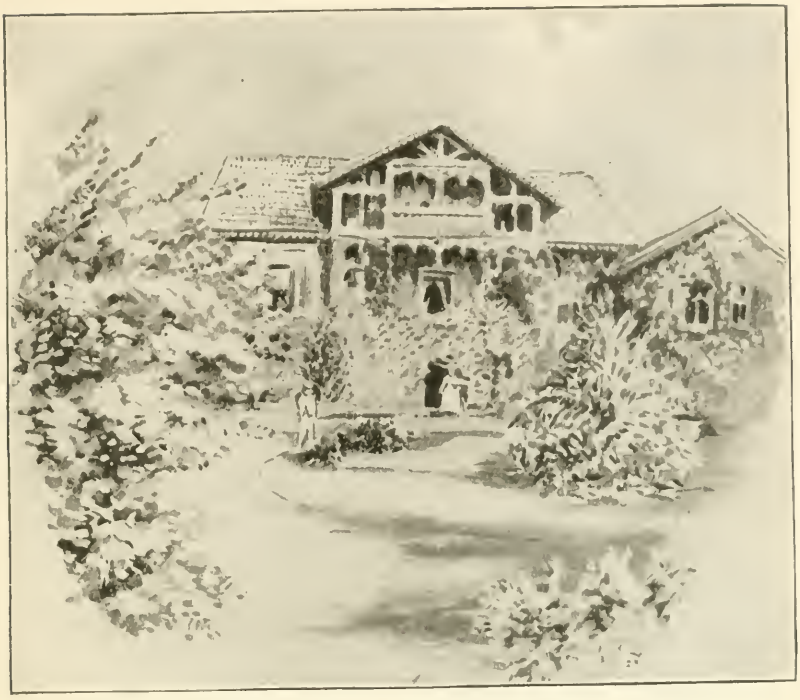
NANSEN'S MOTHER

Mr. and Mrs. Nansen, after their marriage, settled down upon a small property belonging to her at Great Fröen in West Aker. Here Fridtjof was born on October 10, 1861.

In the choice of his birthplace, his lucky star, as we have said before, had ordered things for the best. Here was country life, here were cows and horses, geese and hens, hills for snow-shoeing on every side, great forests close at hand, and, only some two miles and a half away, an excellent school, one of the best in Christiania. These two miles and a half were reckoned a mere nothing in the Nansen household. First to school in the morning, and back again, then, on summer afternoons, down to the fortress to learn to swim — that makes a good ten miles of a hot summer's day, to say nothing of minor wanderings. And there were invariably fights by the way — systematic training, be it observed, from the very first.

Fröen farmyard was the scene of the boy's earliest expeditions, and it was not Arctic cold, but torrid heat that first imperilled his life. One day when he was three years old, and still in frocks, he stood hammering away at a wheelbarrow, no doubt trying to mend it, when, to the consternation of those in the kitchen, a column of smoke was seen to be rising from his person. "He 's on fire!" was the cry. Out rushed the housekeeper, and tore his clothes off his back. In the course of his wanderings, he had visited the brew-house, where some sparks from the fire had lodged in his petticoats; and behold! he was within an ace of being burnt to death in blissful unconsciousness that anything was amiss.

The Frogner River flowed right past the front door at



GREAT FRÖEN — THE DWELLING-HOUSE

Fröen, and here Fridtjof and his younger brother would bathe in the fresh of the evening, in the coldest pool they could find. Indeed, the younger of the two would sometimes nearly perish with the cold, so that after coming out of the water he had to be dragged about at a brisk trot, in the costume which preceded all fashions and modes of dress, in order to keep life and warmth in his body.

Into this same river they fell through the ice in the winter, and when their mother appeared on the scene she found Fridtjof in the act of fishing his brother out. And it was in the Frogner River that Fridtjof himself came near losing his life.

But it also presented a peaceful means of livelihood.

They selected from among the pea-sticks those made of juniper, rolled their trousers well up, and went digging among the decayed leaves in the garden for bait, which they stored in the turned-up portion of their breeches. Then they went and fished for trout or minnows. Now and then the hook would go astray and stick fast in Fridtjof's under lip; whereupon Mrs. Nansen would have recourse to father's razor, make a resolute incision and extract the foreign body. No fuss or pother on either side. Not so much as a sound.

NANSEN AS A CHILD

Here at Fröen he first ran his head against the ice — the rough ice in the yard. When the little five-year-old rushed into the kitchen, there was scarcely a white spot left on his face, for the blood that trickled down it. He would not shed a tear, and was only afraid of being scolded. But from that day to this he wears his first ice-medal in the shape of a scar.

They hunted squirrels with dog and bow. "Storm," the dog, would chase the squirrels up trees, where the little creatures found a tolerably secure asylum; for the arrows never hit them. Finally, Fridtjof, inspired by Indian tales, hit upon a devilish device which he thought must prove fatal. He anointed the arrow-head with the juice of a poisonous mushroom, so that a wound from it meant

certain death. But the arrows somehow did no more execution, although he also tipped them with melted lead to make them carry better.

After that he took to a new variety of weapon — cannons. He stuffed them to the muzzle with powder, but could not get it to ignite. Then he made a maroon, and poked it about so much that it exploded in his face. The cannon ultimately burst; and it was again his mother's task to take him aside and pick out the powder grain by grain.

He himself tells the story of his first snow-shoes, and his first great leap: —

"I am not speaking of the very first pair of all — they were precious poor ones, cut down from cast-off snow-shoes which had belonged to my brothers and sisters. They were not even of the same length. But Mr. Fabritius, the printer, took pity upon me; 'I'll give you a pair of snow-shoes,' he said. Then spring came and then summer, and with the best will in the world one could n't go snow-shoeing. But Fabritius's promise sang in my ears, and no sooner had the autumn come and the fields begun to whiten with hoar-frost of a morning, than I placed myself right in his way, where I knew he would come driving by.

NANSEN AS A BOY

"'I say! What about those snow-shoes?'

"'You shall have them right enough,' he said, and laughed. But I returned to the charge day after day: 'What about those snow-shoes?'

"Then came winter. I can still see my sister standing in the middle of the room with a long, long parcel which she said was for me. I thought she said, too, it was from Paris. But that was a mistake, for it was the snow-shoes from Fabritius — a pair of red-lacquered ash snow-shoes with black stripes. And there was a long staff too, with shining blue-lacquered shaft and knob. I used these snow-shoes for ten years. It was on them I made my first big jump on Huseby Hill, where at that time the great snow-shoe races were held. We boys were not allowed to go there. We might range all the other hills round about, but the Huseby Hill was forbidden. But we could see it from Fröen, and it lured us day after day till we could n't resist it any longer. At first I started from the middle of the hill, like most of the other boys, and all went well. But presently I saw there were one or two who started from the top; so of course I had to try it. Off I set, came at frantic speed to the jump, sailed for what seemed a long time in space, and ran my snow-shoes deep into a snow-drift. We did n't have our shoes fastened on in those days, so they remained sticking in the drift, while I, head first, described a fine arc in the air. I had such way on, too, that when I came down again I bored into the snow up to my waist. There was a moment's hush on the hill. The boys thought I had broken my neck. But as soon as they saw there was life in me, and that I was beginning to scramble out, a shout of mocking laughter went up; an

endless roar of derision over the entire hill from top to bottom.

"After that, I took part in the Huseby Hill races and won a prize. But I didn't take it home; for I was put to shame on that occasion as well. It was the first time I had seen the Telemark peasants snow-shoeing, and I recognized at a glance that I was n't to be mentioned in the same breath with them. They used no staff; they simply went ahead and made the leap without trusting to anything but the strength of their muscles and the firm, lithe carriage of their bodies. I saw that this was the only proper way. Until I had mastered it, I would n't have any prize."

He was a terrible one for falling into brown studies. Between putting on the first and the second stocking of a morning, there was always a prolonged interval. Then his brothers and sisters would call out, "There 's the duffer at it again! You 'll never come to any good, you 're such a dawdler."

He was always bent on getting to the bottom of everything. He asked so many questions, says one of his older friends, that it made one absolutely ill. "Many a time have I given him a thundering scolding for this everlasting 'Why?—Why?—Why?'" The arrival of a sewing-machine at Fröen naturally aroused the demon of curiosity in all his virulence. He must find out what kind of animal this was. So he took it all to pieces, and when his mother came back from town, the machine was the most disjointed puzzle imaginable. If tradition is to be trusted, however, he did not give in until he had put it all together again.

CHAPTER II

YOUTH

If, weary of the soft grace of the Christiania Valley, one turns and gazes northward from the tower on Tryvand Height, one is confronted, as far as eye can see, with blue-black forests — forests and nothing but forests, ridge behind ridge, on and on to the farthest verge of the horizon.

This is Nordmarken, an unbroken stretch of Norwegian woodland, many square miles in extent, a lonely world of narrow valleys, abrupt heights, secluded glassy lakes, and foaming rivers.

Into this solitude no murmur from the busy capital ever penetrates, not even the sound of a panting engine or the warning whistle of a steamboat cautiously threading the intricacies of the fjord in the dense sea-fog.

At the frontier of Nordmarken the comforts of civilization instantaneously stop short. When you have said good-bye to the great hotels on the slopes of the Frogner Sæter, and plunged into these interminable forests, you may wander for days without coming across anything remotely resembling an hotel.

Yes, here all is peaceful and still — breathlessly still — when summer spreads her light veil over the glassy lakes and dark green leas, when the black-grouse drowses in the heather, and even the thrush in the pine-tops hushes his song.

There is breathless stillness, too, of a clear autumn evening when the birch sees its yellow silk, and the aspen its gorgeous scarlet, reflected in the black mirror of the lake, framed in the delicate pale red of the heather.

Again there is breathless stillness — perhaps even more complete — during the long night of winter, when the stars glitter over the snow-laden forest and the white-frozen surface of the lake, and no sound is heard save the soft trickle of the ice-bound river.

In the shooting and fishing season it is no longer the Great Pan who reigns. Fishing-rods by the score hang over the river like a bending wood, and the guns of the city sportsmen keep up a continual popping and banging in a spirit of noisy competition. Even the boundless abundance of fish and game is thus on the decline. Waterworks have interfered with the spawning, dam after dam bars the fishes' way up stream, and the river bed lies dry for weeks together.

It was not so twenty years ago, in Fridtjof Nansen's boyhood. He was among the few, the pioneers, the elect. That Robinson Crusoe existence which less favored boys must be content to live in imagination was vouchsafed to him in its glorious reality. Of his first expedition to the borders of that Promised Land he has himself written as follows: —

"I showed no great intrepidity on my first voyage of discovery, although it went no farther than to Sörkedal.

"I was somewhere about ten or eleven at the time, and up in Sörkedal lived several boys who were friends of mine, and who had asked my brothers and myself to come and see them. One afternoon in June, as we were sitting out on the steps, it came over us all of a sudden that we

really ought to act upon this invitation. We had a notion that we ought to ask our parents' leave, and an equally clear notion that we should n't get it if we did. Father and mother were taking a siesta; we dared not disturb them, and if we waited till they awakened it would be too late to go. So we took French leave and slipped off. The first part of the way was familiar to us. We knew where Engeland lay, and made our way to Bogstad without much hesitation. After that we were rather at sea; but we asked our way from point to point, first to the Sörkedal church, and after that to the farm where the boys lived. By the time we got there it was seven o'clock in the evening. Then we had to play with our friends and go and see the barn, and afterwards to do a little fishing. But it was n't any real fun. Our consciences were so bad that we had no peace for so much as half an hour. Then the time came for us to go home, and our hearts sank so dreadfully that the way back seemed ever so much wearier than the way out. The youngest soon became footsore, and it was a melancholy procession that slowly dragged itself towards Fröen farm at eleven o'clock that night. We saw from a long way off that people were afoot; no doubt they had been searching for us. We felt anything but fearless. As we turned the corner, mother came towards us. 'Is that you, boys?' 'Now we're in for it!' we thought. 'Where have you been?' mother asked.

"Well, we had been to Sörkedal. Now for it! But mother only said in an odd way: 'You are strange boys!' And she had tears in her eyes.

"Fancy, not the least bit of a scolding! Fancy getting to bed with our blistered feet, and without the least bit of a scolding!

"And the most extraordinary part of it was that a few days later we were allowed to go again to Sörkedal. Could it be that father and mother had come to think that they had been a little too strict with us?

"While I was in my teens, I used to pass weeks at a time alone in the forest. I disliked having any equipment for my expeditions. I managed with a crust of bread and broiled my fish on the embers. I loved to live like Robinson Crusoe up there in the wilderness."

But frequently Nansen was accompanied by his brother and an older member of the family, who happened to be an enthusiastic huntsman and fisherman. And in this way, from the age of twelve upwards, the boys trained themselves to bear those fatigues which are the best thing in the world for hardening the muscles. The tramp became longer and longer, they pushed on farther and farther afield, as they grew older; first to Sörkedal — then to Langli River — then Svarten (the Black Lake) — Sandungen — Katnosa.

The woods of Nordmarken offered plenty of long runs for a "*ski-runner*" who preferred to go his own way. It was here that a feeling for nature was fostered in him — a sense of the beauty of winter and summer, and of shifting atmospheric moods which do not as a rule appeal to boys. Here his tissues were hardened to face the Polar winters, while he stood in the crackling frost waiting for the hare, and envying him his warm white fur. It was hereabouts (at Fyllingen) that he was once hare-hunting with his brother for thirteen days on end. At the last they had nothing to live on but potato cakes, and were half starved, both they and their dog. Then came killing-day at the farm, and the brothers consumed black-puddings till they

nearly burst. When the time came to go home, Fridtjof had to shoulder seven hares, slung by the legs. He slipped, fell forwards, and all the hares shot out like the rays of a halo round his head.

There was one thing that used to annoy his snow-shoeing cronies in those days, and that was his total carelessness as to creature comforts. If he happened to look from the tower on Tryvand's Height away over to Stubdal, twenty miles off, a whim would all of a sudden seize him, and nothing would serve but he must set off without taking a crumb of food with him. He on one occasion descended upon a farm in Stubdal so ravenously hungry that the people did not forget his visit for many a day.

Another time he and a party of his friends set off on a long snow-shoeing expedition, each with his provision wallet on his back — each one, that is to say, except Fridtjof Nansen. But when they got to the first resting-place he unbuttoned his jacket and took out of his breast pocket — concealed deep within the lining — several pancakes, which were as hot after the snow-shoeing as if they had just come off the pan. He held them up smoking: "Have a pancake, any of you fellows?" None of them were dainty, but the pancakes seemed even less so, and they declined with thanks. "Well," he said, "the more fools you, for let me tell you there 's jam in them!" It is in such traits that he shows his kinship with the denizens of the great forests. He has the recklessness of the hunter and the lumberman, their daring and headlong spirits. He is a typical east-country boy. But at the same time there is systematic intention in the training to which he subjects himself; his alert ambition reinforces

his delight in unvarnished nature, and his tendency to set at defiance the customs of civilization. "The least possible" is early his ideal, and he has not the slightest objection to shocking public opinion in acting up to his principles. It never occurs to him to doubt that it is he who is right and the world that is wrong. He appears to have been one of the first consistent disciples of Jaeger in Christiania, and later on, in his letters from Bergen, he boasts that now the wool theory is admitted on all hands. He quotes in this connection one of his favorite sayings: "There was a man in a madhouse in London, who used to say: 'I said the world was crazy, but the world said that I was crazy, and so they put me here.'"

One thing his friends had to guard against: they must never say to him that anything was impossible, for that was inevitably the signal for him to attempt it. His boyish impetuosity brought him on one occasion to death's door — to the very verge of one of those leaps which even the most expert athlete cannot clear.

It was in 1878. On a walking tour with his brother Alexander, he came to Gjendin in the Jotunheim, and must needs climb the Svartdal Peak. There was a way round the back of the mountain which was more or less practicable, but Fridtjof would have none of that; he must of course go straight up the precipitous black face of the hill. "As we got up towards the peak," his brother relates, "there was a snow-field which we had to cross. Beyond the snow-field lay the precipice, straight down into the valley. I had already had several attacks of giddiness, so that Fridtjof had given me his alpenstock, and was without it when it came to crossing the glacier. Instead of going carefully step by step, as he would do now, he goes

at it with a rush, slips, and begins to slide down. I can see him turn pale. A few seconds more, and he will lie crushed to death in the valley. He digs his heels and nails into the ice, and brings himself to a standstill in the nick of time. That moment I shall never forget. Nor shall I forget his coming down to the tourist châlet and disappearing into the trousers which the burly secretary of the Tourist Club, N. G. Dietrichson, had to lend him, an essential part of his own having yielded to the friction of the glacier."

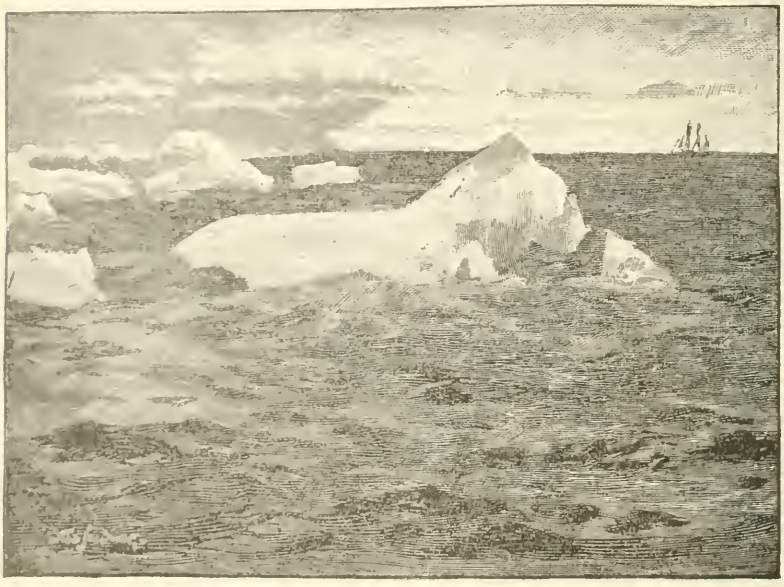
The same year in which Fridtjof Nansen was in the Jotunheim, he had his first experience of ptarmigan shooting in the mountains,— Norefjeld and thereabouts,— and it was then they went on a tramp so exhausting that one of his brothers fell asleep far up on the heights, and had to be hauled along with the greatest difficulty. It was probably these early hunting expeditions through the forest and over the mountain plateaux that gave him his taste for the accurate observation of animal life, and thus supplied the initial impulse towards the line of study which he finally chose. In the year 1880 he matriculated with sufficient credit to prove that his distractions during schooltime had not been so absorbing as to prevent him from settling down to work when the moment arrived. He got a first class in all natural science subjects, mathematics, and history; and when in December, 1881, he went up for his second examination, he was classed as *laudabilis præ ceteris*. He appears about this time to have been in some uncertainty as to his choice of a career. He was entered as a cadet at the military academy, but the nomination was cancelled when he finally resolved to continue

his scientific studies. He never contemplated going into the medical profession, but had at one time an idea of taking the first part of the medical examination. It ended, however, in his choosing a special branch, Zoölogy. As early as January, 1882, he applies to Professor Collett for advice. The Professor happens to remember how he himself has been urged by Arctic seamen to go with them and prosecute his studies during a sealing expedition. This ought to be the very thing for Nansen. He is an expert sportsman and a good shot — why should he not go to the Arctic regions on board a sealing vessel, make his observations, keep a record, and train himself for descriptive zoölogical research? Nansen came to see him, and he made the suggestion, which took hold of the young man at once. A week later he again called on the Professor, having in the mean time spoken to Captain Krefting of the sealer *Viking*, and arranged matters with him. On January 23, Nansen's father telegraphed to an old friend in Arendal asking him to secure the ship-owners' sanction. The friend was able, when called upon, to declare that Fridtjof Nansen was a sturdy, strapping fellow, ready with his hands, and capable of great endurance, so that, to the best of the witness's belief, he would prove a useful and desirable member of the expedition. Permission was instantly wired back, and Nansen, having employed the brief interval at the university in studying the anatomy of the seal, sailed from the port of Arendal on board the *Viking* on Saturday, March 11.

The cruise lasted five months; during which Nansen shot about five hundred large seals, and fourteen Polar bears. The *Viking* got fast in the ice off the east coast of Greenland, and it was there that the idea occurred to

Nansen that it would be practicable to land on the coast and cross the inland ice.

We have Fridtjof Nansen's own word for it that these weeks off the east coast of Greenland exercised a determining influence over him. "By day the peaks and the glaciers lay glittering beyond the drift ice; in the evening and at night, when the sun tinged them with color and



IN THE POLAR SEA

set air and clouds on fire behind them, their wild beauty was thrown into even bolder relief."

He brooded incessantly over plans for reaching that coast which so many have sought in vain. It must be possible, he thought, to make your way over the ice, dragging your boat along with you. He wanted to set off alone and walk ashore, but permission was refused him. Already he had begun to entertain notions of penetrating

to the heart of the country; and within a year of his return to Norway the idea of crossing Greenland on snow-shoes had taken firm root in his mind.

While Fridtjof Nansen was swimming across the rifts in the ice after Polar bears, the Director-in-Chief of the Bergen Museum, Dr. Danielssen, was turning things over in his mind. He needed a new assistant. Before the bear-hunter had reached Christiania, Professor Robert Collett was applied to by telegraph for his advice. He thought instantly of Nansen, and asked him, the moment he set foot on shore, if he would care to become Curator (*Konservator*) of the Bergen Museum. He agreed at once. He was not yet twenty-one, and had done nothing whatever to make his mark in science; so it was certainly a very tempting offer. He held the position of Curator of the Bergen Museum till 1888, during which time he was engaged in carrying on zoölogical investigations.

Few things are more characteristic of Nansen than the way in which he passed from Polar bear-hunting to the work-room of the Bergen Museum. "I have become an absolute first-class stick-in-the-mud," he says in a letter to his father as early as October 17, 1882. He, the athlete and sportsman *par excellence*, has to "reassure" his father by informing him that he is a member of two gymnastic societies! He throws himself into his scientific work as passionately as if it were the most thrilling of adventures. He pursues the paltriest insect revealed by the microscope no less impetuously than he pursued the bears over the Arctic wastes. In the course of his studies of the nervous system, Nansen became acquainted with the chromic silver method of staining the nerve fibres invented by Professor Golgi of Pavia.

In order thoroughly to familiarize himself with this important auxiliary to the investigations which had now occupied him for several years, he determined, in the spring of 1886, to go to Italy. Partly under Golgi's personal guidance, and partly at the Zoölogical Station in Naples, where he would find ample material, he hoped to be able to carry his researches somewhat farther than had been possible with the methods hitherto in vogue. The previous year, at the Bergen Museum, he had won the Joachim Friele gold medal for his work on the myzostoma. He had taken the medal in copper, and applied the value of the gold to his travelling expenses.

After a short stay in Pavia, where he conferred with Professor Golgi and Dr. Fusari, he went on to Naples, where he spent the following months, from April till June, 1886, at the celebrated Zoölogical Station.

The principal results of his studies he embodied in several biological works; for "The Structure and Combination of the Histological Elements of the Central Nervous System" Nansen received his doctor's degree.

By the great public, Fridtjof Nansen is known and admired chiefly as the dauntless explorer of the unknown wastes of the North Pole. The above may help to impress upon the public, that Nansen is also an investigator of note in another domain, which, though it does not attract so much attention, perhaps deserves it no less.

Voyages of discovery in the quiet study, in the laboratory, in the world of the microscope, in Nature's secret workshop, — these too minister to the enlightenment of mankind and the progress of civilization. In this field Fridtjof Nansen proved himself a born discoverer, and, at an unusually early age, developed an activity which was rich in promise.

CHAPTER III

NANSEN'S GREENLAND EXPEDITION — PREPARATIONS — PLAN — EQUIPMENT

"One winter evening in '87," writes Dr. Grieg, "I sat in my den at 3A Parkveien, absorbed in my work. Suddenly the door was flung wide open, and in stalked Nansen, with his long-haired, badly trained dog Jenny. Without pretending to be an authority on the subject, it is my opinion that Nansen is too absent-minded to be able to train good sporting dogs. The evening was cold, so that even Nansen had thrown his plaid over his shoulders. He sat down on the sofa just opposite me.

"'Do you know what I 'm going to set about now?' he said. 'I mean to have a try at crossing Greenland.' And he set forth his plans with the aid of my old atlas, which I shall always associate with the memory of that evening. He was excited and wrought-up, and, at that stage, far from being certain, or even hopeful, of finding things go easily. I saw he wanted objections to discuss, and I supplied him with what occurred to me, though I knew nothing of the subject. 'It would be easiest to make the crossing lower down, you understand,' he said, 'but the real thing will be to show the world that Greenland can be crossed so far north as this ——' and he pointed out where he had at first planned to start. He little dreamed that this stretch of coast, which he treated so lightly that evening, would prove so hard a nut to

crack. He said he was going to Stockholm. 'What are you going to do there?' 'To look up Nordenskjöld, and ask him to give me his opinion of my scheme. I shall just wait to take my doctor's degree in the spring, and then off to Greenland. It will be a hard spring, old man, but pooh! I shall manage it.'

"Another friend had meanwhile dropped in. We all three walked to Skarpsno, we two every-day people making feeble objections, he meeting them with increasing warmth and with youthful emphasis of conviction. He would stake his life on the plan, and we should see it would all go smoothly. It was like a revelation, in these decadent days, to find a man of action ready to lay down his life for his idea. I was impressed and moved that evening when we parted."

He went to Stockholm. It may be noted at this point that it was in 1886 that Peary and Maigaard, with their scanty equipment, had made a highly successful inroad upon the Greenland ice field, intended, as Peary had expressly stated in his brief narrative, merely as a preliminary reconnaissance. Nansen had no time to lose if he did not want to be anticipated. Moreover, his zoölogical and anatomical labors were in the mean time at a standstill. His great essay on the histological elements of the central nervous system was finished, and could at any time be handed in as a thesis for his doctor's degree.

"When, on Thursday, November 3, 1887, I entered my work-room, in the Mineralogical Institute of the Stockholm High School," says Professor Brögger, "my janitor told me that there had been a Norwegian asking for me. He had not left a card, and did not say who he was. Compatriots without a name and without a visiting-card

were no rarity. It was no doubt some one wanting me to relieve him from a momentary embarrassment.' 'What did he look like?' I said, with a touch of annoyance.

"'Tall and fair,' answered Andersson.

"'Was he well dressed?'

"'He had n't any overcoat,' said Andersson, smiling confidentially; 'he looked like a sailor, or something of that sort.'

"Ah, yes — a sailor without an overcoat! No doubt the idea was that I should supply him with one. I saw it all.

"An hour or two later in came Wille. 'Have you seen Nansen?'

"'Nansen? Was that the name of the sailor? The man without an overcoat?'

"'Has he no overcoat? At any rate he 's going to cross the Greenland ice sheet.' And Wille rushed off — he was in a hurry.

"After that comes another of my colleagues, Professor Lecke, the zoölogist. 'Have you seen Nansen? Is n't he a splendid fellow? He has been telling me of many interesting discoveries about the sex of the myxine — and about his investigations of the nervous system too. Charming things! Splendid!'

"After all these preliminaries, Nansen at last appeared in person — tall and erect, broad-shouldered and powerful, yet with the grace and suppleness of youth. His rather rough hair was brushed back from his massive forehead. He came straight up to me and gave me his hand with a peculiarly winning smile, while he introduced himself.

"'You are going to cross Greenland?'

"'Well, I 'm thinking of it.'

"I looked him in the eyes. There he stood with the kindly smile on his strongly-cut, massive face, his complete self-confidence awakening confidence in others. Although his manner was just the same all the time, — calm, straightforward, perhaps even a little awkward, — yet it seemed as if he grew with every word. This plan, — this snow-shoe expedition from the east coast, — which a moment ago I had regarded as an utterly crazy idea, became, in the course of that one conversation, the most natural thing in the world. The conviction possessed me all of a sudden: he will do this thing, as surely as we are sitting here and talking about it.

"This man whose name I had never so much as heard until a couple of hours before, had in these few minutes — quite naturally and inevitably as it seemed — made me feel as though I had known him all my days; and without reflecting at all as to how it happened, I knew that I should be proud and happy to be his friend through life.

"'We'll go straight to Nordenskjöld,' I said; and we went. With his singular dress — a tight-fitting, dark blue, jersey-like blouse or jacket, closely buttoned up — he did not fail to attract a certain amount of attention in Drottninggatan (Queen Street). Gustaf Retzius, as I heard afterwards, took him at first for an acrobat or rope-dancer.

"Well, we hunted up Nordenskjöld, crossing the quiet, cloistral quadrangle of the Academy of Science, which has always something awe-inspiring about it.

"Nordenskjöld was in his laboratory, as usual at that time in the morning. We went through the anterooms filled with mineralogical specimens and cases. 'These used to be Berzelius's quarters,' I remarked to Nansen in

passing. Lindström, the Professor's assistant, presently appeared, with both hands full of retorts and chemicals.

"'The old man is inside; he 's up to his eyes in work,' he whispered quietly to me.

"There, in the work-room, 'old man Nor' was wandering around among his minerals. I can never see his strong, broad back, without thinking of a story in connection with his boat expedition up the Yenisei in 1875. At one point, where the seas repeatedly threatened to swamp the boat, Nordenskjöld took his seat on the after gunwale, and let the ice-cold waves break on his broad back. There he sat for hours, doing duty, in a literal sense, as a breakwater. Of such stuff are Arctic explorers made.

"I greeted Nordenskjöld and performed the introduction. 'Curator Nansen, of Bergen. He intends to cross the Greenland ice sheet ——'

"'Good heavens ——!'

"'And he would like to consult you upon the matter.'

"'I 'm delighted to see him. So! Mr. Nansen intends to cross Greenland?'

"The bombshell had fallen. The friendly, amiable, but somewhat absent expression he had worn an instant before had vanished, and his liveliest interest was aroused. He seemed to be scanning the young man from head to foot, in order to see what sort of stuff he had in him. Then he burst out with a twinkle in his eye: 'I shall make Mr. Nansen a present of a pair of excellent boots! Indeed, I 'm not joking; it 's a very important and serious matter to have your foot-gear of the best quality.'

"The ice is broken. Nansen expounds, Nordenskjöld nods a little skeptically now and then, and throws in a question or two. He no doubt regarded the plan — at

least so it seemed to me—as foolhardy, but not absolutely impracticable. It was obvious that Nansen's personality had instantly made a strong impression on him. He was at once prepared, in the most cordial manner, to place the results of his own experience at the young man's service.

"There were of course numbers of details to be gone into: the Laplanders, snow-shoes, sledges, and boats—and then the question whether the drift ice could be crossed as Nansen had planned. But 'the old man was up to his eyes in work,' and it was agreed that Nansen should come again. Meanwhile, we were to meet the same evening, at the Geological Society. As we were leaving I said aside to Nordenskjöld, 'Well, what do you think? I back him to do it.'

"'I dare say you're right,' answered Nordenskjöld. But the skeptical expression was again to the fore.

"After the meeting at the Geological Society, Nansen accompanied me home. It was pretty well on in the evening. While we were sitting talking, he genial and at his ease, I quite absorbed in all these new ideas, there came a ring at the door, and in walked Nordenskjöld. I at once saw that he was seriously interested.

"We sat there till the small hours, discussing Arctic and Antarctic explorations in general, and the Greenland expedition in particular. It was only four years since Nordenskjöld himself had made his last expedition on the Greenland ice sheet; and he was at this time, if I remember rightly, much interested in arranging a combined Australian-Swedish Antarctic expedition, in which his promising son, G. Nordenskjöld,[1] who unfortunately died so early, was to have taken part.

[1] Three years later this young man undertook an expedition to Spitzbergen.

"I was going the next day to the usual Fourth of November banquet at the house of the Norwegian Secretary of State, and I asked Nansen if he would care to have an invitation. No, he could n't well appear on such an occasion — he had only the clothes he was wearing.

"'But Mr. Nansen can come and dine with me, just as he is,' suggested Nordenskjöld with frank cordiality; and so it was arranged.

"I cannot say whether Nansen, when he returned to Christiania, a couple of days later, took with him the 'excellent boots,' though I know that Nordenskjöld afterwards sent him a pair of snow-spectacles. But, boots or no boots, he certainly took back with him many a valuable hint, and the assurance of complete sympathy on the part of the great explorer. When, nearly two years later, they again met in Stockholm, the foolhardy plan had been carried out, and the journey over the inland ice from coast to coast was an accomplished fact."

Nansen's application to the "Collegium Academicum" for the means to carry out the expedition is dated November 11, 1887. The very first sentence goes straight to the heart of the matter: "It is my intention next summer to undertake a journey across the inland ice of Greenland from the east to the west coast." The amount he asked for was 5,000 crowns (less than 300*l.*). It is so infinitesimally small in comparison with the magnitude and importance of the undertaking, that one cannot speak of it now without a smile. But as yet the project was only a project, and the projector an untried man. The faculty and the council warmly recommended the scheme to the Government. But the Government could not see

its way to sanctioning it. One of the official organs was unable to discover any reason why the Norwegian people should pay so large a sum as 300*l.* in order that a private individual might treat himself to a pleasure-trip to Greenland. And undoubtedly the Government here represented a very large section of the people. Two widely different sides of the Norwegian character were in this case at odds. The love of adventure is represented in Nansen, the cautiousness, the "canniness," of the Norwegian peasant is represented in the Government. It is no mere chance that this 300*l.* should have come from abroad. For except in scientific circles, and among the young and ardent, the general opinion certainly was that Nansen's undertaking was only worthy of a madman — though no one actually went so far as to have him locked up, like the man in the London madhouse whom Nansen is so fond of citing. A comic paper in Bergen inserted the following advertisement: —

NOTICE. — In the month of June next, Curator Nansen will give a snow-shoe display, with long jumps, on the inland ice of Greenland. Reserved seats in the crevasses. Return ticket unnecessary.

And in private conversation the affair was taken much in the same way, when it was not regarded from a more serious point of view, by people who thought it sinful to give open support to a suicide.

Nor was it only the outside public that held these opinions. Previous explorers of Greenland, who might be supposed to know the local conditions, characterized the plan as absolutely visionary. Nansen has himself reprinted in his book a short extract from a lecture delivered in Copenhagen by one of the younger Danish explorers of Greenland. He says: "Among the few of us who know

something of the nature of Danish East Greenland, there is no doubt that unless the ship reaches the coast and waits for him till he is forced to confess himself beaten, it is ten to one that either Nansen will throw away his own life, and perhaps the lives of others, to no purpose; or else he will be picked up by the Eskimos, and convoyed by them round Cape Farewell to the Danish stations on the west coast. But no one has any right needlessly to involve the East Greenlanders in a long journey, which must be in many respects injurious to them."

It was, however, from Denmark that the requisite financial assistance came. Professor Amund Helland, who had himself been in Greenland, had strongly advocated the plan in the "Dagblad" of November 24, 1887. "After the experiences of others on the inland ice," he says, "and after what I myself have seen of it, I cannot see why young and courageous snow-shoers, under an intelligent and cautious leader, should not have every prospect of reaching the other side, if only the equipment be carefully adapted to the peculiar conditions. . . . All things carefully considered, I believe there is every likelihood that competent snow-shoers should be able to manage this journey without running any such extreme risks as should make the expedition inadvisable. Those who have travelled some distance on the inland ice of Greenland number, at present, about twenty men, and not a single life has been lost in these attempts."

As a result of this article, Professor Helland was able to announce to the "Collegium Academicum," on January 12, 1888, that Mr. Augustin Gamél, of Copenhagen, had offered to provide the 5,000 crowns.

Nansen accepted the generous offer. Afterwards, when

all was happily over, people criticised this action. He ought to have waited patiently till the money turned up somewhere in Norway. This wisdom after the event is foolish enough. It ignores the actual facts of the situation. Nansen had made up his mind to pay for the whole enterprise out of his own pocket; no one in Norway showed the slightest eagerness to prevent his doing so. And, with all his self-reliance, he could not, at that time, regard the realization of his idea as a privilege that must be reserved solely and exclusively for Norway. The situation was quite different when, five years later, with the eyes of all the world upon him, he set out for the North Pole. Then, indeed, it was of the utmost importance that the money as well as the flag should be Norwegian. The criticism seems all the emptier when we remember that the Greenland Expedition did not cost 5,000 crowns, but more than three times that amount, and that Nansen himself would have met this deficit out of his small private means, had not the Students' Society, after the successful return of the expedition, set on foot a subscription which brought in 10,000 crowns.

It was, as Nansen had said to Dr. Grieg, a hard spring. The first six months of 1888 passed in one incessant rush. At the beginning of December, 1887, he is back in Bergen. At the end of January, he goes on snow-shoes from Eidfjord in Hardanger, by way of Numedal, to Kongsberg, and thence to Christiania. In March he is in Bergen again, lecturing on nature and life in Greenland. One day — or rather night — we find him camping on the top of Blaamanden, near Bergen, to test his sleeping-bag, and a week later he is on the rostrum in Christiania giving his first trial lecture for his doctor's degree,

on the structure of the sexual organs in the myxine. On April 28 he defends his doctoral thesis: "The Nerve Elements: their structure and connection in the central nervous system" — and on May 2 he sets off for Copenhagen, on his way to Greenland. "I would rather take a bad degree than have a bad outfit," he used to say to Dr. Grieg in those days. He succeeded in getting both good, but only by straining every nerve. On the one hand, he had his scientific reputation to look to; on the other, his own life and the lives of five brave men; for he was fully convinced that, of all the dangers which were pointed out to him, the most serious by far was the danger of a defective outfit. On the outfit, more than on anything else, depended victory or defeat, life or death.

It was in the January number of the periodical "Naturen" (1888) that he for the first time made a public statement of his plan. He explains that, by striking inland from the east coast, he will need to cross Greenland only once. It is true that by this course retreat is cut off. "The inhospitable coast, inhabited only by scattered tribes of heathen Eskimos, is by no means an enviable winter residence to fall back upon in the event of our encountering unforeseen obstacles in the interior; but the less tempting the line of retreat, the stronger will be the incentive to push on with all our might." This is one of the essential points of the plan — all bridges are to be broken. Here we see the irresistible self-confidence of genius — its triumphant faith in its power to reach the goal. The thing that presents itself to ordinary prudence as the first necessity, namely, a safe and easy line of retreat, genius regards rather as a hindrance and a thing to be avoided.

"Setzet Ihr nicht das Leben ein,
Nie wird euch das Leben gewonnen sein."

We will not here dwell upon the other features of the plan, because in all essentials it was carried out as projected; and the modifications which proved necessary are sufficiently well known through Nansen's own account of the expedition. It will be remembered how they were caught in the drift ice, carried down almost to the southern point of Greenland, and then had to fight their way laboriously north again. It will be remembered, too, that they did not strike inland, as they intended, north of Cape Dan, but a good way farther south, and that they reached the west coast, not, as contemplated, on Disco Bay near Christianshaab, but at the Ameralikfjord near Godthaab. These alterations are important enough in themselves, but inessential in relation to the main object. The plan itself having been set forth, the article proceeds to enumerate the scientific problems which may be solved or brought nearer to a solution by a journey across the inland ice. Nansen concludes by quoting Nordenskjöld's words in the preface to his book, "The Second Dickson Expedition to Greenland:" "The investigation of the unknown interior of Greenland is fraught with such momentous issues for science that at present one can hardly suggest a worthier task for the enterprise of the Arctic explorer."

Nansen was himself fully conscious of the great scientific import of the journey he was about to take.

For the rest, this expedition required in its leader a quite unusual combination of qualities: an adventurous imagination to conceive it, a Viking-like hardihood to carry it through, strenuous physical training throughout

childhood and youth to enable him to face its fatigues, and self-sacrificing devotion to science in order to make the most of the opportunities it afforded. And even more was required. This young man, whose fame as yet rested entirely upon an unfulfilled idea, had to take command of a little group of brave men who all risked their lives exactly as he did, and among whom were some who themselves had held command. This was not a company of soldiers to be officered as a matter of course; it required a special tact, a peculiar instinct, to bear one's self as *primus inter pares*. With all his proud self-confidence, Nansen had just this instinct. It springs in part, no doubt, from a strain of gentleness in his character, but may on the whole be regarded as simply another manifestation of his singular knack of doing the right thing at precisely the right moment. He had been too early intent on ends of his own to develop what one would call a specially social disposition. "He is something of a soloist," one of his friends writes to us, "steadfast towards those to whom he really attaches himself; but they are not many." He is too absorbed in his work. He is not expansive, in the sense of feeling any inborn craving to make friends. But now, in the moment of need, the unaffected geniality of his temperament comes out quite naturally in his relation to those who have had the courage and the insight to place their trust in him. Given another personality than his, the whole undertaking would not improbably have gone to wreck, with the most disastrous consequences. If it had been simply a question of mechanical discipline, the spirit of revolt might easily have arisen in the course of these indescribable hardships, and ruined everything. As it was, all were agreed that, though discussion should

of course be free, one must have the decisive voice. But that one was of no higher rank than the others when there was work to be done or hunger to be endured; and it was this complete equality that formed the strongest bond of union. Stories have been invented as to the relations between the six Greenland explorers, some of them of a dark and almost tragic tenor. We are able to state on the best authority that all these legends, from first to last, are the product of popular imagination, which, after the tremendous enthusiasm over Nansen's return, necessarily underwent a reaction.

The men who accompanied Nansen were Captain Otto Neumann Sverdrup, born October 31, 1855, in Bindalen; Lieutenant Oluf Christian Dietrichson, born May 31, 1856, in Skogn, near Levanger; Christian Christiansen Trana, born February 16, 1865, at the farm of Trana, near Stenkjær; besides the two Lapps, Samuel Johannesen Balto, aged 27, and Ola Nilsen Ravna, aged 45. All these names have become historical. To the two first-mentioned in particular a great share in the credit of the expedition is due. The whole civilized world is indebted to them, and Nansen most of all. "People are very ready," he says in the preface to "The First Crossing of Greenland," "to heap the whole blame of an unsuccessful expedition, but also the whole honor of a successful one, upon the shoulders of the leader. This is particularly unfair in the case of such an expedition as the present, where the result depends on absolutely no one falling short, on every one filling his place entirely and at every point."

For the lives of all these men Nansen had now assumed the responsibility, so far as the planning and management

of the journey was concerned; and his responsibility began with the outfit. With regard to this essential matter, all the qualities we have been dwelling upon would have been of no avail had he not possessed one other of the first importance. He was accustomed to see things for himself. He was an observer not only in the domain of science, but also in that of practical life. As a boy, he pulled the sewing-machine to pieces to see how it was made, and as a young man he had gone deeply into the question of the nutritive value of the various food-stuffs. He had an eminently practical and mechanical talent; and he had been born with the instinct of the Youngest Son in the fairy tale, for picking up a magpie's wing whenever he came across it, since you never could tell when it might come in useful. No doubt he had learned much in his brief consultations with Nordenskjöld, whose numerous expeditions had always been conspicuous for their careful and excellent equipment. But the expedition now in hand must be set about on an entirely original plan, since they were to have neither reindeer nor dogs, but were themselves to be their own beasts of burden and drag every crumb of food and every instrument. Now was the time to act up to the Nansen motto, "To require little." The thing was to ascertain what food-stuffs combine a maximum of nourishment with a minimum of weight; and equally important was the consideration of the means of transport to be employed. The lightness of everything was the cardinal point which distinguished the Nansen expedition from all others. Lightness became a study, an art. Nansen brooded on the problem by day, and dreamed of it at night. Like Macbeth, he was haunted with visions of insubstantial *tollekniv* (sheath knives).

Everything was minutely criticised, from the raw material up to the finished product. Many of the most important articles Nansen designed for himself. From his detailed description of the outfit we reproduce in a few words the essential points: Five specially constructed hand-sledges of ash, with broad steel-plated runners. These sledges were about 9 ft. 6 in. long by 1 ft. 8 in. broad, yet weighed, with the steel runners, only a little over 28 lbs. They were so excellently made that in spite of the tremendous wear and tear they were subjected to not one of them broke. Next came Norwegian snow-shoes (*ski*) of the most careful make, as well as Canadian snow-shoes and Norwegian wickerwork *truger*. The last were used particularly in ascending the outer slope of the inland ice, and on wet snow where *ski* were useless. The tent was furnished by Lieutenant Ryder, of Copenhagen. It was just large enough to accommodate the two sleeping-bags side by side upon the floor. The dress of the party consisted of a thin woollen vest and woollen drawers; over the vest a thick Iceland jersey; and for outer garments, jacket, knickerbockers and thick snow-socks on the legs, all made of Norwegian homespun. For windy and snowy weather they had an outer dress of thin sail-cloth. Their foot-gear consisted of boots with pitched seams and Lapland *lauparsko*, a sort of moccasin. On their heads they wore woollen caps and hoods of home-spun, woollen gloves on their hands, and in extreme cold an extra pair of dogskin gloves. For their eyes they had snow-spectacles, some of smoke-colored glass with baskets of steel-wire network, some of black wood with horizontal slits.

The provisions consisted mainly of pemmican, meat-

powder chocolate, calf-liver pâté, a Swedish biscuit known as *knäkkebröd*, meat biscuits, butter, dried halibut, a little cheese, pea-soup powder, chocolate, and condensed milk. They took two double-barrelled guns for replenishing their larder. The cooking apparatus was a spirit-burning contrivance devised by Nansen and a chemist named Schmelck, upon which they expended much labor. No spirits for consumption; some tea, a little coffee, a little tobacco. On the other hand, an abundance of scientific instruments. And, to complete the list, tarpaulins, which on the inland ice were sometimes used as sails; bamboo poles; and a quantity of tools and small necessaries of various kinds from matches and a few candles down to darning-needles — everything of course as light as possible.

In only one single respect did this equipment prove inadequate. The pemmican, which should have been the staple of their diet, had in the course of manufacture been deprived of all fat, and Nansen did not discover the fact until the last moment. The result was that they suffered after a while from "fat-hunger, of which no one who has not experienced it can form any idea." Even during the last days, when they had as much dried meat as they wanted, they did not feel satisfied.

How easy it would have been in this *terra incognita* for the outfit to have fallen short in other respects! For one thing, no one in the least foresaw that the expedition would, at this time of the year, be exposed to such severe cold as was found to prevail on the inland ice. It was a new and unknown meteorological phenomenon which the expedition encountered. If Nansen had chosen woollen sleeping-bags instead of those of reindeer-skin, which he

at last determined on, he and his comrades, as he himself admits, would scarcely have reached the west coast alive.

Yes, a great deal might have happened; but luck was on Nansen's side. His good genius was very active in all that concerned this, his first great undertaking. But in the last analysis, no doubt, the man who has "the luck on his side" is he who shows capacity, foresight, genius, and does not pit himself against forces which are in the nature of things unconquerable.

We cannot conclude these lines on the preparations for the Greenland expedition without mentioning that Nansen was in constant communication with one of the most notable of the explorers of Greenland, Dr. H. Rink. One service that Rink certainly rendered him was to throw into strong relief the perils of the expedition, although there were moments when the enfeebled and nervously conscientious old man reproached himself with not having dwelt on them sufficiently. "Rink at first regarded the plan," his wife writes to us, "as a mere romantic fancy. The more he pondered over it, and the more he became attached to the man who was to carry it out, the more perilous did it become in his eyes, until at last he blamed himself severely for not having, in the course of all their discussions, painted in strong enough colors the dangers to which he believed the expedition would be exposed. So, expressly on this account, we invited Nansen to pay us another visit. That evening we spent for the most part in looking at pictures of Greenland, in a quieter and more serious frame of mind, on the whole, than on previous occasions, when there had been a vast amount of jesting over the chances (cannibalism not excepted) that might befall the expedition on the ice fields. On these

occasions everybody used to laugh very heartily, except Rink. And I remember I had to bear all the blame of this unseemly conduct after the party broke up."

In Rink's house, too, they used to take lessons in Eskimo, when time permitted. Sverdrup tried it first; but he could not get his tongue round the Greenland idiom. Dietrichson was good at it. "Curiously enough," writes Mrs. Rink, "I had pitched upon these two as the predestined spokesmen of the expedition, and did not offer to give Nansen any lessons. Whereupon he said, as though a little hurt: 'May n't I try too?'—and he went at it with the earnestness and perseverance that are such charming traits in his character. How remarkably he succeeded in picking up the language, the Eskimos themselves bear witness."

The last evening Nansen was at Rink's house, Mrs. Rink accompanied him to the door. "I said," she writes, "what had often occurred to me, 'You must go to the North Pole, too, some day.' He answered emphatically, as though he had long ago made up his mind on the point, 'I mean to.'"

THE MEMBERS OF THE GREENLAND EXPEDITION

CHAPTER IV

ACROSS GREENLAND

On May 2, 1888, Nansen started from Christiania, by way of Copenhagen and London, for Leith, where he was to meet the rest of the party, who had gone, with the whole outfit, from Christiansand direct to Scotland.

From Scotland they proceeded to Iceland by the Danish steamer *Thyra*. Not until June 4 did they join the sealer *Jason* (Captain M. Jacobsen), which was to carry them over to the east coast of Greenland — under the express stipulation, however, that the vessel should not be hindered in its sealing operations for the sake of landing the party.

On Monday, June 11, they had their first glimpse of the east coast of Greenland, sighting the high rugged peaks north of Cape Dan at about the latitude where, in 1883, Nordenskjöld had succeeded in getting through the drift ice with the *Sophia*. The ice belt between the vessel and the coast proved, however, to be still so wide (from nine to ten miles of rough ice) as to render any attempt to reach the land unadvisable for the present. They had to wait about a month for a favorable opportunity of leaving the *Jason*, which was bound to remain in the region where the seal-hunting was likely to be good. Meanwhile, Nansen acted as "doctor" to the whole fleet of sealers, and had to possess his soul in patience until the sealing season was practically over.

Finally, on the morning of July 17, the *Jason* was so near land (about $2\frac{1}{2}$ miles from the coast near Sermilikfjord, at $65\frac{1}{2}^\circ$ N. lat.) that Nansen determined to force a passage through the comparatively narrow belt of drift ice.

The boat belonging to the expedition, and a smaller one which the captain of the *Jason* had placed at their disposal, were therefore lowered, the baggage packed and stowed in the boats, and every preparation promptly made. At 7 P. M. all was ready for a start. Nansen went up into the crow's-nest for a last survey of the course, and saw plainly, with the aid of the glass, a belt of open water between the drift ice and the shore.

"We are taking to our boats with the firmest hope of a successful issue to our enterprise," Nansen wrote in a letter to the "Morgenblad" hastily scribbled at the last moment.

It was soon apparent that their hopefulness was, at the

very outset, to be put to a severe test. After they had tried the whole night long, in storm and rain, to get through the drift ice opposite the mouth of the Sermilik-fjord, the ice became so packed by the current that, in the early morning, they had to drag their boats up on the floes. One of the boats was injured by the pressure of the ice, so that it had to be repaired in hot haste; and during the short time lost in doing this they were caught in a strong southerly current, and swept seaward again at a great speed. At six o'clock on the 19th they found that they were already twice as far from land as when they had left the ship.

There was nothing for it but to drift southward with the ice until an opportunity should offer of getting in under the land again.

For ten days the expedition drifted along the east coast of Greenland as far down as the island of Kudtlek, 61° 40′ N. lat., at an average rate of nearly six knots in the twenty-four hours. Quite apart from the very serious dangers to which Nansen and his comrades were exposed during this drift voyage, the expedition was carried a long way from its projected starting-point, and had lost a great deal of very precious time. It was not till July 29 that they succeeded in setting foot on dry land, and thus the best part of the summer was already gone.

Nansen has given a vivid description of this interesting drift voyage, and of life on the ice floe, which, tossed about by the waves and breakers, and repeatedly cracked and broken, was yet the abiding-place of the expedition during all these days.[1] With the mountains of the coast so near that in bright weather they could clearly distinguish their

[1] For description, see next chapter.

SVERDRUP ON GUARD ON THE ICE FLOE. (SEE PAGE 58)

outlines, they were steadily borne southward, farther and farther from their goal.

The night of July 20 might easily have been their last. The ice floe on which they were drifting had come right out to the verge of the open sea, which was running very high, so that the surf kept on washing over the floe almost up to the tent. Had the floe been crushed, they might very likely have found it impossible to launch the boats in such a furious sea, and among the clashing masses of ice. In any case they could not have saved more than one of the boats, and the most indispensable part of the provisions and equipment. One scarcely knows which to admire the most, — Sverdrup, who kept the night watch, pacing calm and composed, with his quid in his cheek, up and down the floe, between the tent and the boats, many times on the point of loosening the hooks of the tent-flap to make them all turn out, but always staying his hand; or Nansen and Dietrichson, who lay quietly asleep in the tent, while the surf roared and rattled the ice-brash over the rocking floe, and swept ever nearer and nearer until it lapped the very edge of the tent. But just as the outlook was blackest, the floe suddenly changed its course, headed shoreward once more "as if guided by an unseen hand," and was soon in safer waters.

Nansen and his companions had a hard time of it during these perilous, exciting days on the ice floe. They did not so much mind their toil in the rain and surf, fruitlessly striving to force a passage through openings in the ice pack; they did not so much mind their scanty diet of raw horse-flesh, etc. (the cooking apparatus was only once lighted during their days of drifting); they did not so much mind the dangers that threatened them on every

hand; but they dreaded the prospect of having to give up for that season the journey across the inland ice. These wasted days were trying days indeed.

When the news of the success of the expedition reached Stockholm, Nordenskjöld pointed out, as the strongest proof of the admirable energy displayed during the entire journey, that when at last they had got through the belt of drift ice they instantly set to work to row northward again, in order to reach the proper point for attacking the ice sheet. They had, in a way, made an unfortunate and discouraging start. It was already well on in the summer, the supply of provisions was not over-abundant, and — civilization was, moreover, within temptingly easy reach. They were now only 180 miles from the nearest colony, Frederiksdal, while the Sermilikfjord, the starting-point originally fixed upon, was nearly twice as distant. The mere fact of their resisting the temptation to put off till the following year may be called truly heroic; not many would have shown such resolution. But for them the temptation was no temptation at all. It did not enter their thoughts that there was anything to be done except to head the boats northward as quickly as possible. And it was not with anxious fear, but with radiant joy, that they now saw a clear water-way before them.

The first problem, that of getting through the drift ice with whole skins, was thus solved — with great labor, it is true, and loss of precious time, but nevertheless solved. It had been prophesied that even this would prove impracticable; for a long series of vain attempts had shown that it was next thing to impossible to penetrate the ice belt south of the sixty-sixth degree of latitude. Not until

1883 had Nordenskjöld, with the steamer *Sophia*, succeeded in reaching the coast near Cape Dan (King Oscar's Haven). So much the more daring was it on Nansen's part to make the attempt.

But now the thing was to make all speed northward. The best of the summer was gone. If they were to have any chance of reaching the west coast that year, they must go at it in earnest. And they did go at it in earnest.

On the day of their landing at Kekertarsuak they had a lordly repast of hot chocolate and extra rations of oat cake, Swiss cheese, mysost (goat's milk cheese), and cranberry jam, to celebrate their landing; but after that their meals consisted of cold water, biscuits, and dried beef — they could not waste time in cooking until they had in some measure made up what they had lost in the ice drift. It was a toilsome journey by boat northward along the coast. For long distances they had to exert all their strength to force the ice floes apart in order to get the boats through the narrow channels between them; and sometimes they had to drag the boats over the ice, skirting the low barren coast, with glaciers and snow-fields coming right down to the margin of the sea. They got safely past the dreaded glacier Puisortok (near it, at Cape Bille, they came upon an encampment of heathen Eskimos, of which Nansen has given a highly interesting description),[1] and they forced their way with the greatest difficulty through a closely packed belt of drift ice south of Ingerkajarfik. At Mogens Heinesens Fjord the appearance of the coast altered. From this point northward there is a long stretch of bare coast land, with a view of

[1] See chapter vi.

high mountain ranges, "summit on summit, and rank behind rank."

By dint of constant battling with the drift ice and the current, the expedition reached Nunarsuak (62° 43′ N. lat.) on August 3. From this point they tried to sail, but the wind soon rose to a tempest which was near proving fatal, for the boats were on the point of being crushed between the ice floes, got their oars and thole-pins smashed, and were separated into the bargain. It was a hard pinch, but by putting forth all their strength they got through it at last, and the tent was pitched on a patch of soft greensward on Griffenfeldt's Island, for the highly needful repose after an exhausting day. A feast of splendid hot caraway soup, "never to be forgotten," was the reward for their toils.

On August 5 the boats narrowly escaped being crushed by the falling of a fragment of an iceberg, and "after almost incredible labor" they reached in the evening an islet at the mouth of the Inugsuarmiutfjord, where they intended to rest for the night. But from here they perceived that the water was open ahead, the fjord lying smooth as a mirror; so their rest had to be adjourned. Forward again! They certainly did "go at it in earnest."

At Singiartuarfik, on August 6, they again fell in with Eskimos. Then northward again, now in open water, now fighting with drift ice, always on cold dry diet which was served out, moreover, in very scanty rations. They were never really satisfied, not even directly after eating; but Nansen said "they had had enough, so enough it had to be," as Christiansen put it. To the Lapps, who naturally had no very clear notion beforehand of what they had embarked upon, this perpetual fighting with drift

ice, and fasting on top of it, began to seem rather depressing.

The coast now became less precipitous again, and the mountain contours rounder, and the explorers began to think of landing and beginning their journey proper. On August 8 they reached Bernstorff's Fjord (Kangerdlugsuak) at about 63½° N. lat. The fjord was brimful of glacier ice, many of the huge icebergs rising out of the water to a height of over two hundred feet (six or seven times as much being under water), and running to a mile or so in breadth, sometimes flat-topped, sometimes jutting forth into the most fantastic peaks, pinnacles, and crests. These colossal masses were so innumerable that they threatened to bar all advance. From the top of one of them the eye ranged over an "Alpine world of floating ice."

At last chinks were discovered even in this barrier — open channels "with a narrow strip of sky visible between high walls of ice." And "although huge icebergs more than once collapsed, or capsized with a mighty crash, and set up a violent sea-way," here, too, they at last got out of their difficulties for the moment. That night they slept in the sleeping-bags only, upon a rock so small that there was not room to pitch the tent.

In a more and more open water-way they pressed on northward, with masses of ice breaking off from the glaciers and icebergs on every side. On August 9, while they were in the act of forcing asunder two floes, among a number of icebergs, a huge piece of an iceberg fell down with a mighty crash upon the floe they were standing on, smashing it and violently churning up the sea. "Had we gone to that side a few moments earlier, as we

originally intended, we should almost certainly have been crushed to death. It was the third time such a thing had happened to us," Nansen says in his account of the expedition, characteristically describing it as "an odd occurrence." Well may it be called "odd"! How does it happen that some men come safe and sound through all such adventures; go voyages on ice floes and sleep undisturbed while the surf is on the point of breaking up the fragile barrier between them and eternity; row in boats under toppling icebergs, and get clear of them two minutes before they fall; plump into fissures in the inland ice at the very points where their arms and their alpenstocks can save them; row for days in dangerous waters in nutshell boats improvised out of sail-cloth, and get in just in time to escape storms and certain destruction; sleep on the ice in a temperature of —45° C. (—49° Fahr.) without freezing to death; fall into the ice-cold water half a score of times not only without drowning, but without so much as taking cold; lead a dog's life of toil and hunger for months at a stretch, and come out none the worse for it; while others — alas! one has no heart to insist on the contrast. But truly it may well be called "odd"!

Let us admit that ninety-nine hundredths of this "devil's own luck" is due to having an eye on every finger, so to speak — is due to the sound mind in the sound body — to the alert capacity of genius — to the indomitable energy of the man with a vocation. Granted all this, how are we to account for the remaining hundredth?

These Greenland explorers are in league with destiny!

When Njaal and his sons were hard bestead, Njaal would have had them give in; and one of the sons agreed with him that that was "the best they could do." Whereupon

Skarphedin answered: "I am not so sure of that, for now he is fey." The Saga-man would have us understand that he who is "fey," who is marked for death, has no longer complete control of his will and his intelligence.

These young men were not "fey" in any sense of the word.[1]

They now pressed forward in tolerably open water past the glacier-bound coast near Gyldenlöve's Fjord and Colberger Heide, and at last, at eight o'clock in the evening of August 10, in a thick fog, they made their final landing on the north side of Umiviksfjord. They were now done with the boats, and were overjoyed to haul them up on land, Nansen meanwhile making the coffee "for the second hot meal in twelve days."

After Nansen and Sverdrup had assured themselves, by a laborious reconnaissance on August 11, that it was possible to make the ascent of the inland ice from Umivik, the following days were devoted to all kinds of repairs of foot-gear, sledge-runners, etc., the final packing of the baggage, and, in short, the most careful preparation for the journey that lay before them. During all these days the weather was mild and calm, with a great deal of rain — weather in which it would not in any case have been advisable to make a start.

At last, at nine in the evening on August 16, everything was in order for the ascent. The baggage was stowed on four sledges, each carrying about 220 lbs., and a fifth, somewhat larger sledge, carrying about double that amount. This last was therefore drawn by two men, Nansen and Sverdrup.

[1] The word in the original is "feig," which means not only "fey," but "cowardly."

The ascent of the ice was very steep, so that their progress was slow, and, although they at first travelled by night, the surface was soft. The ice was full of crevasses, yet not so difficult but that they could manage to get across them. It rained a good deal, too, so that they were wet to the skin. For three days and nights, from noon on the 17th till the morning of the 20th, the weather was so execrable, with torrents of rain and wind, that there was nothing for it but to keep to the tent. They were not very agreeable days, especially as the supply of provisions was so small that Nansen decided that one meal a day must suffice while they were doing nothing.

On the 20th they were able to start off again. It was frightfully slow going, over the steep surface, full of rents and fissures. On the 21st it cleared up, and there was frost enough to make the snow firmer. From that day till they reached the west coast they found no drinking water anywhere, and consequently suffered from a burning thirst. While on the march they got nothing to drink but just what they could melt by the warmth of their own bodies. They filled small flat pocket-flasks with snow and carried them in their breasts, often next the skin, until the snow was melted. In such intense cold as they encountered later, these were hard-earned drops.

When they turned out at two o'clock on the morning of the 22d, they found a frozen surface. They were now at a height of about 3,000 feet, and thought they had got over the worst of the ascent. But the ice was still very uneven, and the labor of dragging along the heavy sledges was terrible — "the strain on the upper part of the body was very trying, and our shoulders felt as if they were burned by the ropes."

From the 24th onward they travelled by day. The cold now began to increase rapidly. Nevertheless, except for a single day, the surface was still, as a rule, extremely heavy, on account of the loose snow into which the sledges sank deep; and on the 26th they had, in addition, a regular snow-storm. The ascent was still so steep (a gradient, sometimes, of 1 in 4) that it would often take three men to pull each sledge, so that they had to cover the ground several times over. No wonder that Christiansen, who, as a rule, never opened his mouth, should have said to Dietrichson after one of these return journeys: "Good Lord! to think of people being so cruel to themselves as to go in for this sort of thing." The expedition had then reached a height of about 6,000 feet.

This weather, with wind and snow-flurries, continued during the following days. Although they tried to make use of the wind by rigging up tarpaulin sails on the sledges, they nevertheless got on so slowly that it began to dawn on Nansen that, at this rate, there would be small prospect of reaching Christianshaab now that the season was so far advanced. On the 28th, therefore, he determined to take a different direction, and steer due west, for Godthaab, or rather for the shores of the Ameralikfjord (64° 10′), directly south of Godthaab, a considerably nearer point on the west coast. This proposition was received with joy by every one, and they set off through the snow with the same unremitting toil, although in a slightly different direction.

The projecting peaks (nunataks) which, up to this point, they had passed from time to time, now disappeared; the last glimpse of bare rock was seen on August 31. After that nothing but ice and snow met their view until they reached the west coast.

Still their course lay steadily upward. The snow-field rose in long, gentle waves, higher and higher toward the interior.

For weeks they fought their way inland in this fashion, one day exactly resembling another, and full of endless toil from morning till night. The surface of the snow was now smooth and even as a mirror, broken only by the tracks they themselves made with their feet or their sledges. The snow, frequently fresh-fallen, was, as a rule, fine and dry, and therefore exceptionally heavy to drag the sledges through. The day's march under these conditions was not long — not more than from five to ten miles, although they were now able to use snow-shoes.

As they advanced the cold became more and more severe. When the weather was fine, indeed, the midday sun was often quite oppressive, and their feet would get wet in the slush; but as soon as the sun went down, they felt the cold of the nights so much the more keenly — and they were often in danger of having their wet feet frost-bitten. "It often happened, when we came to take off our laupar-shoes of an evening, that we found them frozen fast in one solid piece with snow-sock and stocking."

On September 11, the temperature at night within the tent was under —40° C. (—40° Fahr.), and outside the tent probably under —45° C. (—49° Fahr.). The difference between the day and the night temperature was often more than 20° C. (36° Fahr.). Even inside the closed sleeping-bag, the cold was so severe that when they awakened they would often find their heads completely surrounded with ice and hoar frost. "To be obliged to be out constantly in such cold is not always agreeable," says Nansen in his

book. "It often happened that so much ice formed about the face that the beard was absolutely frozen fast to the wrappings round the head, and it was difficult enough to open the mouth to speak." When in addition to the frost there came a snow-storm, we can readily understand that it was no joke for them to drag themselves, each with a heavy sledge, day after day across the interminable ice desert, at an altitude of 8,000 or 9,000 feet above the sea. From September 4 to 8 they encountered a furious snow-storm, with a temperature of —40° Fahr. On the 7th, indeed, they dared not stir from their tent, which was carefully hauled taut, lest the wind should blow it to shreds — in which case, no doubt, their saga would have been over. But when it was at all possible their daily life followed its regular course; and in spite of cold and snow-storm, thirst, "fat hunger," and other hardships, they toiled steadily on toward the west coast. On September 5 they passed the highest point on their route, 8,860 feet.

On September 11 and 12 they were at a height of about 8,300 feet; and from here began a perceptible, if not a very marked, down gradient toward the west. On the 16th they came upon several pretty sharp declivities, and when the temperature at night "just failed to reach zero" they all felt that it was quite mild.

On the 17th they saw a snow-bunting, and knew they must now be nearing "land."

On the 19th they had a favorable wind, and hoisted sails on the sledges, which they lashed together, two and two. They were soon going at a spanking pace, and now at last they were distinctly upon the downward slope toward the coast. Late in the afternoon they saw "land" for the first time. They went on sailing in the moonlight,

and very nearly sailed their last voyage, for they had now reached the fissured marginal zone of the inland ice, with its yawning crevasses many hundred feet deep.

Nansen himself had the fingers of both hands frost-bitten that evening, and suffered "almost intolerable pain" (it must have been bad indeed!). They had little enough

UNDER SAIL IN THE MOONLIGHT — CREVASSES AHEAD

to eat, too; but for all this they cared not a whit, for they knew now that they were nearing the west coast.

The next morning (September 20) when they looked out of the tent, and saw the whole country south of Godthaabsfjord spread out before them, one can guess what were their feelings. "We were like children — a lump rose in our throats, while our eyes followed the valleys and sought in vain for a glimpse of the sea."

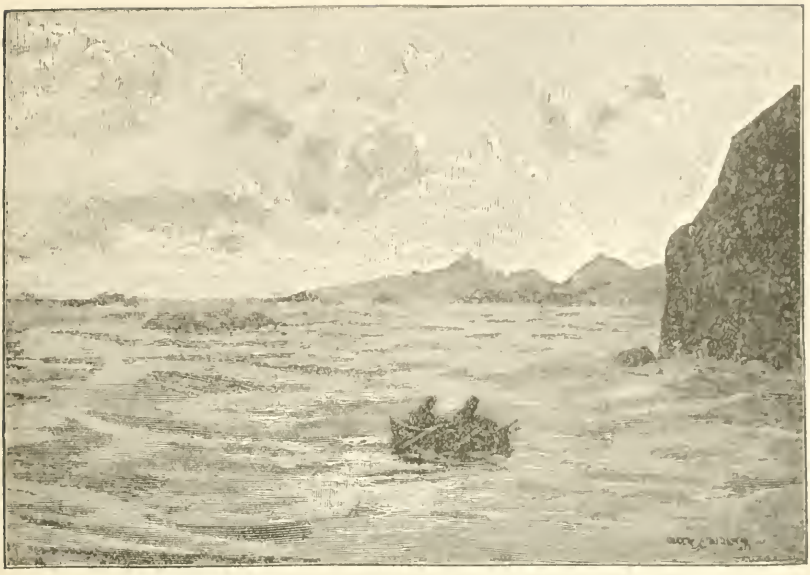
The next day they advanced pretty briskly, although with the greatest caution, on account of the numerous fissures, among which they had many narrow escapes. On the evening of the 21st, for the first time since leaving the east coast, they found water, and after several weeks of thirst were able to drink freely. "We could positively feel our stomachs distending," says Nansen. These were memorable days for them all.

They pushed on now toward Ameralikfjord; but it was an advance under difficulties. The ice soon became terribly uneven, and full of cracks and crevasses on all sides — sometimes so impassable that they had to make long detours. Several times, one or another of them would fall into a crevasse, but would generally manage to get his alpenstock fixed like a horizontal bar across the fissure. "It was odd enough that none of us fell in any deeper."

In spite of untold difficulties and dangers they made their way during the succeeding days across this treacherous marginal zone, and at last, on September 24, reached naked soil, and had the inland ice forever behind them. "No words can possibly describe what it was to us merely to have earth and stones under our feet — the sense of well-being that thrilled through every nerve when we felt the heather springing under our step, and smelled the marvellous fragrance of grass and moss."

Their difficulties, however, were not yet over — they had still a good way to go down the long Austmannadal, and now everything had to be carried on their backs. This final stage they accomplished in the following days, and at last the fjord was reached.

Here Sverdrup and Balto set to work to stitch together the hull of a canvas boat, using for the purpose the sail-



NANSEN AND SVERDRUP IN THE CANVAS BOAT

cloth floor of the tent; while Nansen cut willow-wands to make the frame. Oars were improvised out of bamboo staves and split willow-branches covered with sail-cloth. For thwarts they had nothing but a theodolite-stand and two thin bamboo rods.

It was an uncouth nutshell of a boat, about 8 feet long, not quite 4 feet 6 inches wide, and scarcely 2 feet deep. It was just big enough to hold Nansen and Sverdrup, and the most necessary baggage; and they had to keep their tongues pretty straight in their mouths, or it would have capsized.

After a terrible business in getting boat and baggage through the river delta and across a clayey spit of land to the open water, on September 29, Nansen and Sverdrup at last rowed off down the Ameralikfjord. Although the boat could scarcely be classed as A1, and leaked so that it

had to be baled every ten minutes, it nevertheless carried them to their journey's end.

They had favorable weather on the whole, and, by dint of great exertions, they brought their coracle safe and sound to New Herrnhut at midday on October 3. Scarcely had they got ashore when a terrific southerly gale came on. From New Herrnhut they went overland to Godthaab.

Dietrichson, Christiansen, and the two Lapps, who had remained behind at the head of the Ameralikfjord with the bulk of the baggage and no great store of provisions, were brought off in safety as soon as the weather permitted; and thus, on October 16, did this remarkable expedition come to a fortunate close.

"We had toiled hard, and undeniably suffered a good deal in order to reach this goal; and what were now our sensations? Were they those of the happy victor? No; we had looked forward so long to the goal that we had discounted its attainment." So Nansen writes of his feelings the evening before they arrived at Godthaab. And this is, no doubt, comprehensible enough. They were too tired, too worn out, for the abstract exultation at having actually reached their goal to be able to assert itself effectually against the more material delights, for example, of eating till they were satisfied and sleeping in a proper bed.

Besides, the satisfaction had been broken up into many happy moments during the actual journey — they had had a taste of it when, with confident hope, they landed on the east coast, after forcing their passage through the drift ice; they had revelled in it when they first saw land from the heights of the inland ice, when they first found water

to drink, when they first felt the solid earth, with heather and moss, under their feet, when they launched their boat on the waves of the Ameralikfjord. The satisfaction really lay in the exploit as a whole, in the stimulating open-air life, toilsome though it was — not so much in the goal attained, as in the struggle to attain it. As soon as that was done, why, it was done; there was no longer anything to toil and strive for, and lassitude rushed in upon them until other more distant goals began to loom ahead in their thoughts. This, indeed, is what inevitably happens to every man who is really born with the spirit of research. So long as he has strength and faculty for new problems, his joy over those achieved must be short-lived. It must give place, in the ferment of the mind, to new aspirations; and in Nansen's case these new aspirations were already lying in wait. We may safely assume that even during his stay in Greenland the plan of his next great enterprise must have been taking shape in his thoughts.

When the expedition reached the colony, the ship from Godthaab had already started. Nansen, however, got kaiak-men to take letters to Ivigtut, seventy miles south of Godthaab. They were duly delivered, at the last moment, on board the steamer *Fox*, which had carried McClintock on his voyage in search of Franklin; and thus the news of the successful issue of the Greenland expedition reached Europe that autumn. It chanced that the *Fox* was obliged, by scarcity of coal, to touch at Skudesnæs, so that Nansen's native country got the first intelligence.

The two letters brought by the steamer, one from

Nansen to Gamél, the other from Sverdrup to his father, were soon telegraphed over the whole world, and, as will be remembered, were everywhere received with great rejoicing.

Meanwhile Nansen and his comrades had to winter in Godthaab, where Herr Bistrups, the director of the colony, Doctor Binzers, Pastor Balles, and the other Danish residents, showed them the greatest hospitality, and did everything to make their stay as pleasant as possible. Nansen himself turned his time to account in studying the Eskimos. He shared their life with them in their huts, went thoroughly into their methods of hunting, their customs and occupations, and even got to know their language pretty well. He learned to manage the kaiak and wield their weapons; in short, he spared no possible pains in his study of this remarkable people, for whom he soon came to entertain a real affection.

He also made several excursions with the Greenlanders, a hunting expedition to Ameralikfjord, and longer trips to Sardlok and Kangek, during which he lived for some weeks entirely with the Eskimos.

On April 15, 1889, while Nansen and his comrades sat chatting over their coffee with the colonial director and the doctor, the whole colony resounded with one universal cry, "Umiarsuit! Umiarsuit!" (The ship, the ship!) It was the longed-for vessel, *Hvidbjörnen*, under the command of Lieutenant Garde.

The hour of departure had come, and everything was soon in order. "It was not without sorrow," Nansen says, "that some of us turned our backs on the people who had been so good to us, and the place where we had lived so happily." So far as Nansen himself is concerned,

one may be sure that these words are the expression of sincere feeling. A nature like his, with its healthy passion for open-air activity, must have been in its element among these kindly primitive people. He relates a charmingly characteristic little incident of their leave-taking. One of his Eskimo friends, whom he had often visited, said to him the day before his departure: "Now you are going back to the great world whence you came to us, and you will meet many people there, and hear many new things, and you will soon forget us; *but we will never forget you.*"

Those who know Nansen know that he has not forgotten his Eskimo friends; and those who have read his book describing their life will understand how dear they had become to him.

On May 21, after a favorable passage, *Hvidbjörnen* anchored in the harbor of Copenhagen. It was a little more than a year since Nansen, on his way to Greenland, had passed through Copenhagen, and put the hasty finishing touches to the preparations for the expedition. A great deal had happened in the interval. In himself, indeed, he was just the same when he came back as when he went away; but in the eyes of the world he was a very different person. Then he had been a young dare-devil setting forth on a forlorn hope; now he was the world-renowned explorer who had successfully carried through a great undertaking.

And then came the triumphs. First a week's festivities in Copenhagen, and then the home-coming — such a home-coming as has fallen to the lot of no other Norwegian. It was a lovely day as the triumphal procession passed up Christiania Fjord — all the ships were in festal

array, the woods wore their first green leaves, there were flowers and flags and music on every hand, up the whole long fjord, to the city. It was as though a flood of color and warmth had streamed forth to greet these visitants from the white wastes of the inland ice.

First came the men-of-war and the torpedo boats, skimming along beside the *M. G. Melchior*, and forming a guard of honor, right up to the capital; then the great squadron of steamships, then the sailing-boats and cutters with their white sails, darting around Nansen's ship like a flock of sea-gulls, now astern, now abeam, now ahead. There he stood in his gray clothes which had turned to dirty brown in the Greenland turf huts. The honor done him was too overpowering for him to feel proud at that moment. A softer and more subdued emotion must doubtless have been in the ascendant. He must have felt how he passed over into his people, and became one with it. He had gone forth as an emissary, an interpreter of this people; the courage which goes unknown and unrecorded to its fate in the dark nights on sea and fjord, it had been his happy lot to lead forward into sunshine and victory

NANSEN AT THIRTY-ONE

before the eyes of the whole world. Among all the thousands who waved to him from the ramparts of Akerhus, who burst the cordon of the police and swarmed round his carriage in the streets, how many at that moment had any thought of science? It was the exploit that appealed to them — they saw in him the victorious chieftain, the connecting link between the heroes of the Sagas and the heroes of every-day life, the fisherman clinging to his overturned boat, the snow-shoer on the wintry uplands, the lumberman shooting the rapids on his raft. They saw in him the national type; and they were right in a way. In that hour he must certainly have felt himself close-knit to the soil from which his deed had sprung, and memories of childhood must have rushed in upon him when his carriage stopped at the house of the sisters Larsen, and he ran upstairs to greet the old housekeeper at Great Fröen, who had bandaged his blood-stained forehead the first time that he kissed the ice.

CHAPTER V

DRIFTING IN THE ICE[1]

NEXT morning, July 20, I was roused by some violent shocks to the floe on which we were encamped, and thought the motion of the sea must have increased very considerably. When we get outside we discover that the floe has split in two not far from the tent. The Lapps, who had at once made for the highest points of our piece of ice, now shout that they can see the open sea. And so it is; far in the distance lies the sea sparkling in the morning sunshine. It is a sight we have not had since we left the *Jason*.

I may here reproduce the entries in my diary for this and the following day: —

"The swell is growing heavier and heavier, and the water breaking over our floe with ever-increasing force. The blocks of ice and slush, which come from the grinding of the floes together, and are thrown up round the edges of our piece, do a good deal to break the violence of the waves. The worst of it all is that we are being carried seaward with ominous rapidity. We load our sledges and try to drag them inward toward land, but soon see that the pace we are drifting at is too much for us. So we begin again to look around us for a safer floe to pitch our camp on, as our present one seems somewhat shaky. When we first took to it it was a good round flat piece

[1] From Nansen's *Across Greenland*.

about seventy yards across, but it split once during the night, and is now preparing to part again at other places, so that we shall soon not have much of it left. Close by us is a large strong floe, still unbroken, and thither we move our camp.

"Meanwhile the breakers seem to be drawing nearer, their roar grows louder, the swell comes rolling in and washes over the ice all around us, and the situation promises before long to be critical.

"Poor Lapps! they are not in the best of spirits. This morning they had disappeared, and I could not imagine what had become of them, as there were not many places on our little island where any of us could hide ourselves away. Then I noticed that some tarpaulins had been carefully laid over one of the boats. I lifted a corner gently and saw both the Lapps lying at the bottom of the boat. The younger, Balto, was reading aloud to the other out of his Lappish New Testament. Without attracting their attention I replaced the cover of this curious little house of prayer which they had set up for themselves. They had given up hope of life, and were making ready for death." — As Balto confided to me one day long afterward, they had opened their hearts to one another here in the boat and mingled their tears together, bitterly reproaching themselves and others because they had ever been brought to leave their homes. This is not to be wondered at, as they have so little interest in the scheme.

"It is glorious weather, with the sun so hot and bright that we must have recourse to our spectacles. We take advantage of this to get an observation, our bearings showing us to be in 65° 8′ N. and 38° 20′ W., *i. e.*, 30

minutes or about 35 miles from the mouth of Sermilikfjord, and from 23 to 25 minutes or about 30 miles from the nearest land.

"We get our usual dinner ready, deciding, however, in honor of the occasion, to treat ourselves to pea-soup. This is the first time we have allowed ourselves to cook anything. While the soup is being made the swell increases so violently that our cooking apparatus is on the point of capsizing over and over again.

"The Lapps go through their dinner in perfect silence, but the rest of us talk and joke as usual, the violent rolls of our floe repeatedly giving rise to witticisms on the part of one or other of the company, which in spite of ourselves kept our laughing muscles in constant use. As far as the Lapps were concerned, however, these jests fell on anything but good ground, for they plainly enough thought that this was not at all the proper time and place for such frivolity.

"From the highest point on our floe we can clearly see how the ice is being washed by the breakers, while the columns of spray thrown high into the air look like white clouds against the background of blue sky. No living thing can ride the floes out there as far as we can see. It seems inevitable that we must be carried thither, but, as our floe is thick and strong, we hope to last for a while. We have no idea of leaving it before we need, but when it comes to that, and we can hold on no longer, our last chance will be to try and run our boats out through the surf. This will be a wet amusement, but we are determined to do our best in the fight for life. Our provisions, ammunition, and other things are divided between the two boats, so that if one is stove in and sinks we

shall have enough to keep us alive in the other. We should probably be able to save our lives in that case, but of course the success of the expedition would be very doubtful.

"To run one of our loaded boats into the water through the heavy surf and rolling floes without getting her swamped or crushed will perhaps be possible, as we can set all our hands to work, but it will be difficult for the crew of the remaining boat to get their ship launched. After consideration we come to the conclusion that we must only put what is absolutely necessary into one boat, and keep it as light as possible, so that in case of extremity we can take to it alone. For the rest, we shall see how things look when we actually reach the breakers.

"We have scarcely half a mile left now, and none of us have any doubt but that before another couple of hours are passed we shall find ourselves either rocking on the open sea, making our way along the ice southward, or sinking to the bottom.

"Poor Ravna deserves most sympathy. He is not yet at all accustomed to the sea and its caprices. He moves silently about, fiddling with one thing or another, now and again goes up to the highest points of our floe, and gazes anxiously out toward the breakers. His thoughts are evidently with his herd of reindeer, his tent, and wife and children far away on the Finmarken mountains, where all is now sunshine and summer weather.

"But why did he ever leave all this? Only because he was offered money? Alas! what is money compared with happiness and home, where all is now sun and summer? Poor Ravna!

"It is but human at such moments to let the remem-

brance dwell on what has been fairest in life, and few indeed can have fairer memories to look back upon than yours of the mountain and reindeer-herd.

"But here, too, the sun is shining as kindly and peacefully as elsewhere, down on the rolling sea and thundering surf, which is boiling round us. The evening is glorious, as red as it was yesterday, and as no doubt it will be tomorrow and ever after, setting the western sky on fire, and pressing its last long passionate kiss on land and ice and sea before it disappears behind the barrier of the 'inland ice.' There is not a breath of wind stirring, and the sea is rolling in upon us ruddy and polished as a shield under the light of the evening sky.

"Beautiful it is, indeed, with these huge long billows coming rolling in, sweeping on as if nothing could withstand them. They fall upon the white floes, and then, raising their green, dripping breasts, they break and throw fragments of ice and spray far before them on to the glittering snow, or high above them into the blue air. But it seems almost strange that such surroundings can be the scene of death. Yet death must come one day, and the hour of our departure could scarcely be more glorious.

"But we have no time to waste; we are getting very near now. The swell is so heavy that when we are down in the hollows we can see nothing of the ice around us, nothing but the sky above. Floes crash together, break, and are ground to fragments all about us, and our own has also split. If we are going to sea we shall need all our strength in case we have to row for days together in order to keep clear of the ice. So all hands are ordered to bed in the tent, which is the only thing we have not

yet packed into the boats. Sverdrup, as the most experienced and cool-headed among us, is to take the first watch and turn us out at the critical moment. In two hours Christiansen is to take his place.

"I look in vain for any sign which can betray fear on the part of my comrades, but they seem as cool as ever, and their conversation is as usual. The Lapps alone show some anxiety, though it is that of a calm resignation, for they are fully convinced that they have seen the sun set for the last time. In spite of the roar of the breakers we are soon fast asleep, and even the Lapps seem to be slumbering quietly and soundly. They are too good children of nature to let anxiety spoil their sleep. Balto, who, not finding the tent safe enough, is lying in one of the boats, did not even wake when some time later it was almost swept by the waves, and Sverdrup had to hold it to keep it on the floe.

"After sleeping for a while, I do not know how long, I am woke by the sound of the water rushing close by my head and just outside the wall of the tent. I feel the floe rocking up and down like a ship in a heavy sea, and the roar of the surf is more deafening than ever. I lay expecting every moment to hear Sverdrup call me or to see the tent filled with water, but nothing of the kind happened. I could distinctly hear his familiar steady tread up and down the floe between the tent and the boats. I seemed to myself to see his sturdy form as he paced calmly backward and forward, with his hands in his pockets and a slight stoop in his shoulders, or stood with his calm and thoughtful face gazing out to sea, his quid now and again turning in his cheek — I remember no more, as I dozed off to sleep again.

"I did not wake again till it was full morning. Then I started up in astonishment, for I could hear nothing of the breakers but a distant thunder. When I got outside the tent I saw that we were a long way off the open sea. Our floe, however, was a sight to remember. Fragments of ice, big and little, had been thrown upon it by the waves till they formed a rampart all around us, and the ridge on which our tent and one of the boats stood was the only part the sea had not washed.

"Sverdrup now told us that several times in the course of the night he had stood by the tent-door prepared to turn us out. Once he actually undid one hook, then waited a bit, took another turn to the boats, and then another look at the surf, leaving the hook unfastened in case of accident. We were then right out at the extreme edge of the ice. A huge crag of ice was swaying in the sea close beside us, and threatening every moment to fall upon our floe. The surf was washing us on all sides, but the rampart that had been thrown up round us did us good service, and the tent and one of the boats still stood high and dry. The other boat, in which Balto was asleep, was washed so heavily that again and again Sverdrup had to hold it in its place.

"Then matters got still worse. Sverdrup came to the tent-door again, undid another hook, but again hesitated and waited for the next sea. He undid no more hooks, however. Just as things looked worst, and our floe's turn had come to ride out into the middle of the breakers, she suddenly changed her course, and with astonishing speed we were once more sailing in toward land. So marvellous was the change that it looked as if it were the work of an unseen hand. When I got out we were far inside and in

a good harbor, though the roar of the breakers was still audible enough to remind us of the night. Thus for this time we were spared the expected trial of the seaworthiness of our boats and our own seamanship."

THE ESKIMO ENCAMPMENT AT CAPE BILLE

(*By E. Nielsen, from a photograph*)

CHAPTER VI

AN ESKIMO ENCAMPMENT ON THE EAST COAST[1]

As we drew near Cape Bille, the promontory which lies to the north of Puisortok, we heard strange sounds from shore — as it were, a mixture of human voices and the barking of dogs. As we gazed thither we now caught sight of some dark masses of moving objects, which, as we examined them more closely, we found to be groups of human beings. They were spread over the terrace of rock, were chattering in indistinguishable Babel, gesticulating, and pointing toward us as we worked our way quietly through the ice. They had evidently been watching us for some time. We now too discovered a number of skin-tents which were perched among the rocks, and at the same time became aware of a noteworthy smell of train-oil or some similar substance, which followed the off-shore breeze. Though it was still early, and though the water in front of us seemed open for some distance, we could not resist the temptation of visiting these strange and unknown beings. At the moment we turned our

[1] From Nansen's *Across Greenland.*

boats toward shore the clamor increased tenfold. They shrieked and yelled, pointed, and rushed, some down to the shore, others up on to higher rocks in order to see us better. If we were stopped by ice and took out our long boat-hooks and bamboo poles to force the floes apart and make ourselves a channel, the confusion on shore rose to an extraordinary pitch, the cries and laughter growing simply hysterical. As we got in toward land some men came darting out to us in their "kaiaks," among them a native whom we had seen in the morning. Their faces one and all simply beamed with smiles, and in the most friendly way they swarmed around us in their active little craft, trying to point us out the way, which we could quite well find ourselves, and gazing in wonder at our strong boats as they glided on regardless of ice, which would have cut their fragile boats of skin in pieces.

At last we passed the last floe and drew in to shore. It was now growing dusk, and the scene that met us was one of the most fantastic to which I have ever been witness. All about the ledges of rock stood long rows of strangely wild and shaggy-looking creatures — men, women, and children all in much the same scanty dress — staring and pointing at us, and uttering the same bovine sound which had so much struck us in the morning. Now it was just as if we had a whole herd of cows about us, lowing in chorus as the cowhouse door is opened in the morning to admit the expected fodder. Down by the water's edge were a number of men eagerly struggling and gesticulating to show us a good landing-place, which, together with other small services of the kind, is the acknowledged Eskimo welcome to strangers whom they are pleased to see. Up on the rocks were a number

of yellowish-brown tents, and lower down canoes, skin-boats, and other implements, while more "kaiaks" swarmed round us in the water. Add to all this the neighboring glacier, the drifting floes, and the glowing evening sky, and, lastly, our two boats and six unkempt-looking selves, and the whole formed a picture which we at least are not likely to forget. The life and movement were a welcome contrast indeed to the desolation and silence which we had so long endured.

It was not long, of course, before our boats were safely moored, and we standing on shore surrounded by crowds of natives, who scanned us and our belongings with wondering eyes. Beaming smiles and kindliness met us on all sides. A smiling face is the Eskimo's greeting to a stranger, as his language has no formula of welcome.

Then we look around us for a bit. Here amid the ice and snow these people seemed to be comfortable enough, and we felt indeed that we would willingly prolong our stay among them. As we stopped in front of the largest tent, at the sight of the comfortable glow that shone out through its outer opening, we were at once invited in by signs. We accepted the invitation, and as soon as we had passed the outer doorway a curtain of thin membraneous skin was pushed aside for us, and, bending our heads as we entered, we found ourselves in a cosey room.

The sight and smell which now met us were, to put it mildly, at least unusual. I had certainly been given to understand that the Eskimos of the east coast of Greenland were in the habit of reducing their indoor dress to the smallest possible dimensions, and that the atmosphere of their dwellings was the reverse of pleasant. But a sight so extraordinary, and a smell so remarkable, had

never come within the grasp of my imagination. The smell, which was a peculiar blending of several characteristic ingredients, was quite enough to occupy one's attention at first entrance. The most prominent of the components was due to the numerous train-oil lamps which were burning, and this powerful odor was well tempered with human exhalations of every conceivable kind, as well as the pungent effluvia of a certain fetid liquid which was stored in vessels here and there about the room, and which, as I subsequently learned, is, from the various uses to which it is applied, one of the most important and valuable commodities of Eskimo domestic economy. Into further details I think it is scarcely advisable to go, and I must ask the reader to accept my assurance that the general effect was anything but attractive to the unaccustomed nose of the new-comer. However, familiarity soon has its wonted effect, and one's first abhorrence may even before long give way to a certain degree of pleasure. But it is not the same with every one, and one or two of our party were even constrained to retire incontinently.

For my own part, I soon found myself sufficiently at ease to be able to use my eyes. My attention was first arrested by the number of naked forms which thronged the tent in standing, sitting, and reclining positions. All the occupants were, in fact, attired in their so-called "nâtit" or indoor dress, the dimensions of which are so extremely small as to make it practically invisible to the stranger's inexperienced eye. The dress consists of a narrow band about the loins, which in the case of the women is reduced to the smallest possible dimensions.

Of false modesty, of course, there was no sign, but it is

not to be wondered at that the unaffected ingenuousness with which all intercourse was carried on made a very strange impression upon us conventional Europeans in the first instance. Nor will the blushes which rose to the cheeks of some among us when we saw a party of young men and women who followed us into the tent at once proceed to attire themselves in their indoor dress, or, in other words, divest themselves of every particle of clothing which they wore, be laid to our discredit, when it is remembered that we had been accustomed to male society exclusively during our voyage and adventures among the ice. The Lapps especially were much embarrassed at the unwonted sight.

The natives now thronged in in numbers, and the tent was soon closely packed. We had been at once invited to sit down upon some chests which stood by the thin skin-curtain at the entrance. These are the seats which are always put at the disposal of visitors, while the occupants have their places upon the long bench or couch which fills the back part of the tent. This couch is made of planks, is deep enough to give room for a body reclining at full length, and is as broad as the whole width of the tent. It is covered with several layers of seal-skin, and upon it the occupants spend their whole indoor life, men and women alike, sitting often cross-legged as they work, and taking their meals and rest and sleep.

The tent itself is of a very peculiar construction. The framework consists of a sort of high trestle, upon which a number of poles are laid, forming a semicircle below, and converging more or less to a point at the top. Over these poles a double layer of skin is stretched, the inner coat with the hair turned inward, and the outer generally

consisting of the old coverings of boats and "kaiaks." The entrance is under the above-mentioned trestle, which is covered by the thin curtain of which I have already spoken.

This particular tent housed four or five different families. Each of them had its own partition marked off upon the common couch, and in each of the stalls so formed man, wife, and children would be closely packed, a four-foot space thus having sometimes to accommodate husband, two wives, and six or more children.

Before every family stall a train-oil lamp was burning with a broad flame. These lamps are flat, semicircular vessels of pot-stone, about a foot in length. The wick is made of dried moss, which is placed against one side of the lamp and continually fed with pieces of fresh blubber, which soon melts into oil. The lamps are in charge of the women, who have special sticks to manipulate the wicks with, to keep them both from smoking and from burning too low. Great pots of the same stone hang above, and in them the Eskimos cook all their food which they do not eat raw. Strange to say, they use neither peat nor wood for cooking purposes, though such fuel is not difficult to procure. The lamps are kept burning night and day; they serve for both heating and lighting purposes, for the Eskimo does not sleep in the dark, like other people; and they also serve to maintain a permanent odor of train-oil, which, as I have said, our European senses at first found not altogether attractive, but which they soon learned not only to tolerate, but to take pleasure in.

As we sat in a row on the chests, taking stock of our strange surroundings, our hosts began to try to enter-

tain us. The use of every object we looked at was kindly explained to us, partly by means of words, of which we understood nothing, and partly by actions, which were somewhat more within reach of our comprehension. In this way we learned that certain wooden racks which hung from the roof were for drying clothes on, that the substance cooking in the pots was seal's-flesh, and so on. Then they showed us various things which they were evidently very proud of. Some old women opened a bag, for instance, and brought out a little bit of Dutch screw-tobacco, while a man displayed a knife with a long bone-handle. These two things were, no doubt, the most notable possessions in the tent, for they were regarded by all the company with especial veneration. Then they began to explain to us the mutual relations of the various occupants of the tent. A man embraced a fat woman, and thereupon the pair with extreme complacency pointed to some younger individuals, the whole pantomime giving us to understand that the party together formed a family of husband, wife, and children. The man then proceeded to stroke his wife down the back and pinch her here and there to show us how charming and delightful she was, and how fond he was of her, the process giving her, at the same time, evident satisfaction.

Curiously enough, none of the men in this particular tent seemed to have more than one wife, though it is a common thing among the east coast Eskimos for a man to keep two if he can afford them, though never more than two. As a rule the men are good to their wives, and a couple may even be seen to kiss each other at times, though the process is not carried out on European lines, but by a mutual rubbing of noses. Domestic strife is,

however, not unknown, and it sometimes leads to violent scenes, the end of which generally is that the woman receives either a vigorous castigation or the blade of a knife in her arm or leg, after which the relation between the two becomes as cordial as ever, especially if the woman has children.

In our tent the best of understandings seem to prevail among the many occupants. Toward us they were especially friendly, and talked incessantly, though it had long been quite clear to them that all their efforts in this direction were absolutely thrown away. One of the elders of the party, who was evidently a prominent personage among them, and probably an "angekok" or magician, an old fellow with a wily, cunning expression, and a more dignified air than the rest, managed to explain to us with a great deal of trouble that some of them had come from the north and were going south, while others had come from the south and were bound north; that the two parties had met here by accident, that we had joined them, and that altogether they did not know when they had had such a good time before. Then he wanted to know where we had come from, but this was not so easily managed. We pointed out to sea, and as well as we could tried to make them understand that we had forced our way through the ice, had reached land farther south, and then worked up northward. This information made our audience look very doubtful indeed, and another chorus of lowing followed, the conclusion evidently being that there was something supernatural about us. In this way the conversation went on, and, all things considered, we were thoroughly well entertained, though to an outside observer our pantomimic efforts would, of course, have seemed extremely comical.

I will not be rash enough to assert that all the faces that surrounded us were indisputably clean. Most of them were, no doubt, naturally of a yellowish or brownish hue, but how much of the color that we saw in these very swarthy countenances was really genuine we had no means of deciding. In some cases, and especially among the children, the dirt had accumulated to such an extent that it was already passing into the stage of a hard black crust, which here and there had begun to break away and to show the true skin beneath. Every face, too, with few exceptions, simply glistened with blubber. Among the women, especially the younger section, who here as in some other parts of the world are incontinently vain, washing is said to be not uncommon, and Holm even accuses them of being very clean. But as to the exact nature of the process which leads to this result it will perhaps be better for me to say no more.

It might be supposed that the surroundings and habits of these people, to which I have already referred, together with many other practices, which I have thought it better not to specify, would have an extremely repellent effect upon the stranger. But this is by no means the case when one has once overcome the first shock which the eccentricity of their ways is sure to cause, when one has ceased to notice such things as the irrepressible tendency of their hands to plunge into the jungle of their hair in hot pursuit, as their dirt-encrusted faces — a point on which, I may remark, we ourselves in our then condition had little right to speak — and as the strange atmosphere in which they live; and if one is careful at first not to look too closely into their methods of preparing food, the general impression received is absolutely attractive. There

is a frank and homely geniality in all their actions which is very winning, and can only make the stranger feel thoroughly comfortable in their society.

People's notions on the subject of good looks vary so much that it is difficult to come to a satisfactory determination with regard to these Eskimos. If we bind ourselves down to any established ideal of beauty, such as, for instance, the Venus of Milo, the question is soon settled. The east coast of Greenland, it must be confessed, is not rich in types of this kind. But if we can only make an effort and free our critical faculty from a standard which has been forced upon it by the influences of superstition and heredity, and can only agree to allow that the thing which attracts us, and on which we look with delight, for these very reasons possesses the quality of beauty, then the problem becomes very much more difficult of solution. I have no doubt that, were one to live with these people for a while and grow accustomed to them, one would soon find many a pretty face and many an attractive feature among them.

As it was, indeed, we saw more than one face which a European taste would allow to be pretty. There was one woman especially who reminded me vividly of an acknowledged beauty at home in Norway; and not only I, but one of my companions who happened to know the prototype, was greatly struck by the likeness. The faces of these Eskimos are as a rule round, with broad, outstanding jaws, and are, in the case of the women especially, very fat, the cheeks being particularly exuberant. The eyes are dark and often set a little obliquely, while the nose is flat, narrow above, and broad below. The whole face often looks as if it had been compressed from the front and

forced to make its growth from the sides. Among the women, and more especially the children, the face is so flat that one could almost lay a ruler across from cheek to cheek without touching the nose; indeed, now and again one will see a child whose nose really forms a depression in the face rather than the reverse. It will be understood from this that many of these people show no signs of approaching the European standard of good looks, but it is not exactly in this direction that the Eskimo's attractions, generally speaking, really lie. At the same time there is something kindly, genial, and complacent in his stubby, dumpy, oily features which is quite irresistible.

Their hands and feet alike are unusually small and well-shaped. Their hair is absolutely black, and quite straight, resembling horse-hair. The men often tie it back from the forehead with a string of beads and leave it to fall down over the shoulders. Some who have no such band have it cut above the forehead or round the whole head with the jawbone of a shark, as their superstitions will not allow them on any account to let iron come into contact with it, even when the doubtful course of having it cut at all has been resolved upon. But, curiously enough, a man who has begun to cut his hair in his youth must necessarily continue the practice all his life. The women gather their hair up from behind and tie it with a strip of seal-skin into a cone, which must stand as perpendicularly as possible. This convention is, of course, especially stringent in the case of the young unmarried women, who, to obtain the desired result, tie their hair back from the forehead and temples so tightly that by degrees it gradually gives way, and they become bald at a very early age. A head which has felt the effects of this treatment is no

attractive sight, but the victim in such cases has generally been a long time married and settled in life, and the disadvantage is therefore not so keenly felt.

After we had been sitting in the tent for a while, one of

ESKIMO BEAUTY, FROM THE EAST COAST, IN HER OLD AGE
(By E. Nielsen, from a photograph taken by the Danish "Konebaad" expedition)

the elders of the company, the old man with the unattractive expression, of whom I have already spoken, rose and went out. Presently he came in again with a long line of seal-skin, which, as he sat on the bench, he began to unroll. I regarded this performance with some wonder, as I could not imagine what was going to happen. Then he brought out a knife, cut off a long piece, and, rising, gave it to one of us. Then he cut off another piece of equal

length and gave it to another, and the process was repeated till we all six were alike provided. When he had finished his distribution he smiled and beamed at us, in his abundant satisfaction with himself and the world at large. Then another of them went out, came back with a similar line, and distributed it in like manner; whereupon a third followed his example, and so the game was kept going till we were each of us provided with four or five pieces of seal-skin line. Poor things! they gave us what they could, and what they thought would be useful to us. It was the kind of line they use, when seal-catching, to connect the point of the harpoon to the bladder which prevents the seal from escaping, and it is astonishingly strong.

ESKIMO BOY, FROM THE CAMP AT FORT BILLE

After this exhibition of liberality we sat for a time looking at one another, and I expected that our hosts would show by signs their desire for something in return. After a while, too, the old man did get up and produce something which he evidently kept as a possession of great price and rarity. It was nothing else than a clumsy, rusty old rifle, with the strangest contrivance in the way of a hammer that it has ever been my good luck to see. It consisted of a huge, unwieldy piece of iron, in which there was a finger-hole to enable the user to cock it. As I afterwards found, this is the ordinary form of rifle on the west coast of Greenland, and it is specially constructed for use in the "kaiak." After the old man had shown us this curiosity, and we had duly displayed our admiration,

he made us understand by some very unmistakable gestures that he had nothing to put in it. At first I pretended not to grasp his meaning, but, this insincerity being of no avail, I was obliged to make it plain to him that we had nothing to give him in the way of ammunition. This intimation he received with a very disappointed and dejected air, and he went at once and put his rifle away.

None of the others showed by the slightest token that they expected anything in return for their presents. They were all friendliness and hospitality, though no doubt there was a notion lurking somewhere in the background that their liberality would not prove unproductive, and, of course, we did not fail to fulfil our share of the transaction next day. The hospitality, indeed, of this desolate coast is quite unbounded. A man will receive his worst enemy, treat him well, and entertain him for months, if circumstances throw him in his way. The nature of their surroundings and the wandering life which they lead have forced them to offer and accept universal hospitality, and the habit has gradually become a law among them.

After we considered we had been long enough in the tent we went out into the fresh air again, and chose as our camping-ground for the night a flat ledge of rock close to the landing-place. We then began to bring our things ashore, but at once a crowd of natives rushed for our boats, and were soon busy moving our boxes and bags up on to the rocks. Every object caused an admiring outburst, and our willing helpers laughed and shouted in their glee, and altogether enjoyed themselves amazingly. The delight and admiration that greeted the big tin boxes in which much of our provender was packed were espe-

cially unmanageable, and the tins were each passed round from hand to hand, and every edge and corner carefully and minutely examined.

As soon as the boats were empty we proposed to drag them up, but here again all insisted on giving their help. The painter was brought ashore, manned by a long line stretching far up the rocks, and the boats hauled up each by the united efforts of twenty or thirty men. This was splendid sport, and when one of us started the usual sailor's chorus to get them to work together, the enthusiasm reached its height.

They joined in, grown folk and children alike, and laughed till they could scarcely pull. They plainly thought us the most amusing lot of people they had ever seen. When the boats were safe ashore we proceeded to pitch our tent, an operation which engaged all their attention, for nothing can interest an Eskimo so much as any performance which belongs to his own mode of life, such as the management of tents and boats and such things. Here their astonishment does not overcome them, for they can fully understand what is going on. In this case they could thus admire to the full the speedy way in which we managed to pitch our little tent, which was so much simpler a contrivance than their great complicated wigwams, though at the same time it was not so warm.

Our clothes, too, and, above all, the Lapps' dress, came in for their share of admiration. The tall, square caps, with their four horns, and the tunics with their long, wide skirts and edging of red and yellow, struck them as most remarkable, but still more astonished were they, of course, in the evening, when the two Lapps made their appear-

ance in their reindeer-skin pelisses. All must needs go and feel them and examine them, and stroke the hair of this wonderful skin, nothing like which they had ever seen before. It was not seal-skin, it was not bear-skin, nor was it fox-skin. "Could it be dog-skin?" they asked, pointing to their canine companions. When we explained that it was nothing of that kind they could get no further, for their powers of imagination had reached

ESKIMOS, FROM THE CAMP AT CAPE BILLE
(*From a photograph*)

their limit. Balto now began to gibber and make some very significant movements with his hands about his head, with the idea of representing reindeer horns, but this awoke no response. Evidently they had never seen reindeer, which do not occur on that part of the east coast which they frequent.

Then we distributed the evening rations, and ate our supper sitting at the tent-door, and surrounded by spectators. Men, women, and children stood there in a ring many ranks deep, closely watching the passage of every morsel of biscuit to our lips and its subsequent consumption. Though their mouths watered to overflowing at the sight of these luxuries, we were constrained to take no notice. We had no more in the way of bread than we actually needed, and, had we made a distribution throughout all this hungry crowd, our store would have been much reduced. But to sit there and devour one's biscuits under the fire of all their eyes was not pleasant.

Our meal over, we went and had a look round the encampment. Down by the water were a number of "kaiaks" and a few specimens of the "umiak" or large skin-boat, which especially interested me. One of the men was particularly anxious to show me everything. Whatever caught my eye, he at once proceeded to explain the use of by signs and gestures. Above all, he insisted on my examining his own "kaiak," which was handsomely ornamented with bone, and all his weapons, which were in excellent condition and profusely decorated. His great pride was his harpoon, which, as he showed me triumphantly, had a long point of narwhal tusk. He explained to me, too, very clearly the use of the throwing-stick, and how much additional force could be given to the harpoon by its help. Every Eskimo is especially proud of his weapons and "kaiak," and expends a large amount of work on their adornment.

By this time the sun had set and the night fallen, and consequently the elements of weirdness and unreality which had all the time pervaded this scene, with its sur-

roundings of snow and ice and curious human adjuncts, were now still more predominant and striking. Dark forms flitted backward and forward among the rocks, and the outlines of the women with their babies on their backs were especially picturesque. From every tent-door through the transparent curtain shone a red glow of light, which with its suggestions of warmth and comfort led the fancy to very different scenes. The resemblance to colored lamps and Chinese lanterns brought to one's mind the illuminated gardens and summer festivities away at home, but behind these curtains there lived a happy and contented race, quite as happy, perhaps, as any to which our thoughts turned across the sea.

Then bed-time drew near, and the rest we sorely needed after the scanty sleep of the last few days. So we spread our sleeping-bags upon the tent-floor and began the usual preparations. But here again our movements aroused the keenest interest, and a deep ring of onlookers soon gathered round the door. The removal of our garments was watched with attention by men and women alike, and with no sign of embarrassment, except on our part. Our disappearance one by one into the bags caused the most amusement, and when at last the expedition had no more to show than six heads, the door of the tent was drawn to and the final "Good-night" said.

That night we could sleep free from care and without keeping watch, and it was a good night's rest we had, in spite of barking dogs and other disturbances. It was late when we woke and heard the Eskimos moving busily about outside. Peeping through the chinks of the door, we could see them impatiently pacing up and down, and

waiting for the tent to be thrown open again that they might once more feast their eyes on all the marvels hidden inside. We noticed to-day, and we supposed it was in our honor, that they were all arrayed in their best clothes. Their clean white frocks, made of the same thin membraneous skin as the tent curtains, shone as brilliantly as clean linen in the distance, as their wearers walked up and down and admired their own magnificence. Down by our boats, too, we saw a whole congregation, some sitting inside and others standing around. Every implement and every fitting was handled and carefully scrutinized, but nothing disturbed or injured.

Then came the opening of the door, and forthwith a closely packed ring of spectators gathered around, head appearing above head, and row behind row, to see us lying in our bags, our exit thence, and gradual reinstatement in our clothes. Of all our apparel, that which excited most wonder and astonishment was a colored belt of Christiansen's, a belt resplendent with beads and huge brass buckle. This must needs be handled and examined by each and all in turn, and of course produced the usual concerted bellow. Then our breakfast of biscuits and water was consumed in the same silence and amid the same breathless interest as our supper of the night before.

After breakfast we walked about the place, for we had determined to enjoy life for this one morning and see what we could of these people before we left them. I had tried, unnoticed, to take a photograph of the ring which thronged our tent-door, but as I brought the camera to bear upon the crowd some of them saw my manœuvre, and a stampede began, as if they feared a

discharge of missiles or other sorcery from the apparatus. I now tried to catch a group who were sitting on the rocks, but again with the same result. So the only expedient was to turn my face away, and by pretending to be

"OUTSIDE ONE LITTLE TENT I FOUND AN UNUSUALLY SOCIABLE WOMAN"
(By E. Nielsen, from a photograph)

otherwise engaged to distract the attention of my victims and meanwhile secure some pictures.

Then I took a tour round the camping-ground with my camera. Outside one little tent, which stood somewhat isolated, I found an unusually sociable woman, apparently the mistress of the establishment. She was relatively young, of an attractive appearance altogether, with a smiling face and a pair of soft, obliquely set eyes, which she made use of in a particularly arch and engaging way. Her dress was certainly not elegant, but this defect was, no doubt, due to her established position as a married

woman, and must not be judged too harshly. In her "amaut," a garment which forms a kind of hood or bag behind, she had a swarthy baby, which she seemed very fond of, and which, like many of the mothers, she did her best to induce to open its black eyes and contemplate my insignificance. This was partly, no doubt, the flattery of the coquette; on the whole we got on very well together, and unperceived I secured several photographs. Then the master came out of the tent, and showed no sign of surprise at finding his wife in so close converse with a stranger. He had evidently been asleep, for he could hardly keep his eyes open in the light, and had to resort to a shade, or rather some big snow-spectacles of wood. He was a strongly-built man, with an honest, straightforward look, was very friendly, and showed me a number of his things. He was especially proud of his "kaiak" hat, which he insisted on my putting on my head, while he meantime unceremoniously arrayed himself in my cap. This performance was little to my taste, as it was quite uncertain what would be the result of the exchange to me. Then he took me to see his big boat or "umiak," as well as other of his possessions, and we parted.

I went on, and looked into some other tents. In one of them I found two girls who had just taken a big gull out of a cooking-pot, and were beginning to devour it, each at work with her teeth on one end of the body, and both beaming with delight and self-satisfaction. The bird still had most of its feathers on, but that did not seem to trouble them much. Perhaps, after the manner of the owl, they subsequently ejected them.

Some of the women had noticed that the Lapps used the peculiar grass known as "sennegræs," which the Eski-

mos also use, in their boots, and they now brought each of us a huge supply of the commodity, smiling most coquettishly as they made their offering. We expressed our thanks, of course, by an equally lavish display of smiles. Then they began to inquire, by means of signs, whether we had no needles to give them in return. I could have gratified them, certainly, since I had brought a number of these articles of barter, which are much prized on the east coast. But my real object was to keep them in case we had to spend the winter in these parts, in which case they would have proved invaluable. So I told them that we could not let them have any needles in exchange for their grass, and gave them instead a tin which had had preserved meat in. This made them simply wild with delight, and with sparkling eyes they went off to show the others their new acquisition. The grass came in very handy for the two Lapps, whose store was running short, and without this grass in his shoes a Lapp is never thoroughly comfortable. They had a deal to say, too, about this Eskimo "sennegræs." The fact that these people had sense enough to use the grass impressed Ravna and Balto to a certain extent, but they declared it had been gathered at the wrong time of year, being winter grass taken with the frost on it, instead of being cut fresh and then dried,

"THEN THE MASTER CAME OUT OF THE TENT"
(From a photograph)

in accordance with the practice of rational beings. It was of little use to point out to them that it was not the habit of the Eskimo to lay up greater stores of such things than he actually needed to keep him going.

But the time of our departure drew near, and we began by degrees to make our preparations. A man now came up to us and asked whether we were going northward. At our answer in the affirmative his face brightened amazingly, and it proved that he was bound in the same direction with his party, to whom he went at once and announced the news. The camp was now a scene of lively confusion, and, while we and the Eskimos vied with one another in our haste to strike our tents, launch our boats, and stow our goods, the dogs, who well knew what was in progress, expended their energy in a howling competition.

As the tent we had spent the preceding evening in was going southward, it was necessary that we should go and make some return for the presents we had received. So with a number of empty meat-tins I went in and found a party of half-naked men taking a meal. I gave them one each, which delighted them hugely, and some of them at once showed their intention of using them as drinking-vessels. Outside I found the possessor of the rifle, who again urged upon me the fact that he had no ammunition for it. But when I presented him with a large tin instead he expressed perfect contentment and gratification.

The great skin-tents were soon down and packed away in the boats. It was indeed quite astonishing to see the speed with which these Eskimos made ready for a journey with all their household goods and worldly possessions, though, of course, there were a great number of helping

hands. We had almost finished our preparations too, when a salt-box was pleased to discharge its contents in the middle of one of the provision-bags. This had to be seen to at once, and the Eskimos consequently started before us. Two of the boats set off on their southward journey, and two more presently disappeared behind the first point of rock to the north. The company of "kaiakers," however, were still left, as they stayed behind to bid each other a more tender farewell, before they parted, perhaps, for a separation of some years. This leave-taking gave rise to one of the most comical scenes I have ever witnessed. There were altogether a dozen or more of their little canoes, and they all now ranged up side by side, dressed as evenly as a squad of soldiers. This extraordinary manœuvre roused my attention, of course, and I could not imagine what it purported. I was not left long in ignorance, however, for the snuff-horns were presently produced, and the most extravagant excesses followed. Their horns were opened and thrust up their noses again and again, till every nostril must have been absolutely filled with snuff. Several horns were in circulation, and each came at least twice to every man, so that the quantity consumed may well be imagined. I wanted to photograph them, but lost time and could not bring my camera to bear upon them before the line was broken, and some of the canoes already speeding away southward among the floes.

This general treating with snuff is the mode in which the Eskimos take leave of one another, and is a very similar performance to the ceremonious dram-drinking among our peasants at home. In this particular case only those who had come from the south had anything to

stand treat with. They were evidently fresh from the Danish colonies beyond Cape Farewell, as their abundant supply of snuff proved, while the others were probably bound south on a similar errand. These pilgrimages occur unfortunately too often, though their emporium lies at no trifling distance — a couple of years' journey, in fact, for those who live farthest up the coast.

One would almost expect that so long a journey would

"THE LINE WAS BROKEN, AND SOME OF THE CANOES ALREADY SPEEDING AWAY SOUTHWARD AMONG THE FLOES"

(From a photograph)

be followed by a long stay at the place of business. But this is not the case, and the Eskimo, in fact, spends little more time over his periodical shopping than a lady of the world over a similar, but daily, visit. In half an hour, or an hour perhaps, he has often finished, and then disappears again on his long journey home. A shopping expedition of this kind will therefore often take four years

at least, and consequently a man's opportunities in this way in the course of a lifetime are very limited. These are quite enough, however, to produce a mischievous effect. One is apt to suppose that it is the want of certain useful things, otherwise unattainable, that urges them to these long journeys; but this is scarcely so, for the real incentive is without doubt a craving for tobacco. As a matter of fact they do buy some useful things, like iron, which they get chiefly in the form of old hoops, but they really have a good supply of such things already, they do not use them much, and they are not absolutely necessary. Most of their purchases are things which are either altogether valueless or else actually injurious.

Among the latter must especially be reckoned tobacco, which is the commodity of all others most desired, and which they take in the form of snuff. Smoking and chewing are unknown on this coast, but their absence is made up for by all the greater excess in snuff-taking, the indulgence in which is quite phenomenal. They buy their tobacco in the form of twist, and prepare it themselves, by drying it well, breaking it up, and grinding it fine on stone. Powdered calcspar or quartz or other rock is often added to the snuff to make it go further, and to increase, it is said, the irritating effect upon the mucous membrane.

In addition to tobacco they buy other things which certainly have an injurious effect upon them, such as, for instance, tea. Coffee, curiously enough, these people have not learned to like, though this drink is bliss celestial to the west-coast Eskimos.

It is truly fortunate that they have no opportunity of getting spirits, as the sale is absolutely prohibited by the

Danish Government. Of other European products, they buy biscuits, flour, peas, which they are particularly fond of, and similar things. Articles of clothing, too, are in great demand, such as thick jerseys from the Faroe Islands, cotton stuffs for outer tunics, and material out of which they can make hats; old European clothes are highly valued, and they have an idea that when they can dress themselves out in these worn-out rubbishy garments they cut a far finer figure than when they content themselves with their own warm and becoming dress of seal-skin.

In exchange for such things, which are of little value to us and of still less real worth to them, they give fine large bear-skins, fox-skins, and seal-skins, which they ought to keep for their own clothes and the other numerous purposes for which they can be used. It is, of course, unnecessary to remark how much better it would be if these poor Eskimos, instead of decking themselves out in European rags, would keep their skins for themselves, and confine themselves to those regions where they have their homes, instead of straying to the outskirts of European luxury and civilization.

When the Eskimos have at length consumed their purchases and must needs return to the old manner of life, the net result is that they have lost a number of useful possessions and have acquired a feeling of want and longing for a number of unnecessary things. This is, in fact, the usual way that the blessings of civilization first make themselves felt upon the uncivilized.

CHAPTER VII [1]

THE CROSSING OF THE INLAND ICE — THE FIRST SIGHT OF LAND AND FIRST DRINK OF WATER

As the middle of September approached, we hoped every day to arrive at the beginning of the western slope. To judge from our reckoning it could not be far off, though I had a suspicion that this reckoning was some way ahead of our observations. These, however, I purposely omitted to work out, as the announcement that we had not advanced as far as we supposed would have been a bitter disappointment to most of the party. Their expectations of soon getting the first sight of land on the western side were at their height, and they pushed on confidently, while I kept my doubts to myself and left the reckoning as it was.

On September 11 the fall of the ground was just appreciable, the theodolite showing it to be about a third of a degree. On September 12 I entered in my diary that "we are all in capital spirits, and hope for a speedy change for the better, Balto and Dietrichson being even confident that we shall see land to-day. They will need some patience, however, as we are still 9,000 feet above the sea" (we were really about 8,250 feet that day), "but they will not have to wait very long. This morning our reckoning made us out to be about seventy-five miles from bare land, and the ground is falling well and con-

[1] From Nansen's *Across Greenland.*

tinuously." The next day or two the slope grew more and more distinct, but the incline was not regular, as the ground fell in great undulations, like those we had had to climb in the course of our ascent.

On September 14 the reckoning showed that it was only about thirty-five miles to land. But even now we could see nothing, which the Lapps thought was very suspicious. Ravna's face began to get longer and longer, and one evening about this time he said, "I am an old Lapp, and a silly old fool, too; I don't believe we shall ever get to the coast." I only answered, "That 's quite true, Ravna; you are a silly old fool." Whereupon he burst out laughing: "So it 's quite true, is it — Ravna is a silly old fool?" and he evidently felt quite consoled by this doubtful compliment. These expressions of anxiety on Ravna's part were very common.

Another day Balto suddenly broke out: "But how on earth can any one tell how far it is from one side to the other, when no one has been across?" It was, of course, difficult to make him understand the mode of calculation; but, with his usual intelligence, he seemed to form some idea of the truth one day when I showed him the process on the map. The best consolation we could give Balto and Ravna was to laugh at them well for their cowardice.

The very pronounced fall of the ground on September 17 certainly was a comfort to us all, and when the thermometer that evening just failed to reach zero we found the temperature quite mild, and felt that we had entered the abodes of summer again. It was now only nine miles or so to land by our reckoning.

It was this very day two months that we had left the *Jason*. This happened to be one of our butter-mornings,

the very gladdest mornings of our existence at the time, and breakfast in bed with a good cup of tea brought the whole party into an excellent humor. It was the first time, too, for a long while that the walls of our tent had not been decorated with fringes of hoar-frost. As we were at breakfast we were no little astonished to hear, as we thought, the twittering of a bird outside; but the sound soon stopped, and we were not at all certain of its reality. But as we were starting again after our one o'clock dinner that day we suddenly became aware of twitterings in the air, and, as we stopped, sure enough we saw a snow-bunting come flying after us. It wandered round us two or three times, and plainly showed signs of a wish to sit upon one of our sledges. But the necessary audacity was not forthcoming, and it finally settled on the snow in front for a few moments, before it flew away for good with another encouraging little twitter.

Welcome, indeed, this little bird was. It gave us a friendly greeting from the land we were sure must now be near. The believers in good angels and their doings must inevitably have seen such in the forms of these two snow-buntings, the one which bade us farewell on the eastern side, and that which offered us a welcome to the western coast. We blessed it for its cheering song, and with warmer hearts and renewed strength we confidently went on our way, in spite of the uncomfortable knowledge that the ground was not falling by any means so rapidly as it should have done. In this way, however, things were much better next day, September 18; the cold consistently decreased, and life grew brighter and brighter. In the evening, too, the wind sprang up from the south-

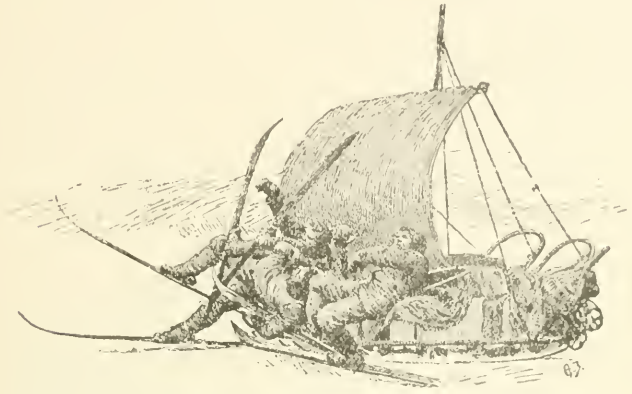
east, and I hoped we should really get a fair sailing breeze at last. We had waited for it long enough, and sighed for it, too, in spite of Balto's assurances that this sailing on the snow would never come to anything.

In the course of the night the wind freshened, and in the morning there was a full breeze blowing. Though, as usual, there was no great keenness to undertake the rigging and lashing together of the sledges in the cold wind, we determined, of course, to set about the business at once. Christiansen joined Sverdrup and me with his sledge, and we rigged the two with the tent-floor, while the other three put their two sledges together.

All this work, especially the lashing, was anything but delightful, but the cruellest part of it all was that while we were in the middle of it the wind showed signs of dropping. It did not carry out its threat, however, and at last both vessels were ready to start. I was immensely excited to see how our boat would turn out, and whether the one sail was enough to move both the sledges. It was duly hoisted and made fast, and there followed a violent wrenching of the whole machine, but during the operations it had got somewhat buried in the snow and proved immovable. There was enough wrenching and straining of the mast and tackle to pull the whole to pieces, so we harnessed ourselves in front with all speed. We tugged with a will and got our boat off, but no sooner had she begun to move than the wind brought her right on to us, and over we all went into the snow. We were soon up again for another trial, but with the same result; no sooner were we on our legs than we were carried off them again by the shock from behind.

This process having been gone through a certain num-

ber of times, we saw plainly that all was not right. So we arranged that one of us should stand in front on his ski and steer by means of a staff fixed between the two sledges, like the pole of a carriage, leaving himself to be pushed along by his vessel, and only keeping it at a



FIRST ATTEMPTS AT SAILING

respectful distance from his heels. The other two members of the crew were to come behind on their ski, either holding on to the sledges or following as best they could.

We now finally got under way, and Sverdrup, who was to take the first turn at steering, had no sooner got the pole under his arm than our vessel rushed furiously off before the wind. I attached myself behind at the side, riding on my ski and holding on by the back of one of the sledges as well as I could. Christiansen thought this looked like too risky work, and came dragging along behind on his ski alone.

Our ship flew over the waves and drifts of snow with a speed that almost took one's breath away. The sledges

struggled and groaned, and were strained in every joint as they were whirled over the rough surface, and often indeed they simply jumped from the crest of one wave on to another. I had quite enough to do to hang on behind and keep myself upright on the ski. Then the ground began to fall at a sharper angle than any we had had yet. The pace grew hotter and hotter, and the sledges scarcely seemed to touch the snow. Right in front of me was sticking out the end of a ski, which was lashed fast across the two sledges for the purpose of keeping them together. I could not do anything to get this ski end out of the way, and it caused me a great deal of trouble, as it stuck out across the points of my own ski, and was always coming into collision with them. It was worst of all when we ran along the edge of a drift, for my ski would then get completely jammed, and I lost all control over them. For a long time I went on thus in a continual struggle with this hopeless ski end, while Sverdrup stood in front gayly steering and thinking we were both sitting comfortably on behind. Our ship rushed on faster and faster; the snow flew around us and behind us in a cloud, which gradually hid the others from our view.

Then an ice-axe which lay on the top of our cargo began to get loose and promised to fall off. So I worked myself carefully forward, and was just engaged in making the axe fast when we rode on to a nasty drift. This brought the projecting ski end just across my legs, and there I lay at once gazing after the ship and its sail, which were flying on down the slope, and already showing dimly through the drifting snow. It made one quite uncomfortable to see how quickly they diminished in size. I felt very foolish to be left lying there, but at last I recov-

ered myself and set off bravely in the wake of the vessel, which was by this time all but out of sight. To my great delight I found that, thanks to the wind, I could get on at a very decent pace alone.

I had not gone far before I found the ice-axe, in trying to secure which I had come to grief. A little way farther on I caught sight of another dark object, this time something square, lying in the snow. This was a box which contained some of our precious meat-chocolate, and which of course was not to be abandoned in this way. After this I strode gayly on for a long time in the sledge-track, with the chocolate-box under one arm and the ice-axe and my

"AND THERE I LAY GAZING AFTER THE SHIP AND ITS SAIL"

staff under the other. Then I came upon several more dark objects lying straight in my path. These proved to be a fur jacket belonging to me, and no less than three pemmican boxes. I had now much more than I could carry, so the only thing to be done was to sit down and wait for succor from the others who were following behind. All that could now be seen of our proud ship and its sail was a little square patch far away across the snow-field. She was going ahead in the same direction as

before, but as I watched I suddenly saw her brought up to the wind, the tin boxes of her cargo glitter in the sun, and her sail fall. Just then Christiansen came up with me, followed not long after by the other vessel. To them we handed over some of our loose boxes, but just as we were stowing them away Balto discovered that they had lost no less than three pemmican tins. These were much too valuable to be left behind, so the crew had to go back and look for them.

Meanwhile Christiansen and I started off again, each with a tin box under his arm, and soon overtook Sverdrup. We now sat down to wait for the others, which was not an agreeable job in this bitter wind.

Sverdrup told us that he had sailed merrily off from the very start, had found the whole thing go admirably, and thought all the time that we two were sitting comfortably on behind. He could not see behind him for the sail, but after a long while he began to wonder why there was not more noise among the passengers in the stern. So he made an approach to a conversation, but got no answer. A little farther on he tried again and louder, but with the same result. Then he called louder still, and lastly began to shout at the top of his voice, but still there was no response. This state of things needed further investigation; so he brought his boat up to the wind, went round behind the sail to see what was the matter, and was not a little concerned to find that both his passengers had disappeared. He tried to look back along his course through the drifting snow, and he thought he could see a black spot far away behind. This must have been my insignificant figure sitting upon the lost tin boxes. Then he lowered his sail, which was not an easy matter in

the wind that was blowing, and contented himself to wait for us.

We had to sit a long time before the others caught us up again. We could just see the vessel through the snow, but her sail was evidently not up, and of her crew there was not a sign. At last we caught sight of three small specks far away up the slope and the glitter of the sun

"SAILING ON THE INLAND ICE"

on the tins they were carrying. Presently the sail was hoisted, and it was not long before they joined us.

We now lashed the sledges better together and made the cargo thoroughly fast, in order to escape a repetition of this performance. Then we rigged up some ropes behind, to which the crew could hold or tie themselves, and thus be towed comfortably along. In this way we got on splendidly, and never in my life have I had a more glorious run on ski.

A while later Sverdrup declared that he had had enough of steering, and I therefore took his place. We had now one good slope after another and a strong wind behind us. We travelled as we should on the best of ski hills at home, and this for hour after hour. The steering is exciting work. One has to keep one's tongue straight in one's mouth, as we say at home, and, whatever one does, take care not to fall. If one did, the whole conveyance would be upon one, and once under the runners and driven along by the impetus, one would fare badly indeed, and be lucky to get off without a complete smash-up. This was not to be thought of, so it was necessary to keep one's wits about one, to hold the ski well together, grip the pole tight, watch the ground incessantly, so as to steer clear of the worst drifts, and for the rest take things as they came, while one's ski flew on from the crest of one snow-wave to another.

Our meals were not pleasant intervals that day, and we therefore got through them as quickly as we could. We stopped and crept under shelter of the sails, which were only half lowered on purpose. The snow drifted over us as we sat there, but the wind at least was not so piercing as in the open. We scarcely halted for the usual chocolate distributions, and took our refreshment as we went along.

In the middle of the afternoon — this notable day by the way was September 19 — just as we were sailing our best and fastest, we heard a cry of joy from the party behind, Balto's voice being prominent as he shouted "Land ahead!"

And so there was; through the mist of snow, which was just now a little less dense, we could see away to the

west a long, dark mountain ridge, and to the south of it a smaller peak. Rejoicings were loud and general, for the goal toward which we had so long struggled was at last in sight.

Balto's own account of the occurrence runs as follows: "While we were sailing that afternoon I caught sight of a black spot a long way off to the west. I stared and stared at it till I saw that it really was bare ground. Then I called to Dietrichson, 'I can see land!' Dietrichson at once shouted to the others that Balto could see land away to the west. And then we rejoiced to see this sight, which we had so often longed to see, and new courage came into our hearts, and hope that we should now happily and without disaster cross over this ice-mountain, which is the greatest of all ice-mountains. If we had spent many more days upon the ice, I fear that some of us would have fared badly. As soon as Nansen heard this he stopped and gave us two pieces of meat-chocolate each. It was always our custom, when we reached a spot which we had long wished to reach, to treat ourselves to the best food we had. So when we came to land after drifting in the ice, when we reached Umivik, when we had climbed to the highest point of Greenland, when we now first saw land on the west side, and lastly, when we first set foot upon bare ground again, we were treated to our very best — which was jam, American biscuits, and butter."

Though this first land we saw lay a little to the north of the line we had hitherto been following, I steered for it nevertheless, because the ice in this direction seemed to fall away more rapidly. However, the point was soon hidden in the snow again, and we went on with the wind

straight behind us for the rest of the afternoon without getting any further sight of land. The wind grew stronger and stronger, we flew down slope after slope, and everything went famously.

A while later both the gradient and the wind slackened off for a time, but as evening began the breeze freshened and the slope grew steeper, and we rushed along through the dense driving snow more furiously than ever. It was already growing dusk, when I suddenly saw in the general obscurity something dark lying right in our path. I took it for some ordinary irregularity in the snow, and unconcernedly steered straight ahead. The next moment, when I was within no more than a few yards, I found it to be something very different, and in an instant swung round sharp and brought the vessel up to the wind. It was high time, too, for we were on the very edge of a chasm broad enough to swallow comfortably sledges, steersman, and passengers. Another second and we should have disappeared for good and all. We now shouted with all our might to the others, who were coming gayly on behind, and they managed to luff in time.

Here also Balto has something to say: "The same evening while we were still sailing along — it may have been about half-past seven and it was rather dark — we saw Nansen, who was in front on his ski, signalling wildly to us, while he shouted, 'Don't come here; it is dangerous!' We, who were tearing along at full speed, found it difficult to stop, and had to swing around and throw ourselves on our sides. At the same time we saw in front of us an awful crack in the ice, which was many hundred feet deep."

As to the rest of the day's sail my diary says: "This

SAILING IN MOONLIGHT. "WHEN THE SNOW LOOKED TREACHEROUS I HAD TO GO CAUTIOUSLY AND USE MY STAFF"

was the first crevasse, but was not likely to be the only one, and we must now go warily. It was suggested that it was hardly advisable to sail any farther that evening, but I thought it too early to stop yet, as we must take advantage of the wind. So I left the sledges and went on in front to reconnoitre, while Sverdrup undertook the steering of our boat, and the sails of both of them were taken in a bit. The wind was strong enough even to blow me along, and I could run long stretches without moving a muscle, and so covered the ground fast.

"When the snow looked treacherous I had to go cautiously and use my staff to see whether I had solid ground under foot, and, if not, to signal to the others to wait till I had found a safer route. In spite of all precautions, Sverdrup and Christiansen all but came to grief once, as the snow fell in behind them just as they had passed over an unsuspected crevasse. Meantime the

wind was steadily increasing, and the sails had to be taken in more and more to prevent the sledges overrunning me. As we were all getting hungry, biscuits were served out, but no halt was made to eat them.

"It was rapidly getting dark, but the full moon was now rising, and she gave us light enough to see and avoid the worst crevasses. It was a curious sight for me to see the two vessels coming rushing along behind me, with their square viking-like sails showing dark against the white snow-field and the big round disc of the moon behind.

"Faster and faster I go flying on, while the ice gets more and more difficult. There is worse still ahead, I can see, and in another moment I am into it. The ground is here seamed with crevasses, but they are full of snow and not dangerous. Every now and then I feel my staff go through into space, but the cracks are narrow and the sledges glide easily over. Presently I cross a broader one, and see just in front of me a huge black abyss. I creep cautiously to its edge on the slippery ice, which here is covered by scarcely any snow, and look down into the deep, dark chasm. Beyond it I can see crevasse after crevasse, running parallel with one another, and showing dark blue in the moonlight. I now tell the others to stop, as this is no ground to traverse in the dark, and we must halt for the night.

"In the west we could now see land again against the evening sky, which still shows a faint trace of day. They were the same mountains we had first seen, but they now tower high above the horizon, and to the south of these peaks again there is a long ridge of rock protruding from the snow.

"It was a difficult business to get the tent up in this

strong wind, and on the hard, slippery ice, which gave no hold for our guy-ropes, and we had to cut deep holes before we could make our staffs do duty as pegs. At last, after having fared worse than usual with the cold, we got the tent up and were able to crawl into a partial shelter. No one was inclined to do any cooking that evening, as even inside the tent the wind was much too aggressive, and the little feast which was to do honor to the day, and which we had much looked forward to, was put off till next morning. So we were content to divide our last piece of Gruyère cheese, and then, well pleased with ourselves and our day's work, creep into our sleeping-bags. I now discovered for the first time that I had got the fingers of both my hands frozen during the afternoon's sail. It was too late now to rub them with snow, as they had begun to thaw on their own account, but that night the pain they gave me was almost unendurable, till I fell asleep in spite of it."

Early next morning, September 20, I started up with the consciousness that I had forgotten to wind my watch up over-night. Unluckily Sverdrup had done exactly the same, and though we wound them both up at once it was now too late. This was, of course, rather unfortunate for our longitude observations, but we were now so near land that we could reckon our position with tolerable exactitude nevertheless.

When we looked out of the tent we could see the whole country to the south of Godthaabsfjord lying spread out before us, a rough mountainous tract with many deep valleys and lofty peaks. Those who remember their first sight of a mountain landscape in their childhood, with its sunlit peaks and stretches of glittering snow; who can

remember how this new mysterious world fascinated and allured them — they will understand what our feelings were this morning. We were just like children, as we sat and gazed, and followed the lines of the valleys downward in the vain search for a glimpse of the sea. It was a fine country that lay before us, wild and grand as the western coast of Norway. Fresh snow lay sprinkled about the mountain tops, between which were deep black gorges. At the bottom of these were the fjords, which we could fancy, but could not see. A journey to Godthaab in this kind of country looked anything but a simple matter.

We enjoyed our grand breakfast at our ease and leisure this morning, made tea unlimited, and simply revelled in cheese and oatmeal biscuits. It was glorious to have a treat like this once in a way. The morning was well gone before we got finally on the move. In the darkness of the evening before we had sailed into some very rough fissured ice, and we now had to bear away to the south to avoid the worst crevasses and reach smoother ground. The snow throughout this day's march was partly blown into drifts, especially where there was any unevenness in the ice to catch it, and partly swept away by the wind, leaving the surface slippery and bare.

Presently we reached the top of a long, steep slope which had to be descended. Sverdrup and I started down on our ski and had a fine run. But our sledge was difficult to steer, and we had huge crevasses on each side, so at last we were constrained to take our ski off for safety's sake. We then went on, standing each on a runner of the sledge, and scraping and breaking with our feet in order to keep clear of the crevasses. The Lapps during this run were especially reckless, and let their sledge rush

ahead much as it pleased. A little farther down we came upon a flat piece of ice, which was so slippery that it was quite difficult to cross. It looked like the frozen surface of a lake or pool. Beyond this we found ourselves in some nasty ice again, and after I had fallen through the snow several times I thought it best to put the ski on again. With them one is of course much safer, as when one slides across the narrower crevasses their great length

COASTING DOWN THE SLOPES

will generally hold one up. At this time we had a nasty experience, as our sledge came lengthways upon a crevasse, the snow-cornice of which gave way under one of the runners, and we only managed to drag it on to firm ground just as the whole mass of snow was falling in beneath it. Ravna and Balto nearly got into a worse scrape once, when they tried to take a short cut instead of following our course. They slid down on to a huge wide fissure, whereupon one of the runners cut straight through the snow and all but upset the sledge, and it was only by the skin of their teeth that they escaped. I was furiously

angry with them, of course, and rated them well for not being content to let us who went in front run such risks as were necessary. Christiansen, too, was once on the point of losing his sledge in much the same way.

In the afternoon we had a hailstorm from the south and southeast. The hail stung our faces and the wind continually blew the sledges around, so that hauling became hard and difficult work. In this respect Sverdrup and I were worst off, as our load was very bulky and lay high on the sledge, which therefore exposed a large surface to the wind. The steel bars or keels under the runners would here have been an advantage, but they had long ago given way on the rough ice of the east coast.

We stopped for the day on a little flat, on which there was just enough drifted snow to hold our staffs, and the pitching of the tent was thus a simple matter. We had flattered ourselves that we should come within very easy distance of land, if not reach it altogether, this evening, and we were considerably disappointed when it seemed to us at the end of the day that we were almost as far off as ever.

Next day, September 21, snow was falling, and we could see nothing either of the land or the ice around us. We had to grope our way as best we could, and there was no possibility of choosing the most advantageous course.

Toward noon we stopped in order to get an observation, if it were possible, as the sun now and again showed through the clouds. It was most important that we should know where we were, and the day before I had been too late for the purpose, having made a mistake about the time owing to my omission to wind my watch

up. Luckily this time the sun was visible for a while, and I was able to get the altitude, my reckoning putting us at about lat. 64° 13′ N. This position was a little more northerly than I should have liked, the reason being that I had, as I have said, steered too much to the north as we were sailing after we came within sight of land. As it will appear, we now had to pay some days' penalty for the mistake. If we had kept our original more southerly course, we should probably have been able to sail right down on to the land itself.

We now, therefore, turned more to the south when we set off again. In the course of the afternoon Sverdrup and I had a disagreement as to our best route — a thing which rarely happened. He wanted to take us more to the right up on to a ridge, as he had through the snow seen crevasses down below in front of us. I had seen nothing of the kind, and preferred to keep away to the left; but after some discussion Sverdrup prevailed, and we climbed the ridge, but only to find ourselves in the middle of some terrible crevasses. They were worse than any we had hitherto had to deal with, and we were very glad to clear out again and bear away more to the south. Here we found a tolerably smooth stretch of ice forming the bottom of a valley between two ridges, which were both quite a network of fissures. This alley or furrow narrowed in front of us, and ended in a defile, where the two ridges almost met. Here there was an abrupt fall in the ground, and the ice was uncomfortably rough. The place looked all but impracticable, and it was clearly no use trying to push on any farther while the weather was so thick. It seemed very likely that we had come too far already.

So it was settled that Dietrichson, Ravna, and Balto should pitch the tent, while Sverdrup, Christiansen, and I should go down and see whether this broken ice would allow of a passage. Balto in his quality of under-cook was told to set the apparatus going, and have everything ready by the time we came back — some good pea-soup and plenty of hot water in the upper vessel, so that we could have some lemon-grog after supper.

We three soon had the Alpine rope round our waists and set off downward. The ice was unusually rough and hard to pass, a simple chaos of sharp edges with fissures in between; but it was not dangerous, as the clefts were as a rule not deep.

We had not gone far before, to my astonishment, I saw a little dark spot down below us between some ridges covered with snow. It looked amazingly like water, but it was quite possible that it was only ice, so I said nothing to the others. But when I reached it and, putting my staff in, met with no resistance, our surprise and delight were quite unbounded. We threw ourselves down, put our lips to the surface, and sucked up the water like horses. After a month of incessant thirst and limited rations, the pleasure of having abundance of drink was indescribable. How many quarts we swallowed I should not like to say, but we plainly felt ourselves swell within and without during the operation. We then went on refreshed, but before we had gone far we heard some one shouting behind, and saw little Ravna running after us as fast as his short legs would carry him. We waited, fearing that there was something wrong in the camp, and I was much relieved to hear, when he came up, that all he wanted was the wicks for the spirit-lamp, which I usu-

ally carried in my pocket to keep them dry. I was anxious to know whether he had seen the water, for Ravna was the worst of all of us to drink when he had the chance, and I was half afraid that he would go at it till he made himself ill. He had seen the water, he told us, but had not had time to attend to it as he came down, though he meant to make up for the omission on the way back.

So we sent him off again and went on with our exploration. We presently found ourselves among the roughest ice I had ever seen, and all that I knew of from Captain Jensen's descriptions was nothing compared to this. Absolutely impassable it was not, but ridge upon ridge, each sharper and more impracticable than its neighbor, lay in all directions, while between them were deep clefts, often half full of water, which was covered with a thin skin of ice not strong enough to bear.

Darkness was already coming on when we finally turned homeward. We were wretchedly done up by having to toil over this rough ground, on which the soft snow lay deep in places, and were much comforted when we at last caught sight of the tent in the distance. As we passed the pool again we must needs have another drink. We lay down and let the water fairly flow down our throats. Our foreheads grew numb and cold, but that did not stop us. It was a truly divine pleasure to be able once more to drink to the very end of one's thirst. A cheering smell of good pea-soup met us as we entered our little tent, where we found the others squatting around the cooking machine. Balto had everything hot and ready for us, and was very proud of having carried out his orders to the letter.

His description, too, will serve to tell us what the rest of the party did while we were away.

"The other three went off with a rope round their waists to look for a way, while we — that is, Ravna, Dietrichson and I — stayed behind to put up the tent. I had to make some pea-soup, too, for I was cook. So I got the machine out, but then found that there were no wicks, as Nansen had them in his pocket. So I sent Ravna off to get them, and when he came back he said he had found water and drunk his stomach full. When I heard this I caught up a tin box and ran as hard as I could go till I reached the pool. Then I threw myself down and began to drink. I had to lift my head up now and then to get breath, and then I went on drinking again. It tasted just like fresh, sweet milk, for we had not had any water for a whole month. Then I filled the tin and carried it up to the tent, and when Dietrichson saw it he lay down and drank till he could not hold any more. The tin was a very big one, but there was only just enough left for the pea-soup afterward. We found plenty of water every day after this."

I am sure we all remember September 21, when we first found water. I really think it was one of the best days of the whole expedition.

Balto's fragrant soup was soon served out, and we set to work upon our supper with more than usual keenness, which means considerably more than it seems to say. Even Ravna could eat that night. He used to declare he never could make a good meal because there was not enough to drink. This used to induce him to save up his rations, and he would often annoy us, and make our mouths water fruitlessly, by bringing out four or five

spare biscuits at a time to show us. The truth probably was that his little body did not need as much food as our larger ones.

After supper we had lemon-grog, which consisted of citric acid, oil of lemon, sugar and hot water, a compound which to our tastes was nothing short of nectar, and which we sipped and enjoyed to the utmost as we lay in our sleeping-bags. For my own part it was a long time since I had been so tired. The laborious wading in the deep, fresh snow had tried my legs severely, and I do not fancy that the others were much better. But an evening like this in the tent brings a feeling of comfort and gratitude upon one, and a veil of forgetfulness is gently and soothingly drawn over all the pains and tribulations of the day.

A candle-end — the last we have — has been lighted for supper. This over, and all our preparations for the morrow made, we put out our light, bury our heads well beneath the hoods of the sleeping-bags, and pass swiftly and lightly over into the region of dreams.

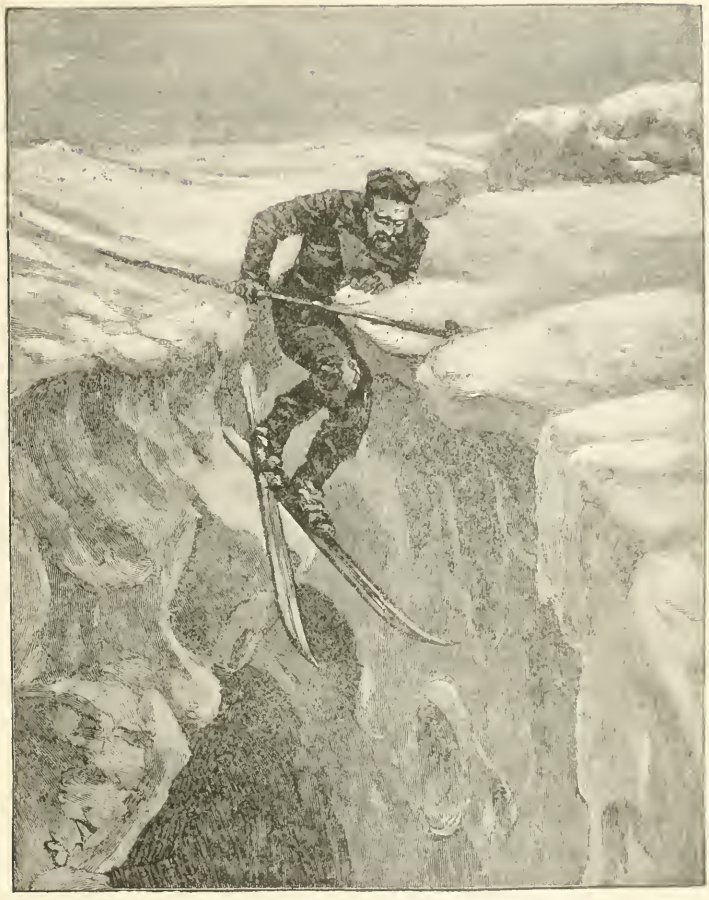
CHAPTER VIII

THE DESCENT TO AMERALIKFJORD[1]

Before breakfast on September 22, while Balto was making the tea, Sverdrup and I climbed the ridge of ice which lay to the south of the tent for a reconnaissance. It was seamed with broad crevasses of unfathomable depth, most of them running parallel. Once I fell through a snow-bridge, but the fissure was so narrow that I could keep my hold on both its sides, and after some amount of struggling I managed to extricate myself. From the top of the ridge we had a fine view over the surrounding ice, and could see that our best course would probably be to keep a westerly direction for the present and turn southward again lower down. As far as we can see, in front of us the ice seems to lie in fissured ridges, which all run westward toward Godthaabsfjord. We had been in doubt as to what valley or fjord the depression right before us could be, but we could now see that it must be Kangerssuak. Altogether we were able to make out our whereabouts very well, and it was quite plain that we had come down four or five miles farther to the north than we had meant.

We found breakfast ready when we got back to the tent, and afterward it was settled that Sverdrup and I should go out again and explore the ice to the west, keeping to the north of the part we examined the previous

[1] From Nansen's *Across Greenland.*



AN AWKWARD PREDICAMENT

evening. The others meanwhile must follow us with the four sledges as far as they could in the same direction, and, if they could get so far, stop at the last ridge we could see from here. As they had a fair wind behind them, I thought they would be able to manage a sledge each without much difficulty.

So Sverdrup and I started off, and with the wind be-

hind us ran fast down on our slippery oak ski. The ground was fairly easy till we came far enough to see down into the fjord, which was full of floating glacier-ice. Then the crevasses began, but at first they ran parallel, and we pushed a good way farther on. But presently things became utterly hopeless, a simple network of interlacing fissures, the ice protruding in small square islands from the midst of the blue abysses. Even the fancy could form no idea of the depth of these chasms, and the sight of the riven and chaotic mass was unearthly in the extreme. Not a step farther could we go; there was nothing for us to do but eat our dinner and go back to look for the others. We found shelter in a little crevice, where the sun did its best to comfort us and temper the keenness of the biting wind.

On the way back I had the ill-luck to fall into a crevasse. I was left hanging by my arms, and the position was neither easy nor pleasant. The fissure was narrow indeed, but it was very difficult to get a footing with my ski on the slippery edges. I was alone, too, as Sverdrup had taken a different line, and, being a long way on in front, saw nothing of my disaster. However, after struggling for a while, I at last managed to scramble out by myself. Strangely enough, none of us ever went farther into these crevasses than to the armpits.

We had not gone far before we caught sight of the tent, which lay a little way to the north of us and on the very ridge where the party had been ordered to halt. They had reached this point about half an hour before, and the coffee was already under way. I must explain that we were now so near the coast that the coffee prohibition was not so stringently observed. It was not

ON THE MORNING OF SEPTEMBER 23: ROUGHISH ICE

quite ready, and a short rest after our little ski excursion did us good. After we had finished our coffee the tent was struck, and we set off in a southerly direction in order to skirt the ice-stream which flowed down to the fjord, and in the middle of which we had just been. At first the ground was easy and we made good progress, though the wind did its best to hinder us by blowing the sledges around. In the evening, when it was already growing dusk, we reached a ridge of nasty, broken ice, which we had seen in the distance that morning, and which there seemed to be no way of avoiding. It was necessary to explore the ground here before moving any farther, and so there was nothing to be done but encamp and wait for daylight. While supper was preparing two of us went out again. The ice was undeniably awkward, but with enterprise we could no doubt get through. The

ridge was luckily not broad, and the best route was evidently the straightest and shortest.

Next morning, September 23, Sverdrup went out upon another prospecting expedition, and came back with comparatively reassuring intelligence. The ice was not so bad as it had seemed to be at first sight, and it would be possible, if we put three men to each sledge, to get them along without carrying them.

Then we broke up camp and set out upon the heaviest

REST AND REFLECTION (SEPTEMBER 23)
[By the Author, from a photograph]

bit of ice-travelling which we had yet had. In many places we had to carry each sledge bodily up the steep slopes of the ridges we had to cross, while as we descended the other side the unfortunate man who went behind had to hold it back with all his might. If he

slipped, down went he and the sledge on to the heels of the others in front, and the whole group slid on together. Often, however, we were lucky enough to hit upon the course of a frozen river, which gave us an easy though somewhat winding passage among the hummocks and

ON THE AFTERNOON OF SEPTEMBER 23: INTO BETTER ICE AGAIN

ridges of ice, which often formed cliffs with nearly perpendicular walls. In one case we had to pass through a narrow cleft which only just gave us room, and at the bottom held a little stream only partially frozen, the water of which stood well above our ankles.

In the afternoon we at last passed out of the worst of the ice, and could again take the sledges singly. The surface was now tolerably good, and it grew still better, but the wind was awkward, as it was always blowing the sledges around. A good way farther on I discovered a moraine running across the ice in an easterly direction

from the land. I imagined that this moraine must mark the limit between the streams of ice, more especially because it lay in a depression, and as I could not see any good in getting into the full current of another ice-stream, I determined to work down toward land on the north side of the moraine. We now halted, and the tent having been pitched and Balto sent out to look for water for the coffee, Sverdrup and I set off downward toward the land to see whether the ice were practicable here. We had not gone far before we saw that our opportunity had come. We seemed to have crossed to the south side of the stream of ice which fell into Godthaabsfjord, for the surface seemed to fall away to the south, or more correctly toward the land which lay straight before us. We went back with the encouraging news, and the whole party drank their coffee in the highest spirits. The prospect of once more feeling dry land beneath our feet was now not far off, and this was enough to fill us with delight. As soon as we could we went on again, and with the wind behind us made good progress, the ice being relatively smooth and yet often falling rapidly. We were disappointed, however, in our hope of reaching land that evening, as, owing to the gathering darkness, we presently had to stop. But on the whole we were more than satisfied with the day's work, as we had advanced a good deal farther than we had had any reason to hope in the morning.

Next day, September 24, we turned out early and set off with the determination to reach land that day. This time, too, we were not disappointed. We pushed on fast, as the gradient was often tolerably steep and gave us much help. The wind was fair, too, the ice easy, and

everything promising. Some way down a reconnaissance proved necessary, as the ice here got rather rougher. I went on in front and soon found myself upon the brow of an ice-slope which overlooked a beautiful mountain tarn, the surface of which was covered with a sheet of ice. Beyond was a gorge through which a river from the tarn

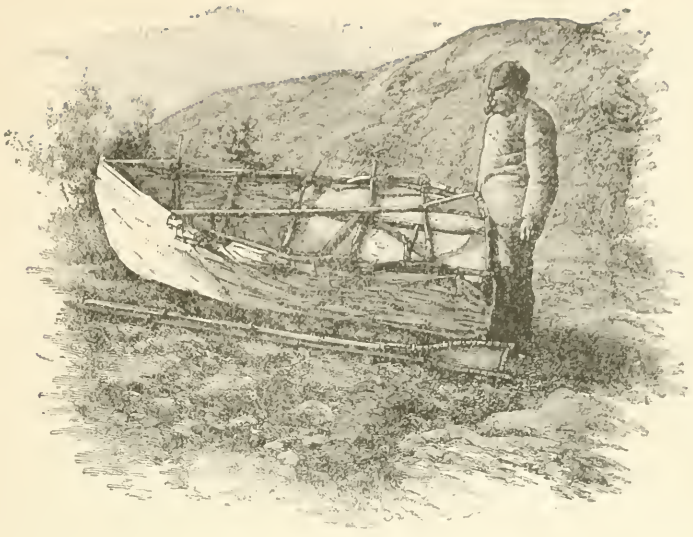
"UPON THE BROW OF AN ICE-SLOPE WHICH OVERLOOKED A BEAUTIFUL MOUNTAIN TARN"

(By A. Bloch, from a photograph)

ran downward, while to the right the great glacier sloped evenly down to its end moraine, and would have formed the most magnificent coasting-hill imaginable, but for the stones that lay scattered over its surface. Here was an easy descent for us, and no obstacles to separate us from our goal. I soon had the whole party by me, and we stood enjoying the sight of the land below. After I had

taken a couple of photographs, we set off down the last iceslope. It was steep, steeper perhaps than any we had run down before, and we had to use our brakes; but the sledges went gayly, and soon we were safe and well upon the frozen tarn below the glacier, with the inland ice forever left behind.

We now pushed across the tarn toward the river on the other side. The ice was not everywhere quite safe, but by moving carefully we reached the rocks beyond without mishap, took off the "crampoons" which we had been using the last few days, and, like schoolboys released, ran wildly about the shore. Words cannot describe what it was for us only to have the earth and stones again beneath our feet, or the thrill that went through us as we felt the elastic heather on which we trod, and smelled the fragrant scent of grass and moss. Behind us lay the inland ice, its cold, gray slope sinking slowly toward the lake; before us lay the genial land. Away down the valley we could see headland beyond headland, covering and overlapping each other as far as the eye could reach. Here lay our course, the way down to the fjord.



THE BOAT AND ITS BUILDER

CHAPTER IX

ARRIVAL AT GODTHAAB [1]

NEXT morning, September 29, we carried the boat down to the water. It was desperate work plodding along with it through this sticky sand, in which our feet sank deep, and fixed themselves, and wheezed like the piston of an air-pump as we pulled them out again at each step. But at last we reached the water's edge, and set the boat down, to go back and get the rest of our things. There were any number of gulls down here, and we had looked forward to the prospect of a supply of fresh meat; but, unfortunately, they kept at a respectful distance, and we had no chance of a shot. When we got back to our camping-place, we came to the conclusion that we had had quite enough of the sands, and determined to carry

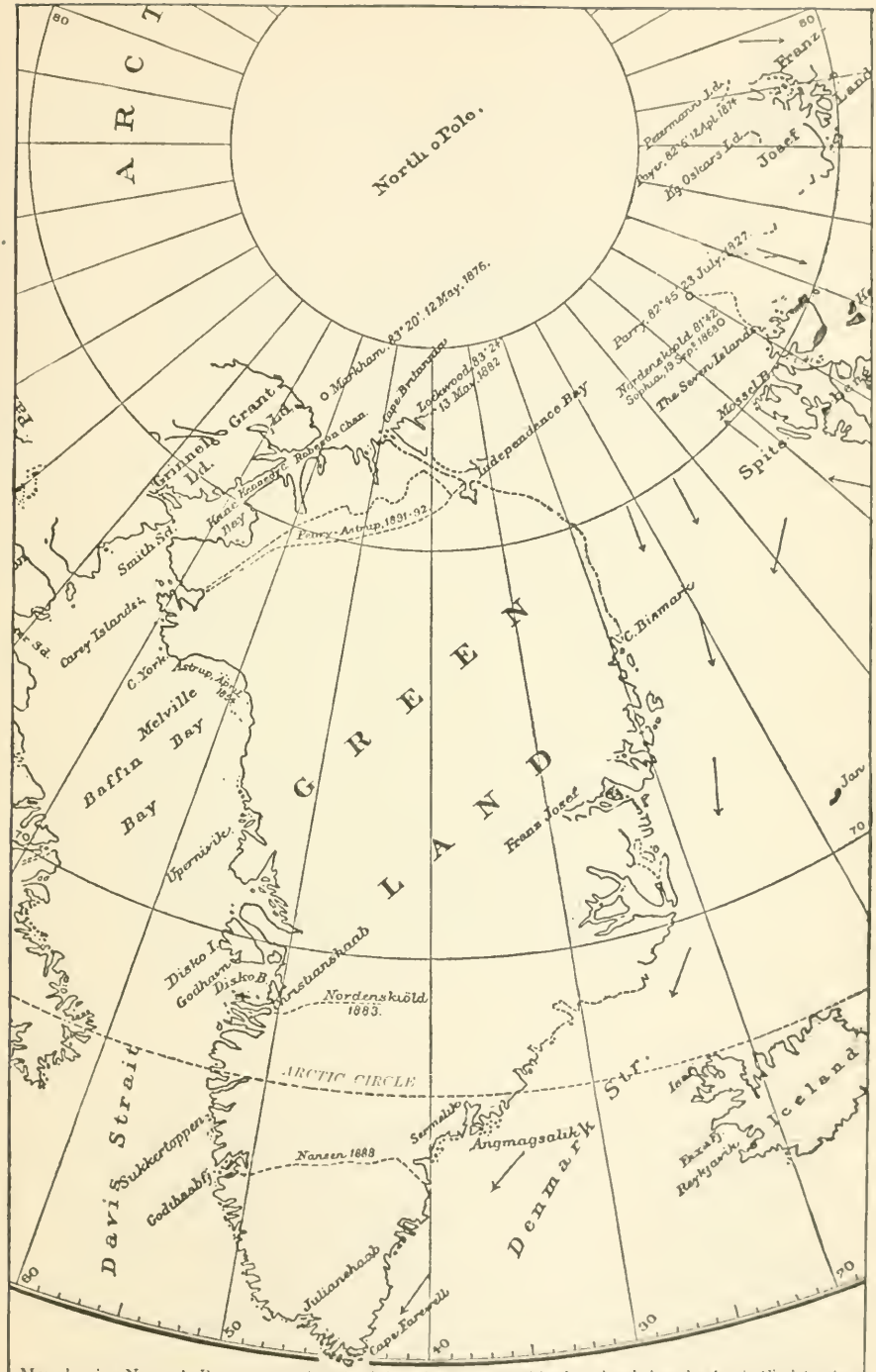
[1] From Nansen's *Across Greenland*.

the other things over the higher ground, rough and difficult though it was.

When we got down to the shore again, we saw that the boat was now afloat a long way out in the water, as, while we had been away, the fjord had risen to such an extent as to flood all the outer part of the sands. Luckily Sverdrup had been thoughtful enough to moor her fast by driving a stake into the ground, though we had left her so far from the edge of the water that we thought she was quite safe. He now waded out to her, and rowed her in to a point of land close by, while I moved the baggage to meet him at the same spot. Thus, at last, after a day's labor, we had overcome one more obstacle, and were ready to embark on a good sea-way.

After we had had our dinner we set out upon our first voyage, our destination being the farther side of the fjord, along which we meant to coast on our way outward. We discovered at once that our boat travelled much better than we had expected. She did not prove to be a fast craft, certainly, but we could get along in her, and reached the other side of the fjord after what we considered to be a remarkably quick passage. Nor was water-tightness one of our boat's virtues, for we had to take to baling with one of the soup-bowls about every ten minutes.

Just here, the head of the fjord formed a little bay or inlet, which seemed to us, in our present state of mind, an unusually attractive spot. It ended in a peaceful, gentle valley — a valley of long, brown slopes and stretches of moss and stones, and skirted by low, round hills; just the ground that is most welcome to the reindeer and his pursuer. Our interests still centred in all that we could connect with food and the pursuit of game, and the more



Map showing Nansen's Route across Greenland (from Umivik to Godthaab, — just below the Arctic Circle); also Peary's and Astrup's expedition (from Smith Sound to Independence Bay and return across the 80th parallel)

poetic reader must forgive us. To us, at this time, this was the most beautiful side of Nature; and for her true beauty — the lofty peaks, the snow-clad mountains, the precipitous cliffs, and all the glories of barrenness, glories of which Ameralikfjord has enough and to spare — we had no eyes of appreciation. Such delights are for that true lover of Nature, the tourist, as he wanders among them on his comfortable steamer, with abundance of warm clothing and good food.

Then we worked along the stupendous cliffs which form the northern shore of Ameragdla, as the inmost branch of Ameralikfjord is called, and stopped for the night at a spot where we could land our boat and find flat ground enough to sleep upon — accommodation not to be procured everywhere. We had not advanced much that day, but we were quite satisfied, and very pleased to be on the sea once more. Our chief delight, however, was the prospect of eating our fill of good fresh meat after nearly seven weeks of the driest of food. During our row I had shot six big blue gulls. At first I missed several times, as the birds kept out of range, but at last one ventured nearer, and then I had no further trouble. Gulls, as most people know, are inquisitive birds; so when I had thrown one dead body out to float, the others must needs come to look at it, and I brought down one after the other, and stocked our larder for the time.

These gulls are big birds, and we determined to have two apiece for our evening meal. They were skinned, put two at a time into boiling water, and cooked as little as possible. Sverdrup was afterward asked whether he took care to clean them properly. "Oh, I don't know," he answered; "I saw Nansen pull something out of them,

and I suppose it was part of the inside; and some more came out in the pot while they were cooking. All I can say is, I never tasted better birds in my life." And he

SHOOTING GULLS FROM THE BOAT

(*By A. Bloch, after photograph and sketch*)

was quite right: we both thought we had never had anything which could be compared with those gulls; the tenderest of chickens could not have been better. Whether the cause lay in our appetites, or the peculiar method of preparation, I will not attempt to decide. We looked for no reason at the time, but tore our birds in pieces as fast as teeth and fingers would allow. It was not long before

the first two had disappeared, and then we set to work upon the second with greater deliberation and more prolonged enjoyment. We finished with the broth in which they had all been boiled. This had a very characteristic, gamey taste, which added much to its peculiarity, though we were not quite certain to what we should attribute its origin.

Language, in fact, has no words which can adequately describe the satisfaction of the two savages who sat that evening on the northern shore of Ameragdla, and dipped each his hands into the pot, fished out the body of a gull, and conveyed it, piece by piece, head, feet, and all, into the depths of his hungry stomach. The light of the fire meanwhile was almost dimmed by the brighter glory of the northern lights. The whole heaven blazed, both north and south: the lights swept onward, and then returned again; and suddenly a whirlwind seemed to pass across the sky, driving the flames before it, and gathering them together at the zenith, where there was a sparkling and a crackling as of burning fire, which almost dazzled the eyes of the onlooker. Then the storm seemed to cease, the light died slowly away, there was nothing left but a few hazy flecks, which sailed across the starlit sky as we stood there still gazing. Such a display of northern lights I have never seen, either before or since. And there, below us, lay the fjord, cold and impassive, dark and deep, and girt round about by steep walls of rock and towering mountains, the familiar fjord landscape of the west of Norway.

Next day things did not go quite so well with us, as in the course of the morning a head-wind sprang up, which blew so hard that, instead of making progress, we were

almost driven backward, and our little cockle-shell danced up and down upon the waves to such an extent that there seemed every chance of our capsizing. She proved a good sea-boat, however, and never shipped a drop of water, except that which ran in unceasing streams through her bottom. Against the breeze, though, she travelled very heavily, and there was nothing to be done but land, rest meanwhile, and hope that the wind would drop toward evening. This it eventually did, and we embarked again. It was not long before we reached Nua, as the point is called which lies at the mouth of Itivdlek Fjord, the northern branch of Ameralik. Here the country was less wild and broken, and, with its low ridges covered with moss and heather, promised excellent reindeer-ground.

It was a fine, still evening, and we now set about to cross the fjord. This was the longest sea-passage we had as yet attempted; but all went well, and we were soon across to the opposite shore. It was dark by this time, and we put to land to get some supper. Here, however, we found neither fuel nor water, and had to eat our food cold and without drink, a state of things to which we were, nevertheless, well used. We had thought of pushing on farther during the night, but we now saw some ominous storm-clouds coming up from the west, and gathering about the sharp, wild peaks on the north side of the fjord. The night, too, was so dark that it would have been difficult to cross the fjord again, as we wished; and so we determined to bring the boat ashore, and get a little sleep, in the hope that the moon might come to our help later. During the operation of beaching the boat, Sverdrup was unlucky enough to fall into the water, which is not very pleasant just before bedtime, and when one has so little in the way of a change of clothes.

There was no improvement in the weather, and we slept till the morning of October 1. It was a splendid sunny day, and there was a gentle wind blowing to help us.

In the course of the morning we crossed the fjord again, and went ashore to get ready a substantial dinner of two gulls apiece and a soup of unsurpassed excellence. To the broth in which the birds had been cooked we added peas and bread, and the compound was so invigorating that we literally felt the strength grow in us as we took down one basin after another.

Unluckily, at this spot where we had landed there was a great abundance of crowberries, and as a matter of course we added them to our bill of fare. It was long since we had had access to fresh, wholesome, vegetable food, and we actually indulged ourselves beyond the bounds of reason. First we ate the berries standing; and then, when we could stand no longer, we ate them sitting; and when this posture became at last too wearisome, we lay prone at our ease, and prolonged the debauch to incredible lengths. When we landed there had been no wind, but now a stiff northerly breeze sprang up, which blew up the fjord, and made any attempt at further progress on our part quite out of the question. All we could do, therefore, was to lie here, and go on with our crowberries. At last we grew so torpid that we had not the energy to pick the berries any longer with our hands, and so we turned on our faces, and went on gathering them with our lips till we fell asleep. We slept till evening, and when we woke, there hung the great black, luscious berries still before our very lips, and on we went eating them till we dozed off again. If what people say is true, that gluttony is one of the deadly sins, then may Heaven's mercy save us from the dire punish-

ment that must await us for what we did that day in Ameralikfjord. It has always been a cause for wonder to me that we did not pay the penalty then and there; but, as a matter of fact, we suffered no ill-effects from our excesses.

At midnight the wind dropped, and I turned the crew out. In spite of the crowberries, Sverdrup had had suffi-

BY AMERALIKFJORD ON THE MORNING OF OCTOBER 1
(*From a photograph*)

cient energy in the course of the evening to collect some wood and fetch water in the event of our needing a meal in the night. We now, therefore, fortified ourselves for work, and by one o'clock we were afloat, ready to push on with renewed energy. We made our way quickly along the shore in intense darkness. The phosphorescence of the water was almost as brilliant as anything that tropical seas can show. The blades of our oars gleamed like molten silver, and as they stirred the surface the effect was

seen in the glittering radiance that stretched far below. The whole scene was very grand as we passed along under the beetling cliffs, where we could see scarcely anything but the flashes of phosphorescence which flitted upon the water round about us, and danced and played far away in the eddies of our wake.

We seemed to have luck with us just now — a state of things to which we were not much accustomed. The weather was fine, and there was no wind; so, to make the best use of our opportunities, and keep the steam up, we had recourse to frequent stimulants in the way of meat-chocolate. Rations were served out often and liberally, and with apparent effect, for we made rapid progress.

At dawn, while we were resting at a certain spot, we heard numbers of ptarmigan calling in the scrub close by us. It would have been easy to bag some, and I was tempted to try; but we thought we had no time to waste on land for such a purpose, so we showed an heroic determination by rowing away from the enticing spot.

We rowed on all the morning without stopping, except for chocolate. Along the whole stretch of shore the rocks fell so abruptly into the water that there were but two or three places where a landing was possible. About noon, to our great astonishment, we found ourselves approaching the mouth of the fjord. Here we came upon a point with a nice flat stretch of beach, and pulled in to land. The spot seemed a favorite camping-place, for there were several rings of stones marking the sites of Eskimo tents, and masses of seals' bones and similar refuse strewn about the place.

The consciousness of having got so far made us unusually reckless. We felt that we should soon be in Godt-

haab now, and in honor of the occasion we contrived a dinner which, in magnificence, surpassed even that of the day before. We had now no need for parsimony or self-restraint, and no meal throughout the course of the expedition came up to this in extravagance. We began with sea-urchins, or sea-eggs, which I collected in numbers on the beach close by. The ovaries of these are especially good, and little inferior to oysters, and of this delicacy we consumed huge quantities. We then went on to gulls and guillemots, which were followed by the usual excellent soup. Biscuit and butter we had in abundance, and there were plenty of crowberries for him that had recovered from the surfeit of the preceding day. It was, indeed, a dinner worthy of the name, as Sverdrup said. It was no easy matter for us to convey ourselves into the boat again, and bend over the oars to do our proper work. If at any time afterward I wished to bring Sverdrup into a thoroughly good humor, I had only to call to mind our notable dinner at the great camping-place in Ameralikfjord.

Fortune was strangely kind to us that day: we now had a fair wind behind us, and, in spite of our torpor and laziness, we made rapid progress during the afternoon. Everything was rosy to us now, and we pulled away in sheer fulness of heart. There was one thorn in the side of our happiness, nevertheless. This came from the absurdly thin little rails on which we had to sit instead of thwarts. I suffered so much that I felt I could well do without a certain part of the body altogether. We shifted, and shifted again, but with little relief to our soreness and discomfort. The happiness of this world is, indeed, seldom pure and unalloyed.

Thus we passed out of the fjord, and saw the sea, islands, and scattered rocks spread out before us, and lighted by the most glorious of sunsets. The whole expanse seemed to be suspended in an atmosphere of gently glowing light. The vision stopped us, barbarians as we were, and deprived us of speech and power of action. A feeling of home and familiar scenes came over us; for just so lie the weather-beaten islands of the Norwegian coast, caressed by flying spray and summer haze, the outskirts of the fjords and valleys that lie behind. It is not to be wondered at that our forefathers were drawn to this land of Greenland.

We had set ourselves the task of passing the mouth of Kobbefjord, an inlet which lies just to the south of Godthaab, that evening, so that, in the event of bad weather next day, we could, nevertheless, easily reach our destination overland. We now came to a little fjord which is not marked sufficiently clearly on the map we had, and which we therefore wrongly assumed to be Kobbefjord, though I thought at the time that it lay suspiciously near to the mouth of Ameralik.

Consequently, we thought we might as well land there and then, as we sat simply in torture, and our legs were stiff with the pain and discomfort of the position. But then it struck us that we had better keep on till we could see the lights of Godthaab, for, in our innocence, we supposed them to be visible from the south. We saw, however, nothing at all, and, as the current now ran hard against us, we were at last obliged to desist and go ashore. This was at a point which lies at the foot of a high mountain, which we afterward found to be Hjortetakken. It was now about nine o'clock, and, with the

exception of short intervals for breakfast and dinner, we had been fixed to those seats of affliction for a good twenty hours. It was indeed a welcome change to have a broad surface to stretch ourselves upon.

Phenomenal as our dinner had been, the supper which now followed was not much less so. For the first time since we left the *Jason* we could go to work upon bread, butter, and liver "pâté" without restraint and stingy weighing out of rations. We drank lemonade to our heart's desire, and did our very best to prevent any of that provender which we had been economizing so long from remaining over, to be carried to people among whom it would have no value. This thought it was that harassed us, and urged us to further effort; but in the end we were obliged to desist, with our task as yet undone.

This was the last of these wonderful nights which we had a chance of enjoying before our reëntrance into civilization. We felt that it was our farewell to Nature and to the life which had now grown so familiar and so dear to us. The southern sky was as usual radiant with the northern lights, streamer after streamer shooting up to the zenith, each more brilliant than the last; while the stars glittered in their usual impassive way, their brightness more or less eclipsed as the rival lights waxed or waned in intensity.

We were both of us in a strange mood: our wanderings were all but ended; we had met with many mishaps and many unforeseen obstacles, but we had succeeded in spite of all. We had passed through the drifting ice, and pushed our way up along the coast; we had crossed over the snow-fields of the continent, and made our way out of the fjord in our miserable little boat, in defiance of

adverse winds; we had worked hard, and undeniably gone through a deal of tribulation to reach the goal which now lay so near to us. And what were our feelings now? Were they feelings of triumph or exultation? For my own part, I must confess that mine were not of this lofty order; to no other feeling could I attain than a sense of gross repletion. It was a feeling grateful enough to me; but as for our goal, we had been kept waiting too long — there was too little surprise about its eventual attainment for us to give much thought to it.

We curled ourselves up in our fur pelisses, chose each a stretch of heather among the rocks, and slept our last night under the open sky as well as we had seldom slept before.

It was late before we woke next morning, October 3, and when we at last shook off our sleep, the wind had long been blowing freshly up the channel leading to Godthaab, and calling us to work. But we felt that for once we need not hurry — we could sleep to the end, and yet reach our destination in good time.

We began breakfast again with the worthiest intentions of consuming to the last morsel the provisions which remained; but though we attacked them manfully, we had to put to sea once more with this end still unattained. With the wind behind us we made rapid progress northward, and when we passed the spit of land on which we had camped for the night, we found that we had been all the time on the south side of Kobbefjord. This fjord now lay before us set in a circle of wild, lofty mountains, among which Hjortetakken was most conspicuous, with its sides sprinkled with fresh snow, and its peak from time to time wrapped in light, drifting mist.

We now set about to cross the fjord to the south side of the promontory on which Godthaab itself lies. As we reached the middle we heard, for the first time for many weeks, the sound of unfamiliar voices. They were evidently Eskimo women and children from whom the sounds came. They were screaming and shouting; but, though we listened, we could make out nothing, and though we looked, there was no one to be seen. Some time afterward we learned that these voices must have come from a party of folk who had gone over to "Store Malene," a mountain lying to the east of Godthaab, to gather berries. They had caught sight of us, and were shouting to one another that they could see two men in half a boat, and were much exercised to know what new sorcery this could be. Such a vessel they had never seen before, and they did not at all like the look of it.

This Eskimo description of our little craft as half a boat was really very happy, as it did much resemble the forepart of an ordinary boat. Some way farther on we saw in the distance the figure of a man sitting, as it were, in the water. This was the first "kaiaker" we came across on the west coast. Presently we caught sight of two more; they were out after seal, and took no notice of us. This was either because they preferred their own business, or because they thought there was something wrong about us. There is no doubt that they saw us long before we saw them, for the Eskimo has the keenest of eyes, and never fails to use them.

As we rounded the next point, Sverdrup, who was rowing bow, caught sight of some houses which he thought must be Godthaab. I turned my head in astonishment, and saw some Eskimo huts, but could not think them to

be Godthaab, as, according to the map, the settlement did not lie just there. Sverdrup then said: "But those big houses can't belong to these wretched Eskimos." I then turned quite round, and could now see the slated roof of a long building, surmounted by a little tower, and was quite ready to agree that this could not be an Eskimo abode, though it struck me that it might very well be a warehouse. But as we passed another point, we found we had before us no warehouse, but a church and a number of Eskimo huts lying by a little bay. We did not think it was any use landing here, and were for keeping straight on; but suddenly a fresh breeze sprang up, and made it very heavy work to row, and we concluded that it would be better to go ashore at once, and proceed to Godthaab overland.

So we turned our little tub shoreward, and found that a number of Eskimos, chiefly old women, were already swarming out of the houses, and coming down to the beach to receive us. Here they gathered, chattering, and bustling to and fro, and gesticulating in the same strange way as we had seen their fellows of the east coast often do. We could see little or no difference between the two branches of this people we had met; here there was just the same outward aspect — the same ugliness, and the same beaming friendliness and good humor.

When we landed they thronged around us, and helped us disembark our goods, and bring the boat ashore, all the while jabbering unceasingly, and laughing, in wonder and amusement, at us two poor strangers. While we were standing there, mounting guard over our gun and the more valuable of our possessions, and ignoring the crowd of people around us, whom, of course, we could not under-

stand one whit, Sverdrup said: "Here comes a European!" I looked up, and saw a young man advancing toward us. He was clad in an attempt at a Greenlander's dress, but had a Tam-o'-Shanter cap upon his head, and a fair, good-looking face, which was as little like an Eskimo's as could well be. There could be no mistake about him; he and his whole demeanor were, so to say, a direct importation from "the King's Copenhagen," as it is called here. He came up to us, we exchanged salutations; then he asked, "Do you speak English?" The accent was distinctly Danish, and the question somewhat discomfited me, as I thought it a little absurd for us to set to work at English instead of our own mother-tongue. But before I could answer, he luckily inquired: "Are you Englishmen?"

To this I could safely answer, in good Norse: "No; we are Norwegians." "May I ask your name?" "My name is Nansen, and we have just come from the interior." "Oh, allow me to congratulate you on taking your Doctor's degree." This came like a thunderbolt from a blue sky, and it was all I could do to keep myself from laughing outright. To put it very mildly, it struck me as comical that I should cross Greenland to receive congratulations upon my Doctor's degree, which I happened to have taken just before I left home. Nothing, of course, could have been more remote from my thoughts at the moment.

The stranger's name was Baumann. He was a good-natured, sociable native of Copenhagen, who was now in the Greenland Service, and acting as assistant, or, as they call it, "Volontör," to the Superintendent of the colony of Godthaab. We subsequently had a good deal of his society. The Superintendent, he told us, was just now away

town home, and in the name of his superior he offered us a hearty welcome to the colony. Godthaab itself was close by, and it was quite by chance that he had just walked out to Ny Herrnhut, the spot where we landed, to see the missionary. This is one of the few stations established by the German Moravian Mission in Greenland.

The first question I asked, as soon as I could get an opportunity, was about communication with Denmark, and whether the last ship had sailed. From Godthaab I learned that the last ship had gone two months or more ago, and there was none now that we could catch. The only possible chance was the *Fox*, at Ivigtut, but she was to leave in the middle of October, and the place was 300 miles away.

These tidings were anything but welcome. It had been the thought of catching a ship to Europe which had spurred us on during our crossing of the ice; the vision of a ship had haunted us unceasingly, and never allowed us the enjoyment of rest or ease. We had consoled ourselves with the thought that we could make up for lost time on board, during our voyage home; and now, when the time came, we found that our ship had sailed before ever we started upon our journey across the continent. It was a magnificent structure of hopes and longings that now sank into the sea before our eyes. As far as I was concerned personally, this was not of much account, for, on the contrary, I was quite ready to spend a winter in Greenland; but for the other poor fellows it was another matter. They had friends and relatives — one of them wife and children — away at home, whom they longed to see, and they had often talked of the joys of their return. And now they would have to wait through the long win-

ter here, while their people at home would think them long since dead. This must never be; a message must be sent off at once to the *Fox*, our last hope of relief. While we were talking the matter over, we were joined by another European — the Moravian missionary, Herr Voged. He greeted us very kindly, gave us a hearty welcome, and would not hear of our going by his door unentertained.

He lived in the building with the tower which had first caught our attention, and which served both as church and as a residence for him. We were received here, by the missionary and his wife, with unaffected heartiness, and it was with a strange mixture of feelings that we set foot once more in a civilized dwelling, after four months of wild life on shipboard, in our tent, and in the open air. The room we were taken into will always remain vividly impressed upon my memory. Its dimensions were not grand, and its features were uniformity and simplicity; but for us, who were used to a cramped tent, and the still greater simplicity of the open air, the appointments of this house were nothing less than luxury itself. The mere sitting upon a chair was a thing to be remembered, and the cigars to which we were treated were a source of unconcealed satisfaction. Then the cup of welcome was handed round, while coffee and food were being prepared for us. It was a queer change to be sitting at a table again, and before a white cloth, and to be using knife and fork upon earthenware plates. I will not say, unreservedly, that the change was altogether for the better, for we had been thoroughly comfortable when sitting by the camp-fire, and tearing our gulls to pieces with our teeth and fingers, without forks, plates, and formalities.

While the meal was in progress, the pastor of Godthaab, Herr Balle, arrived; soon after him came the doctor of the place, whose name was Binzer. The news of our coming had already reached the colony, and they had hurried out at once to bid us welcome. We were now beset with questions as to our journey: as to why we had changed our route, how we had got out of the fjord, where we had left the others, and so on; all our accounts being followed with the most lively interest. Then the party broke up, and we took our leave of our kind host and hostess.

When we got out of doors, we found, to our surprise, that it was raining. Our luck was true to us this time, and we had reached the habitations of men none too soon, for the rain would have been very unpleasant to us in our little boat.

We were assured that our boat and things should be taken care of and sent on, and then we started off to walk in the rain over the hills to Godthaab.

After a time our way brought us out upon a projecting point of rock, and we saw the colony lying below us. There were not a great number of buildings — four or five European houses, a church perched upon an eminence, and a good many Eskimo huts. The whole group lay in a small hollow between two hills, and by a pleasant little bay. The Danish flag was flying on its high mast, which stood on a mound down by the water. Crowds of people were swarming about. They had all come out to see the mysterious strangers from the interior who had arrived in half a boat.

Then we made our way down; but we had hardly reached the houses before a gunshot rang out over the

water, and was followed by one after another, in all a complete salute. We had parted from civilization amid the thunder of cannon, and with this same thunder we were received into the civilized world again, for to such the west coast of Greenland must certainly be reckoned. It might have been supposed that we were individuals of the most warlike tendencies. How many shots they fired

BOLETTE. GREENLAND WOMAN OF MIXED RACE.

in our honor I cannot say, but the salute was well sustained. The little natives had all their work to do around the guns under the flagstaff, as we were passing among the houses and between long rows of Greenlanders of both sexes, who crowded around and lined the way. They

—and especially the women — were a striking sight in their picturesque attire. Smiles, good nature, and here and there, perhaps, a little unaffected wonder, beamed from all the faces about us, and added a new sunshine to the surroundings.

Then our eyes fell upon a more familiar sight — the figures of the four Danish ladies of the colony, who were coming to meet us, and to whom we were duly presented. At the same time, it struck us somewhat curiously to see European petticoats again among all the skin jackets and trousers of the fair Eskimos.

As we reached the Superintendent's house, the salute was brought to an end, and the native gunners, under the lead of one Frederiksen, gave us a ringing cheer. The Superintendent's wife now welcomed us, on her own part and that of her husband. Here, again, we were temporarily entertained, and also invited to dine with the doctor at four o'clock.

We had still a long time to get through before then, however, though we had plenty to do in the way of washing and decorating ourselves. We were shown up into our new friend Baumann's room, the aspect of which, again, was sufficiently unfamiliar to us to make a very vivid impression upon our minds. Here a musical-box played to us "The Last Rose of Summer," an air which will hereafter never fade from my memory; and here we were, for the first time, horrified by the sight in a glass of our sunburnt and weather-beaten faces. After our long neglect in the way of washing and dressing, we seemed to ourselves little fit for presentation in society, and, both in our faces and clothes, a considerable number of the hues of the rainbow were intrusively conspicuous.

It was an indescribable delight to plunge the head into a basin of water once more, and to go through the ceremony of an honest Saturday night's wash. Cleanness was not, however, to be obtained at the first attempt. Then we attired ourselves in the clean linen, so to say, which we had brought all the way across Greenland for the purpose; and, thus reconstituted, we felt ourselves quite ready for the good things of the doctor's well-provided dinner-table.

By all the Danish inhabitants of Godthaab we were entertained with unprecedented hospitality, and the luxury displayed on all sides was quite astonishing. We had expected to find that the Europeans exiled to this corner of the world would be so influenced by the nature of their surroundings, and the primitive section of humanity amid which they dwelt, that they would have inevitably forgotten a certain amount of their native etiquette. And therefore our surprise was great when we saw the ladies appear at social gatherings in the longest of trains and gloves, and the men in black coats and shirt-fronts of irreproachable stiffness, and even on occasions going to the extremity of the conventional swallow-tail. Surrounded, as we were, by the natives in their natural and picturesque attire, and thoroughly unaccustomed as we had grown to all these things, to us the absurdity of European taste in such matters seemed altogether incongruous.

We two were now safe in port, and the next thing to be done was to send relief to our comrades in Ameralik-fjord with the least possible delay. They had no means of knowing whether we had reached our destination, or had gone to the bottom of the fjord, and left them to

starve to death out there. And after this was done, we must despatch a message to the *Fox*.

In the course of the afternoon we tried, therefore, to arrange matters, but without success. No sooner had we arrived than a storm from the south had sprung up, and the weather was so bad that the Eskimos, who are bad sailors in anything but their "kaiaks," would not venture upon the voyage into Ameralikfjord. The letter to the *Fox* was to be sent by one or two "kaiakers," but we could find no one in the colony who would undertake to start in this weather, and we were therefore obliged to wait till next day.

When night came, and lodging had to be found for us, Sverdrup was quartered upon the before-mentioned Frederiksen, the carpenter and boat-builder of the place, while Herr Baumann's room was put at my disposal. It was strange, too, to find myself in a real bed again after six months' absence. There can be few who have enjoyed a bed as completely as I did this one. Every limb thrilled with delight as I stretched myself on the soft mattress. The sleep which followed was not so sound as I could have expected. I had grown so used to the bag of skin, with the ice or rock beneath it, that I felt my present couch too soft, and I am not sure that, after a while, I did not feel a faint longing for the old order of things.

On the morning of October 4 I was roused from my unquiet dreams by the gaze of the Eskimo maid-servant who had come with the morning supply of tea and sandwiches. After this early meal I got up, and went out to look around the place.

Down by the beach there was just now a deal of life

and movement, for a boat's load of seals, which had been caught not far off, had just come in, and the so-called "flensing," or process of cutting the blubber out, was now in progress. I went down with Baumann to study this new phase of life. The Eskimo women, with their sleeves rolled up, knelt in numbers around the gashed and mangled seals. From some the blood was taken, and collected in pails, to be afterward used in the manufacture of black puddings, or analogous delicacies; from others the intestines were being drawn, or the blubber or flesh being cut. All parts were carefully set aside for future use.

After having seen enough of the sanguinary spectacle, and duly admired the dexterity and grace displayed by the Eskimo women, as well as the good looks of some among them, we went across to see Sverdrup, and, if he were up, to ask him to come and have breakfast at the Superintendent's house.

When we entered, however, we found him already at table with his host, Herr Frederiksen, and engaged upon a breakfast of roast ptarmigan and other delicacies. I expressed my regret that this was the case, as I had hoped that we should breakfast together. But Sverdrup could see no reason why we should not do so still. He was now occupied with his first breakfast, certainly, but so good a thing would easily bear repetition, and he expressed himself ready at once to begin again. So he actually did; and, as a matter of fact, he made at this time a regular practice of eating his meals twice over. For three days he stood the strain; but after this he succumbed, and had to keep his bed for some hours in consequence. It was a long time, indeed, before any of us

returned to decent ways again, and were content to take our food like civilized beings.

In the course of the morning a man was found who was considered equal to the task of carrying our despatches southward, and was at the same time willing to undertake the journey. The man's name was David, and he was a resident of Ny Herrnhut. He was to go to Fiskernæs, a small settlement some ninety miles to the south, and there to send the letters on by other "kaiakers." An errand of this kind is usually undertaken by two men in company, as risks of a fatality are thus much lessened. But as the same David was not afraid of the undertaking, and had expressed his readiness to start the same afternoon, I, of course, had no objection to make. I promised him, as well as the others to whom he was to hand the despatches, extra pay in case they caught the *Fox*.

I then wrote a hurried letter to Herr Smith, the manager of the cryolite quarry at Ivigtut. The *Fox* being the property of the company who own this quarry, it lay really with the local manager to decide what course the vessel should take; but I also wrote to the captain of the ship. In both these letters I asked that the vessel should be allowed to come up to Godthaab to fetch us, if possible. I did not propose that she should wait at Ivigtut till we could join her there, because, in the present uncertain state of the weather, it was quite impossible to calculate how long it would take us to get the rest of the party from Amералikfjord, and cover the necessary 300 miles in open boats. As far as we could judge, we could not reckon upon reaching Ivigtut by the middle of the month — the date at which the ship was expected to sail

— and we could not ask her to wait an indefinite time for us down there. On the other hand, it seemed to me that, if she thought of doing anything on our behalf, it would be to come and fetch us. By these means she could save time, and it would be possible to reckon, with a fair amount of accuracy, how many days the voyage to Godthaab and back would take her.

Furthermore, in case my messengers should catch the *Fox*, but she could not see her way to fetching us, I hastily wrote a few lines to Herr Gamél, of Copenhagen.

This letter, and one from Sverdrup to his father, brought to Europe the first news of our having reached the west coast of Greenland, and contained all that was known of our journey for six months. In one respect they hold, perhaps, a somewhat unusual position, for their postage came to no less than eighty-five dollars.

Our messenger promised me that he would start that very afternoon. He did make the attempt, but, as far as I could learn, was driven back by stress of weather.

As things were just as bad in this respect when evening came, and it was the general opinion that no boat would be able to make the voyage into Ameralikfjord next day either, the pastor proposed that a couple of men should be despatched in "kaiaks" to take to our companions the news of our safe arrival, together with a temporary supply of provisions, with which they could console themselves until the boats could be sent to fetch them away. This proposal I accepted, of course, most gratefully; and while the pastor went to secure his "kaiakers," two plucky brothers, named Terkel and Hoseas, who belonged to Sardlok, but happened at this moment to be at Godthaab, the ladies of the colony set

busily to work to collect a supply of the most unheard-of delicacies. These were stowed away in the two canoes, while I supplemented them with some simpler articles of food, such as butter, bacon, and bread, and last, but not least, some pipes and tobacco. Among the latter was a big Danish porcelain pipe with a long stem, and a pound of tobacco, for Balto's private delectation — a present which I had promised him up on the inland ice on some occasion when he had surpassed himself in handiness. As soon as the "kaiaks" were ready packed, I gave Terkel, the elder of the two brothers, through the medium of the pastor, an exact description of the spot where the others were to be found, and pointed it out to him on the map, which he understood well.

Next morning, therefore, October 5, three Eskimos left Godthaab — two bound for Ameralikfjord, and the third for Fiskernæs. The first two, who were excellent hands at their work, made good use of their time, and found our companions on the morning of the following day. But the latter, who was an inferior "kaiaker," had to turn back, and was a long time before he finally got off. As far as I could make out, he was seen hanging about Ny Herrnhut, which was his home, some days later.

This same morning, too, a boat for Ameralikfjord made an attempt to start, but only to come back a couple of hours afterward. As I have already said, these Greenlanders are no great performers with the oar. In the afternoon they had another try, and this time, strange to say, we saw no more of them; but, as we subsequently learned, they got no farther than to an island a little way to the south, where they disembarked, and passed the next few days in a tent instead of returning, though they

were no more than an hour's row distant all the while. There was a very good reason for this odd conduct, as it appeared, for had they come back they would have lost all the pay which they now managed to put to their credit; and, besides, they would have had nothing like so good a time at home as in their tent on the island, and therefore they felt no call to move till they had consumed their whole supply of provisions.

Next day the Superintendent of the colony, Herr Bistrup, returned, together with Herr Heincke, the German missionary from Umanak, a Moravian station up the fjord, some forty miles from Godthaab. The Superintendent had been in Umanak, when a "kaiaker," who had been sent off from the colony, brought him the news of our arrival. He and the missionary had thereupon at once despatched a couple of men in canoes into Ameralikfjord. They also carried a supply of provisions sent by the missionary and his wife, and were told to remain with our party, and help them in every possible way.

On October 7, Terkel and Hoseas came back from Ameralikfjord with a letter from Dietrichson, telling us that they now felt quite comfortable in there, as they had an abundance of provisions, and now knew of our safe arrival at Godthaab.

Two days later, or on October 9, the weather was sufficiently favorable to allow of my sending off an ordinary Eskimo boat, which I had borrowed of Herr Voged, the German missionary whom we had first met. The crew consisted as usual chiefly of women. The same day, too, the first boat, commonly known as "the whaler," finally left the island on which its crew had hitherto been picnicking.

Several days now passed, and as we had heard nothing of our companions, we began to expect their arrival every moment. The Greenlanders in particular were extremely anxious to see them.

Like all Eskimos, they have the liveliest imaginations, of the traits of which we had some noteworthy examples. The very day after our arrival the strangest rumors were flying about among the natives of the colony as to our experiences upon the inland ice. We were said to have taken our meals in the company of the strange inhabitants of the interior, who are double the size of ordinary men. We had also come across the tiny race of dwarfs who inhabit the rocks in the recesses of the fjords. Of the feet of these little people we had seen numerous traces in the sand, and we even had two specimens of the race in our company.

On the other hand, it was reported that two of the members of the expedition had died on the way; but of this sad occurrence we, as was quite natural, had no desire to speak.

At first, indeed, we were regarded as possessing certain almost supernatural attributes, and it was feared that we had achieved the heroic feat of crossing the dreaded inland ice by the aid of means not strictly orthodox. And, therefore, as soon as Sverdrup or I showed ourselves in public, the natives assembled in great numbers to gaze at us. I, especially, on account of my size, was a favorite object of their regard. We received appropriate names at once: Sverdrup was called "Akortok" — that is to say, "he who steers a ship;" while I was honored with two appellations — "Angisorsuak," or "the very big one," and "Umiarmiut nalagak," which means "the leader of the

men with the great beards," under which description the Norwegians are generally known.

It had also come to the knowledge of these good people that we had two Lapps in our company — members of a race which they had never seen. The two "kaiakers" who had come back from Ameralikfjord had minutely described their meeting with the strangers. "There were two men," they said, "of the people who commonly wear great beards, and two who were like us, but were clad in a wonderful dress." They were thus quite acute enough to see that the Lapps, in spite of all distinctions, belonged to a race somewhat on a level with themselves, and were widely different from all Danes and Norwegians.

At last, early on the morning of October 12, the two Eskimos who had been sent into the fjord from Umanak arrived with a note from Dietrichson, saying that the whole party were now on the way.

The entire colony, Europeans as well as natives, now turned out, and awaited their arrival in great excitement. At last we could see, by a movement among the "kaiaks," which lay below us, that the boats must be in sight. Presently, too, "the whaler" appeared from behind a projecting point. The "kaiaks" simply swarmed around her, and we soon caught sight of our four companions, seated in the stern, in front of the steersman, and already waving their caps in the air by way of salutation. It was a little strange to me to see them sitting there as passengers, instead of working at the oars.

The boat came slowly on, with a long string of "kaiaks" tailing out behind, and soon put in to shore under the flagstaff mound, where the four strange beings from the interior landed, and were heartily welcomed by the

Europeans of the colony, as well as by crowds of Eskimos, to whom, of course, they were a source of renewed wonder and admiration. The Lapps came in for marked attention. The Greenlanders set them down as women, because they wore long tunics something like the cloaks of European ladies, as well as trousers of reindeer skin, which particular garments are only used by the women of the Eskimos. Balto seemed to take the attention which fell to his share with the greatest complacency and nonchalance. He talked away, related his experiences, and was soon on an intimate footing with all the inhabitants of the place. Ravna, as usual, went his own silent way; he came up to me, ducked his head, gave me his hand, and, though he said very little, I could see his small eyes twinkle with joy and self-satisfaction.

They were all glad enough to have reached their destination, and the announcement that there was a very doubtful prospect of their getting home this year did not seem to have much effect upon their good spirits.

As stated before in this work (see page 74), Nansen and his companions had to spend the winter at Godthaab. On April 15 the ship *Hvidbjörnen* arrived, and soon after the home journey began; on May 21 Copenhagen was reached, and on May 30 they entered Christiania Fjord, where they were received by hundreds of sailing boats and a whole fleet of steamers.

CHAPTER X

WITH THE CURRENT

In the beginning of 1890, Nansen delivered a lecture before the Norwegian Geographical Society, and set forth his plan for a new Polar Expedition. "I believe," he said, after giving a short sketch of the history of polar investigation, "that if we study the forces of nature itself which are here ready to hand, and try to work with them instead of against them, we shall find the surest and easiest way of reaching the Pole. It is useless to work against the current, as previous expeditions have done; we must see if there is not a current that will work with us. There are strong reasons for supposing that such a current exists."

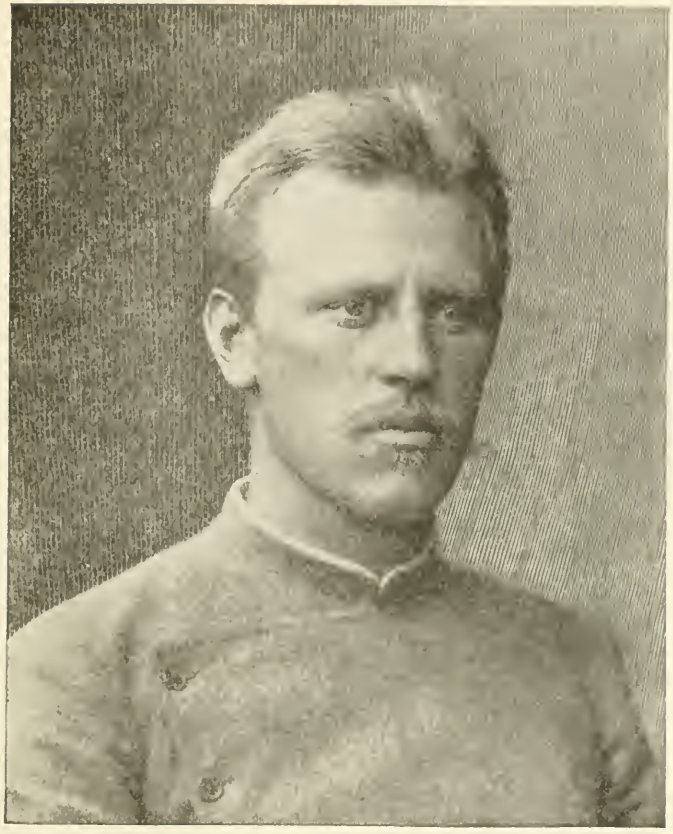
Nansen's plan was founded upon the assumption that from Bering Strait and the north coast of Eastern Siberia a constant and comparatively strong sea-current sets in the direction of the North Pole, whence, again, it turns to the south or southwest, between Spitzbergen and Greenland, follows the east coast of Greenland, and then sweeps around Cape Farewell into Davis Strait.

Three years after the sinking of the *Jeannette*, north of the New Siberia Islands in June, 1881, a number of articles were found on the drift ice off the southwest coast of Greenland, which must undoubtedly have belonged to the lost ship — among them, for example, a provision list with the signature of the captain, De Long, a list of the

Jeannette's boats, and a pair of oil-skin trousers marked with the name of one of the sailors who were rescued. The news of this discovery upon the drifting ice floe attracted much attention, and it was conjectured, with a plausibility approaching to certainty, that the floe must have been carried by the above-mentioned current from the New Siberia Islands, across or near the Pole, to the place where it was found. It was calculated that the articles must have been conveyed at a speed of about two miles in the twenty-four hours, which corresponded with the rate at which the *Jeannette* was borne along in the ice during the last four months of her existence.

These relics of the *Jeannette* are not, however, the only objects which have made the long journey with the current from East Siberia across the Pole, and have been swept southward along the east coast of Greenland. A so-called "throwing stick," used by the Eskimos for hurling their bird-darts, was found by a Greenlander, and given to Dr. Rink at Godthaab, who afterwards presented it to the Christiania University. It has been shown that this instrument is quite different in form from that used by the Greenlanders, but exactly resembles the throwing-sticks used by the Eskimos of Alaska, the northwestern extremity of North America, which borders on Bering Strait; so that it too, in all probability, had traversed the Polar Sea.

The drift wood which is washed ashore in Greenland in such large quantities, and is so indispensable to the Eskimos in the absence of timber trees, has been shown to consist for the most part of timber native to Siberia, so that it too must have been carried by the same current across the very precincts of the Pole.



NANSEN IN 1893

In the course of his wanderings along the shores of Denmark Strait, Nansen found on the drift ice large quantities of mud. Of this he collected a number of specimens, which were examined by Professor P. Cleve, of Upsala, and A. E. Törnebohm, of Stockholm, and proved to consist of varieties of soil characteristic of Siberia. Thus the probability is that this mud, too, had made the long polar voyage.

These facts of themselves sufficiently prove that there

must be a practicable connection between the sea to the north of Asia and the sea on the east of Greenland — not, perhaps, an open water-way, which one could scarcely expect to find, but a practicable route in the sense that the current carries the ice floes (now frozen together, now piled one on the top of the other, and then again broken up and scattered), across the distance indicated, with considerable regularity and in an ascertainable space of time. From these premises, then, Nansen drew what we may fairly call the inevitable conclusion that if an ice floe with what happens to be upon it can thus make its way across the polar area in a given time, it must be no less possible for a ship, fixed among the ice floes in the course of the current, to complete the same passage in the same time.

His plan was to make his way, with a small but strongly built vessel, to the New Siberia Islands, and there or thereabouts await the most opportune moment for making the furthest possible advance in ice-free water. He thought it probable that he could get well past the Islands. "When once we have come so far, we shall be right in the current in which the *Jeannette* was caught. Then the thing will be to press on northward with all our might until we stick fast. We must now choose a favorable place, moor the ship firmly between convenient ice floes, and then let the ice screw itself together around her as much as it pleases — the more the better. The ship will simply be lifted out of the water into a firm and secure ice berth." Henceforth — so the project continues — the current takes up the work of propulsion; the ship is no longer a means of transport but a barrack. The current sweeps it past the Pole and onward into the sea between Greenland and Spitzbergen. At the 80th degree

of latitude, or possibly before that if it be summer, it will probably find open water and be able to sail home. But if it should be crushed by the pressure of the ice? Then the equipment and provisions will be moved to a strong

NANSEN ON THE ICE (SUMMER DRESS)
(*From an instantaneous photograph*)

ice floe, where the tents will be pitched, warm tents of double sail-cloth with an intermediate layer of reindeer-hair. One can get far upon an ice floe. The crew of the *Hansa* drifted from Smith Sound right down to Davis Strait. But if the ice floe should break? Even that will not be fatal, for the stores will be distributed over the ice and placed upon wooden rafts. Then, having in this way

arrived in the Greenland sea and found open water, the expedition will take to its boats. It is not the first time Norwegian seamen have traversed the Arctic Sea in open boats; if your boats are good, it is not at all impossible to get on amid the ice.

And it is no unreasonable calculation that all this may take no more than two years. Five years' provisions, at any rate, will be amply sufficient. With the food-stuffs now available, there is no fear of scurvy. Besides, a certain amount of fresh meat may probably be counted on; seals and polar bears are to be found very far north, and the sea no doubt contains plenty of small animals which may be eaten at a pinch. But suppose, now, that the *Jeannette* current does not pass right across the Pole, but, say, between the Pole and Franz Josef Land? That matters very little. "We do not set forth to seek for the mathematical point which forms the northern end of the earth's axis; to reach this particular spot is not, in itself, a matter of the first moment. What we want to do is to investigate the great unknown regions of the earth which surround the Pole; and our investigations will have practically the same scientific value whether we reach the actual Pole itself, or pass at some distance from it — curious though it would be, no doubt, to stand on the very Pole and be turned around with the earth on one's own axis, or see the oscillations of the pendulum describe an angle of exactly fifteen degrees in the hour."

Nansen finally dwells upon the scientific significance of polar exploration — its important bearing upon the problems of geography, terrestrial magnetism, atmospheric electricity, the Aurora Borealis, the solar spectrum, dawn and twilight, the physical geography of the sea, meteor-

ology, zoölogy and botany, palæontology and geology. "We Norwegians," so he ends his lecture, "have before now contributed not a little to the exploration of the Arctic area; our gallant Tromsö and Hammerfest men in particular have done excellent service in this respect.

NANSEN ON THE ICE (WINTER DRESS)
(*From an instantaneous photograph*)

But as yet no Norwegian crew has set forth straight for the Pole in a Norwegian craft.

"The polar area must and shall be investigated throughout its whole extent. There has hitherto been a noble rivalry between the nations as to which should first achieve the goal; and one day it will be achieved.

"May it be Norway's fortune to lead the way! May it be the Norwegian flag that first floats over the Pole!"

In November, 1892, Nansen expounded the same plan before another geographical society, not a young body like ours, but old and world-renowned above all others — the Royal Geographical Society in London.

There was a brilliant gathering, including almost all the Englishmen who have distinguished themselves in Arctic exploration, and they are not a few. Before this society, the first to which Nansen, on his return from Greenland (1889), had set forth the results of his expedition — before this society, which had done more than any other for the advancement of Arctic research — before, in short, the most competent body of Arctic specialists in the world — he had now both to explain and to defend the basis and the details of his plan.

There they sat before his eyes, all those celebrated explorers whose names were already inscribed in the history of Arctic research — those grizzled and white-haired pioneers of the polar world, the heroes of so many an achievement before Nansen was born. There sat Admiral Sir George Nares himself, the celebrated chief of the *Alert* and *Discovery* expedition, during which Commodore Markham had, on May 12, 1876, reached the latitude of 83° 20′, a record which only Lockwood had since beaten. There sat Admiral Sir Leopold McClintock, leader of the *Fox* expedition (1857–58), by which Franklin's fate had been finally ascertained. There, too, was Admiral Sir E. Inglefield, who in 1852 brought Kane Basin within the sphere of geographical knowledge. And there, among the rest, was the famous Arctic traveller, Sir Allen Young, who, so long ago as 1857, had accom-

panied McClintock, and in 1875 had taken the *Pandora* right up into Smith Sound to bring tidings of the Nares expedition — the same *Pandora* which, under the name of the *Jeannette*, carried the hapless De Long to his fate.

A whole host of other famous polar travellers were present — Admiral Ommanney, Dr. Rae, Captain Wiggins, the well-known Yenisei trader, Captain Wharton, etc.

It was to this illustrious gathering that Nansen was to expound his scheme. His lecture was, as usual, clear, sober, attractive in its form, and plausible in its matter. But he here stood face to face with a concentrated mass of experience, all tending to prove the insuperable difficulties of polar travel, which could not instantly make way for a new idea. Practically all of these famous pioneers of Arctic research, one after another, commented unfavorably upon the scheme.

Old Admiral Sir Leopold McClintock opened the discussion as soon as the lecture was over. He began his speech thus: "I think I may say this is the most adventurous programme ever brought under the notice of the Royal Geographical Society. We have here a true Viking, a descendant of those hardy Norsemen who used to pay this country such frequent and such unwelcome visits." But he could not venture to express any great confidence in the scheme put forward, even supposing Dr. Nansen succeeded in getting into the alleged polar current. Sir Leopold feared the force of the ice-pressure, and did not believe that it would force the ship up on the ice.

The next speaker, too, Admiral Nares, expressed strong doubts as to the plan. He particularly doubted whether the *Fram* would succeed in finding any polar current,

and dwelt upon the dangers of a drift voyage such as Nansen projected.

Admiral Inglefield expressed himself more favorably, but Sir Allen Young again emphasized the dangers and difficulties, thought that land and shallow water would be found in the neighborhood of the Pole, and very much doubted whether the ship would be forced up on the ice. His opinion was that it would be wisest to strike for the north from a point well to the westward of the New Siberia Islands.

Captain Wiggins, too, was opposed to making the New Siberia Islands the starting-point, "as they are the most treacherous, low, sandy, muddy, horrible places." But, on the whole, he approved of Nansen's plan, and ended by wishing him a hearty God-speed.

Captain Wharton, a well-known authority on these questions, gave him warm encouragement as to his theory of the current. He thus ended his speech: "People sometimes ask: What is the use of Arctic exploration? Amongst other things I think it may be said that its use is to foster enterprise and bring gallant men to the front. To-night we have an excellent example of that in Dr. Nansen. I can only say to him, God-speed!"

Manuscript communications from Admiral Sir George Richards and the celebrated Sir Joseph D. Hooker were also read, both sceptical and full of warnings. Sir Joseph Hooker thus ended his remarks: "I may conclude with expressing the hope that Dr. Nansen may dispose of his admirable courage, skill, and resources in the prosecution of some less perilous attempts than to solve the mystery of the Arctic area."

It was not until late in the evening that Nansen him-

self was at last called upon for a short reply to all these doubts and anxious warnings. His answer is as like him as it could be. Though plainly willing enough to take advice as to details, he is in the main unshaken in his conviction of the practicability of his scheme. And while he answers, point by point, the objections to it, he gathers new arguments from these objections themselves. Referring to Admiral Nares's remark, that an Arctic expedition ought always to have a secure line of retreat, he answers: "I am of the opposite opinion. My Greenland expedition proved the possibility of carrying out such an enterprise without any line of retreat, for in that case we burnt our ships, and nevertheless made our way across Greenland. I trust we shall have the like good fortune this time, even if we break the bridges behind us."

It is, as Sir Leopold McClintock said, the old Viking blood that speaks in these words.

For it is true, as that famous explorer hinted at the beginning of his speech, that there is a touch of romance in Nansen's scheme. It is constructed, indeed, upon a scientific basis; but no one who was exclusively a man of science, or exclusively a sportsman, would have had the foresight to conceive such a plan, or the courage to execute it. A creative and daring imagination is its determining element.

CHAPTER XI

NANSEN AT HOME AND ABROAD

Immediately after his return from Greenland, Nansen was offered the post of Curator of the Zoötomic Museum of Christiania University, and accepted the offer. Besides the duties of this position, an immense quantity of work fills up the interval between the Greenland and the North Pole expeditions; he writes the story of what he has done, and he makes the preparations for what he has yet to do. And to all this we must add his lecturing tours to different parts of Europe.

In 1889 he married a daughter of the late Professor M. Sars, like his well-known son, Professor O. Sars, an eminent naturalist. Fru Nansen is probably the most skilful lady skirunner in Norway, besides having attained great celebrity as a concert singer.

A honeymoon was out of the question. The day after the marriage, the happy couple started by way of Gothenburg, Copenhagen, Flushing, and London, for Newcastle, the scene of a geographical congress which lasted a week, while the new-made wife wondered in her secret soul that her husband should thus prefer "geography" to "love." Thence back to London. In the great city, they let the world, with its discovered and undiscovered countries, look after itself, and gave themselves up, in the solitude of that densely peopled wilderness, to the rapture of existence. Then they passed six glorious days in Paris. In

EVA NANSEN
(From a photograph)

October they were home again; but the sixteenth of the month found them once more on the move, this time for Stockholm, to attend a meeting of the Swedish Anthropological and Geographical Society. This society had, in January, 1880, determined to confer its *Vega* medal upon Fridtjof Nansen, and it was now handed to him by the King. Only five people had received it — Nordenskjold, Palander, Stanley, Przewalski, and Junker. The spokesman of the society, Professor Gustaf Retzius, said in the course of his speech: "Dr. Nansen has had fortune on his side in his first enterprise. Let us hope that this victory may not prove his Narva, leading him to underrate difficulties, and thus luring him on to a Pultowa. May it be only the first of a series of triumphs!" The speaker knew, he said, that Dr. Nansen was in no way puffed up by his achievement, but precisely the same as he had been two years ago when he came to Stockholm to consult Professor Nordenskjöld as to his projected journey. But Nansen might well be proud of his exploit, the speaker continued, because it was an honor, not only to himself, but also to his country. It is not on the field of battle that small nations can vindicate their place in the world, and secure their independence. It is in the domain of culture, of civilization, of science and art — a domain which lies open to all — that they must press forward into the front rank and strive for the palm of victory. Here it is that they must seek for their true distinction, and earn the respect of the great nations.

As far as we can ascertain, the *Vega* medal was the first distinction of its kind conferred upon Nansen. Seven years ago, as an unknown seal-hunter in the Polar Sea, he had looked with reverence upon the gallant craft which

DR. NANSEN

had borne Nordenskjöld around Asia. Now he himself held a place of honor by the side of that renowned traveller, and received the medal which bore the name of his ship and was, according to custom, presented on the day when the *Vega* reached Stockholm after her northeast passage.

The *Vega* medal was far from being the only mark of distinction conferred upon him. In the course of these years Nansen became a member of a host of geographical and other learned societies, and received several gold medals and other decorations. We may mention the Karl Ritter medal, and the Victoria medal of the Royal Geographical Society, conferred upon him in the beginning of 1891. This celebrated body states as follows its reasons for selecting him for this distinction: "The patrons of the Victoria medal, to Dr. Fridtjof Nansen, for having been the first to cross the inland ice of Greenland, a perilous and daring achievement, entailing a journey of more than three months, thirty-seven days of which were passed at great elevations, and in the climate of an Arctic winter; obliging him to lead a forlorn hope with the knowledge that there could be no retreat, and that failure must involve the destruction of himself and his companions; and calling forth the highest qualities of an explorer. For having taken a series of astronomical and meteorological observations under circumstances of extreme difficulty and privation, during a march which required exceptional powers of strength and endurance, and mental faculties of a high order, as well as the qualities of a scientific geographer, for its successful accomplishment. And for his discovery of the physical character of the interior of Greenland, as well as for other valuable scientific results of his expedition."

A distinguished friend in Copenhagen, writing to congratulate Nansen on receiving the Victoria medal, ends his letter thus: "If you should hereafter become 'Commander' or 'Grand Cross' of any order whatsoever, you must excuse me if I do not congratulate you. Crowds of people have the right to wear a ribbon; but the Victoria medal is held by very few, and it's a devilish select company it brings you into."

The Grand Cross is presumably in reserve for his return from the Polar Seas. Hitherto Nansen has received the Knights' Cross of the St. Olaf Order (May 25, 1889) and of the Order of the Dannebrog. It can scarcely be indiscreet to add, that it pained him greatly to be the sole recipient of these distinctions. He felt strongly that his comrades who had risked their lives with him, and shared with him his toils and dangers, ought also to share with him the public recognition of their exploit. It was certainly no fault of his that he was the only member of the expedition who received the cross of St. Olaf.

Even before he returned from Greenland he had been elected a member of the Christiania Scientific Society. A whole host of evidences of the appreciation of his achievement in scientific circles streamed in upon him after his return, in the form of letters from the leading authorities on Arctic exploration. We shall here quote only a single expression from a letter addressed to him by the celebrated Arctic traveller, Sir Clements Markham, dated March 11, 1891. He says of the Greenland expedition: "For my part I regard it as being, from the geographical point of view, one of the most remarkable achievements of our time, remarkable alike for intrepidity and for the importance of its scientific results."

On June 24, 1891, Nansen was appointed Corresponding Member of the Institute of France, in succession to Nordenskjold, who was promoted to the rank of Foreign Associate.

When he and his wife returned from Stockholm they lodged for two months with Martha Larsen, formerly housekeeper at Great Fröen, whom we have already had occasion to mention more than once. Her house, which revived all the memories of his childhood, was like a haven of rest where he could take refuge at any time. He had lived with her during the "hard spring," when he had to struggle both with his doctoral thesis and with his preparations for the Greenland expedition. Here he would seek rest and refreshment of an evening in chatting over the old days at Fröen.

"Do you remember, Martha," he would say all of a sudden, "that time when I came to you streaming with blood from a cut in the leg?"

"Indeed I do — you had fallen on some broken glass."

"No — I can tell you the truth now, Martha. You see we had got new sheath-knives, both Alexander and I; and as I was slashing the heads off thistles with my new knife, I ran it into my leg. But of course I could n't tell you that."

"It was n't like you to tell me a lie," says Martha, with mild reproach.

"No, but there 's a limit to everything, Martha; and I could n't have the new sheath-knife taken from me."

It has been the lot of Martha Larsen to sweeten the year-long toils of the polar explorers. Not that she, personally, took part in the expedition; but she was the self-appointed purveyor of jams and jellies to the *Fram*. In

the course of his voyage northward, when Nansen was sending his farewell greetings in letters to all who stood very near to him, or had played an important part in his life, he did not forget his faithful old friend. From Khabarova, Yugor Strait, he writes to her on August 3, 1893: "As I am on the point of leaving this last place from which letters can be despatched, I must send you a parting greeting, and thank you for all your friendship and goodness to me." Her friendship he describes as untiring, and says that she is always finding opportunities to be of service to him and to his wife. We need not apologize for referring to this simple little letter. It is not every celebrated man whose memory is so alert at the critical moments of his life.

From Martha Larsen's the newly-married couple removed to the Drammen Road, where they set up house. But there was too little sun here, and too much town, too much civilization. They determined to build for themselves, and bought a site at Svartebugta (the Black Bay), where Nansen, as a boy, had often lain in ambush for wild duck. While their building operations were in progress, they lived in a pavilion close to Lysaker railway station — a pavilion which has since been transformed by the painter, Otto Sinding, into a comfortable house with a splendid studio. But up to this time it had never been inhabited. The floor was close to the ground, and it was very cold; the water in the pitchers froze hard every night. "That winter," says Mrs. Nansen, "cured me of the habit of feeling cold." In this dog-hutch and in this biting cold, Nansen set himself down to his book upon Greenland — he had no difficulty in recalling the atmosphere of the inland ice.

If he took an hour's holiday and became a human being again, he repented of it afterward. But he was forever going over to watch the progress of the new house, in the details and arrangements of which he took a keen interest. The "high seat," and the bed, in the old Norwegian style, were executed from his own designs by Borgersen, afterward so well known as a wood-carver. The house, which was built by Mrs. Nansen's cousin, Architect Welhaven, was finished in March 1890, but they had moved into it long before that. It was Björnstjerne Björnson who gave it its name. He rose from the "high seat," champagne-glass in hand, and said: "*Godthaab skal det hede!*" ("It shall be called Good Hope!")

Godthaab lies in the bight formed by a little projecting ness, sheltered and secluded, and quite alone. In front of the house is a wooded and grassy slope, leading down to the shore, whence the fjord stretches wide and open right to Nesodland. Here Nansen had his foot on his own ground, and could keep his own boat for sailing on the fjord.

But in the autumn he set off on a long lecturing tour, accompanied by his wife. He spoke in Copenhagen, London, Berlin, Dresden, Leipzig, Munich, and Hamburg. We have received from one of the most eminent geographers in Europe, Baron Ferdinand von Richthofen, a very valuable statement of the impression which Nansen at this time left behind him in scientific circles. We quote from a letter dated May 17, 1896: —

"As I have been confined to my room for several weeks, and am not yet permitted to do more than the most imperative work, I unfortunately cannot give myself

NANSEN'S HOME

the pleasure of entering upon a detailed account of Dr. Nansen's visit to Berlin. I hope, therefore, that you will accept in its stead the following brief notes.

"Fridtjof Nansen was here in November, 1890, two years after his memorable crossing of Greenland, and a year and a half after his return to Norway. As he wanted to complete his book describing the expedition, he had hitherto been unable to accept any of the repeated invitations he had received to visit Berlin. On November 8 he lectured before a meeting of the Geographical Society. He was warmly received, for we had all followed his daring journey with interest. The peculiar magic of his personality, which never fails to affect those

who stand face to face with him, was strongly felt during the delivery of this lecture. He took us all captive by the magnetism of his immovable will. We saw in him a strong man marching toward a clearly realized goal, and clinging with tenacious energy to a well-weighed and carefully projected plan. We were strongly impressed with this feeling, even as he told of his crossing of Greenland, and how he had 'burnt his ships' before setting forth on what was then regarded as a foolhardy act of daring. And it was with growing enthusiasm that the meeting hung upon his words as he went on to sketch in outline his great new scheme for reaching the North Pole. Many were of opinion that the enterprise was altogether too hazardous, and were doubtful of the premises on which he based his belief in its possibility. But not one among his hearers doubted that if the thing was within the range of human possibility, Nansen was the one man predestined to carry it out. On looking into the reasons for the brilliant success of his first undertaking, one could not but recognize that they lay in the care with which every detail of the plan was thought out, the sedulous forestalling of every possible contingency, the physical training which enabled him to cope with all physical difficulties, the talent for making the most of mechanical aids to locomotion, and finally, the indomitable strength of will. Although, no doubt, this new project far surpassed the former enterprise in magnitude and daring, yet all the precautions necessary to secure a fortunate result seemed to have been conceived on a proportionally larger scale.

"Such, my honored friend, is the impression Nansen left behind him. No one who was present can ever for-

NANSEN'S STUDY AT GODTHAAB

get the picture of the handsome, well-knit young man who so modestly told the story of an accomplished feat, and sketched in such simple words the outlines of a still more daring enterprise. Every one felt fully assured that whatever determination, strength, and intelligence can do to vanquish the hostile forces of Arctic nature might be confidently expected of Fridtjof Nansen. And although we cannot quite rid ourselves of the idea that the assumptions on which the scheme is founded are not as yet fully established, yet we are convinced that Nansen's clear insight will realize the actual conditions when he comes face to face with them, and that he will wisely confine himself to attempting what is physically possible, instead of clinging with stolid obstinacy to the plan once laid down. In this confidence, we look forward to seeing your gallant young countryman return with a rich harvest of scientific results, followed as he is by the warm sympathy of the whole civilized world.

"One thing I must add to my account of the impression produced by Nansen. I must note the happy combination in him of a remarkable spirit of enterprise with a strong scientific sense. These two qualities are not often found together. Especially in our age of athletics, it may almost be said to be the rule that the most daring exploits — for example, in mountain climbing — are carried out purely for their own sake and to satisfy a mere love of adventure. So much the more heartily should we applaud the man who is impelled by higher motives to the conquest of the greatest physical difficulties. Nansen's lecture left no doubt of his keen interest in, and thorough understanding of, the problems connected with Arctic research. He took especial pains to acquire and

communicate a scientific insight into the physical conformation and conditions of Greenland; and he has clearly a no less enlightened sense of the scientific significance of polar exploration."

What especially occupied him in these years was the preparations for the Polar Expedition. The equipment involved an immense expenditure of thought — from the construction of the ship to the minutest detail of the commissariat. Even the selection of the crew must have meant a great deal of correspondence — no fewer than 150 foreigners applied for leave to join the expedition. The list is headed by Englishmen and Americans, then come Germans, Danes, Swedes and Finns, Italians and Frenchmen, etc. The labor was enormous. Everything had to pass through *his* head, every one of the thousand details. Compared with this mental toil, the labor of dragging the sledges over the Greenland ice fields was little more than child's play. It engrossed him day and night, and encroached terribly on the few hours that were left for his home and his family. The strain upon his vital force was incomparably greater than in any of his previous efforts.

In the beginning of 1892 he again set forth on a lecturing tour, this time in England, the profits going to the expedition fund. He spoke in London and in the other great towns of England, Scotland, and Ireland, visiting Liverpool, Manchester, Sheffield, Birmingham, Hull, Newcastle, Edinburgh, Belfast, Dublin, Bristol, and many other places.

"His lectures," writes a friend in England, "were highly appreciated and made a great success. His mastery of the English language was remarkable. He made himself

thoroughly heard and understood. Of course he read his addresses; but to my thinking his speaking was most effective when, at the end of his last lecture before the Royal Geographical Society, he laid his manuscript aside. It was, in a sense, a farewell to England, inspired by a depth of feeling which stirred his audience to enthusiasm. I can assure you that when Nansen returns, a magnificent reception awaits him in this country."

Late in the autumn of this year his ship was launched.

"A whole troop of invited guests," writes Gustaf Retzius, in the "Aftonblad" for November 3, 1892, "took the morning train on October 26, from Christiania to Laurvik. There had been ten degrees of frost in the night; snow had fallen, and a thin white veil lay over hill and valley. Gradually the mists dispersed, and the morning sun shone out with the peculiar softened splendor characteristic of a clear winter day. Nansen himself receives us at Laurvik station, and leads us to a whale-boat, lying at the pier, with a crow's-nest at its foretop. It carries us down the fjord, then turns to the left and runs in shore. Here, in Rækevik Bay, lies the hull of a ship, shored up on the beach, with its stern to the sea. It is Fridtjof Nansen's new ship, which is now to go off the stocks. The hull is high and broad, black below, white above. The three goodly masts of American pitch-pine are still lying alongside her on the wharf. Three flagstaffs have been erected on the deck, two with flags, the one in the middle without. It is reserved for the pennant bearing the ship's as yet unknown name, which is to be hoisted after the christening. There are many speculations as to what the name is to be. People guess *Eva*, *Leif*, *Norge*, and *Nordpolen*.

"Thousands of spectators have gathered around Colin

THE LAUNCH OF THE "FRAM"

Archer's wharf, thousands have clambered up on the rocks. But around the great vessel lying shored up on the slips stand groups of sturdy figures in working clothes, with grizzled hair and furrowed features, carefully examining her lines and build. These are whalers and seal-hunters who have year after year braved the dangers of the Polar Sea. There are also many workmen among them, ship's-carpenters who have helped in the building, and who now regard their work with just satisfaction. But the master builder is the stately man with the serious refined features and the long white beard. It is Colin Archer.

"Fridtjof Nansen, followed by his wife, now mounts a platform erected close to the vessel's bows. Mrs. Nansen steps forward, breaks a champagne bottle against the stem at one strong blow, and says loud and clear: '*Fram skal den hede*' — 'She shall be called Fram.'[1] At the same moment the flag is hoisted on the unoccupied flagstaff, and the word can be read in white letters upon a red ground. The last moorings are now quickly cast off, the last supports knocked away, and the great vessel glides, at first slowly, then quicker and quicker, stern-foremost, down the sharply sloping groove which leads to the water. It plunges deeper and deeper. For a moment it almost seems as though it were going to sink, or at any rate to strike the bottom. But as the stem approaches the water the stern rises, and finally the whole vessel floats away, to be brought back in a few minutes, laid alongside the wharf, and there moored. At the moment when the whole bulk of the ship had taken the water, a great wave swept shoreward and washed over the rocks and over the onlookers who had perched themselves close to the sea.

[1] *Fram* = Forwards.

We could see them from the distance scrambling like wet flies up the slippery rocks. A large boat which had been swept ashore by the wave was with difficulty saved, but without misadventure.

"On the platform, by his wife's side, Fridtjof Nansen stood tall and erect, and watched the scene. All eyes were bent upon them. We could not but think what their feelings must have been at the moment when the vessel glided into the sea: feelings of gladness that the prologue to the long dark drama that was to be enacted in the polar night was now happily concluded; feelings of pain at the thought of the long separation that lay before them.

"For all who were present, it was a moment of deep emotion when, amid the booming of guns and the thundering cheers of the multitude, the *Fram* plunged into the sea and rose again proudly in its freedom. Many were afterward heard to say that it was one of the most impressive experiences of their lives. As the ship glided forth in the silvery light reflected from the calm surface of the sea, we seemed, in a flash of foresight, to be reading the Saga of the future. We seemed to glance down the vista of her destiny, to see her, in waters no keel has yet furrowed, spreading light over regions no eye has yet seen. And when we came to think of the stern realities which must one day surround the vessel and its crew on their daring quest, the cold, the darkness, the storms, the icebergs, and all that follows in their train, we could not but feel a touch of awe. But in Fridtjof Nansen's serene, unembarrassed, steadfast glance, there was no trace of doubt or anxiety. He has the faith and the will-power that can move mountains."

Colin Archer, the builder of the *Fram*, belongs to a Scotch family. His name is widely known and highly respected in Norway. "It is not many years since our pilot boats were sadly deficient in point both of speed and of safety. They were neither well built nor well designed for the work they had to do, so that it frequently happened that the boat went down and took the pilot with it. Mr. Archer devoted himself to the task of furnishing our pilots with a faster and safer sea-boat. After more than twenty years' work, he has met with such success that the pilot can now face almost any weather in one of his boats, and that those he leaves at home need no longer tremble and turn pale when the surf is lashing and the storm sweeping over the sea."

In a speech which he made that day, Mr. Archer said that he would never have been able to solve this peculiar problem, so unlike any that he had hitherto attempted, if Nansen himself had not furnished him with the key; it was Nansen's constructive sense that had throughout pointed the way. But Nansen had no less right on his side when he praised Colin Archer's talent, and expressed the belief that never before had a ship been built for Arctic work with any approach to the care and thought which had been devoted to this one. Let us hope that Colin Archer's most noteworthy "pilot boat," which is to pilot humanity through ice-packed channels and over unknown waters, may stand the test as well as the other "Archer-boats," its predecessors.

The *Fram*, which in reality somewhat resembles a pilot boat, is specially designed to play the part allotted it in Nansen's general scheme. His idea is not to burst his way by force through masses of ice, but to let the *Fram*

lie firmly frozen in and be carried forward by the current. It is not a fast ship, then, that he needs, but a vessel which can bear an immense pressure of ice without being crushed. It had to be so designed that the ice should not be able to grip its sides and squeeze them together, but should, as it were, wedge itself under the hull and force it up out of the water. For this reason the sides and bottom are strongly rounded. In order to secure the greatest possible strength the ship had to be as small as possible, and particularly short in proportion to its breadth. This would facilitate both the raising of the hull when the ice got packed under it, and the handling of the vessel among the floes when it should be released from its ice-berth.

The *Fram's* length on deck is 128 feet; length on water-line, 113 feet; keel, 102 feet. Her extreme breadth is 36 feet; breadth at water-line, exclusive of ice-skin, 34 feet; depth, 17 feet. When she is lightly loaded, the draft of water is 12½ feet. The keel, which is 14 inches by 14 inches, American elm, projects only 3 inches below the planking, and its edges are well rounded. The frames are double, being built chiefly of Italian oak, obtained from the dockyards at Horten, where it had been stored for thirty years. The lining is pitch-pine. The outside planking consists of three layers: the inner one being 3 inches oak, the middle one 4 inches oak, and outside all an ice-skin of greenheart, increasing in thickness from 3 inches at the keel to 6 inches at the water-line. Both bow and stern are protected by a covering of iron bars. The total thickness of the ship's sides is 24 to 28 inches, and their power of resisting pressure is thus very considerable; but it is greatly increased by

powerful beams or stays of wood or iron. The hold is divided into three water-tight compartments. The structural strength of the *Fram* is thus quite exceptional. Never before has a vessel been so fortified against the attacks of the ice.

During these years of toil Nansen enjoyed breathing spaces, when he gathered his friends around him. These pleasant interludes in his work will never be forgotten by those who took part in them. They remember the dinner when all the painters — Werenskjöld, Eilif Peterssen, Skredsvig, Munthe, Sinding — gave themselves up to high jinks without beginning or end, when they would on no account listen to polite speeches, but rushed into the kitchen and set the pump going whenever any one began. Nansen was thoroughly at home among the painters — he himself dabbled a little in their handicraft,[1] and, during his Bergen days, had worked in the studio of old Schiertz, who thought he had the makings of an artist in him.

They remember, too, that Midsummer Eve, when Lammers sang of the hero Roland, and Nansen went down to the bonfire and piled on wood.

By way of exemplifying the hours of relaxation in the life of labor depicted in this book, one of the authors will note down his recollections of a luncheon party at Nansen's house, the day after the launch of the *Fram*.

[1] Nansen draws excellently; all the plates for his zoölogical, anatomical, and histological essays are drawn by himself. We may mention, as a characteristic instance of his energy in every department, that he was not content with himself making the drawings for his works, but also learned lithography, so that, for example, the plates in his principal essay on the nervous system are drawn on the stone with his own hand.

It had rained overnight, so that the roads were ankle-deep in autumn mud. Nansen himself met us at the station in the highest of spirits.

When we reached his house (a quarter of an hour's walk from Lysaker station) it was raining. The fjord stretched before us dark and depressing, the gray autumn sky seemed to droop disconsolate among the pine stems. But in Nansen's study branches and logs were crackling and smouldering cosily upon the open hearth.

Here everything is in old Norse style. Nansen himself, as before mentioned, designed the furniture of light pine-wood, beautifully carved with dragon arabesques. Over the high seat hangs a tapestry of an antique pattern.

Luncheon was served in the cosey little dining-room, and merriment was the order of the day. Full justice was done to one dish after another; and Nansen is not the man to forget to season the viands with talk. He was, of course, still full of memories of the previous day, and one incident of the launch after another was related and discussed. Mrs. Nansen had to analyze her sensations at the moment when she broke the champagne bottle against the bow and said: "*Fram skal den hede!*" Some one else related how Archer was seen to close his eyes when the ship began to move; and so forth.

When the champagne appeared, Nansen proposed Retzius's health, and Retzius thus ended his speech in reply: —

"This is a delightful home of yours, Nansen, and I cannot but marvel at your resolution in tearing yourself away from it to set forth into the polar winter, and brave an unknown fate. You, a biologist, have the sea stretch-

ing before your very windows, with all its inexhaustible and fascinating treasures. Here you are in the midst of all your old friends, the marine fauna — with worms, mollusks, and mud-eels at your beck and call. We scientists, who so highly appreciate Nansen the biologist — the man who has successfully steered many a voyage of exploration over the unknown depths of the biological world, and especially through the intricacies of the nervous system — cannot quite reconcile ourselves to the thought that you are deserting this field of labor to go so far and to be absent so long.

"But you have yourself determined it, you have decreed your own destiny.

"And besides, when the explorer returns from his adventurous voyage, the biologist will find the field of investigation as rich as ever. You may make your mind easy — we who are left at home will not reap the whole harvest — there will be plenty left for you to do. We are as yet only at the beginning of our work.

"There is only one thing I fear, and that is that Fridtjof Nansen, when he comes back from the North Pole, will discover that the earth has a South Pole as well."

As we clink glasses and drink Nansen's health, strange thoughts fill our minds. Who knows when this circle of friends may meet again? Not, at any rate, until one of them shall have returned from afar.

Nansen is, as usual, quiet and at his ease. As the later courses come on, we get him to tell us some of his stories. He has an unusual gift of oral, no less than of written narrative; he describes picturesquely, with powerful touches, and, on occasion, with charming humor. First

we get him on the polar bears. Then some one asks about the time when he and Mrs. Nansen climbed Norefjeld on New Year's Eve.

"Yes, it was really New Year's Eve; it was in 1890. Eva and I had gone up to Kröderen for a breath of fresh

NANSEN AND MRS. NANSEN ON SNOW-SHOES

air, and we made up our minds to climb Norefjeld — to the top of course. We slept at Olberg, and were rather lazy in the morning, so that it was about ten o'clock before we made a start. And we did n't hurry at all at first, so that the day slipped on. It 's something of an ascent even in summer; but in winter, when the days are short, you have to look sharp if you want to get to the

top while it 's light. And then we had taken a course of our own — well, it may have been the most direct, but it certainly was n't the quickest. The snow was very deep, and we had n't any guide. At last we could n't possibly use our snow-shoes any longer; it got so steep we had to take them off and carry them. But we were bound to do it all the same; you can't face about and leave a thing half done, however much ice and frozen snow there may be. The last piece almost beat us; I had to cut our way step by step with my staff. I went ahead, Eva followed. It reminded me of what the little girl wrote in her school essay: 'For every step we went forward, we went two steps back. At last we reached the top.'

"Well, we too reached the top, but it was dark, and we had been at it from ten till five with nothing to eat. So now we set to and picnicked in the snow and the pitchy darkness, on *mysost*[1] and pemmican mixed."

"You may thank heaven we don't treat you to that to-day," said Mrs. Nansen.

"Yes, you made wry faces over it, Eva," growled her husband. "But it 's all a matter of habit."

We lingered over our walnuts and our wine while Nansen continued: "Well, there we two sat alone in the snow at the top of Norefjeld, something like 5,000 feet above the level of the sea. The frost-wind nipped our cheeks, the darkness grew denser and denser. Far away in the west there lingered a very, very feeble gleam of day, the last in the year. We had to see about getting down again.

"We struck a course more or less in the direction of Eggedal. From Högevarde[2] down into the valley is per-

[1] Goat's milk cheese.

[2] The top of Norefjeld.

haps about a Norwegian mile,[1] which would have been nothing at all if it had been light. But it was n't so easy to find our way in the darkness.

"Off we plunged into the night, I ahead and Eva following. We went like the wind over rocks and slopes, and it was no joke to keep our balance, I can tell you. When you 've been out in the dark for some time, a sort of dim shimmer seems to rise from the snow; you can't call it light, but it is n't absolute darkness either. Heaven knows how we managed to get along sometimes, but manage we did. All of a sudden I had to stop short, and shout to Eva. It was too steep for snow-shoes, there was nothing for it but to sit down and slide. It 's not good for your trousers, but it 's safer in the dark.

"The wind nipped our ears till they tingled, for it was freezing like anything; and on we went. Suddenly, as we were going at full speed, my hat blew off — a little gray hat of the sort I usually wear.

"So I had to put the brake on, and get to my legs again. Far up I saw something black upon the snow, scrambled up to it, seized it, and found it was a stone. The hat must be farther back — yes, there it was. Again I clutched at a stone. Hats seemed to swarm all over the snow; but when I came to put them on they all turned to stones. Stones for bread may be bad enough, but stones for hats are not a whit better. There was nothing for it but to go ahead hatless.

"Eva remained where I had left her. 'Eva!' I shouted, 'Eva!' The answer came from far, far below.

"There seemed to be no end to that mile. But we managed to keep going somehow; and now and then we

[1] Seven English miles.

could use our snow-shoes too. All of a sudden the ground seemed to fall away at our feet; we stopped at the verge of a precipitous bank — how high it was we could n't see, but over it we had to go, one first, the other after. The snow was deep, and when that is so, you can clear incredible distances.

"We had long ago lost our bearings, if we had ever had any. We only knew that we must go ahead. At last we came to a dead fix. Eva had once more to sit and wait while I cast about for a way. I went groping around in the darkness and was a long time gone. All of a sudden a thought struck me: suppose she were to fall asleep! Such things have been known to happen, and she must be dead tired. 'Eva, Eva!' I shouted. 'Yes!' she answered right enough, but this time from far, far above. If she had fallen asleep I don't know that I could ever have found her again. As it was I groped my way up to her, bringing with me the good news that I had found a watercourse. I won't say that a watercourse is the best possible snow-shoe course, especially in pitchy darkness, when your stomach is empty and your conscience ill at ease — for this was really a reckless piece of work. But somehow or other we did contrive to make our way down the watercourse.

"Now we were among the birch-trees, and at last we struck upon a road. So the worst was over. Far down, we came upon a hut. I thought it looked cosey enough, but Eva said it was dirty and horrid. And now she was quite lively; she was determined to push on. Just like a woman.

"To make a long story short, we at last reached the parish clerk's house in Eggedal. It was now late at night,

so we had to wake the people up. The parish clerk was quite frightened when he heard we had come from the top of Norefjeld.

"This time Eva was not so particular about her night's lodging. She had no sooner sat down in a chair than she fell asleep; it was twelve at night, and she had been on her feet for fourteen hours.

"'He's quite worn out, poor boy,' said the parish clerk; for Eva was wearing a gray snow-shoeing dress, with a short skirt and trousers.

"'It is my wife,' said I.

"You should have heard the exclamations. 'Oh Lord, oh Lord, you don't mean to say so! Think of dragging your wife with you over the top of Norefjeld on New Year's Eve!'

"But now came supper — and as soon as she smelled that it was not *mysost* and pemmican she wakened up.

"It ended in our resting three days at the parish clerk's — and that was our New Year's Eve ascent of Norefjeld. I thought it great fun; but I don't know what Eva would say.

"When we left Eggedal the poor boy and I drove down Numedal to Kongsberg, and the boy was almost frozen to death.

"But one has to go through a little hardship now and then to enjoy life properly after it. If you don't know what cold is, neither do you know what it is to be warm."

The time draws on for the great departure. The summer of 1893 has come. In the evenings, while his secretary is writing at full speed, and Nansen is walking up and down directing and dictating, he will suddenly slip

out and appear on the slope in front of the house. Here planting is going on — gooseberry and currant bushes, apple and pear trees. Nansen himself points out to the gardener where every tree, every bush is to stand. "It will be splendid soil," says the man, as he fills the holes with mould mixed with seaweed. "Oh yes, I hope they 'll grow," says Nansen. The evening sun throws long shadows from the great pine stems in front of the house, the waves wash softly, in a long slow swell, against the beach. The nurse comes out of the house carrying little Liv, who is to be put to bed.

How long will be the shadows cast by these bushes and trees before he comes back? How many evenings will the sun disappear behind the ridge, before current and wind and wave bring his ship home again? Evening after evening, month after month, year after year!

On Midsummer Day the *Fram* lies at Pipervik ready to start. Only a small group of Christiania people have gathered to stare at the clumsy-looking ship, which still lies at its berth long after the time appointed for the start.

So slight is the notice taken of an achievement in the bud. When he comes back again, all Christiania will turn out to receive him. But men are always so. As though it were nothing to conceive this great design, to take this immense responsibility, to bear all burdens until you are ready to drop under them — and to stand erect on the quarter-deck and take your life in your hands. There were not many that day who remembered the old saying which had been cited at Rækevik when the *Fram* was launched: "*Magnos homines virtute metimur, non fortuna.*" (We judge great men by their virtue, not by their luck.)

But among those who had gathered to see Nansen off were many members of the Storthing. By two resolutions, which must be reckoned to the credit of so small a people, the Storthing had contributed a sum of about $75,000 to the expenses of the expedition. To-day it had adjourned in order to bid farewell to its leader. But Nansen had not been informed of this, and had not yet come on board. The members of the Storthing waited for hours, and at last could wait no longer.

Even at the last moment there were details of business that Nansen had to attend to. The whole morning passed, and he had had scarcely a moment to exchange a word with his wife. The farewell was of the shortest. When he came downstairs, little Liv was brought to him smiling. He took the child in his arms: "Ah yes, you laugh, Liv, but I ——!" He sobbed.

Then he jumped into the little petroleum launch, steamed up the fjord, boarded the *Fram*, taking no notice of any one, went up to the bridge, and gave orders for the start. Those who saw his face at that moment will never forget it.

One picture from his story of that New Year's Eve expedition has often risen before our minds during these years of waiting. She sits alone upon the mountain, and gazes forth into the impenetrable darkness, so long, so long. Then a voice is heard from far off on the snowfield. He is there! He is coming!

CHAPTER XII

ON BOARD THE "FRAM"

The wind had been right ahead the whole day, writes Professor W. C. Brögger, ever since we started from Landegode. We had first made a tack under full sail right across the Vestfjord toward Moskenæs Island, and had now put about, and were heading straight for the passage southeast of Skraaven.

The steady fresh breeze had swept the sky clean, and lifted the sea into foam-topped waves which plashed monotonously against the broad bow of the *Fram*, as she ploughed her way through them, as heavy as an old Dutch galliot and as steady as a rock.

Up on the bridge the pilot, Haagensen, was pacing to and fro in sturdy security, now and then shouting an order to the man at the wheel in his homely Nordland dialect. But the fairway was at this point so clear that there was not very much for a pilot to do — a wide channel in front, and a steady wind blowing, hour after hour.

At the end of the bridge Nansen had rigged up for himself an open-air studio — an easel and a few boxes of pastel colors — and here he sat the whole evening, and well on into the night, in his yellow-gray silk mackintosh, heedless of the cold wind (which, however, was gradually dropping), dabbing on colors, and smudging with his finger-tips on the sandpaper, so intently and indefatigably that he rubbed the skin off. The blood trickled from the

THE "FRAM" IN BERGEN

abrasion, and made a broad red stripe down the sky of his landscape.

And the landscape the *Fram* was passing was indeed worth painting in its sunset radiance. No pen could possibly draw a true picture of its ever-changing splendor of form and hue.

Eastward, illumined by the reflection of the sinking sun, rose the whole mighty array of the crests, and peaks, and summits of the mainland; while to the west, the endless snow-flecked Lofoten-Wall loomed dark and threatening, a chain of Alps springing right up from the sea. The sun was so low that the island mountains lay entirely in the shadow, dark purple silhouettes against the marvellously soft and shifting colors of the evening sky.

Over the highest peaks hung heavy grayish white masses of cloud, now melting into the strips of snow, which formed a delicate lace-like collar around the shoulders of Vaagekallen, now transpierced by the smouldering glow of the evening sun, which, down toward Moskenæs Island, formed a continuous broad band of gold over the low-lying banks of mist, like the reflection of a sea of fire in the far distance.

Above our heads stretched the pale evening sky, toning off into greenish blue and the most delicate rose-pink, so cloudless, and bright, and pure, that it seemed as though Heaven had specially willed that Nansen and his comrades should see our land at its very loveliest, without stain or flaw, before they bade it farewell. And beneath us leaped the glorious sea, still crisping into foam-crests that shone white on the dark blue ground — our forefathers' royal road to "fame and might," [1] the road on which the *Fram* was now covering the first stages of her way to immortality.

The *Fram* plodded doggedly on toward Skraaven. Hour after hour the strange sharp peak stood out right ahead of us, seeming always to recede as we advanced.

[1] An allusion to the Danish national song, *Kong Christian stod ved höjen Mast.*

The *Fram*, as we know, does not pretend to be a clipper. She has no occasion for speed, she has the years before her. Right you are, *Fram!* Slow and sure wins in the end. *Chi va piano va sano, chi va forte va in morte.*

The *Fram* was now comparatively trim and ship-shape; Sverdrup himself had superintended the cleaning process, and worked the hose the whole afternoon, while Gjertsen followed him with the mop, and whole rivers of water poured through the scuppers, carrying with them all superfluities. I should not like to swear that they did not now and then squirt a drop or two among Nansen's pastels, when they happened to pass under the bridge; but it could not be helped — the *Fram* had to bestir herself in order to look presentable when she got to Tromsö, and a daily scouring was necessary to remove all traces of the coal-shifting operations in Nærösund.

Now the coal was finally stowed away in the hold, and the greater part of the dried fish cleared from the deck both fore and aft, so that the ship began to look fairly habitable again. This clearing up had cost a good deal of trouble, for the crew was small, and things were not yet quite in working order. The chief difficulty lay in the fact that the cargo was so exceedingly heterogeneous. It is not so easy to get everything into order when an exact account has to be kept of where all the innumerable articles are stowed, so that they may always be at hand when needed, perhaps in the moment of danger. Thus every one had his own department to attend to in addition to the general work of the ship, and the average day was anything but a holiday.

Even now, one or two had not yet finished their day's work. The first mate was busy carpentering. Little

Scott Hansen was every one's favorite; although a mere boy to undertake such a voyage, — he was only twenty-five, — he did his man's work with the best of them. He was always in good humor, always friendly and pleasant to every one; but his eyes would beam with affection when they fell upon the barometers and chronometers and all his other dear instruments up in the chart-room, which had been placed under his care. He was to be both astronomer and meteorologist — and first mate into the bargain, and a little of everything else. He was expecting to meet Professor Mohn next day up at Lödingen, and was consequently very busy putting together a cage for his thermometers, planing and nailing away until far on in the evening.

There was not much room on the deck of the *Fram;* indeed, there was scarcely a spot that was not cumbered with deck cargo of all sorts. Almost the whole space forward was taken up with the supports for the longboats, and the superstructures over the hold, to say nothing of an immense number of odds and ends, such as a huge pair of bellows, a spare crow's-nest, a great tool-chest, etc. But aft it was even worse — what with a stack of timber (planks, beams, etc.), a number of large beer-barrels (a steadily diminishing number, it must be admitted), the huge spare rudder and spare propeller, several parts of the great windmill for generating electricity when the coal is exhausted, capacious tanks for petroleum and gas oil, one of the boats, and finally, under the bridge, a whole pile of dried fish to feed the dogs who were to be taken on board at Yugor Strait.

Around the wheel, however, was a small open space built in with deck cargo, where one could actually put

one's foot on the deck and sit cosily sheltered from the wind. This was the favorite evening rendezvous of those who had time to spare for a smoke and a chat.

Here we sat this evening in the twilight, while the *Fram* buffeted its way through the seas under the Lofoten-Wall — Hendriksen, Gjertsen, Jacobsen, Christiansen (one of the Greenland party), and I. The pipes were in full blast and the talk in full swing.

Jacobsen was a capital narrator, when you could work him up to the point, which was not every day. He had seen a great deal of the world between the South Pole and the North, and had an unusually rich stock of experiences to draw upon. Whether he was recounting his adventures among the Maories of New Zealand or among the ice floes of Nova Zembla, he always managed to put an extraordinary amount of life into the situation, and to transport his hearers into the thick of it. This evening he was telling the story of his polar-bear hunts, with one of the Bourbon princes, on Spitzbergen, and he graphically depicted for us all the manners and customs of the polar bear, its spirit of inquiry and its clumsy cunning. I have since read somewhere that at parting the prince presented him with his own gold watch; of that he said nothing, and I saw nothing of it while I was on board the *Fram*.

Polar bears being the topic, first one and then another contributed something of his own experiences.

"How many bears have you shot, Hendriksen, roughly speaking?" asks the mate.

Hendriksen was a Balsfjord man; the shape of his forehead, his broad cheek bones, and the whole type of his physiognomy seemed to indicate that he had Quæn blood

in his veins. Be this as it may, he was a good-natured and genial fellow, and one who could put his shoulder to the wheel to some purpose when strength was needed. He had now sailed the Arctic Sea in every direction for fourteen consecutive seasons, ever since he was nineteen; during all these years he had never felt the heat of summer, until he had come south for a short time to help in fitting out the *Fram*.

LIEUT. JOHANSEN
(Nansen's companion on his sledge expedition after leaving the "Fram")

He was not a man of many words, but it was easy to see that he was by no means yearning to repeat his experience of the summer temperature. He was one of those members of the crew who preferred to pass the night in one of the "hotels" on deck, either in the Grand Hotel or in Gravesen's — so they had christened the two longboats. It is true that these boats were deeply padded with all sorts of packages of furs, so that you could no doubt make yourself a comfortable enough bed among them, when once you had wormed your way down through the layers of hand-sledges, snow-shoes, kaiaks, and other Arctic appliances which were piled up in these airy hanging hotels *à la* Semiramis.

"I've never kept count of them," answered the giant evasively.

"I dare say you may put it at fifty at least," said the mate.

"Oh no! perhaps something like forty — white bears, I mean," he added, as though a mere white bear were scarcely worth speaking about.

"Have any of you shot brown bears then?" I asked.

"Yes, Mogstad has killed several," replied the mate. "The first one, he had another man to help him, but that was when he was only sixteen. Five or six years afterward he kept a bear barricaded in his lair for a whole month, and then let him out, and put a bullet in him as he ran. Oh, he's a rare hand at all sorts of things, is Mogstad — you won't easily find him at a loss."

"But Sverdrup has shot brown bears too!" remarked Christiansen, who was now at the wheel and had hitherto not opened his mouth. He and Sverdrup were both Bindal men, so he felt he must stand up for his district; as a rule it was not easy to get a word out of him. He was evidently suffering agonies of indecision as to whether he should go on with the ship or not, although he had declared in advance that he would go no farther than Tromsö. Not that the Greenland trip had frightened him off — it was other hindrances that stood in his way.

Sverdrup had now relieved the pilot, and was pacing backward and forward on the bridge, with an even, slow step. The *Fram* and he are in reality not unlike each other; the same indescribable air of solidity and security breathes around them both. Each has a very thick outer hull, but within all is snug and warm and sound. Now and again he stops beside Nansen, and watches him mingling the colors on his paper, but as a rule says nothing and resumes his walk, casting quick searching glances ahead over the sea.

Whoever has seen Sverdrup on board the *Fram* knows well that he is the right man in the right place. The *Fram* is no luxurious pleasure-yacht, nor is Sverdrup a model of courtly elegance — but you may be sure that

> Afloat 'twixt sky and sea,
> The first of men is he.

About the wheel the talk went merrily, undisturbed by wind or weather. The waves kept on gurgling up into the rudder hole, which, besides fulfilling its original purpose, served as a gigantic spittoon. Now and again an extra puff of wind would come, and the rigging would creak as the sails tightened; while the throb of the pistons in the engine-room supplied a monotonous accompaniment. Behind the pile of planks and the boat which shut us off from the bulwarks, we could hear Kvik, the Greenland dog, snoring and growling in his sleep, keeping up a sort of murmur of contentment, now and then interrupted by a short bark.

"That confounded cur!" said the mate. "What do you think he 's done to-day? Eaten up the soles of a pair of bran new slippers that Amundsen had got from his wife."

Kvik was everybody's favorite on board; but he had an unfortunate habit of devouring whatever he came across in the way of leather or skins, without the smallest respect of persons. Field-glass straps and shoe-soles, portmanteaus and portfolios, everything that was made of an animal's skin was for him a dainty scarcely to be resisted, though he knew that indulgence would be followed by a beating. After all, he had to lay in strength for the voyage. Young as he was, he had seen more of the world than most dogs or men, having travelled from East Greenland to Copenhagen with the Ryder Expedition,

then from Copenhagen to Lysaker; and now he was on his way from Lysaker to the Polar Sea.

"Amundsen is married, is he?" I asked.

"Why, of course he is! He 's the most married of the whole lot of us. He has a wife and six children. It 's a wonder he can leave such a lot at home for so long a time."

"Has he been north before?"

"Yes, he was out sealing with the *Diana* one season, and then last year he went to the Yenisei with a cargo from Shields. Oh yes, he 's quite at home in the high latitudes, he is."

"Juell, the steward, is he married too?"

"Why of course he is — married and has children," said Gjertsen. "That fine figure of a woman you saw on board on the way from Christiania to Horten, you know — that 's his wife. She 's been a lot about with him, too. A few years ago she went with him right to the Gold Coast, and when they were going ashore, Juell thought he should never see his wife again — for all of a sudden the boatmen, the niggers you know, as naked as my hand, took and seized her in their arms and jumped into the water with her. Juell believed he 'd seen the last of her; for you know, she 's uncommonly plump and appetizing, and he thought no doubt they were cannibals, these fellows."

"Then a great many of you are married?" I said.

"Oh yes, we 've almost all got some one to leave behind," answered Hendriksen. "Amundsen heads the list, he does, for he has five or six children; then Nordal has five, Juell and I have four apiece, and then — let me see — Petterson has two I think, and ——"

"And Nansen and I have one apiece," added the mate.

My thoughts flew back to little Liv, and I turned my head and saw him still sitting up there upon the bridge, busy with his painting, as though he had never in his life done anything else. He had taken off his cap in order to see better, and was shading the picture with his arm or looking through the hollow of his hand to get a concentrated impression of the color. His bust stood out boldly, the massive head with the short-clipped hair showing in sharp outline against the indescribably pure and clear colors of the evening sky. Were his thoughts bent on his distant goal, or were they at home with little Liv in her cradle?

The evening air began to grow chill, so I rose to go below and get hold of my greatcoat. As before mentioned, it was no easy matter to make your way about on the deck of the *Fram;* so I remarked jokingly, "One would need either four legs or a pair of wings to get about among all this litter."

"You should do as Johansen did," answered the mate. "He walked on his hands the other day up the steps from the fo'c'sle, across the whole of the forward deck, up the steps to the after deck, and down the companion into the cabin: and I'm bothered if he was even red in the face when he put his feet down again upon the floor of the saloon."

"Oh, that's nothing for Johansen, he's the first gymnast in Norway," remarked Gjertsen. "In Paris, he made a clean somersault over forty-two men, so that the Frenchmen thought there would be nothing but a wet spot left when he came down. But he fell on his feet, as right as possible. He got a gold medal for that, too!"

"Amundsen is not bad at that sort of thing, either, you know. What do you think he did the other day down at Rörvik, while we were loading all that beastly coal? He was up in the main-top and wanted to come down to the deck, forward. Confound me if he did n't slide down the stay from the main-top to the fore-top, holding on by his hands alone all the way! There is n't another man on board could have done it; but Amundsen's fists are as hard as shoe leather, and no mistake. And then, of course, he 's a bit lighter than I am, for example," said Gjertsen.

I, unable to emulate either of these feats, made my way as well as I could over the obstacles that bestrewed the after deck, past the chart-room, in the open doorway of which several powder-casks were piled up drying, and down the cabin companion — a journey which, if it did not require a gymnast of the first rank, was certainly not to be recommended to a gouty subject or a fat man.

The cabin steps went right past the galley, where Juell was at that moment deep in his culinary occupations. A tempting smell of cooking greeted my nostrils, and I looked in for a moment to warm myself a little and have a chat.

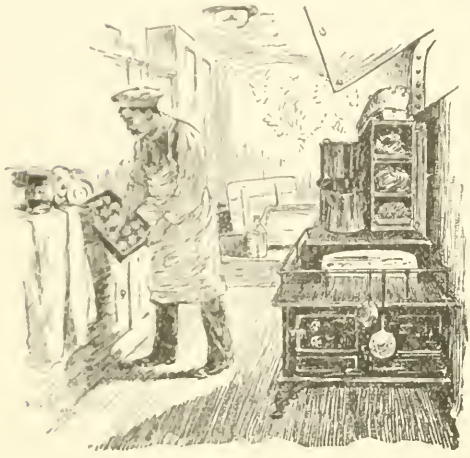
Juell stood in his shirt-sleeves busy at his work, the perspiration pouring down his high forehead, and his heavy mustaches drooping like a bridle from the corners of his mouth.

"Nice and warm here, Juell," said I.

"Warm! I should think it was! When all the pots are boiling for dinner I believe the devil himself would singe his nose if he poked it in here. It 's the hardest job I 've ever had in my life. I 've made many a voyage in my

day, but this is the first time I 've shipped as cook, and if I come safe and sound back again, it shall be the last time! Take my advice, Professor, and never be a cook, whatever you are."

"No, no, Juell — we can't all be tailors, you know. I don't suppose I 'm in much danger of receiving an appointment as *chef*. But when you come home again, Juell, I hope I shall be able to give you a dinner and say *tak for sidst*,[1] and thank you for all the good dinners on board the *Fram*."



KITCHEN OF THE "FRAM"

"Thanks for the invitation," answered Juell. "But it won't be for some time yet, I 'm afraid. If only Peik here will hold out till we come back, I dare say it won't be such a bad trip after all."

"Peik" was the popular name for an insulated cooking-apparatus, of Finne's invention, a great contrivance which held the warmth very long. Nansen took a lively interest in it, and several times, while I was on board, assisted at the cooking of the dinner, in order to familiarize himself with the working of Peik. And Peik cooked many excellent things. The fare on board the *Fram*, in spite of Juell's apologies for his deficiencies as a culinary artist, was really capital and not at all monotonous. The menu generally

[1] "Thanks for our last meeting" — a common form of salutation.

consisted of soup or fish, and a dish of meat, with half a bottle of beer a head, so long as the beer lasted. I remember, for instance, that the first dinner I ate on board consisted of tinned fish-puddings from Stavanger, tinned rabbit from Australia, and wild ducks which Nansen had shot on the way. A great variety of German preserved vegetables were used in the soups, and American cranberry jam was often served with the meat. The provisioning of the ship, like all the rest of its equipment, was most carefully thought out in all its details. There was a particularly large supply of vegetables and of fatty matter, so that, so long as it stuck to the *Fram*, the expedition should not suffer from "fat-hunger," as the Greenland explorers had suffered. There were no less than 13,000 lbs. of butter on board, one third of it the best Danish butter, and the rest superfine margarine, a present from Pellerin & Co. While I was on board we ate nothing but this margarine; it was of such excellent quality that I do not think any one would have taken it for artificial butter, unless he had been told.

On the whole, the ship was lavishly provisioned; you could scarcely name a thing that was not in stock, and generally in considerable quantities. One thing, however, was entirely absent, and that was alcohol — for drinking, that is to say. The spirits for preserving "specimens" would scarcely come under the heading of commissariat.

A passing steamer in Trondhjem Fjord had thrown us a bottle of port wine, bidding us drink it at the North Pole. This was — with the exception of the beer, which was calculated to last for a couple of months — all the drinkable alcohol on board. "You must lay in one or two

bottles of champagne in Tromsö, Nansen," I said one day in a joke, "to drink a *skaal* for *Gamle Norge*, when you hoist your flag on the axis of the earth." "I was thinking of smuggling on board one or two bottles of brandy for Christmas Eve," he answered; "but you need n't speak about it to the men." The doctor afterwards swore me to secrecy, and told me that he, too, intended to smuggle a bottle or so on board at Tromsö.

I can see in my mind's eye the saloon on Christmas Eve, with the steaming toddy on the table. If I know Nansen aright, the dose for each man will be of the homœopathic order. How clearly it stands forth in my memory, that cosey little low-roofed cabin, with the small state-rooms around it!

"Saloon" is a misleading word to use. The *Fram's* saloon was little more than a cot. But the thought of the high endeavor to which it was dedicated made it seem loftier and more spacious than the most majestic hall. In itself, too, it was a cosey little retreat, exceedingly pleasant to creep down into when it was too raw and cold and wet to remain on deck.

On the front wall of the saloon, between the two entrance doors, was placed a long sofa with high end-posts carved into dragons' heads. It was covered with a heavy rug of bright Norwegian colors. In front of it stood the long narrow dining-table; by making ourselves as small as possible, we could all (except those on watch) sit down to it at once. The table-service was the same for all dishes; an enamelled tin plate and a big enamelled cup.

Over the middle of the sofa hung, in a frame, an ad-

mirably painted design for tapestry, by Gerhard Munthe, representing three fairy-tale princesses surprised by three princes transformed into bears. To the left of this little masterpiece hung a woodland scene by Eilif Peterssen, and on the right a delicate sketch in colored chalks by Skredsvig, representing the point and landing-stage at

SALOON ON THE "FRAM"

Nansen's home at Lysaker, with, under it, a study from Jæderen by Kitty Kielland.

Against the right hand wall stood an harmonium made by Nyström & Co., of Karlstad. It was arranged so that it could be played either by means of the keys like a piano, or with a handle, like a barrel-organ, the tune being determined by a strip of perforated paper. Its repertory consisted of over a hundred pieces, from the minuet in *Don Giovanni* and airs from *Der Freischütz*, down to the commonest dance tunes. As an institution, however, it did not seem to be particularly popular; at any rate there was a unanimous movement on board for buying a concertina in Tromsö, and great expectations were abroad as

to what Mogstad would do with his violin when he joined the ship.

Over the harmonium hung a picture by Hansteen, and between the door of Scott Hansen's comfortable and tastefully arranged cabin and the back wall of the saloon hung a little woodland sketch, also by Hansteen; while over the stove (a petroleum pipe-stove made by Blunck, which served at the same time as a ventilating apparatus), in the middle of the back wall, hung a third painting, a study of birch-stems, by the same artist.

On the left wall, between the entrance to Dr. Blessing's and Sverdrup's cabins, was fixed a stand with seven Krag-Jorgensen carbines. These, however, were only a small portion of the ship's armament, which consisted in all of no fewer than thirty-two rifles and twenty-four revolvers, all of the best quality, to say nothing of two cannons, and a great store of ammunition.

Above the stand of guns hung another charming picture by Skredsvig — the fir-trees in front of Nansen's house, a winter landscape with snow.

A little way from the table, the great mast divided the saloon into two parts. It was surrounded by a quite narrow upholstered seat, which, however, was seldom used. Loose stools were scattered about the cabin.

Light was supplied at night by several incandescent electric lamps over the sofa. The great arc lamp was not used while I was on board.

One other detail must not be omitted: the Norwegian lion on a red background in the skylight over the stove.

Such was the saloon of the *Fram*. The roof was so low that Gjertsen, Hendriksen, and Juell could touch it with their hats, and so narrow that at scarcely any part of it

could two couples pass each other without turning sideways.

How every little detail between these low walls has fixed itself in my memory, from the half-frightened, half-curious expression on the faces of Munthe's princesses, to the check rug on the sofa seat, which, however, Nansen used to turn wrong side up every day, for he found that the many pairs of coal-dusty and tarry trousers left too obvious traces on the pattern, and were already beginning to soften the gay colors rather too much. "It 's got to last till we come back again," said Nansen, "so we must be sparing of our splendors."

In the saloon I found the supper-table still spread, although it was already pretty late. The engineers who had been on duty had come up to have supper and draw a breath of fresh air, which they had well earned; for the stoke-hole of the *Fram*, a paradise no doubt in the polar winter so long as the coal lasts, must in these more southerly latitudes and in summer have seemed very much the reverse.

There they sat, then, the two athletes aforesaid, Engineer Amundsen and Lieutenant and Stoker Johansen, enjoying their rest and their supper. Presently in came Scott Hansen and Dr. Blessing, and we got a warm cup of tea from the steward and attacked the supper manfully — I, indeed, for the second time.

I knew that I should probably eat only one more supper on board the *Fram*, and recollections streamed in upon me of my days on board, which had passed so quickly, along with many a thought of the days that were as yet hidden in the mists of the future. In the mean time, the supper and the talk went on as usual, Juell going back-

ward and forward and assisting in both. The talk ran on all sorts of topics, but of course chiefly on the *Fram* and everything connected with her. Now the petroleum launch was the theme — one held that it was a wretched affair altogether, that it was quite impossible to keep it clean, and that after you had used it once, it took half a day to make it fit for use again, while another defended it and maintained that, with its great speed, it would be invaluable for reconnaissances, etc. Then some one described what a sharp look-out you had to keep among the open lanes in the ice, how it felt to get into an Arctic fog, and so forth.

I was to take no part in all this, so felt myself rather outside the conversation. I turned to the doctor and said, "*Tak for maden*,[1] doctor. It will probably be a long time before you and I have supper together again on board the *Fram*."

"Two summers, I expect," said the doctor, with his usual cheery confidence.

"If you have good luck, perhaps you 'll be back next autumn," said I.

"That would be the devil's own luck," was the answer.

"No luck at all," Amundsen put in. "If anything worth while is to come of the trip, we must be away two years at the very least."

A hearty burst of laughter greeted Amundsen's frank prognostication. His view of the matter was undeniably both a stoical and a practical one.

After supper I went into my cabin to rest a little and get out my overcoat before going on deck again. Nansen had given up his own cabin to me, and slept in

[1] "Thanks for the food!" — a formula always used at the end of a meal.

the deck-house while I was on board. The door to his cabin was on the right, well forward in the saloon, and, like all the doors in the *Fram*, was immensely solid, with a high threshold. None of the cabins had any sort of window (the sides of the ship were twenty-four inches thick), and when the door was closed the only means of ventilation was a couple of small holes in the door itself. It was of course pitch dark, too, unless the incandescent lamps, with which each cabin was provided, were lighted.

When you entered the cabin and turned the knob for

NANSEN'S STUDY ON THE "FRAM."

the electric light, the first thing it shone upon was an admirable drawing by Werenskjöld: "Eva with little Liv in her lap." Thus all that was dearest in the world confronted him the moment he put his head in at the cabin door. I well remember one morning when he came to fetch something before I had got up. He turned the button while still in the doorway and began to chat with me;

but I saw where his eyes fell, and where his thoughts were.

Under the picture was a bench, a sofa by day, a bed by night. Here were no soft spring mattresses, only a stuffed pallet with a pair of warm blankets and a single very meagre pillow. But how sound one could sleep on this simple couch — that is to say, when the *Fram* was not rolling so as to land one on the floor every now and then.

For the *Fram* could roll, at any rate before the cargo was shifted in the Nærösund.

Scott Hansen declared that she had described an angle of forty-six degrees in a heavy sea off Lister. It must have been an uncomfortable night; the whole forward deck was deep in water, so that the deck cargo was washing about from one side to the other, and at last there was nothing for it but to throw overboard a number of paraffin barrels. Fortunately they were only empty barrels intended for preserving the skins of bears, seals, walruses, and other game; and there were plenty of them left. Even while I was on board the *Fram*, she rolled a good deal one night, although it was not blowing particularly hard, and the sea did not run very high — indeed, there was only a long swell. In crossing the Vestfjord, on the other hand, when it was blowing quite fresh, the ship was as steady as a rock the moment she was under full sail. She was, indeed, a strange, a unique vessel. Sverdrup, who, as a rule, said little enough, could not help now and then giving expression to his affectionate surprise in a subdued "She 's a rare little craft, and no mistake!"

But to return to Nansen's cabin. On one side of the end wall was a cupboard containing the cash-box, papers, diaries, etc., the key of which was in Nansen's own keep-

ing; on the other side, near the head of the bed or sofa, was a bookcase with a rich selection of literature of many kinds. Numbers of books had been presented to the *Fram* by Norwegian, Swedish, and Danish publishers and others. The tolerably extensive library thus formed was always at the disposal of the crew. Besides, the doctor had his own medical library in his cabin, and Scott Hansen kept a collection of books, mainly meteorological and astronomical, along with the charts in the chart-room. But Nansen had picked out for his own use a number of books which he kept in his cabin. They were for the most part, of course, geographical, geological, zoölogical, and other scientific works, but with a fair sprinkling of imaginative literature and philosophy. Ibsen and Björnson, Vinje, Jonas Lie, Runeberg, and others were represented, some of them by their complete works; and here too were Tennyson, Keats, Byron, Frauenstedt's Schopenhauer, etc. — in short, an ample stock of reading even for the long night of the polar winter.

When I entered on my short occupation of the cabin, the greater part of these books lay in a chaos on the floor, along with all sorts of other things; so I took it upon myself to arrange them according to subjects in the bookcase, and I made free use of this library while I was on board. This evening, for instance, when I lay down on the sofa after supper, I opened the first book that came to hand, and found it to be Nansen's "How can the North Polar Region be Crossed?" — containing his lecture before the Royal Geographical Society, and all the objections of the celebrated English sailors. It was the first time I had seen it. It made a peculiar and moving impression upon me as I read it here in Nansen's own cabin.

When I had done, I felt I must go up and see him. Until that moment I had not quite grasped and realized the significance of his enterprise. He himself was always so easy and unpretending, and on board the *Fram* everything took its daily course with such a total absence of solemnity, that I had, as it were, lost the sensation of there being anything unusual in this voyage. To cross Greenland, to start for the North Pole, to go to the end of the world, seemed no more to these men than a trip down Christiania Fjord to the ordinary mortal.

I could hear Juell's quick tongue, in the saloon, supplying a running commentary to one of the doctor's stories; on the deck some one was rumbling a beer-barrel along; the piston kept up its regular throb, and the propeller its vibration, while the *Fram* clove its way foot by foot through the sea, slowly but surely — as though driven by some natural law ever onward and onward toward the unknown goal.

Nansen had lent me a camel's-fur jacket while I was on board; it was so cosey and warm that it seemed to put my skin into a positive glow when I had it on. Thank Heaven, I thought, he need certainly neither starve nor freeze so long as the *Fram* holds together.

But if the *Fram* should be crushed, as one of the English admirals prophesied?

"Then we'll take to our longboat," Nansen had answered.

"The boats are too big and heavy," another admiral had objected.

"We have five or six smaller boats with us," was Nansen's reply, "and if the worst comes to the worst, we'll get along on an ice floe; I've done it before."

Yes, I felt I must see him and express my affection for him in the little time we could still be together. Up the companion, past the steaming galley, out into the free air of heaven!

There the *Fram* lay, heaving gently in the full glory of the summer night. We had at last drawn near the peaks of Hammerö, so that we could see their green-clad base. Before us stretched all the mountains of the mainland, those nearest bathed in a splendid purple glow, while farther ahead they passed through all gradations of subdued color from tender violet to deep gray, right down to the edge of the crisp blue-black sea.

It was strangely still. Not a soul was to be seen on the deck, forward, and when I looked aft, to the southward, I saw nothing but sky and sea. The solemn silence of the summer night took such hold on my mind that I remained leaning on the bulwarks for a long time, watching the plash of the waves against the ship's side, before I went up to him.

There suddenly flashed upon me the recollection of a little ragged urchin whom I had seen a few days before on the beach near Trondhjem while I was waiting for the *Fram*. He was going barefoot in the sand, dirty and unkempt, but beaming with health and contentment, and singing at the top of his voice, "Jeg gaar i fare, hvor jeg gaar!"[1]

Then the thought of my own confirmation came upon me, when I sat in the church and shouted with all the rest, "Jeg gaar i fare, hvor jeg gaar!" and heard the mighty organ-harmonies throbbing under the vaulted roof as though they indeed represented the wrath of the Lord.

[1] "I go in danger wherever I go" — the first line of a hymn.

Some one came along the deck whistling a merry tune; it was the light-hearted Petterson, stripped to the waist in the chill evening wind, carrying a basin and a towel and preparing to wash the grime of the engine-room off his face and body. He had been in the Polar Sea before, on board the *Hertha*, so that he was at home in these waters. What a splendidly modelled back! How fine the play of the muscles in his arms! Yes, indeed, such frames as this seemed built for a tussle with the darkness and the fog and the cold and the ice. His whole personality was set to a very different air from that which was running in my head. Every line of it seemed to sing: —

"Vær glad naar faren veier
hver evne, som du eier!"[1]

and from all his comrades around, from the man who stood at the helm, from those who were stoking the furnace, from all who now lay sleeping in their bunks, it seemed as though the third line came chiming in triumphantly: —

"Og desto större seier!"[2]

I could delay no longer, I must go up to Nansen. I clambered over boxes and boards, wormed my way between barrels and stacks of dried fish, and finally, in spite of all obstacles, managed to haul myself up on the bridge.

There he still sat in his thin silk waterproof, as he had sat hour after hour, defying the wind. When he saw me he rose and nodded, and said, as though apologizing for having been so absorbed in his painting: —

"I've just finished!" And then, without a pause,

[1] "Rejoice when danger puts to the test every faculty you possess."
[2] "And so much greater the victory."

"Have you ever seen such a lovely evening? We 're lucky in our weather, and no mistake."

"It 's a beautiful country, this of ours," I said. "You must make haste and come home, and have a better look at it! — And now let me see your works of art."

"I have a whole bundle here," he answered. "You shall have the lot of them to take to Eva."

Ah, yes — that was why he had been so busy.

"I 've been down below, reading," I went on, "and I got hold of that English pamphlet of yours with the plan of your expedition. You did n't get much encouragement out of them, in London."

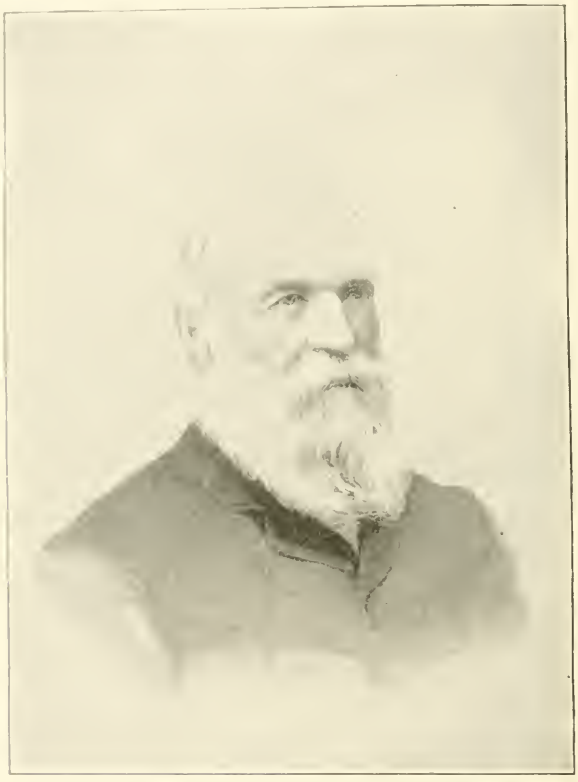
"Oh, they did n't treat me at all badly — and there was n't really anything to discourage one in what they said. It was just the same when I was starting for Greenland, you know; and that, to my mind, was really a more ticklish business than this. Here, thank goodness, we 've got everything we can possibly want, and I hope we shall neither starve nor freeze." He looked in my face with a frank smile and said slowly and emphatically: "Boasting apart, no ship has ever been equipped for an Arctic voyage as this one is."

Then he bundled up his painting things, and we went below.

Two days later, on the evening of July 12, we parted at Tromsö. It had rained and snowed alternately all day long, and from the top of Tromsdal Peak, right down to the gardens along the fjord, an inch-thick sheet of new-fallen snow lay over the green leaves and the fresh grass. An icy north wind was blowing, so that the fjord seemed to reek beneath it, and you could see the squalls sweeping over the water.

Nansen and I had been afoot all day making purchases. Moreover, we had been studying geology in Tromsö Museum, had had a glass of wine at Mack's, and had, for the rest, put in our time usefully and agreeably.

I had been aboard the *Fram* in the afternoon to say



COLIN ARCHER, THE BUILDER OF THE "FRAM"

good-by, and had poked my nose into every hole and corner to fix my impressions firmly in my memory. On board I found Mogstad, who had now joined the ship, and was to replace Gjertsen and Christiansen. He impressed me as a fine, active, fearless fellow, and was doubtless a valuable addition to the crew.

While I was busy packing my portmanteau, Nansen came down with the water-colors and pastels, the products of the northward voyage, which I had promised to take to his wife. He had placed them within the leaves of Nordenskjöld's great facsimile atlas, and remarked as he gave me the parcel: "You 'd better take Nordenskjöld's book with you; it 's so costly and valuable, it would be a great pity to lose it if the luck should go against us, and we should have to leave the *Fram* behind."

He said this with as much nonchalance as if he had been speaking of leaving behind an old overcoat, or a worn-out pair of boots.

"You must see and bring the *Fram* home with you," I said.

"Oh, you may be sure we won't leave the vessel until we can't do anything else; but of course the ice might be so bad that we could n't get her through, and then it would be annoying to have to lose more than necessary."

That evening Nansen and Sverdrup accompanied me on board the *Vesteraalen*, and had a glass of hot toddy by way of stirrup cup.

A last hearty embrace, and good-by. "My love to your wife! And be sure and give my love to Eva and Liv and all at home!"

"Promise me you 'll take care of yourself, and not be too reckless — and a safe return to both you and the *Fram!* And God bless you, my dear friend!"

The steamer's bell rings for the last time. At midnight precisely the *Vesteraalen* starts for the south. I see Nansen and Sverdrup standing erect, side by side, in the stern boat of the *Fram*. For a moment more I can distinguish Nansen's light waterproof; then the two figures seem to

melt into one behind the veil of snow, thick as in mid-winter, which is sweeping over the sound. One last glimpse of the *Fram* through the mist, and all is over.

When shall I see him again?

THE "FRAM" LEAVING BERGEN, NORWAY, FOR THE ARCTIC REGIONS

NANSEN'S STORY

AS TOLD BY HIMSELF

(*From a photograph*) Blessing Nordahl Mogstad Hendriksen Pettersen Johansen
Bentsen Scott Hansen Sverdrup Jacobsen Nansen Juell
Amundsen

MEMBERS OF THE NORWEGIAN POLAR EXPEDITION, 1893–96

CHAPTER XIII

INTRODUCTION

As soon as ever I began to think about Arctic enterprise it struck me that the ways in which attempts had hitherto been made to penetrate into the mysteries of the polar regions were hardly the best. It was clear that the constantly moving sea-ice which comes drifting from the north has been the great hindrance which has stopped the ships and often crushed them, as well as has made progress by means of dogs and sledges such a difficult task. It occurred to me, however, that there must be other ways by which the interior of these unknown regions might be reached, and it is many years since I first conceived the plan of the voyage we have now accomplished.

It was especially the finding of some articles from the unfortunate *Jeannette* expedition which led me in 1884 to think of this plan. These articles were found, as is well known, on the southwest coast of Greenland, and could not, in my opinion, have come there from the sea northeast of the New Siberian Islands, where the *Jeannette* went down, in any other way than right across the Polar Sea north of Franz Josef Land; and it struck me that if objects from a ship could drift this way, a ship too might go the same route, provided she was strong enough to withstand the pressure of the ice.

I then began to study these seas carefully, and turned my attention especially to the ice and its drift; but the

more I studied the subject, the more proofs I obtained of a constant communication between the sea north of Siberia and that on the east coast of Greenland, and I was fully convinced that there was a constant drift or drift current which carried the drift ice in a fixed course right across the sea around the North Pole from the Siberian and Bering Strait side, out into the sea between Spitzbergen and Greenland. And so certain was my conviction of the correctness of this theory, that I was equally certain that an expedition which, with a specially adapted vessel, pushed into the ice and allowed itself to be frozen in at the right spot on the Siberian side, must necessarily drift the same way, and thus be enabled to lift, to some extent, the veil which is drawn across these regions. In my lecture delivered before the Royal Geographical Society in November, 1892, and published in the "Geographical Journal" for 1896, I unfolded my plan and the views upon which it was based.

The proofs upon which I chiefly based my theory of a drift across the Polar Sea were, as before mentioned: —

(1) The continual conveyance of Siberian drift wood to the Greenland coast.

(2) The finding on the coast of Greenland of a throwing-stick (an Eskimo implement), of which it might with certainty be affirmed that it came from Alaska by the Bering Strait; and

(3) The very nature of the ice that comes drifting south along the coast of East Greenland, and which is considerably larger and more massive than any drift ice we know, and may therefore safely be said to have drifted a long time in the sea before it could be packed together and piled up to form such enormous masses.

One proof to which at that time I attached considerable value, and which, after investigating the circumstances more closely, I consider to be of still greater importance, was that all over the ice which comes drifting southward along the east coast of Greenland, down through the strait between Iceland and Greenland, I found brown dust and mud. This, I concluded, could not come from any other place than Siberia. During my Greenland expedition in 1888, however, I collected some samples of this dust, which I got the geologist Fornebohm to examine. Without knowing my views — simply from microscopical examination of this dust — he gave it as his opinion that it had probably come from an extensive alluvial country, and therefore considered Siberia to be its probable source. Besides mineral dust, however, he found in these samples microscopical plants, which are known by the name of diatoms, and he therefore sent the samples to Professor Cleve, the great authority on the subject. Cleve now found a striking conformity between the diatoms in my samples and those in a sample which had been casually gathered during the Swedish *Vega* expedition on a floe off Cape Wankarema, in the neighborhood of Bering Strait. These diatom samples from two places lying at such a distance from one another are totally different from all other samples hitherto examined from different parts of the world. Mutually, however, they are so exactly alike that Cleve did not hesitate in expressing it as his opinion that there must be an open communication between the sea north of Bering Strait and that east of Greenland. By investigating this more closely during the expedition, I found a whole world of diatoms and other microscopical organisms, both vege-

table and animal, living in the fresh-water pools on the polar drift ice, and constantly travelling from Siberia to the east coast of Greenland, — a world which has hitherto only been known from the above-mentioned samples, but which, perhaps, no one dreamed was living on the ice in the far north — that ice which was thought to be utterly forsaken by all living beings.

After having brought forward in my lecture the various proofs of the correctness of my theories, I summed up in the following words: —

From all these facts we seem fully entitled to draw the conclusion that a current is constantly running across the polar region to the north of Franz Josef Land from the sea north of Siberia and Bering Strait, and into the sea between Spitzbergen and Greenland; and as we have seen, the floe ice is constantly travelling with this current in a fixed route between these seas. Since such is the case, the most natural way of crossing the unknown region must be to take a ticket with this ice, and enter the current on the side where it runs northward — that is, somewhere near the New Siberian Islands — and let it carry one straight across those latitudes which it has prevented so many from reaching.

As was emphasized in this lecture, it was not, of course, the object of the expedition to reach the North Pole, but to go right across the unknown polar region. As I then said ("Geographical Journal," p. 20), it is not possible to guarantee exactly over what point the current will take one. "It may be possible," I say, "that the current will not carry us exactly across the Pole, but the principal thing is to explore the unknown polar regions, not to reach exactly the mathematical point in which the axis of our globe has its northern termination."

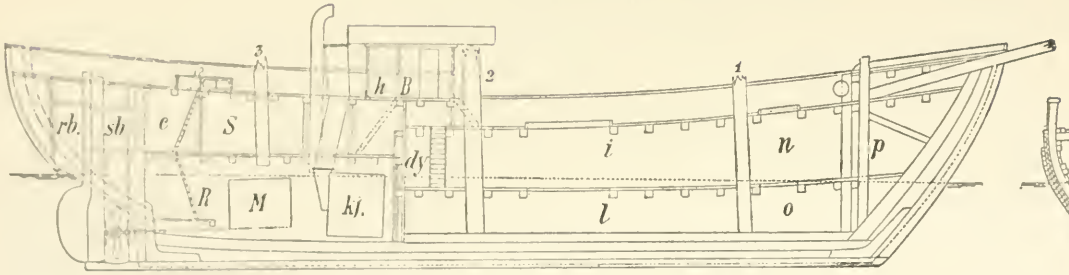


Fig. 1. Longitudinal section

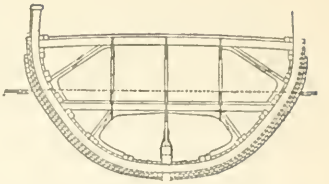


Fig. 3. Transverse section midships

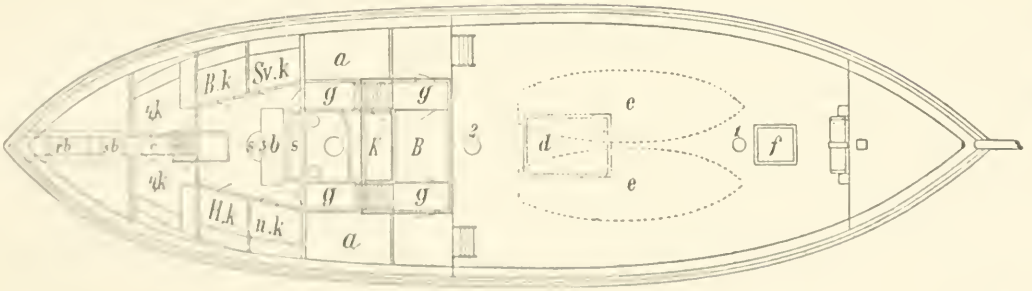


Fig. 2. Design (plan-draught)

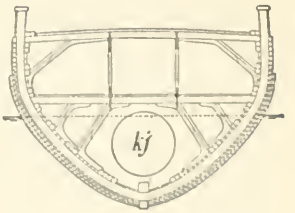


Fig. 4. Transverse section at engine room

rb Steering well. *sb* Propeller (screw) well. *S* Saloon. *s* Sofas in saloon. *b* Table in saloon. *Sv. k* Sverdrup's cabin. *B. k* Blessing's cabin. *g. k* Cabin for four men. *H. k* Steel Hansen's cabin. *n. k* Nansen's cabin. *c* Staircase to engine. *K* Engine room. *M.* Engine. *kj* Boiler. *e* Staircase from saloon. *K* Caboose (galley). *B* Instrument room. *h* Workroom. *dy* Place for dynamo. *d* Main hatchway. *i* Main hold. *e* Longboats. *l* Lower hold. *f* Fore hatchway. *n* Foreroom. *o* Lower foreroom. *p* Paw-hitt. *1* Foremast. *2* Mainmast. *3* Mizzenmast.

To attain this, it was clear to me that there were only two ways of proceeding; it was either —

(1) To build a strong ship, so constructed that it can withstand the pressure of the ice, and, living in this ship, to float across with the ice; or

(2) To take only boats along, and camp on an ice floe, and live there while floating across.

My plan was especially based on the former of these two ways, but also in such a manner that we were prepared to take the second way in case our ship should be overcome by the superior force of the ice.

In order, however, that this should not happen, I gave all my care to the building of a ship especially fitted for this object, and I was fortunate enough to find in the well-known Norwegian naval architect, Mr. Colin Archer, a man who devoted himself with all the skill and capability he possessed to the task I set him. Seldom, if ever, has a ship been built with more care or greater conscientiousness than that with which Colin Archer built the *Fram;* but in return he has the satisfaction of having produced the first ship that has ever passed the Polar Circle. The *Fram* fulfilled perfectly, down to the smallest details, the requirements which I put upon her. It was not only her great strength and the picked material of which she was built which enabled her to go through the exceptionally severe ordeals to which she was subjected, but it was also the unusually good shape, and the numerous ingenious means by which all dangerous points were protected, and which were due in a great measure to Colin Archer's insight. It is therefore to a great extent owing to him, through the good ship, that the whole expedition, which it was prophesied in advance would be the

hardest and most dangerous that man had ever yet ventured upon, was a real pleasure or holiday trip, during which we led so comfortable a life that few could be more comfortable, even in Old England.

When I delivered my lecture to the Royal Geographical Society, many of the great Arctic authorities who were present as my true friends, and anxious about the safety of my companions and myself, strongly dissuaded me from the attempt. A few of them went so far as to say that the whole plan was founded on theories which were far from agreeing with the actual circumstances; and the general opinion, both in England and elsewhere, was that either the expedition would never be heard of again, after having once confided itself to the capricious polar ice, or it would return without results; and all authorities seemed to agree that it was an utter impossibility for a ship to withstand the ice-pack in the unknown North. The well-known American Arctic traveller, General A. W. Greely, thought it "almost incredible that the plan advanced by Dr. Nansen should receive encouragement or support," and he concludes his article in the "Forum" with the following words: "Arctic exploration is sufficiently credited with rashness and danger in its legitimate and sanctioned methods, without bearing the burden of Dr. Nansen's illogical scheme of self-destruction."

This, of course, could not shake my faith in the correctness of my plan. The Norwegian Storthing had already, as soon as I put forward a petition, voted the sum I required for its realization, while there was no difficulty in obtaining from private individuals in Norway what more was required for the expedition. Having, on account of the expensive construction of the ship, etc.,

run short of funds just before starting, I had to ask the Norwegian Storthing for an extra grant, which was again given with willing hand.

STATEMENT OF RECEIPTS AND EXPENDITURES OF THE "FRAM" EXPEDITION, 1893–1896

INCOME	*Crowns*
Contribution of the State (government)	280,000.00
H. M. the king and original private contributors	105,000.00
Collected by geographical society and committee	20,468.46
Interest	9,729.78
Deficit covered by A. Heiberg, A. Dick, and F. Nansen	19,862.50
London Geographical Society (£300), H. Simon, Manchester (£100), a Norwegian at Riga (1000 rubles), and others	9,278.62
Total cr.	444,339.36
(Total about $120,000.00.)	

EXPENSES	*Crowns*
Hire-account (wages)	46,440.00
Life insurance premiums (for the married members of exp.)	5,361.90
Instruments acc.	12,978.68
Ship's acc.	271,927.08
Provision acc.	39,172.98
Expense acc.	10,612.38
Outfitting acc.	57,846.34
Total cr.	444,339.36
(Total about $120,000.00.)	

CHAPTER XIV

THE VOYAGE OF THE "FRAM"

On June 24, 1893, everything was at last ready, and the *Fram* weighed anchor, and stood off down the Christiania Fjord. On July 21 we stood out to sea from Vardö, the last Norwegian port, and shaped a course for Nova Zembla. On the way we were stopped by ice for some days, and did not reach Chabarowa, in the Yugor Straits, until July 29. Here we took on board thirty-four Siberian sledge dogs, which Trontheim, a man sent by Baron Toll, had brought for us from the Ostiaks, in West Siberia. Here, too, the boiler had to be cleaned, and various other preparations made before we could proceed. We were also waiting for a sloop, the *Urania*, which was to bring us a cargo of coal; but her coming was delayed; and as we already had a large quantity of coal and time was short, I decided not to wait.

On one occasion I am afraid that I lowered my reputation for all time to come among the Russians and Samojedes in these parts. Some of them had been on board and had seen me stand in the launch (I was engaged in putting the machinery in order), with arms bare and face full of dirt and grease, wearing a woollen shirt and working hard. After they had gone to shore, they told Trontheim that he had deceived them in telling them that I was a fine gentleman. They declared that I worked like a common laborer on board, and looked

worse than a pig. Unfortunately, Trontheim could not say anything in my defence; one cannot deny facts.

On the evening of August 3 we were ready to start. My secretary, Christoffersen, who had accompanied us so far, now took leave of us. Just as we were about to weigh anchor, however, a fog came on, and we could hardly see the length of the bowsprit. The fog did not seem inclined to lift, and I at last decided to start in spite of it, I myself, with one man, going in front in our little petroleum launch to sound the shallow channels where we might expect to run aground at any moment. We got safely out, and next morning stood out of the Yugor Straits, and entered the dreaded Kara Sea. Here it was not long before we met with ice, and it almost looked as if every way was blocked; but we found an open channel running eastward along the shore, and followed it as far as the Kara River. Thence we crossed over to Yalmal, where, on August 6, we were completely stopped by ice. We went ashore, and while waiting employed the time in botanical and geological expeditions. Upon fixing the locality, we found, too, that on the map the coast was placed half a degree too far west. While we lay here, two Samojedes came on board; they were hospitably received, and, having been enriched with biscuits and other European luxuries, left the ship well pleased. They were the last human beings we saw.

On August 12 the ice at length opened toward the north sufficiently to allow of our venturing on an attempt to force our way farther. At the northern point of Yalmal, indeed, we were fortunate enough to reach open water on August 13; but a stiff northeasterly gale compelled us to tack eastward against a heavy sea. This went on for several weeks.

While beating up one day against a stiff breeze in the Kara Sea, to the northwest of the mouth of the Yenisei River, we suddenly discovered land. We could not make out what this was, as our observations gave our position as right out at sea. It soon, however, became clear to us that this was a hitherto unknown island, and we named it Sverdrup's Island. In the evening we got under the shore at Port Dickson. It had originally been our intention to put in here to leave letters for home, which were to be called for by the English Yenisei Expedition under Captain Wiggins; but time was precious, and I therefore decided to go on without stopping.

During our sail in a northeasterly direction along the coast of Siberia we were continually discovering new islands, which I shall not dwell upon here. This coast upon the whole is very different from that represented on maps. It gave me the impression of being a glaciated coast, with deep fjords and a marked belt of rocks and islands outside it, something like the west coast of Norway or Scotland, although of course the mountains were not so high nor the fjords so marked.

On August 20 we landed on one of Kjellman's Islands, where we shot a couple of bears and some reindeer. Here, as in several places on the Siberian coast, we found unmistakable traces of a glacial period, which must have covered Northern Siberia with an inland ice of considerable extent. I found erratic blocks, moraines, and moraine deposit almost wherever I landed, from Yalmal to the east of Cape Chelyuskin; and on this particular island I also found, in a place which was left bare at low water, unmistakable striations. When we were about to go on from this place, we were stopped by storm and a rapid adverse

current, which, in these dangerous waters, full of rocks and shallows, rendered our advance impossible. Not until August 24 did we get clear of them, when we still had to beat up toward the east, against a strong head wind. On August 27 we reached Cape Palander, and on the same night were stopped by unbroken land-ice between Nordenskjöld's Taimyr Island and the Almquist Islands. We endeavored to break our way through to the north of the latter, but discovered a new chain of islands stretching far north. After having at length reached the northern end of these, we were stopped there by densely packed ice, and were obliged to turn back. There was no passage to be discovered; unbroken land-ice lay everywhere between the islands. We were obliged to wait, prepared to winter in the same spot where Nordenskjöld, as early as the middle of August, 1878, had found water entirely free from ice. The storm, however, broke up the ice, and on September 6 we were able to continue our way; but to our surprise we came upon land before we were half way across the Taimyr Gulf, as it is laid down on the map. This bay is considerably narrower than one would gather from ordinary maps, and has a different appearance. We went on in a northerly direction toward Cape Chelyuskin, but were stopped on September 7 by close-packed ice to landward.

On the following day I went on an expedition into the Chelyuskin Peninsula. I found it to consist for the most part of extensive clay plains, strewn with huge erratic blocks of granite, porphyry, and various kinds of rock. I also found here the opening of a mighty estuary, which extended far up into the land.

On September 9 we were once more able to push our

way northward, discovering still more new islands in the sea to the west of Cape Chelyuskin, which we passed on September 10. East of this cape the thickly packed ice obliged us once more to make a short halt. Masses of ice lay to the east and south along the east coast of the Taimyr Peninsula, so close to the shore that we were obliged to continue along it southward as far as to about the mouth of the Anabara River. On September 15 we were off the Olenek River, where twenty-six first-rate sledge dogs were awaiting us. These, too, had been procured by Baron Toll, because the East Siberian dogs are very much better than the West Siberian. It was most important for me to have these dogs, as I felt that they might become very useful to us; but the shallow water and the lateness of the season kept me from going in. Were we to run aground here, it might easily cost us several days' labor to get afloat again, and in the mean time winter might set in, and we should be imprisoned for a whole year, even if nothing worse happened. I considered this was too great a risk to run, and therefore continued our course toward the New Siberian Islands.

On the night of September 18 we passed the most westerly of these islands — Bielkov Island. Depots had been left on Kotelny for the expedition by Baron Toll, in case of our being obliged to leave the ship and turn our steps homeward across Siberia. I would have been glad to inspect these depots; but again time compelled us to continue our way without delay through the open water to the north.

It was not until September 20, in 77° 44′ N. lat., that we were stopped by ice. I should have liked to go eastward along the edge of the ice for the purpose of

examining, if possible, the mysterious Sannikov Land; and thence go in the direction of Bennett Island; but there was a great deal of ice in this direction, and as progress would consequently be doubtful, I continued in a northwesterly direction along the edge of the ice. On September 21 we reached the head of a bay in the ice, whence the ice-edge extended in a southwesterly direction. Here we could discover no further lead toward the north, and we therefore, on September 22, made fast to an iceberg in 78° 50′ N. lat. and 133° 37′ E. long., and allowed ourselves to be surrounded by the ice, which was soon packed closely around the ship.

During the first few days we drifted in a northerly direction, so that by September 29 we had passed the seventy-ninth parallel of latitude. Hope was bright, but before long it was darkened by a north wind, which continued throughout the autumn, and carried us in a southeasterly direction. That was a dreary time; it seemed as if everything were going against us. On November 8 we had come right down as far as 77° 43′ N. lat., and 138° 8′ E. long.; but then at last we got southerly and southeasterly winds, and began in earnest to drift in a northerly and northwesterly direction, just as had been presupposed, in the plan of the expedition.

As early as October the ice-pressures began to be tremendous, and continued throughout the autumn and winter. We soon discovered that it was principally due to the tidal current, and that the ice periodically parted and packed together again twice in the twenty-four hours. The pressure was therefore greatest at the spring tides, when it would often lift the vessel several feet, only to let it drop back again into its former position as soon as the

THE "FRAM" IN THE ICE-PACK

ice again opened. In the case of any other vessel this pressure would have been utterly fatal; but the *Fram* surpassed our boldest expectations, and was superior to all pressure. The ice piled itself up, and crashed against her sides with a noise like the crack of doom, but in vain. There was not a sound of the yielding of timbers or wood.

The noise of the ice crushing against her sides often rose to such a pitch that we could not hear each other speak as we sat in the saloon. It was particularly awkward for the card-players, who thus could not hear each other's declarations.

At first, as long as the crew were unaccustomed to this, they found the scene so interesting that they remained on deck to watch it; but they soon tired of it, and no longer went up, however bad the pressure was. We felt as safe as in a fortress, and the *Fram* was a comfortable warm nest, where nothing was felt of the severity of the polar winter.

The temperature fell rapidly, and continued evenly low throughout the winter. During many weeks the mercury was frozen. The lowest temperature was 63° below zero. In spite of this, and although with this temperature there was often a wind, we felt quite comfortable, during our open-air excursions, in our good woollen clothing, with a covering of wind-proof material outside. The *Fram* was so well protected against the cold that even in these low temperatures we had no fire in the saloon until the New Year.

All the men were in excellent health during the whole of the expedition, and we are all agreed that the Polar Sea is a healthy place, especially with such a capital sanitarium as the *Fram*.

The electric light was produced by means of a windmill, and quite fulfilled our expectations. There was not, however, sufficient wind to allow of our having electric light all the time, and we then had to content ourselves with ordinary oil lamps.

On the whole, the time passed as pleasantly as possible

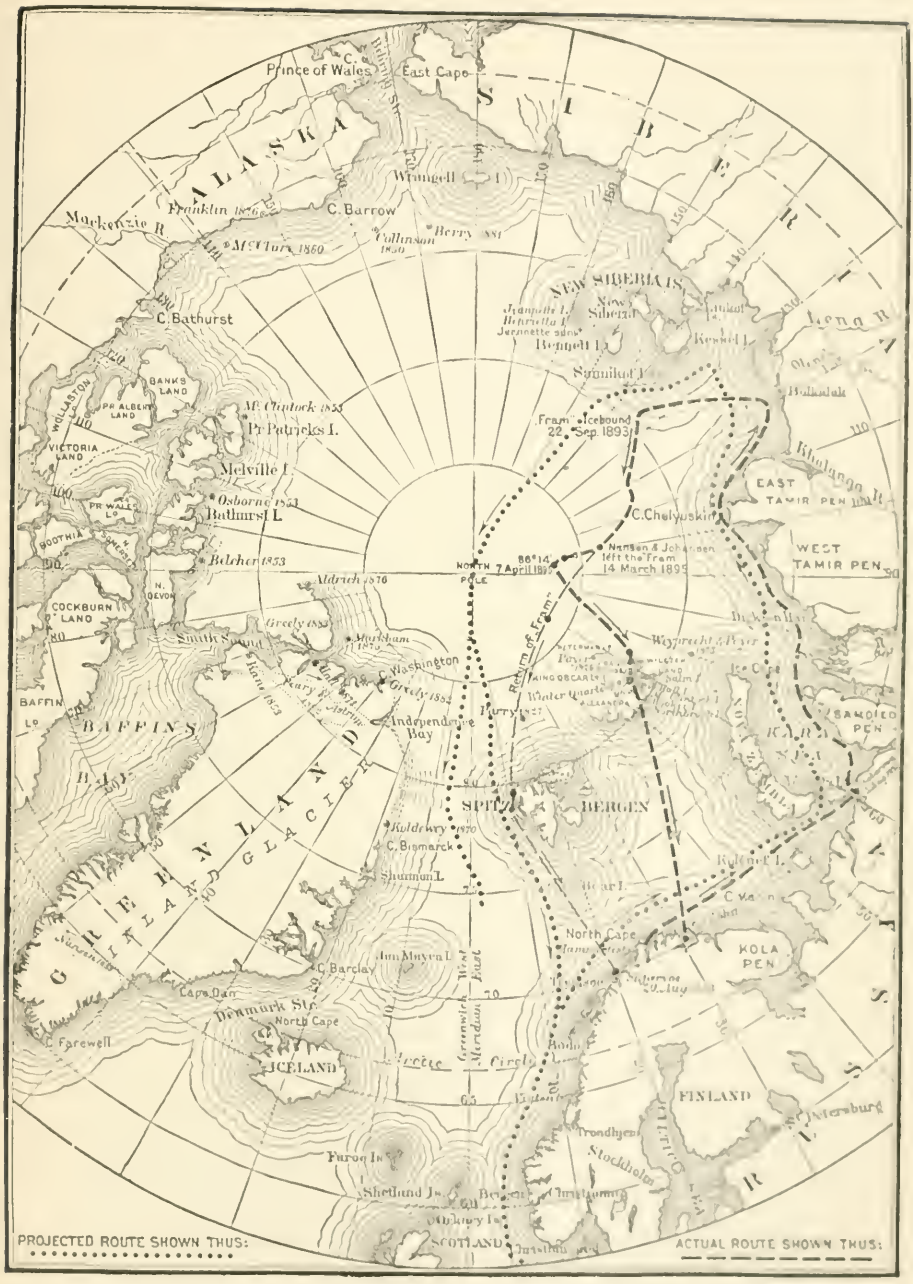
(*After a photograph*) Blessing Scott Hansen Sverdrup

PLAYING CARDS ON BOARD THE "FRAM"

on board. Every man was on the best of terms with his neighbor, and did his duty with a will. Care was of course taken to provide occupation; but even without this, time did not hang heavy on our hands. For those who were not continually occupied in scientific observations and investigations there was abundant entertainment in a capital library, games, music, various kinds of work, etc.; and I think hardly any of us greatly felt the monotony complained of in all Arctic expeditions. For us who had charge of the scientific observations there was more work than we could accomplish. The *Fram*, in fact constituted an observatory of the best kind for scientific investigations of all kinds; and it is therefore scarcely to be wondered at that we should bring home such abundant and valuable material as few expeditions before us secured.

Lieutenant Sigurd Scott-Hansen was responsible for the meteorological, magnetic, and astronomical observations, which, I venture to say, are exceptionally complete. Dr. Blessing undertook the greater part of the botanical investigations and observations of the Aurora Borealis, and also, of course, his physiological and medical observations, which are by no means unimportant. In addition to these, zoölogical researches were made on board, soundings, determination of the temperature and the salinity of the sea water, observations of the atmospherical electricity, and much besides.

In the sea near the Siberian coast and northward to 79° N. lat., I found only very inconsiderable depths — less than ninety fathoms. A little south of this latitude, however, the depth increased with astonishing rapidity, and I found the sea north of that to be between 1,600 and 1,900



Map showing the Projected and Actual Routes of the "Fram," and the Course of the Sledge Expedition.

fathoms deep. It therefore seems to me as if the entire polar basin should be considered as a continuation of the deep channel which runs northward from the North Atlantic Ocean between Spitzbergen and Greenland. This discovery of a deep polar basin overthrows, however, all earlier theories based upon a shallow Polar Sea. In the numerous bottom samples brought to the surface in our soundings I always found a remarkable absence of organic life, a fact which will probably lead to some alteration of our views with regard to bottom deposits. The temperature and salinity of the sea also prove to be very different from the suppositions of most scientific authorities. I found, not far below the cold ice-water covering the surface of the Polar Sea, a deep layer of warmer and salter water, originating probably in the Gulf Stream, its temperature being as much as one degree above freezing point. Below this, indeed, the water was somewhat colder, but yet considerably warmer than is generally supposed.

The speed at which we drifted was continually changing, and our course, in consequence, was not a straight line. Sometimes we drifted forward, but at others we went back again; and were our course to be marked on a map as it actually was, it would be such a confusion of loops and knots that no one would be able to make anything of it. From the accompanying outline map, however, on which the principal features of our course are given, a good impression of its direction may be obtained. As we expected, we drifted most in a northwesterly direction in the winter and spring, while northerly winds stopped us in the summer.

By June 18 we had in this way reached 81° 52′ N. lat.,

but prevailing northwest winds again drove us southward, and the whole of that summer we drifted about in lower latitudes. Not until October 21 did we reach 82° N. lat. in 114° 9′ E. long. On the evening of Christmas Day, 1894, 83° was reached in about 105° E. long., and a few days later 83° 24′ N. lat. — the most northerly latitude until then reached by man.

On January 4 and 5, 1895, the *Fram* was subjected to the greatest pressure we experienced. Before we set out on our expedition the great Arctic authority, Sir Leopold McClintock, gave it as his opinion that the *Fram* would be able to withstand the ice-pressure in the summer, but that if she were exposed to it in the winter he believed the probability of her being able to stand the pressure or raise herself was very slight. Other Arctic authorities expressed themselves yet more strongly, saying that it was an impossibility for any ship to stand the ice-pressure in the winter. Now, however, the *Fram* was not only to be exposed to winter pressure, but she was then fast frozen in ice of over thirty feet in thickness, a fact of which I had previously ascertained the truth by boring. Across this ice immense masses of ice came gliding with irresistible force against our port side. The pressure was tremendous. The ice piled itself up above the gunwales, and high up the rigging, threatening, if not to crush her, at least to bury her. Scarcely a man on board believed she could live. The necessary provisions, canvas kaiaks, cooking utensils, fuel, tents, hand-sledges, and ski were all brought in safety on to the ice. All hands were ready to leave the ship, and no one was allowed to sleep unless fully clothed.

But the *Fram* proved to be stronger than our faith in

her. When the pressure was at its height, and for the first time her timbers and beams began to creak, she broke loose, and was slowly lifted up out of the icy berth in which she had been fast frozen.

It was a triumph. By putting together the very worst possibilities, I could hardly imagine a more dangerous position for a vessel, and after that experience I consider the *Fram* to be capable of anything. Notwithstanding the most careful examination, we have not been able to discover a single crack, a single splinter displaced in her.

After this it became comparatively quiet as regards the pressures, and we drifted on rapidly in a northerly and northeasterly direction.

CHAPTER XV

THE GREAT SLEDGE EXPEDITION

As I now thought I could assume with certainty that the *Fram* in a short time would reach her highest latitude north of Franz Josef Land, and as early as the following summer would, as our plan presupposed, be near the sea north of Spitzbergen, I believed the opportunity had come to carry out a plan I had for some time entertained; namely, to examine the sea north of the *Fram's* course. This could only be done by a sledge expedition, which could not reckon upon getting back again to the *Fram*, as the chance of refinding a vessel drifting in the ice was small. As a journey of this kind might appear to be fraught with some risk, should unforeseen hindrances be met with, I felt that I could not take the responsibility of sending any one else, and therefore decided to go myself, although there was no lack on board of those who were more than desirous of going. I chose as my companion Lieutenant Johansen, who gladly accepted the offer of going. The command of the remainder of the expedition on board the *Fram* I left in Sverdrup's hands.

I of course felt some hesitation in thus leaving my companions and placing the responsibility for their well-being and safety in the hands of another; but with the perfect confidence that I had in Sverdrup's capability as a leader and power of overcoming difficulties, I had no

fear of his not bringing all hands safely home, even should the worst happen and they have to abandon the *Fram;* an event, however, which I deemed highly improbable.

All the winter I had been busy making preparations for this expedition. I had had new strong sledges made on board specially calculated for being drawn by dogs over the uneven ice. Next I had made two kaiaks, twelve feet in length, and so roomy that they could each carry a man with provisions for four months, as well as some dogs on the deck. The framework of these was made of bamboo and covered with canvas. When completed they weighed about forty pounds each. The provisions, which consisted exclusively of the best kinds of dried and greatly condensed articles of food, — chiefly dried meat, dried fish, steam-cooked oatmeal, biscuits, butter, etc., etc., — were stowed away in canvas bags of convenient size. We had constantly driven the dogs to keep them in training for the journey, and all kinds of experiments had been tried with the tent, sleeping-bag, etc.

It was my intention to leave the *Fram* as soon as the dawning polar day would allow of our traversing the rough drift ice. So on February 26, with six sledges, twenty-eight dogs, two kaiaks, and provisions for men and dogs for several months, Johansen and I left the *Fram.* However, after four days' toiling with all these sledges over the rough ice, we saw that, thus heavily laden, we should not be able to reach our goal in good time. The dogs could not on this ice draw as much as we had expected of them; and we therefore decided to return to the ship, in order to reduce the number of our sledges and the quantity of our provisions, and to wait a little longer before setting off.

(*From a photograph*) Mogstad Blessing Johansen Juell Scott Hansen Nordahl Pettersen Amundsen Bentsen Hendriksen Sverdrup Jacobsen

THE CREW OF THE "FRAM" WHEN NANSEN AND JOHANSEN LEFT THE SHIP

On March 3, just as we were approaching the *Fram*, the sun appeared above the horizon for the first time that spring, after the longest polar night ever experienced by man. Observations taken on the same day showed that we had reached a latitude of 84° 4′ N.

DR. NANSEN AND LIEUTENANT JOHANSEN LEAVING THE "FRAM"

A few days were again spent in preparations. It was now my plan to take with us only dog provisions for one month and provisions for the men for a hundred days, and with this light equipment try to pass quickly on over the ice. We thus need not set off so early, and it was not until March 14 that we again said farewell to our companions, this time in earnest. We had now only three sledges, on two of which lay our two kaiaks, and we had the same twenty-eight dogs as before. It was my hope that as we got farther north we should find smoother ice, the ice there being older, and its uneven-

ness therefore better covered up by the drifting snow. This appeared at first to be the case. We found the ice tolerably easy to get over, and did some good days' marches. On March 22 we had already reached 85° 10′ N. lat., and we calculated that we could cover greater and greater distances as the sledge-loads grew lighter with the daily consumption of food on the part of both men and dogs. The dogs, too, appeared to hold out fairly well. But by and by the floes began to be more uneven, and packed together, and the drift, which until then had seemed to be slight, was now against us. On March 25 we had reached 85° 19′ N. lat.; on the 29th, 85° 30′. The ice was obviously drifting southward at a good rate, while at the same time our progress over the rough ice was slow. It was a never-ending labor, forcing our way through and getting the sledges over the high hummocks and piled-up ridges of ice, which were always being formed afresh, and which the snow-storm never had time to smooth over. On such ice the dogs, of course, were of very little assistance. When they came to obstacles such as these they waited patiently until we had carried the sledges safely over, and they could once more draw them on over a short stretch of level ice to a fresh obstacle.

The ice was in constant movement and thundering around us on all sides. On April 3 we were in 85° 59′ N. lat. We pushed on with all our might, always hoping for better ice. On April 4 we reached 86° 3′; but the ice grew worse, until at last on April 7 it was so bad that I thought it unadvisable to continue any farther toward the north. If it were like this in the direction of Franz Josef Land, we might have difficulty enough in getting there. We were then in 86° 14′ N. lat., and

about 95° E. long. In order to investigate the state of the ice and the possibility of advance, I went farther north on ski, but could discern no likely way. From the highest hummock I could find, I saw only packed and piled-up ice as far as the horizon.

Here, as during our whole journey, we saw no sign of land in any direction. The ice appeared to drift before the wind without being stopped by mainland or islands for a distance of many miles; and it seems to me scarcely probable that land will be found on this side of the North Pole, even if we must suppose that on the other side anything like a continuation of the North American archipelago may be found toward the north.

The first time we set out from the *Fram* we had had our good warm wolf-skin clothes with us; but as spring was approaching, and the temperature had latterly been comparatively high, we did not think we should again have very low temperatures, and therefore, to save weight and make the caravan as easy of transport as possible, we reduced the outfit to a minimum, and left our warm fur clothing on board when we left the *Fram* for the second time, a proceeding that we were subsequently to repent bitterly.

For about three weeks the temperature remained at about 40° below zero, rising on April 1 to 7.6° below zero, but soon sinking again to 36.4° below zero. With such a temperature and a wind, we often felt it bitterly cold in our good but too light woollen clothing, which, owing to the perspiration of the body, was gradually transformed into an icy coat of mail. It was worse with our outer woollen jackets, which became covered with a thick layer of ice, which it took us fully an hour to thaw

every night in our sleeping-bag, no little physical heat being spent on the process; and not until we had lain with chattering teeth for about an hour and a half did we begin to feel at all comfortable. A few minutes after we got out of our sleeping-bag in the morning, our clothes were again transformed into ice; and I scarcely think that either Johansen or I will ever wish for a repetition of those days. In March the minimum temperature was 49° below zero, the maximum 4° below zero.

It was on April 8 that we altered our course and began our wanderings toward Cape Fligely, in Franz Josef Land. For a time we still had the same toilsome kind of road to go; but after one day's march the ice became better, and its passage somewhat easier. It was our habit to wind up our watches every evening when we got into our sleeping-bags. Being, however, very anxious to get on, our day's march was sometimes very long, and on April 12 more than thirty-six hours had elapsed before we again crept into our bags; and when we then thought of our watches they had run down. This was an unfortunate occurrence. I had taken no observations for longitude for three days. I of course took an observation for time the following day, but was obliged to make a reckoning for the three intermediate days' journey, which, however, I knew must be fairly accurate, even though I could not tell how much the ice had drifted in that time. In order to have our time once more quite exact, I now wanted to take some lunar distances; but on setting about it I discovered that the table necessary for their calculation had been left on board by mistake. We naturally, during the rest of our journey, continued to take observations for longitude with just as much care, and thought that we could not be very far out.

When we arrived at 85° N. lat. on April 25, to our astonishment we came upon two fox tracks. This seemed to imply that we were near some land; but nothing of the kind was visible, notwithstanding the clear weather. What now most hindered our progress were the cracks and channels in the ice. In that low temperature they were, as a rule, covered with a thin sheet of ice, which made it impossible to use our kaiaks in getting across. We were therefore often compelled to go a round of many miles, and it would sometimes take half a day to get past a channel of this kind. The farther south we came, the more of these there were, and they greatly hindered our advance; while provisions were dwindling, and the dogs had to be killed one after another to feed the remainder. Some of the dogs at first evinced great aversion to eating their companions; but as their hunger increased, and they got nothing else to eat, they gradually became so voracious for this food that it was difficult to keep them from it as soon as a dog was killed.

Their rations had to be gradually reduced to the smallest possible amount, so as to make the little we had go far enough, and keep them alive as long as possible; but by degrees they grew sadly worn out. Many of them drew their load faithfully until they suddenly dropped down with fatigue, unable to stand any longer. We then had no other choice than to kill them on the spot, or to lay them on one of the sledges, and take them with us to kill them when we pitched our camp in the evening.

In June the channels became more numerous and more difficult than ever to deal with, and the state of the ice was very bad. Dogs, ski, and sledge-runners broke through the crust on the snow, and sank deep into the

soft and wet snow beneath. The number of dogs now, too, was very small, and was continually diminishing. Advance seemed almost hopeless, but we had no choice, and so toiled on as best we could, while the rations for both dogs and men were reduced to a minimum.

It is well known that, according to Payer's map, there is a land north of Franz Josef Land, in about 83° N. lat., which he has called Petermann Land. It had been my intention to try first to gain this land, where progress would probably have been easy, and where we could have reckoned on finding sufficient game for our rifles. According to our reckoning, too, we ought now to have been in the longitude of this land; but we came farther and farther south without being able to descry any land at all. At the end of May we were in 82° 21′ N. lat.; on June 4, in 82° 18′. By June 15 we had drifted northwest into 82° 26′, and should not then have been more than about twenty miles north of Cape Fligely. We still, however, could see no land. This became more and more puzzling, and the state of the ice grew continually worse. At last, on June 22, we shot a large seal, and now determined to wait until the snow melted, in the mean time living upon seal's flesh. A little later we shot three bears, and we now had abundance of food, so that our two remaining dogs could be well fed on raw meat. It was not until July 22 that we once more set out over tolerably good ice, and two days later we at length came in sight of unknown land. We were then in about 82° N. lat., but we were to have a hard struggle to reach this land.

One day during that time we had an adventure which might have been much more serious. We were just about to cross a channel in the ice in our kaiaks. This

was generally accomplished by tying the two kaiaks together on the ice, then placing them on the water, and, after creeping with the dogs out on to the deck, paddling across. This time we had just brought my kaiak up to the edge of the floe, and while I was busy with it Johansen turned back to draw up his kaiak beside it. Suddenly I heard a noise behind me, and, turning, saw Johansen on his back with a bear over him, and holding the bear by the throat. I caught at my gun, which lay on the fore-deck of my kaiak; but at the same moment the boat slid into the water, and the gun with it. By exerting all my strength I hauled the heavily laden kaiak up again, but while doing so I heard Johansen quietly remark, "You must hurry up if you don't want to be too late." At last I got the gun out of its case; and as I turned round with it cocked, the bear was just in front of me. In the hurry of the moment I had cocked the right barrel, which was loaded with shot; but the charge took effect behind the ear, and the bear fell down dead between us. The only wound Johansen had received was a slight scratch on the back of one hand, and we went on our way well laden with fresh bear's flesh.

The current was strong, and the ice was broken up all over into small floes. The channels between were, as a rule, filled with small ice-pieces and crushed ice, making it impossible to use our kaiaks. We therefore had to leap from one block of ice to another, dragging our sledges after us, with the constant fear of seeing them upset into the water. We continued this for a fortnight, and it was not until August 6 that we reached land in 81° 38′ N. lat., and 63° E. long. This first land consisted of four entirely glacier-covered islands, which I called Hirttenland, after

an old Norwegian fairy tale. Along the north side of these islands there was open water, upon which we rowed westward in our kaiaks. When we reached this open water there was little prospect of our having much more use for the two dogs we still had left; and as it was not a little inconvenient to take them with us on the sea, we shot them and left them on the drift ice.

In these waters we made a remarkable ornithological discovery; for as long as we were in the neighborhood of these islands we daily saw numbers of the hitherto so rare, so mysterious, and so little known Ross's gull (*Rodostetia rosea*). This, the most markedly polar of all bird forms, is easily recognizable from other species of gull by its beautiful rose-colored breast, its wedge-shaped tail, and airy flight. It is without comparison the most beautiful of all the animal forms of the frozen regions. Hitherto it has only been seen by chance on the utmost confines of the unknown Polar Sea, and no one knew whence it came or whither it went; but here we had unexpectedly come upon its native haunt, and, although it was too late in the year to find its nests, there could be no doubt about its breeding in this region.

During the next few days, a thick fog prevented us from discovering land south of these islands; but on August 12 the fog lifted a little, and an extensive land, or rather a chain of islands, now lay before us to the west and south, extending from the southeast right up to the northwest. This was more and more puzzling. There was nothing to be found in Payer's map agreeing with it. I thought we must be very nearly in the same longitude as Austria Sound; but if this was correct, we were now in the act of sailing right across Wilczek Land and the

Dove Glacier, without getting a glimpse of any land near. Nor could I discover any indication of Austria Sound in its northern part; and Rawlinson's Sound, too, had vanished. It is therefore scarcely surprising that I came to the conclusion that there must be some considerable error in our longitude. How, indeed, this could be was not clear to me; but I concluded that either our watches must have gone completely wrong of late, or that during the three days before April 12 we had drifted a most remarkable distance. However this might be, I could only suppose that we had now arrived at the unknown west coast of Franz Josef Land, or to that mysterious land which always on maps goes by the name of Gilis Land, and which is generally placed between Franz Josef Land and Spitzbergen. Of one thing, however, I was certain; namely, that by steering south and southwest we must at last come to Spitzbergen, our actual goal, where we should find Norwegian walrus-sloops, which could take us home at once. We therefore continued, now paddling, now dragging over the ice, westward through a sound which lay in 81° 30′ N. lat. Having got through this, we found a large piece of open water, upon which we paddled southwest along the northwest shore of the land, hoping soon to be able to cross over the sea to Spitzbergen. In vain did we search for land in the west. On August 18 a wind from the sea suddenly drove the ice in toward the shore, and we were imprisoned for a week. After again continuing our journey for a day or two, we were once more imprisoned, on 26th August, in about 81° 13′ N. lat. and 55½° E. long. The autumn was now so far advanced that I considered it would be too late to begin the long journey to Spitzbergen, where we could scarcely

HUNTING WALRUS ON THE EAST COAST OF TAIMYR PENINSULA

expect to arrive in time to find any ships going home, and where we should accordingly have to winter without having time enough to lay in provisions and make preparations for it. As the place we had reached seemed well fitted for wintering in, and there appeared to be sufficient opportunity for getting game, we thought it safest to stop here and prepare for the winter.

We immediately set to work to shoot walrus, the blubber of which we intended to use for firing. For two men, however, the manipulation of these huge animals was attended with considerable toil. We had at last to give up dragging them up on land or on to the ice, and our only expedient was to lie on them in the water while removing the hide and blubber, during which process we succeeded in getting our only clothes thoroughly saturated with oil and dirt, thus rendering them peculiarly unfitted for protection against the winter cold and storms. There was no scarcity of bears, and we shot them for our winter store of food. After having laid in a temporary supply, we set to work on our hut, which was built of stone, earth, and moss. How we were to roof it seemed at first a difficult problem to solve. Fortunately, however, we found a piece of timber cast up on the shore. This we used as the ridgepiece of the house, and stretched walrus hides over it, weighted at the edges on both sides with large stones. On the top of this we laid snow. To build a chimney was not easy, as we had not the stones necessary. Our only expedient was therefore to build it of ice and snow, which had to be renewed, however, two or three times in the course of the winter.

For cooking, lighting, and heating, we used walrus blubber and bear's fat. Bear's flesh and fat was our only

food. In the evening we fried it in a large aluminium frying-pan; in the morning we boiled it. We made our bed and sleeping-bag of bear-skin. To keep warmer, we both slept in one bag, and, taken altogether, we were quite comfortable in our low hut, of which a great part lay below the level of the ground, and was therefore fairly well protected from the violent winter storms which continually raged above it. By the help of our lamps we succeeded in keeping the temperature inside at about freezing-point, while on the walls it was, of course, considerably lower. These were covered with a thick coating of frost and ice, which in the lamplight imparted a beautiful marmoreal appearance to the walls of the hut, so that in our happier moments we could dream that we dwelt in marble halls. The hut was about ten feet long, six feet broad, and high enough in some places to allow of our standing almost erect. Our couch was formed of rough stones; we never quite succeeded in getting it even tolerably level, and our most important business throughout the winter was, therefore, to bend the body into the most varied positions in order to discover the one in which the pressure of the stones was least felt.

We had no work which could help to make the time pass: we did little else than sleep, eat, and then sleep again. If any one still holds the old belief that scurvy arises from want of exercise, this is a striking proof that such is not the case. Strange to say, our appetites continued unimpaired the whole time, and we always consumed our bear's flesh and our fat with the same voracity. When the weather permitted, we would take an hour's walk every day in the dark outside the hut; but often it was so stormy that it was not expedient to put one's nose

beyond the passage which led to our palace. Several days would often pass in which we lay quite still, until at last a scarcity of ice to melt for drinking-water, or of food, compelled us to go out to fetch ice or to drag in the carcass or leg of a bear. After November we were not visited again by bears until March, and our only company in the winter was a number of foxes which constantly sat upon the roof of our hut, whence we could hear their perpetual gnawing at our frozen meat. It made us often dream that we were sitting comfortably at home listening to the rats in the loft above; and we by no means grudged them a little of all our abundance. These foxes were of both the white variety and the valuable dark-furred kind, and had we been so inclined we could easily have laid by a good store of valuable furs. Our supply of ammunition, however, was not so large as to allow, in my opinion, of our spending it upon them, for it seemed to me that bears were the smallest game that could give us any return for our cartridges.

Upon the whole, the winter passed in a manner beyond our expectation. Our health was excellent; and if we had only had a few books, a little flour, and a little sugar, we were both agreed that we could have lived like lords.

At last came spring with sunshine and birds. How well I remember that first evening, a few days before the sun had appeared above the horizon, when we suddenly saw a flock of little auks (*rotges*) sail past us along the mountains to the north. It was like the first greeting from life and spring. Many followed in their train, and soon the mountains around us swarmed with these little summer visitors of the north, which enlivened everything with their cheerful twittering. A dark sky, which we had

had the whole winter, but especially now in the spring, in the south and southwest, seemed to imply that there must be water in that direction, of which it was a reflection. We had, therefore, every hope of making a quick and easy voyage in our kaiaks across to Spitzbergen, partly over open water, partly over drift ice; and as daylight had now returned, we busied ourselves in preparations for this journey.

There was much, however, to be done before we could set off. Our clothes were so worn out and so saturated with fat and dirt, that they were anything but suitable for a journey of this kind. We therefore made ourselves two entire new suits out of two blankets we had brought with us. Our underclothing we tried to wash as best we could, but never before did I know what it was to exist without soap. It was difficult enough to get one's person clean, but this we managed to a certain extent by rubbing in bear's blood and fat, and then rubbing this off with moss. But this process was not applicable to clothes. After trying every possible way, we found, in our despair, no other expedient than to boil them as best we could, and then scrape them with a knife. In this way we got so much off them that they did to travel with, though the thought of putting on clean clothes when we once more got back to Norway was always in our minds as the greatest enjoyment that life could bestow. We had to make a new sleeping-bag of bear-skins, which we dried and prepared by stretching them out under the roof of our hut. Our good, precious silk tent, which we had had during the whole of the preceding year's journey, had at last, during the autumn storms, become so worn out that I did not think it could be used any more. We were

now, therefore, obliged to employ our sledge sails as a tent. Our provisions for the journey were chiefly bear's flesh and fat, and our fuel was train oil and blubber, and we were sure of finding sufficient game on the way when the provisions we took with us gave out.

At length, on May 19, we were ready, and started southward in short day's marches. On May 23, in 81° 5′ N. lat., we came to the open water, of which, during the whole winter and spring, we had seen the reflection above the horizon; and we now rejoiced at the thought of going south in our kaiaks. Storms, however, detained us until June 3. These storms had caused the ice to set in and block the water, so that we now went south over the ice, a favorable wind permitting us to make use of sails on our sledges, so that we got on at a good rate. A little farther south we found extensive tracts of land, whose northern coast stretched in a westerly direction. To the west-northwest along this coast lay open water. I was in doubt for a while as to whether we ought not to take to the water, and go on in that direction, but thought that this would again take us too far north, and therefore preferred to steer south over flat ice through a broad, unknown sound. Here, too, a favorable wind permitted the employment of sails on our sledges, and we went along at a really considerable speed.

On June 12 we at last reached the south side of the group of islands, and there came upon a large open piece of water, extending westward along the south coast. The wind was still favorable. By tying together our two kaiaks, rigging up a bamboo rod as mast on them, and then hoisting our sledge sails, we were now able to sail upon this open water along the coast, and in this way

TOWARD THE SOUTH! NANSEN AND JOHANSEN HOMEWARD BOUND, MAY, 1896

(*From a photograph*)

made good progress. When the wind dropped or became less favorable, we took down our sails and paddled on.

In this way we began to approach the southwestern point of the group of islands, and rejoiced at the thought of being able to cross over to Spitzbergen, where in the course of a few weeks we were certain to be on board a homeward-bound Norwegian vessel.

As we passed along this coast we noticed how remarkably the latitude I obtained by my observations agreed with the latitude that Leigh-Smith had found for the south coast of Franz Josef Land. It was also remarkable how well, both in direction and appearance, this coast seemed to agree with Leigh-Smith's map; and I therefore began to suspect that in spite of everything we were still on the south coast of Franz Josef Land, and had come south through a wide sound cutting straight across Zichy Land, which has hitherto been regarded as continuous, but now resolves itself into a chain of small islands.

During our voyage along this south coast we had several mishaps, which, however, ended happily. One day, when we had been sailing along the shore, we lay to in the evening to the ice to reconnoitre our farther way westward. In leaving the kaiaks, we made them fast to the ice by a strong strap, which we thought was perfectly reliable. While we were a little way off on the top of a hummock, however, we discovered that our linked boats had broken from their moorings and were rapidly drifting away from the ice, carried along by the wind. All our provisions were on board, our whole outfit, our guns, and our ammunition. There we stood upon the ice, entirely without resource. Our only safety lay in reaching

our kaiaks, and I had no choice but to spring into the water and try to reach them by swimming.

It was, however, a struggle for life, for the kaiaks seemed to drift more rapidly before the wind than I could swim; the icy water gradually robbed my whole body of feeling, and it became more and more difficult to use my limbs. At length I reached the side of our craft; but it was only by summoning up my last energies that I finally succeeded in getting on board, and we were saved.

Two days later my kaiak was attacked by a walrus. These monsters had tried several times to put an end to us by suddenly coming up from below, and attacking the kaiak with a violent blow, which might easily have upset us, but this they had hitherto not succeeded in doing. This time, however, the attack was more violent. The walrus suddenly pushed up beside my kaiak, and, laying one flipper on its edge, tried to upset it, at the same time driving its long tusks into the bottom, fortunately, however, without touching me. I managed to give the walrus such a blow on the head with the paddle that it rose high up out of the water, threatening to fall upon me, but disappeared the next moment as quickly as it had come. The water was rushing into the kaiak through the long rent made in the bottom by the walrus, and I was sinking rapidly, and only at the last moment managed to run my kaiak on to a floe that was projecting under the water, and escaped in safety from the boat on to the ice. The next day was employed in repairing the kaiak, and in drying clothes, outfit, photographic apparatus, etc., which were all soaked with sea-water, though fortunately no real harm was done.

The following day, when we were about to continue

our journey, and as I was just preparing breakfast before starting, I went up on to a hummock to reconnoitre landward. As I stood there, puffs of wind came across to me from the land, carrying a confused noise from the thousands of loons and other sea-birds which inhabited the mountains there. As I was listening to all these bird-voices, I suddenly started at a completely different sound, which so much resembled the barking of a dog that for a moment it seemed to me that there could be no doubt of its being this. But then it was once more lost in the noise of the birds, and I thought I must have been mistaken. Again, however, the wind brought over a fresh stream of sound, which left no doubt whatever of there actually being dogs in the neighborhood. I ran down and waked Johansen in the sleeping-bag by saying, "I have heard dogs!" But I could not make him comprehend, so I gulped down my breakfast, put on my ski, and dashed off across the ice. As I approached the shore I saw a man coming toward me. It was Mr. Jackson, and hearty was the handshake with which he welcomed me.

[In order to make the narrative more complete, as well as to give merited recognition to one of the leading recent enterprises in the field of Arctic research, we will say that the gentleman whom Dr. Nansen so opportunely met at this critical time was Mr. F. G. Jackson, leader of the Jackson-Harmsworth expedition which left England in 1894. Very soon after the meeting of these explorers one of the members of the Jackson party came to the Nansen camp. He was closely followed by four companions. They all gave Lieutenant Johansen a cordial greeting, and then escorted him to the headquarters of the expedition.

MEETING OF DR. NANSEN AND MR. JACKSON IN FRANZ JOSEF LAND, JUNE, 1896

(By permission of Mr. Alfred C. Harmsworth, of the Jackson-Harmsworth Arctic Expedition)

Before organizing this expedition Mr. Jackson had seen a good deal of Arctic work, and had won distinction by making, in connection with his investigations, a sledge journey of four thousand miles. For a long time he had desired to explore Franz Josef Land and the area to the north of this comparatively unknown region. His plans

were carefully laid, and they seemed so practicable that he was enabled, under the most favorable conditions, to make an effort to put them into execution. He found a munificent patron in Mr. Alfred C. Harmsworth, a member of the Royal Geographical Society, who not only consented to bear the whole expense of the expedition, but also gave a great deal of time and personal effort in securing as complete an equipment as it was possible to obtain.

A whaler named the *Windward*, an exceedingly strong ship which had been constructed with special reference to service in the ice, was purchased and transformed into a steam yacht. Several boats of different types were built, and seventeen sledges, of an improved pattern designed by Mr. Jackson, were made. Tents, materials ready to be put together for houses, and a large supply of excellent scientific instruments also formed a part of the outfit. For the first time in the history of Arctic exploration a few ponies were taken for use in travelling and in hauling loads. These were obtained at Archangel, and thirty dogs were secured from Western Siberia.

The *Windward* sailed from Greenhithe on the afternoon of July 11, left Archangel early in August, and proceeded to Franz Josef Land. At Cape Flora, Jackson, with his few companions, established his headquarters. The settlement, which consisted of seven huts, was named Elmwood. The *Windward* returned home, and was on her second voyage to the station when Nansen and Johansen became the guests of its inmates.

The primary object of this expedition was to make a thorough exploration of Franz Josef Land, both of the coast and of the interior, and thus determine whether it

is the southern portion of a great polar continent or a collection of islands. In this work Mr. Jackson has been very successful, having discovered many islands, and an important body of water which he has named Queen Victoria Sea. As nearly or quite all that is required in this direction has been performed, it is understood that in the spring or summer of the present year (1897), Mr. Jackson will take up the secondary, though very interesting and important work of the expedition, and either upon the open water or the frozen surface of this great sea, according to its condition at the time, commence a voyage or a journey which will be continued as far as possible toward the Pole.]

CHAPTER XVI

HOMEWARD BOUND

We were received here with a hospitality and heartiness such as those Arctic surroundings can seldom have witnessed; and though we had fully intended to go on our way to Spitzbergen, which would probably be our quickest way home, we could not tear ourselves away from this hospitable spot, again renounce all the ease and comfort which were here offered to us, and once more take our pilgrim's staff into our hand. We decided to accept the kind invitation to wait for the *Windward*, which was soon to arrive, and then again return to Europe.

Never shall I forget how delightful it was, as soon as we entered Jackson's comfortably arranged house, to have a warm bath. It was not, indeed, possible to become clean the first time, but still it imparted a feeling of cleanliness; and then delightfully soft, clean woollen garments to follow, to be shaved and have one's hair cut, have a capital dinner, coffee, cigars, port wine, and, last but not least, books and the latest literature (two years old, indeed, but new to us) — in short, we felt all at once transported, as if by the stroke of a magic wand, into the heart of civilization. The attention, the consideration, which every member of this expedition offered us was touching, and made an indelible impression on both of us. It seemed as if their aim was to soften by their kindness the recollection of last winter's loneliness and dreariness.

DR. NANSEN, AS PHOTOGRAPHED BY MR. JACKSON IMMEDIATELY AFTER THEIR MEETING IN FRANZ JOSEF LAND, IN JUNE, 1896

(By permission of Mr. Alfred C. Harmsworth, of the Jackson-Harmsworth expedition.)

We now discovered that my suspicions, as indicated above, were correct. We were actually on the south coast of Franz Josef Land, and had arrived at Cape Flora, on Northbrook Island. Our observations and determination of longitude were fairly correct, in spite of everything, and our chronometers proved to have been right. On the other hand, there were mistakes in Payer's map,

which had put me on the wrong track — mistakes of which I have not yet found an explanation, but will find, it is to be hoped, on conferring more closely with Payer himself.

The broad sound through which we had come south this spring lay just a little west of Austria Sound, and was considerably larger than the last-named sound. It had already been traversed by Jackson, and called by him the British Channel.

During the winter we had been encamped just to the west of Austria Sound, on an island which I have called Frederick Jackson's Island. Before we set out on our expedition, I stated, in my lecture before the Royal Geographical Society, my opinion that Franz Josef Land was only a group of islands. This opinion has now been fully confirmed. Franz Josef Land is not only a group of islands, but a group of little islands of such small extent as perhaps no one had thought possible. In my opinion the islands forming Franz Josef Land may be considered as a continuation of East Spitzbergen, and the most important, most interesting subject yet to be worked out is the exploration of the still unknown western part of Franz Josef Land and its connection with Spitzbergen. In this region there are probably many new islands which it is to be hoped Jackson and his expedition will have an opportunity of discovering and charting. How far north the islands extend it is not yet possible to determine, but it is scarcely likely to be very far.

I will not venture an opinion as to whether Petermann Land has any existence; our course was so easterly that it may well have been too far off to be seen; but in that case it must be an island of inconsiderable extent. The

whole of that part of Franz Josef Land traversed by us consisted of basalt, and has once formed a continuous basaltic land, which is now, however, by numerous channels and fjords, cut up into small islands, entirely or in great measure covered with glaciers, and where only here and there along the shore the dark basaltic rocks are visible. As a rule the land does not rise to a height of 2,000 feet above the sea, and only occasionally did the glaciers seem to approach to a height of 3,000 feet. On the south side of the country there is, beneath the basalt, a deep stratum of clay which extends to a height of from 500 to 600 feet above the sea, and which belongs to the Jura formation, and where both Dr. Koetlitz, of the Jackson expedition, and I found numerous fossils of various kinds, chiefly Ammonites and Belemnites, which leave no doubt as to its age. As far as I can for the present say, a large part of this clay belongs to the so-called Oxford clay. Lignite and fossil wood were also common in these clay strata. In a few places numerous fossil plants were also found, whose age I have not yet had time to determine, but which probably belong to a later formation than the Jura.

In the mean time the days at Cape Flora passed imperceptibly. We spent our time partly in making scientific excursions of small extent, partly in reading, writing, and preparing a map of our route across Franz Josef Land as it appeared, according to our investigations, to be. Incessantly did we scan the horizon in expectation of the *Windward*, the ship which was to come from Europe; but a great quantity of ice lay in the sea outside, no sail appeared on the horizon, and as time went on we became more and more impatient, and more and more often did anxious remarks fall on the possibility of the ice hin-

dering the *Windward* from coming in this year. When a month had passed, Johansen and I began to repent a little that we had stopped here, and had not gone straight on to Spitzbergen, where we should probably long before this have found a ship and been on our way home. I began to think, indeed, of setting off again, as I was unwilling to risk passing another winter in the Arctic regions. I was tolerably certain that the *Fram* would come home this year, and would then, of course, throw our friends into the greatest anxiety with regard to our fate; there would then hardly have been any hope at home of ever seeing us again.

At length, when six weeks had passed, I was suddenly aroused one night by Mr. Jackson with the news that the *Windward* had arrived. The cheers and joyful exclamations with which the news of our arrival at Cape Flora were received on board the *Windward* were proofs of such great and sincere delight that we could hardly have expected greater from our own countrymen. It was a fresh demonstration of the sympathy which exists between the English and Norwegian nations.

The stores brought for the Jackson expedition were soon unshipped from the *Windward*, and by the aid of sledges dragged over the ice to land. In less than a week all was ready; and as soon as letters and telegrams for home were written, on August 7, we went on board, and the *Windward* weighed anchor to make for home.

On board the ship we had the shortest and pleasantest homeward journey that perhaps any Arctic expedition has ever had. We again experienced English hospitality to its fullest extent, and those days can certainly never be forgotten by either Johansen or myself.

There was a great deal of ice in the sea between Franz Josef Land and Nova Zembla, and it would certainly have been only too easy to run the little *Windward* so far into the closely packed ice that it would have taken weeks and months to get out again. But with his great experience and his clear-sightedness in all that concerned ice and ice navigation, Captain Brown, the old whaler under whose command the *Windward* now was, knew how to find just the only way that would be certain to take us through 220 miles of ice out into the open sea to the north of Nova Zembla, and thence shape a straight course for Vardö, where we arrived on August 13, six days after having left Cape Flora.

Thus I and one man of my expedition had now come to our native land, where we were received with open arms. Our first question after setting foot on Norwegian soil was whether anything had been heard of the *Fram* and our comrades. Our fear the whole winter and spring had been that the *Fram* would reach home before us. To our relief, however, we now learned that nothing had been heard of the *Fram*, and our friends had been saved from unnecessary anxiety. I telegraphed immediately to the King of Norway and the Norwegian Government that all was well on board the *Fram* when we left her, and that I fully expected her and the remaining members of the expedition home again safe and sound in a short time.

Great, then, was the joy when, in Hammerfest, on August 21, I received a telegram from Skjärvö, a little port not far off, to say that the *Fram* had arrived in the night, all well on board.

CHAPTER XVII

HOW THE "FRAM" FARED — SVERDRUP'S STORY

When I left the *Fram*, I gave instructions to Sverdrup. Among other things they ran thus: "The chief aim of the expedition is to push through the unknown Polar Sea, from the district around New Siberia north of Franz Josef Land, out to the Atlantic Ocean near Spitzbergen or Greenland. The principal part of this task I consider we have already accomplished; the rest will be accomplished little by little as the expedition goes farther west. In order to make the expedition yet more productive, I will make an attempt to push on farther to the north with dogs. Your duty will then be to bring the lives hereby entrusted to you home by the safest way, and not to expose them to needless danger, either out of regard to the ship, cargo, or results of the expedition.

"How long it may be before the *Fram* drifts out into open water no one can tell. You have provisions for several years; but should it, for some unknown reason, take too long, or should the crew begin to suffer in health, or you for any other reason consider it best to abandon the vessel, this should unquestionably be done. At what time it should take place, as also the way that ought to be chosen, you yourself will be best able to judge. Should it be necessary, I consider Franz Josef Land and Spitzbergen to be the best lands to make for. If search is made for the expedition after Johansen's and my arrival

CAPTAIN OTTO NEUMANN SVERDRUP

home, it will first be made there. When you come to land you should as often as possible erect conspicuous cairns on promontories and projecting headlands, and within each cairn place a short statement of what has been done, and whither you are going. In order to make these cairns distinguishable from others, a very small cairn should be erected four metres from the large one in a northward direction by the magnet. What outfit will be the best in case of the abandoning of the *Fram* is a question we have so often discussed that I consider it superfluous to dwell on it here. I know that you will take care that the needful number of kaiaks for all the men, sledges, ski, snow-shoes, and other articles of outfit, are put in order as soon as possible, and kept in readiness, so that such a journey over the ice could be undertaken with the greatest possible ease. Information as to the provisions I consider most suitable for a journey of this kind, and the quantity necessary for each man, I give elsewhere.

"I know, too, that you will hold everything in readiness to abandon the *Fram* in the shortest possible time in the event of a sudden misfortune befalling her in the shape of fire or pressure. If the ice permits, I consider it advisable that there should always be a depot, with sufficient provisions, etc., upon a safe place on the ice, such as we have lately had. All necessary things which cannot be upon the ice ought to be so placed on board that they are easy to get at under any circumstances. As you know, there are only concentrated sledge provisions now in the depot; but as it is not impossible that the expedition might have to remain quiet for some time before setting off, it would be extremely desirable to save as much

tinned meat, fish, and vegetables as possible. Should disturbed times come, I would even consider it advisable to have a supply of these articles also ready on the ice.

"Should the *Fram* in drifting bear far to the north of Spitzbergen and get into the current under the east coast of Greenland, many possibilities could be imagined, which now it is not easy to form any opinion about; but should you be obliged to abandon the *Fram*, and make for the land, it would be best for you to erect cairns, as mentioned above, there too, as search might possibly be made for the expedition there. In that case, whether you ought to make for Iceland (which is the nearest land, and whither you would be able to go in the spring by following the edge of the ice) or for the Danish colonies west of Cape Farewell, you will be better able to judge when you see the circumstances.

"The things that ought to be taken with you, if the *Fram* be abandoned, after the necessary provisions, are weapons, ammunition, and outfit, all scientific and other journals, observations, all scientific collections that are not too heavy (in the latter case small samples of them), photographs, the original plates by preference, or if they are too heavy, then copies of them — the areometer, with which most of the observations on the specific gravity of sea-water are made, besides, of course, all journals and memoranda which are of any interest. I leave behind two or three journals and letters which I will request you to take especial care of, and deliver to my wife, if I should not come home, or you, contrary to expectation, should get home before us.

"Hansen and Blessing will, as you know, take charge of the various scientific observations and collections; you

yourself will see to the soundings, and that they are taken as often as opportunity permits. As the crew was small before, and will now be still further reduced by two men, some work may fall to each man's lot; but I know that as far as possible you will spare men to assist in the scientific observations, and make these as complete as possible. . . .

"In conclusion, I wish all possible success to you, and those for whom you are now responsible; and may we meet again in Norway, whether it be on board this vessel or without her."

The requests I had here set down Sverdrup made it a matter of conscience to comply with, and the summer after Johansen and I had left the *Fram* was employed, not only in the work necessary for the safety of the vessel, but in making the outfit required for a sledge journey over the ice as perfect and complete as could well be. And never, perhaps, has an expedition been better prepared for leaving their vessel than this, although the probabilities were that the necessity for so doing would not occur. Light canvas kaiaks, each to hold two men, had already been partly completed on board before I left, and sledges, ski, snow-shoes, cooking apparatus, dog harness, etc., were all tested and put in good order, and, as will be seen from the orders given, provisions were kept in readiness. Before we left the ship some time had been spent in carting away the piled-up masses of ice which had been forced against the *Fram's* sides during the pressure of January, 1895, and the removal of this ice was continued after we left.

At the end of March, just as the last of this mass had been removed, the ice cracked in all directions around the ship, and a broad crack was formed which passed at the

distance of a few feet from the stern of the vessel. Subsequently in this crack there was great pressure, and the ice quite split up, so that the greater part of the *Fram* lay in open water by the end of July. The stern, however, was still frozen fast in a great block of ice. An attempt was made to break this up by blasting, which seemed, however, at the time, to have had very little effect, only a small crack in the ice appearing; and Sverdrup was standing on the ice talking with some of his companions as to what more should be done to get the vessel afloat, when they suddenly noticed that she was slowly beginning to move, and before they were aware of it the vessel glided from her icy slip into the water with a deafening noise, while the spray was thrown from her bows in every direction. It was like the launching of a ship, and her return to open water was welcomed by the crew with ringing cheers. That year, however, the *Fram's* freedom did not last long. By warping and sawing she was again brought into a safe haven, and in August was again frozen fast.

At first, after we had left the ship, the drift was not of much importance; but toward the end of April it became somewhat stronger in a westerly direction. On July 22, 1895, the *Fram* was in 84° 50′ N. lat., 73° E. long. At this time there seemed to be a great deal of movement in the ice, and strong pressure on all sides in the vicinity. After this southwesterly and westerly winds set in, which during the latter part of the summer stopped the *Fram's* drifting, and even drove her back in an easterly and notherly direction. Not until October did she again bear to the west, and during the remainder of the autumn and the winter the drift was better than ever. On October 16, 1895, the *Fram* was in her highest observed latitude.

viz., 85° 57′ N. lat. and 66° E. long. Some days later she was still farther north, but on those days it was cloudy, so that no observations could be taken. By the middle of February, 1896, the *Fram* had come in a southwesterly direction to 84° 20′ N. lat. and 24° E. long. But here, quite unexpectedly, long-continued south winds stopped the drift until May, when it again began to go south, until on July 19 they were in 83° 14′ N. lat. and 14 E. long., where the work of getting the *Fram* out of the ice began. Had she not got loose here, but had been obliged to continue drifting, she would of course have come south with the polar ice along the east coast of Greenland, toward which the direction of her drift pointed directly; and had she not got loose before, she would have been driven south right to Cape Farewell, a drift which has already been accomplished several times, and which would, therefore, not have been so well worth repeating.

Throughout her drift through the unknown Polar Sea from New Siberia to the north of Spitzbergen, the *Fram* was constantly exposed to pressure, none, however, being so serious as that, already described, in January, 1895. During this last summer, especially now in June, 1896, the pressure was particularly great, and of a peculiar nature. The *Fram* at that time lay in a channel, which, with the changing tidal current, alternately opened and closed twice during the twenty-four hours. Throughout one week in June, at the spring tides, the pressure in this channel was extremely hard, and the *Fram* was regularly lifted up once or twice a day, so high that her bottom could often be seen above the ice. But broad and safe as she is, she rose quietly, without letting a sound be heard within, either in timber or woodwork. No one on

board was awakened by the pressure, even when at its height; while it often happened that Sverdrup himself, who is a very light sleeper, awoke in the morning without an idea of what had taken place in the night. Only when he came on deck and looked over the bulwarks did he observe how high the vessel was raised above the surface of the ice.

This quiet raising was of course due to the well-adapted lines on which the *Fram* was built. This, too, is the reason why, even when raised highest, she did not heel over to any great extent; as a rule she lay almost horizontal. Sometimes she heeled over a few degrees, but the greatest heeling over that the *Fram* did in the ice amounted to 8°.

I have already mentioned the temperatures of the first winter. I will only add here that the two subsequent winters on board the *Fram* were not colder than that one. It is well known that the districts south of the delta of the Lena in Siberia form one of the poles of maximum cold of the northern hemisphere. It was therefore not to be expected that the winters in the northern part of the unknown Polar Sea, which we were going to explore, would be found colder than those to the north of the Siberian coast. This, too, proved to be the case. Of course, the temperatures in all three winters were rather low on board the *Fram*, while we two who were on Franz Josef Land had a considerably milder winter; but as a set-off we had the more violent storms, from which the interior of the polar basin is to a great extent exempt. The summers in the polar basin were also rather cool, the temperature generally remaining at about freezing point, and only occasionally rising a few degrees above it.

The highest temperature observed during the journey was, as far as I remember, 7° or 8° (Fahrenheit) above freezing. The fall of moisture in the inner regions of the polar basin was very small, as the cold air carries very little moisture with it. All the winter and spring, therefore, we had, as a rule, unusually settled, clear weather; while, on the other hand, in the latter part of the summer no small amount of fog might often be seen lying low down on the surface of the ice. Rain was, of course, a great rarity.

During the whole voyage the Aurora Borealis was of exceedingly common occurrence, and scarcely a day passed in which it was not observed, provided the sky allowed at all of its being seen. We thus had exceptional opportunities of studying this wonderful natural phenomenon, which often rose to a grand intensity, setting the entire sky in flames. Northern lights of various colors were very frequent, and at times the colors were surprisingly intense. On the other hand, no sound was ever heard from them, nor did we ever see them quite low.

Atmospherical electricity was also a subject of investigation, and sometimes the electricity was fairly strong. The result of these investigations, however, cannot be discussed until later. During the whole journey, samples of the air were taken in glass tubes, and will be analyzed at home.

The depth we had found during the earlier part of our drift continued after I had left the *Fram*, and the lead showed between 1,800 and 1,900 fathoms, until the water began to grow shallow, as the *Fram* worked her way south toward Spitzbergen. The water temperatures, too, continued almost unchanged; but the layer of warm water

below the cold, fresher water, which I have already mentioned, became somewhat deeper toward the west, the nearer they came to the North Atlantic Ocean between Spitzbergen and Greenland.

I have already said that the health on board was unusually good, and so it continued to be the last year also. The only cases of illness were one or two slight attacks of gastric catarrh, a short attack of rheumatism, and two or three other trifles. There was no sign of scurvy during the whole journey, and in my opinion this disease cannot appear if sufficient attention and care are given to the provision department in fitting out an expedition; and it is therefore a disease which ought to be forever banished from Arctic expeditions, — this disease which has hitherto been the one to claim the greatest number of victims offered to polar explorations.

When in June and July of this summer the expedition began to see some prospect of being able to force its way south with the *Fram*, much labor was spent in getting her out of the ice, a task which was not easy in the great packed masses. The only way was to try to blow up these pieces of ice by blasting, in which process both gun-cotton and ordinary gunpowder were employed. The former of these proved to be the most effectual; but heavy charges of gunpowder might also, if judiciously placed, have had a capital effect.

During these blasting experiments an accident happened which might easily have had the most serious consequences. Sverdrup, with one man as helper, had just laid a train in a crack in the ice, and set light to the fuse, when suddenly the piece on which they stood gave way, and they fell into the water with the charge, and the

burning fuse close to them. The situation was anything but agreeable, and they made the most desperate exertions to get on to the ice again, and out of reach of the charge before it exploded; but the edge of the ice was high, and it was only after two or three unsuccessful attempts that they succeeded in getting to a place of safety. The charge exploded soon after.

After several days of exhausting labor at this ice-blasting they at last succeeded in setting the *Fram* free, and on July 19 the work of forcing her southward through the closely packed ice began in earnest. The ice here was tremendous throughout, the floes sometimes being so large that the end of them could not be seen even with a glass. No open water was visible, and the situation often looked hopeless. But it is a capital thing not to have any way of retreat; in other words, to have no choice but to go on. So on they went, and they had a capital vessel, by whose means the impossible became possible. By steaming and warping they forced their way, bit by bit, through ice which would have made most men give themselves up to despair; and when it was too bad for this, a way was made by blasting. For about a month they kept on with this work, and during that time broke their way through 150 geographical miles of ice — ice perhaps vaster than any other vessel has ever yet ventured upon; and on August 13, the very day on which Johansen and I arrived at Vardö, they got out of the ice into open water.

At the time of their coming out of the ice there was a fog, which, however, soon lifted, and close by was seen a small vessel, the *Sisters* (Söstrene), a schooner from Tromsö, which greeted the *Fram* with hearty cheers, Captain Bottolfsen coming on board. The first question

put to him was whether Nansen and Johansen had arrived in Norway. The negative answer to this acted like an uncomfortable damper on the joy they had experienced in getting out of the ice, and few on board the *Fram* had any hope now of ever seeing us again. Supposing, however, that people on Spitzbergen might be better informed, they went there to meet Andree, who was supposed to be at that place. There, however, the intelligence was no more reassuring, and their fears for us — their two comrades — grew more and more serious. Captain Sverdrup was perhaps the only man on board who still believed that we were alive; he thought that we had arrived at Franz Josef Land so late last autumn that we had been obliged to winter there with Jackson's expedition, and all on board were agreed to go at once to Franz Josef Land to look for us. The *Fram* was indeed fully equipped for starting on a new polar expedition, should it be necessary. To make quite certain, however, it was decided to go home to Norway to see if there might be any later intelligence of us there.

It was during the night of August 20 that the *Fram* cast anchor in the little haven of Skjärvö, in Finmark. Sverdrup immediately rowed ashore to despatch some telegrams. After he had hammered for some time in vain upon the various doors of the telegraph office, a head was put out of a window, and an angry voice called out: —

"It's too bad that one can't even be allowed a quiet night's rest! What do you want, and who are you?"

"My name is Sverdrup, and I am captain of the *Fram*," came the quiet answer.

At this the tone of voice in the window immediately changed. "I'll come directly," it shouted, and the win-

THE "FRAM" IN THE HARBOR OF CHRISTIANIA AFTER HER RETURN

dow was closed again. Sverdrup went around the house to the entrance, and there, to his surprise, found the person whom he had seen at the window in the simplest *déshabillé* standing fully dressed before him. No human being had ever dressed more quickly, he thought; and his astonishment was not lessened by the first words that the head of the telegraph office said to him, "Nansen and Johansen have come back."

Sverdrup hardly gave himself time to answer, but rushed down the island to the shore to shout out the glad news to his comrades, who fell on one another's necks in mad delight. The news was immediately sent out over the water to the *Fram*, which soon after greeted it with a salute of two guns, which echoed far out into the still summer night, proclaiming the return of the Norwegian polar expedition to its native land. (Nansen and Johansen met the *Fram* in Tromsö harbor.)

RECEPTION AND FESTIVITIES AT CHRISTIANIA

The reception which took place at Christiania on September 9 was so brilliant that no sovereign could be welcomed more royally.

As soon as the tidings of Nansen's and the *Fram's* return were flashed over the world, committees were formed to arrange great festivities, and they worked with unremitting zeal to have everything ready at the proper time. The notice was rather short, but it appeared to be long enough, as everybody was anxious to assist, and a hundred willing hands were ready where there was room and use for only two.

On Wednesday, September 9, the capital of Norway was in its best attire. There were flags everywhere along the route of the procession, and festoons of evergreens, and shields with the names of the explorers in silver on a blue ground; but the most original spectacle was an immense triumphal arch, occupied by several hundred young people dressed in white.

All business was suspended, stores and offices closed at noon, and crowds of people thronged the streets from early morning.

The festivities commenced on Christiania Fjord. A fleet of about a hundred gayly decorated steamers, large and small, sailed out in the morning to meet the *Fram* and escort the good ship to the city. While this grand demonstration was taking place on the sea, every locality in and around the city from which one could get a view was filled with people.

When the large fleet of steamers met the *Fram* and

her escort of eight men-of-war, a tremendous cheer rang out, and the *Fram* steamed into port amidst the salutes from the ships and the guns on land. She looked quite insignificant with her sombre and ice-battered hull in these gay surroundings.

The guns of the fortress then gave the signal that the fleet had arrived, and a boat rowed by quite young sailor boys took Nansen and his men from the *Fram*, while the multitude cheered and waved their handkerchiefs on seeing the hero of the day, who was dressed in his celebrated blue jacket. At the pavilion, on the pier, a large chorus of men sang with great effect, at this inspiring moment, the well-known hymn, "A Mighty Fortress is our God."

While everybody present joined in singing the national hymn, Nansen and his comrades walked from the boat to the tent, where the indescribably joyful meeting with their families and most intimate friends took place. Then followed the official reception, at which Mr. Sunde, the president of the Christiania City Council, made the speech of welcome. After deafening cheers Nansen responded in a loud, sonorous voice: —

"Countrymen: it is a difficult task to express the feelings that animate my comrades and myself. Well I remember the day we left home. The fjord lay before us heavy with rain; it was hard to say Good-by, and great was the responsibility; we felt that Norway's best wishes were with us; we realized that if we flinched the country would be disappointed. But I was certain that my men would do their duty even to the shedding of the last drop of blood. I can say that no one ever went to the North with nobler men than I did. I thank you, from the bottom of my heart, for your greeting of wel-

NANSEN'S RECEPTION AT CHRISTIANIA, SEPTEMBER 9, 1896

come, — a greeting that hardly any other Norwegian ever received. Thanks to Christiania. We only did our duty, therefore the welcome is doubly dear to us. Long life to our capital city! May it often send out men like those it sent with me!"

After the reception was ended the explorers were taken into carriages, — Nansen and Captain Sverdrup in the first, — leading the procession as it moved up through the city.

They received unceasing ovations, and on passing under the triumphal arch, with its living decorations, flowers were thrown to the heroes. The professors and students awaited them at the university, and on their arrival the rector, Professor Schiötz, on behalf of science, welcomed Nansen and crowned "The Heroes from the Desolate Ice Fields" with laurel.

The goal of the procession was the royal castle, into which Nansen and his men passed while interminable masses of people collected outside, and called for him so persistently that he had to appear, time after time, on the balcony to bow his acknowledgments. At the state dinner that followed and to which about one hundred people were invited, Nansen wore the Grand Cross of the Order of St. Olaf, with which King Oscar had honored him at the reception at the castle. Sverdrup wore the cross of a commander, and the scientific members of the expedition the cross of knights, and the other members, the new *Fram* medal of silver. The only speech that was made was that of the King, who said: —

"This is a notable day indeed. Nansen is now, as a discoverer, the victorious pioneer of an important work of civilization, whom the whole world greets with acknow-

ledgment and admiration. His countrymen greet him with special pride, joy, and enthusiasm, because this great feat was accomplished by Norwegians alone. When the *Fram* sailed away she was followed with hope, fear, and doubt; but intelligence, prudence, and dauntless courage dispelled our fears and fortified our hopes. Colin Archer's *Fram*, with Sverdrup at the helm and Nansen on the commander's bridge, and a crew of brave men, conquered the many difficulties. The *Fram* reached a point farther north than any other ship ever did; and its fearless leader went still nearer to the Pole with but a single companion, defying dangers the thought of which makes one shudder, and which cannot fail to awaken the highest admiration. A kind Providence held its protecting hand over our countrymen and insured them a safe return. But we will not give greater credit to Providence than is its due. Providence usually sides with prudence and courage, therefore we will rather emphasize the remarkable accuracy of Nansen's calculations. When the *Fram* returned, a great shout of joy echoed through Norway's mountains and all along its coasts. The *Fram* has had a triumphant voyage; she has returned with her full crew, uninjured, and with stores still unexhausted,—all visible proofs of the great care that has made this polar expedition a success.

"And now you stand here in the royal castle, and the King of Norway feels that it is not only his sacred duty, but that it is his incontestable right, to interpret the feelings of the Norwegian people at this moment. Accept, then, through me, the entire people's sincere and heartfelt thanks for what you have done, for the joy you have caused in Norwegian hearts, for the honor and lustre you

have spread over your fatherland. These evidences of appreciation will not die, but will survive those who are present here, and will descend to posterity century after century, as long as the Norwegian mountains stand. We will salute Fridtjof Nansen and his men with three times three cheers."

When Nansen left the castle at nine o'clock to drive to his home, he found the city illuminated with bonfires and torches. The next day (Thursday) the city was astir early, ready for new ovations. In the forenoon a large parade consisting of over twenty thousand school children, dressed in their best and carrying flags, passed before Nansen and his men, who were stationed under a triumphal arch, where they were nearly buried under the masses of flowers that the little girls threw at them.

In the evening the city of Christiania tendered the party a great banquet, in which about five hundred persons participated. The next evening there was a festival performance at the theatre, after which a torch-light procession of students accompanied Nansen to a banquet at the Students' Club.

The ovation ended the next day with a great popular festival in the open air at which over thirty thousand people were present. There were addresses by Björnstjerne Björnson and others. Nansen expressed his thanks amid tumultuous applause. Then followed singing and dancing, illuminations and fireworks, and thus ended the great festival in Christiania where the whole nation had united to give one of its greatest sons a royal reception.

PEARY'S JOURNEY ACROSS NORTHERN GREENLAND

LIEUTENANT ROBERT E. PEARY, U. S. N.

THE NORTH GREENLAND EXPEDITION OF 1891–92

Written by Evind Astrup for the Geographical Society of Christiania, Norway

OUTLINE OF THE PLAN

Briefly told, the plan of Lieutenant Peary for this expedition was as follows: With five or six companions he would land at Whale Sound, on the western coast of Greenland, latitude 77° 35′ N., in June or July. The remainder of the summer and the autumn were to be spent in erecting a hut in which to spend the winter, storing meat and other supplies, making scientific researches, collecting specimens, and making excursions to the inland ice. In addition to this, if the character of the season would permit, a depot of provisions was to be formed near the southern corner of Humboldt Glacier. During the winter the members of the party would repair their sledges and ski, mend their clothes, and get into readiness for use whatever they might need for travelling purposes. They would also practise running on ski and on Canadian snow-shoes. In the spring four or five of the party would make an effort to cross the inland ice to Petermann Fjord. From that point, if reached, two or three of them would continue the journey, while the others would return to Whale Sound. The advance party would push on to the most northern point in Greenland. After ascertaining its exact geographical position, they would commence the return trip and rejoin their companions at Whale Sound, and the entire party would, at the first opportunity, return to the United States.

CHAPTER XVIII

WINTER QUARTERS AND PREPARATIONS

Eivind Astrup, the author of this sketch of a most remarkable expedition, was a young Norwegian who accompanied Lieutenant Peary on his perilous journey over the inland ice and to the most northern point of Greenland. The following is his narrative: —

The number of members of this expedition was five. Besides Lieutenant Peary, its commander, there were Dr. F. A. Cook, a physician and a very active and energetic man who was about thirty years of age; Mr. Langdon Gibson, a prominent sportsman and an excellent hunter, who rendered invaluable assistance to the party; Mr. John T. Verhoeff, the mineralogist of the expedition, who contributed $2,000 toward fitting it out and who never returned; and myself. I was the youngest member of the party, not having completed my twentieth year when we left port. Each member tendered his services without remuneration. Matthew Henson, a colored man who had been in Lieutenant Peary's service for many years, went with us as cook. A remarkable innovation which gave the expedition an added, not to say a sensational interest, was the presence of Lieutenant Peary's wife, who earnestly desired to accompany her husband. Up to this time no white woman had ever ventured into the Arctic regions.

The expedition left New York June 6, 1891, in the

Sincerely J. Astrup

Kite, a small steam sealer. Besides the members of the party, a number of scientists from Philadelphia sailed with us to make observations and collections during the voyage, and intending to return in the vessel after having landed us at our northern port.

After a prolonged and tedious voyage along the coasts of North America and Newfoundland, and over Davis Strait, we sighted, on June 23, the land to which we had longed to come.

On the western coast of Greenland we called at the Danish colonies, Godhavn and Upernavik. At each of these places we were well received and hospitably entertained by the Danish officers stationed there.

OUR FIRST BEAR

On July 2 we were stopped by ice in Melville Bay, and for three weeks we were able to make but little progress. Here the time passed very slowly, as we were all impatient to reach our point of destination, the place on Inglefield Gulf where we expected to have our winter quarters.

ICE-PACK IN MELVILLE BAY

Our principal occupation at this time was the shooting of a few seals and some sea-birds.

On July 11 a great misfortune befell Lieutenant Peary. This was the fracturing of his right leg. Although completely disabled physically, he accepted the situation calmly and uncomplainingly. For four weeks he was confined to his bed, but he never lost his patience or wavered in his confidence of success.

Our first bear was shot on July 16. During the next few days several more of these ferocious creatures were

THE "KITE" AT MELVILLE BAY

seen, but we were not able to get within shooting distance of any of them.

While east of Cape York, on July 22, we got out of the pack-ice, and on the next day we beheld in the distance the desert coast which was to be our home during the coming winter.

The place which Lieutenant Peary had finally chosen for our winter quarters was situated on the southern side of McCormick Bay a little south of latitude 78°. We reached it early in the morning of July 24, and spent almost the entire day in looking for the most suitable spot upon which to build our house. Toward evening we decided to take a small dry place that was near the coast, with a creek running directly past it.

During the following week the crew were busy hauling our provisions and stores, while we were equally industrious in building a house out of the materials which we had brought along in the ship for that purpose. This house was twenty-two feet long and twelve feet broad, and was divided into two rooms, one of which was considerably larger than the other. The walls and roof were made of one-inch boards, which were covered on the inside with tarred pasteboard. A foot inside of this wall there was another covering of common pasteboard lined with thick blankets. On the outside a wall of stone, three feet high, was built around the house. Upon this wall we piled the numerous boxes and barrels in which our provisions were stored. In the autumn we stretched a canvas awning from the roof of the wall around the house, and thus formed a closed passage surrounding the building. This aided greatly in keeping the interior warm and cosey during the winter.

On July 30 the *Kite* left us, after Lieutenant Peary, who was still unable to walk, had been carried ashore on a stretcher which was constructed for the occasion. The house was then almost completed. We were not at all sad to see the ship, our last connection with the civilized world, disappear in the distance. Now we were alone, and could without interruption take up the work of the present and prepare for that which lay before us in the coming year.

Before the house was quite completed we commenced many other things that were to be done before winter set in. One of the principal of these matters was to form the acquaintance of some Eskimos living on Northumberland Island and persuade them to settle near our house. This, because they would be of great assistance to us in the winter by sewing our skin garments, and might be helpful in various other ways. On August 12 four of us set out on a boat expedition to the island. We reached it safely and found some Eskimos. The first meeting with them seemed very queer, as we did not understand a word of their language and they were equally ignorant of ours. Still, by means of signs, we managed to make them understand what we wanted. A family, consisting of a man, his wife, and two children, were willing to go with us at once, and we took them over in our boat, arriving at the house on the 18th of August.

Summer was now far advanced. The remainder of the season was spent partly in making short trips to examine the inland ice and partly in hunting reindeer. We needed the latter both for their meat, to help out our supply of food, and for their skins, with which to make clothing for the winter. On these hunting trips we went

nearly to the end of McCormick Bay, and we were usually quite successful. We had killed, in all, thirty-four reindeer that autumn, when darkness set in and we were obliged to cease our hunting expeditions.

On October 26 the sun left us, not to return for nearly four months. During about half of this period there was hardly any difference in the light between night and day. I will try to give an idea of what we did in this long period of darkness. As I said before, our hut was warm and cosey, and though the quarters were close we all got along very well. We had three meals each day. The last of these consisted of reindeer meat and different canned vegetables, and was more elaborate than either of the others. The day was spent in various kinds of manual labor. This was partly in the nature of necessity, as there were many things to be done in the way of preparation for our sledge journey in the following spring. I did most of the carpenter work, making sledges, ski, and other articles. Among the others, Lieutenant Peary particularly excelled in the high art of cutting clothes, and most of our skin garments were made after his patterns. Dr. Cook performed quite respectable work as a tanner, and Mr. Gibson was equally successful in the line of shoemaking. After a time we became so proficient in these occupations that we jokingly expressed to each other our doubts whether we had ever been doing anything else in this life but tan, sew, or cut patterns for the peculiar fashion of clothes which we wore.

On Saturdays we began the day by sweeping the long stovepipe. This was such a difficult task that all of the male members of the expedition were obliged to help; and when it was finished, if one were to judge by the color

of our faces, he could have easily imagined that we were members of a negro settlement in the dark continent. But to make up for this discomfort we had, every Saturday evening, a warm bath in an old petroleum barrel. The bath could be had with or without assistance, as the bather preferred. If he wanted it, the help of two or three obliging Eskimos, who used soap and scrubbing brush with considerable energy, was freely given.

On Sundays we walked about in our more or less worn civilized attire, and, considering the circumstances, appeared to be a rather fine looking set; but on Monday morning we were content to put aside all regards to vanity and cheerfully don our skin clothes again.

The clothes last named were made of reindeer skin, which, in proportion to its weight, is the best material known to furnish protection from the cold. The skins were prepared in the singular but rather troublesome Greenland way of chewing them, after they are dried, in order to break the fibres. The sewing was done by the Eskimo women before the winter had fairly commenced. Skin clothes, like clothes made of other material, wear out. They resemble clothes made of other materials also, in that they wear more in some places than they do in others. This was especially noticeable in respect to the trousers. Toward the end of winter we all looked like gorillas. Our dignified doctor had attempted to mend one of his garments by putting a patch of ice bear skin on the most exposed place. The long white hair sticking out certainly gave him a comical appearance.

We filled in a good deal of the time during the winter in reading old newspapers and magazines, scientific works, and books pertaining to Arctic travel, of which we

had brought a large supply. Our evenings were largely spent in attempting to talk to the Eskimos. We told them of the distant countries to the south. They appeared deeply interested; but when we asked them if they would like to go with us, when the ship came to take us to our homes, they replied with great earnestness that they would never leave their country of rocks and ice. They often sang and danced for us. That is, one man or woman, at a time, would go out on the floor and make the most hideous faces and movements, singing more or less improvised songs of a mystic character, which we could not understand, and beating a drum as an accompaniment. The other Eskimos and ourselves, all but the negro, stood around the dancer in a circle. The negro sat away back, on the edge of his berth, and played hymn-tunes on an accordion which was sadly out of tune, as a kind of protest against this display of heathenism.

Nearly every day during the winter we received new visits from Eskimos. This was especially noticeable when we had a full moon. Then they would fairly come in droves. On these occasions some of them would build their characteristic cupola formed snow-huts immediately upon their arrival, and would settle down there to live; while others, who intended to stay only a short time, were usually allowed to sleep on the floor of our house, where they often could be seen packed as closely as sardines. One can easily imagine that at first this was decidedly disagreeable particularly to our sense of smell; but such is the modifying effect of habit that the atmosphere, which had seemed almost suffocating, by degrees became endurable, and at length caused us no trouble whatever. By this intimate association with the natives, we soon

learned their characters, and obtained considerable practical knowledge of their difficult language.

Of course, Christmas must be celebrated, even though we could not have balls and sleigh rides; so on Christmas Eve we had a large dinner party. About six o'clock we sat down to the table with solemn air but cheerful hearts. We wore our finest raiment, but with most of us this consisted of a funny mixture of stylish and improvised clothes. We attacked the *menu* in a resolute manner, and stopped only when we could hold no more. Then we gave room to our friends, the Eskimos. We had several visitors just then, and we were resolved to serve them at our table in a civilized manner. Having never before used knives and forks, they were decidedly awkward in their efforts to eat as white men do. It was quite amusing to see how carefully they put the food in their mouths for fear of hurting their cheeks with the tines of the fork; and they seemed to enjoy the situation as well as we did. Later in the evening some of the members of the expedition secretly put on masks. I shall never forget the scene that followed. Old women and children alike screamed with fright, and even the bravest of the men disappeared with remarkable alertness through the door. This closed the festivities of the evening. It was late in the forenoon of the next day before we could induce the good people to enter our house again. When we explained to them the mystery of the great change in the appearance of our faces on the previous evening, and showed them the masks, they were filled with admiration, and had much enjoyment with the toys which had previously filled their minds with alarm.

Between Christmas and New Year it snowed almost incessantly. During the winter there was a snowfall of a little more than twenty-three feet. The northern lights were not very brilliant. Our chief consolation during the long winter night was the moon. This luminary, when it appeared, stayed with us uninterruptedly for six or seven days, and spread such a lustre over the vast waste of ice that we could easily imagine ourselves in the land of fairy tales, where everything is made of shining silver.

Late in January we began to see a faint light to the south, and not long afterward we noticed a brief day. On February 13 we rejoiced to see the returning sun, that had been absent one hundred and ten days. Our dark winter night had passed more quickly and more agreeably than we had expected, but we were glad that it was over. Upon myself its principal effect had been to give me a strong feeling of cosiness and comfort when I came indoors from the cold and unceasing darkness outside. After the return of the sun the air became milder day by day. During the whole of January and February the temperature averaged minus 40° Celsius. The lowest temperature noted in the entire winter was minus 47½° Celsius.

About the middle of February we were surprised by a very marked and interesting change in the weather. There was a storm from the southeast, and the mercury suddenly rose to 5°, with a heavy rain. This was between 77° and 78° N. latitude, and in the coldest month of the year. A few days later the cold was as severe as it had been during most of the season.

March and April were busy months for us all. The work on our equipment was pushed rapidly forward. We also made some hunting expeditions, and spent seven days

in a sleigh trip around Inglefield Gulf. By the end of the latter month we had completed everything needed for travelling over the inland ice. We had also obtained, by barter with the Eskimos, twenty of their strongest dogs.

Of the equipment I will mention ski, sledges, Canadian snow-shoes, and sleeping-bags made of reindeer skins. We found afterward that the sleeping-bags were not

PEARY'S HOUSE AND TENT

necessary, as our clothes proved warm enough to sleep in, and the bags were left on our way. On account of its heavy weight we could not carry a tent. When we wanted to sleep, in fair weather we simply laid down on the snow, sheltered by a sledge; if it stormed we crept under an oilcloth. All of our cooking was done by the aid of a spirit lamp. Pemmican, dried and ground

meat mixed with fat, was our principal food during the whole journey, but we also had some shipsbread, a little rancid butter, Knor's pea flour, condensed milk, chocolate, and meat powder.

On April 30 we transferred provisions, sledges, and other equipments from our winter quarters to McCormick Bay, and afterward to the border of the inland ice. It was

ICEBERG OFF CAPE CLEVELAND, McCORMICK BAY

exceedingly hard work ; and as our course took us through deep drifts of snow and over steep heaps of stones, it was necessary to make the loads very small. When this work was accomplished everything was in readiness; and the small party, consisting of Lieutenant Peary, Gibson, Dr. Cook, and myself, set out with hope and confidence that in due time we should reach our distant destination.

After marching for several days we encountered a furious snow-storm, which compelled us to halt. We built a snow hut (Eskimo igloo), in which we took shelter. The storm raged for thirty-six hours. When it ceased, and we crept out of our narrow quarters, a sad sight met our eyes. Our sledges were nearly buried under great hills of hard snow, and two of our large tin boxes containing shipsbread had been swept by the wind over a precipice, where we could not recover them. Ten of our dogs, always restless in a snow-storm, had gnawed their harness and straps in pieces, and were loose, while three of the others had been attacked by a disease which the Eskimos call pöblakto, similar to hydrophobia, and were at the point of death. This was extremely discouraging, as there was great danger that the other dogs would fall victims to the malady, in which case it would be impossible for us to proceed. During the long storm the dogs had become very hungry, and those that had freed themselves from their straps had devoured everything eatable that was not buried under the snow. Fortunately our provisions were packed in hermetically closed tin cans, which proved impervious to the teeth of the dogs. The catching of the loose dogs, which were not yet well acquainted with their new masters, was a difficult task that not only severely tested our patience, but also caused our spirits to sink to zero.

The usual method of catching one of these dogs is to entice him to come near you by throwing small pieces of pemmican on the snow. In a favorable moment you seize him by the neck with a firm grip. You then press his head into the snow and hold him in this position until some one else can harness him. If one is well practised

in this work he can, as a rule, do it without getting bitten more than two or three times. In two cases we had to lasso the dog doubly, each man clinging tightly to his rope and a third man holding the animal down in order to make it possible for a fourth person to put on a new harness or repair the old one.

SEPARATION OF ICE FLOES

CHAPTER XIX

ACROSS THE ICE CAP

The following days we had slow and tedious work climbing the steep hills; but after May 14 we found the inland ice slowly sloping up toward the northeast and shining with an intense brightness in the light of the sun. We then began regularly to travel at night, when the reflection of the sun on the snow was less annoying. The much warmer day was sacrificed to the gods of sleep and to the art of preparing tea and pea soup. We had reached an elevation of three thousand five hundred feet above the sea level. Four of our dogs had died of pöblakto, so we only had sixteen of the animals with which we had started. We therefore left some damaged sledges and all the articles we could possibly do without. Even then our outfit weighed about one thousand eight hundred pounds.

On May 17 we reached the highest point between Inglefield Gulf and Kane Basin. Before us, sloping toward the north and northeast, but so little as to be hardly noticeable, lay the inland ice. I had often told my companions that this was the Norwegian Independence Day, and they desired to observe it in some manner that should distinguish it from ordinary days. Dr. Cook, who had the gift of making something good out of very poor materials, proposed, after we had made our camp in the morning, to make a fire out of a broken ski and cook

a meal that would make our mouths water. He carried out his part of the programme to perfection. We had hardly ever eaten a meal with greater relish than we did the one on that morning of May 17. The principal dish was of the doctor's own invention. The recipe from which it was made is as follows: To one litre of warm pea-soup, add some pieces of pemmican. If the pemmican is frozen hard, chop it into small pieces with an axe. This will cause it to melt more readily. Stir the

PEARY AND HIS COMPANIONS

whole over a fire, using pemmican enough to make the mixture quite thick. It is a very palatable dish, and, if not eaten in too large quantities, is easily digested.

On May 18 and 19 we made good progress, covering a distance of about twenty-two miles each day. On May 20 we encountered a snow-storm from the southeast, and were obliged to make our camp much earlier than usual. As soon as we halted, we commenced making a snow hut.

THE MIDNIGHT SUN

Here we were snow-bound for two days. Had we known that two and a half months would pass before we should again be under a roof, we probably should have accepted this detention with much less dissatisfaction.

We were not able to resume our journey until Sunday, May 22. When we had removed the snow with which our sledges were covered we found, to our great disappointment, that the only luxury among our stores — ten packages of fruit preserves — had disappeared. The explanation was easy. The dogs had gotten loose, visited the sledges, and eaten what they found. But the preserves did not agree with their stomachs, and the poor animals suffered severely for their pilfering.

During the next two days we covered a distance of about forty-four miles, although we used neither ski nor snow-shoes. On the morning of May 24 we were east of the Humboldt Glacier, and about one hundred and thirty miles from McCormick Bay. After finishing our meal Lieutenant Peary informed us that, according to the plan which had been laid out, the time had come for our little company to separate. Two of its members must return to Redcliffe House (our winter quarters) and the other two continue the work of exploration. The object of the latter party would be to determine how far north the Greenland continent extends. It would require a long journey and involve great difficulties. Rapid travelling would be necessary, and the carrying of a sufficient quantity of provisions to last for quite a period would be indispensable. If conditions are favorable a dog can draw, on the inland ice, a load of about one hundred and twenty-five pounds, and requires only about one pound of pemmican per day for food. It was therefore desirable that the

party proceeding north should have a small number of people and a relatively large number of dogs. This would admit of the carrying of provisions for a longer period than would otherwise be possible, and would also afford the means of taking along a larger number of scientific instruments.

Lieutenant Peary now inquired who would be willing to accompany him farther north. We each and all volunteered. He selected me for his companion, and before we returned I accomplished the end I had wished for on the day that I offered my services to the expedition in Philadelphia.

We now camped together for the last time. After our sleep we made preparations, in the afternoon, to part. Gibson and the doctor took one of the smaller sledges, two of the dogs, and provisions for twelve days. Lieutenant Peary and myself took the remaining sixteen dogs and the other sledges. The latter we tied one behind another with ropes. Our entire load weighed about twelve hundred pounds.

When our two parties were ready to move we shook hands, the whips cracked, and we got under way. Gibson and Dr. Cook went toward the south, with Redcliffe House as their destination; Peary and myself proceeded to the northeast toward the distant and unknown point at the North Cape of Greenland. There was deep solemnity at this parting, and none of us will ever forget the time when, in the midnight hour, we lost sight of each other in the middle of a lonely desert of snow. From this point the success or failure of the expedition depended wholly upon the fate of only two men.

That night we covered a distance of not quite four

miles, and we made our first camp alone early in the morning. The next night one of the large sledges broke; and as considerable time was occupied in repairing it, we did not make much progress. We had now reached a place where the snow was loose and deep, and during the three following nights we were able to proceed only a short distance.

On May 28 we shot one of our dogs. The weight of our provisions had diminished so much that a smaller number of animals was needed to draw the load. By killing one of the dogs we could not only save the provisions he would have eaten, but we could also use his flesh as food for the others. In time we acquired considerable facility in skinning and cutting up dogs, but it was the most unpleasant work we had on the inland ice. It made our hearts ache to kill the creatures that had been so faithful to us. At first there were but few of the dogs that had an appetite for the flesh of their fallen comrades; but later, when provisions became scarce and they suffered from hunger, the survivors all ate it readily.

Three nights of marching brought us within sight of Petermann Fjord. In the background we could see, through the clear air, to Hall Basin, a good deal south of latitude 81°. After this there were so many deep crevasses in the ice that we were obliged to turn more toward the east than our course had thus far been directed. On the 3d of June we had to kill another dog. This left us fourteen.

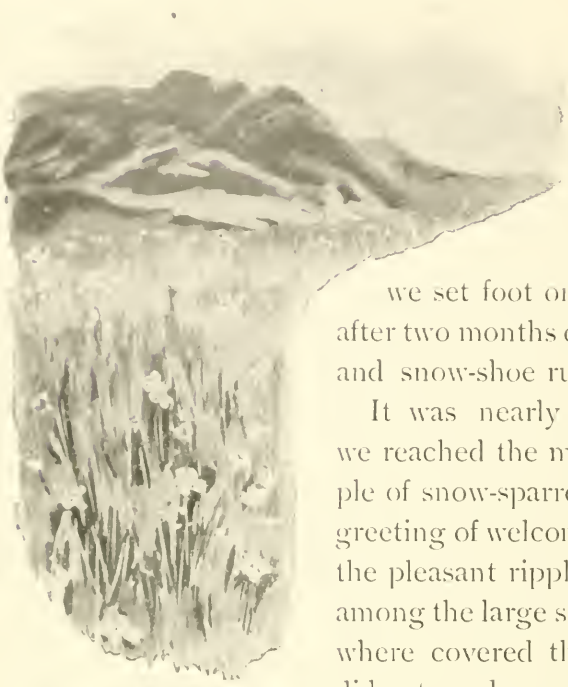
For a few days we made rapid progress. Then we again caught sight of the mountains on the coast. During a week of marching on the ice we had made our way into a trap from which it took us several days to escape.

On the 9th and 10th of June there was a snow-storm which compelled us to halt. We spent the time under an oilcloth cover, an improvised sleeping-saloon that was not tight enough to give us the most perfect protection.

When the storm was over we resumed our march, but had not been moving more than a half hour when we were cut off from our course by large crevasses. We now saw that we had come too near the coast and were going down a slope that would lead us to a dangerous locality. It was evident that we must again climb up to the inland ice. This required two days of hard work to accomplish. Our best dog sprained a leg, lagged behind, and was lost. We also lost an excellent telescope down a crevasse.

The time that followed was somewhat monotonous, yet was full of interest to explorers. On account of the numerous crevasses our progress was slow; but when on June 26 we reached a height of 6,000 feet, this difficulty was over, and our spirits were perceptibly raised. Though I can assure you that he is not at all of a musical turn, I could off and on hear Peary sing, while I sang Norwegian songs as well as I knew how. At these unusual sounds the dogs turned their heads, and the intelligent look in their eyes indicated that they were trying to assure themselves that they had human beings for companions.

After reaching the elevation noted, we were obliged for four nights to go in a southeasterly direction, as our direct progress was checked by a fjord, Victoria Inlet, that seemed to have no end. At last, in the night between July 1 and 2, we found that it was a canal which separated the rocks to the north from the real continent of Greenland. We were then at a height of 5,000 feet, and could see below the end of the inland ice. Nearer



A SPECIMEN OF GREENLAND FLORA

and nearer we approached the dark moraine until at last the memorable moment arrived when we set foot on snow-free land after two months of continuous ski and snow-shoe running.

It was nearly midnight when we reached the moraine. A couple of snow-sparrows chirped us a greeting of welcome, and we heard the pleasant rippling of a fountain among the large stones that everywhere covered the ground. We did not need coaxing to throw ourselves upon the ground and drink freely of the refreshing stream. Life had never seemed more beautiful than it did at this moment.

Peary at once started on a tour of discovery, and soon found something that quickened the hunting blood in our veins. This was a fresh track of musk oxen. We certainly did not forget to take a rifle and some cartridges with us when, on the next morning, July 3, we started on a tour with provisions sufficient to last four days. We also carried thermometers, barometers, and photographic and cooking apparatus. Slinging our bundles upon our backs we were off. Peary led the way, I followed, with our seven dogs. Our sledges and the rest of our luggage we left behind among the stones.

Up and down we went to the coast, over hills and dales, through creeks, along rapidly running streams, and beside small dark lakes the livelong day before we stopped to rest. Everywhere we found numberless small loose and sharp stones, which made the march in our thin-soled seal-skin kamiks a time of continual suffering.

During the march we collected specimens of several minerals and also obtained a number of red, yellow, and white flowers that enlivened the otherwise dreary scene. Several times we found tracks of musk oxen, but none of the animals were in sight. In the evening, after our march of twelve hours, we were sore-footed and fagged out, but we had hardly eaten our plain supper of pemmican and shipsbread before we fell into a sweet sleep lying among the stones.

The next day brought glad surprises and proved a great festival for us. In the morning, about an hour after resuming our journey, we came to a rock about 4,000 feet high. From this point, far away to the north-east, we saw the ocean covered with a shining layer of white. We had reached the east coast, but we only had a glimpse of what we desired to see in broad expanse. For two hours we pressed on, but then there was an abrupt ending of our marching for the day. Right before us, and but little more than a half mile away, we caught sight of something that attracted our attention and caused each of us to utter an exclamation of glad surprise. Two musk oxen were moving over the stones. We quickly agreed, by means of signs, that Peary should follow them with the rifle, while I should conceal our seven dogs, in order that they might not scent the game, which we greatly desired to secure. When the dogs were attended to, I waited and

listened with great anxiety. Soon I heard three sharp reports of the rifle, by which my excitement was made still more intense. At length the tall form of Peary came into view on the slope above me. He nodded, gesticulated, and laughed. By this I knew what had occurred. We were to have a supply of fresh meat! In a few jumps I cleared the hill. The dogs kept me company, and double-quick time was made to the place where the animals lay. There were two cows and two calves. Three of them Peary had killed. The smallest of the group, a young long-legged calf, was alive and was calling faintly to its dead mother for protection.

After securing our dogs to some large stones we approached our game. The grown animals were as large as cows two years old. They were covered with long black hair that, when they stood upright, nearly touched the ground. The heads were disproportionately large, the horns were thick and curved, and the faces were half hidden by long locks resembling manes. Altogether, the animals presented a very wild and uncanny appearance.

We photographed the creatures in different positions, and then removed their skins. This took us several hours. Upon searching for the calf we found it lying dead among the stones. The poor creature had probably been killed by fear and excitement.

It was a matter of course that we should celebrate the securing of such splendid game by a banquet for ourselves and the dogs. Preparations were commenced at once. We began by roasting pieces of the meat over our small spirit lamps, but as this took a long time we became impatient and went to eating it raw. I suppose it was because we had been eating pemmican so long that our

appetites for fresh meat were almost insatiable. We ate so much that we were really alarmed. For a while we could hardly keep awake. Our splendid feast was finished with a few cups of tea, to which we added some milk obtained from the cows.

We did not forget or omit to feed the dogs. They were greatly excited by the fresh and bloody meat, and

MUSK OX

thoroughly cleaned all the bones of the large animals. It was late at night when we all got settled down to sleep.

The next morning we saw another lot of the musk cattle grazing at a little distance from us. There were six animals in this herd. It was my turn to use the rifle. We did not need the flesh of more than one; and as I did not want to cause unnecessary injury, I decided to try to pick out a bull. When I came within shooting distance I selected one with enormous horns, similar to the old northern drinking horns, that was evidently the leader of

the band. When I fired he fell, fatally wounded; the others, alarmed at the report, ran a few hundred feet and then quietly resumed their grazing.

I left the animal where it fell and at once returned to the camp, in order that we might proceed to a great rock, about five miles away, from the top of which we expected to obtain a fine view of the surrounding region and take some photographs of the coast. As we wished to do this and return before nightfall, there was no time to lose.

We reached the top of the cliff about 9 A. M. A magnificent view spread out before us — a view that will never be forgotten. We were at an elevation of about 3,800 feet. The rock, to which Peary gave the name of Navy Cliff, ended toward the north in a steep wall that continued unbroken to the sea. At its foot was a mighty bay, widening toward the east and surrounded by high and steep walls of rock. How far this bay reached we could not determine, as the view was cut off by large rocks; but we considered it probable that it was directly connected with Victoria Inlet, and that these two bodies of water form a sort of canal that cuts off the land north of the 82d parallel of latitude from the real continent of Greenland. We firmly believe that here the main body of land ends and that all the land to the north is in the form of islands.

We took a number of astronomical observations, and then got out our photographic apparatus and sketch-books. When we had finished our work we sat down to our dinner. Peary brought out a small silver flask containing whiskey, which he carried for use in case of illness. We each took a drink, and Peary christened the magnificent body of water we had found Independence

THE RELIEF PARTY MEETING PEARY AND ASTRUP

Bay, in honor of the Fourth of July, the day upon which it had been discovered. We then built a tall beacon of stones and placed in its centre a small bottle containing a paper upon which was written a short description of our trip thus far. Two silk flags which we had brought with us were fastened to a bamboo pole, which we placed among the stones, and which were soon waving in the fresh summer breeze.

On the 8th of July we commenced our return trip, that lasted twenty-seven days. We had reached a height of 8,000 feet, and were greatly delayed by storms and deep loose snow. During the last seven days our average distance was thirty-two miles per day, but during this period the snow was firmer and the walking was much better than it had previously been. During most of the trip Peary used Canadian snow-shoes, while I used ski exclusively.

On the 5th of August, as we were nearing our winter quarters, the point at which our journey was begun, we discovered, at a distance of about two miles, some dark spots moving about on the surface of the snow. We were soon convinced that they were men, but we could only guess who they were or on what errand they were engaged. The doctor or Gibson and some Eskimos might be out searching for us, but that seemed hardly probable. We wondered if they could be members of the expedition that was to take us home and who were out examining the borders of the inland ice. We even queried whether the ship that brought them might not at that moment be lying in McCormick Bay awaiting our return.

Very soon after we saw these men they caught sight of

us. We thought we could distinguish a faint sound as of shouting, and the report of a gun. We answered immediately with hearty cheers, and I discharged our rifle twice.

Our last surmise in regard to the company proved to be correct. As we approached we found that the foremost of the party was Professor Heilprin, of Philadelphia, the geologist who had accompanied us on the trip of the previous year, and who was leader of this rescue expedition. The other members of the party, seven in number, were also from Philadelphia. Of these, four were scientists, one was an engineer, one an artist, and one a journalist. They were dressed in modern tourist suits and carried shining mountain staffs and ice-axes, but none of them had either snow-shoes or ski. As the cold of the preceding night had not been severe enough to form a frozen crust upon the surface of the deep and moist snow, they were obliged to wade in a substance resembling powdered sugar, into which they sank to the knees and sometimes to the hips. The fact that they had walked about five miles in this terrible slush was abundant evidence of their zeal and perseverance.

At a distance of about three hundred and twenty-five feet we commenced "shooting" at each other with the well-known snap-shot kodaks. These little instruments with their short cracks gave a kind of warlike appearance to our meeting — *a fin de siècle* infantry volley, indeed.

As the parties approached each other a glad hurrah sounded through the thin mountain air. Then came the most hearty shaking of hands and an enthusiastic greeting of the men who had come with the steamer *Kite* to take us back to civilized society. Never to be forgotten was

this meeting with fellow-men after seventy-two days of loneliness on an almost boundless field of snow. Neither can we ever forget the intense interest and deep enjoyment with which we listened to a recital of the great events which had occurred in the inhabited world during the year that had passed since we left our homes.

Slowly we made our way over the snow, but conversation did not flag. At length we reached the ship. Our great journey was at an end.

Since leaving the house we had spent more than ninety days on the inland ice of Greenland, and had travelled about thirteen hundred miles. We had found the exact northern extent of the mighty ice cap of this great region, and, with a probability bordering on certainty, had defined the limits of the Greenland continent to the north. Our observations showed that the land rapidly grows narrow a little beyond latitude 78°, and very clearly indicated the existence of several ice-free islands to the north of the mainland. We also obtained a great deal of information regarding the meteorology of the region and the height of the inland ice.

With our five faithful dogs we went upon the deck of the vessel. Here the friendly sailors joyfully gave us their hands and warmly congratulated us upon the success of our exploring tour and our safe return. I hardly need say that one of the first things we did after reaching the vessel was to take a thorough bath and put on clean clothes. Then an accommodating sailor freed us from a large quantity of long matted hair. This gave us a rather decent appearance, and we gathered around the table for dinner, where we spent abundant time and did full justice to the meal.

Two days later we had all of our things on board, and the *Kite* steamed down the bay to our winter quarters. There we were cordially welcomed by the other members of the expedition, — the doctor, Gibson, Verhoeff, and Peary's man Matt, all of whom met us at the shore. Behind them stood a number of our native friends, who long ago had given up all hope of our ever returning from the great mountains, "Sormoksuak." Their faces were beaming with joy, and the men listened in breathless excitement when, a little later, I gave them a description of our meeting with musk oxen on the eastern coast. Many were the questions that I had to answer; and with their usual desire for exact information, they were not satisfied until I had given them upon paper a careful drawing of our route over the inland ice and of the coasts beyond.

Before we sailed for home a sad misfortune overtook us. This was the loss of our mineralogist and meteorological observer, Mr. Verhoeff, who perished while on an excursion which he undertook alone. He had intended to be away for two days. As he did not return at the end of that time we began to feel anxious in regard to him, and on the evening of the third day commenced a diligent search. For seven days and nights we continued our efforts; but with the exception of some footprints on the snow, not the slightest trace of our missing companion could be found, and we were forced to the belief that further work in this direction would be without avail. The general opinion was that our unfortunate friend had fallen into one of the many deep crevasses which make travelling extremely perilous in the region which he attempted to explore.

On the 24th of August the *Kite* slowly steamed out of

McCormick Bay and away from our small winter quarters, where we had spent many happy hours. It was with mingled feelings of joy and sorrow that among hundreds of icebergs we at last lost sight of our little house. Four weeks later, after having sojourned for fourteen months among desert ice fields, we found ourselves once more in a civilized land.

PEARY AND ASFRUP HOISTING FLAGS ON NAVY CLIFF

CHAPTER XX

THE SECOND PEARY EXPEDITION

Scarcely nine months had passed after our return before the energetic leader of our party was again on his way north at the head of another Arctic expedition.

This expedition left New York on the sealer *Falcon* July 2, 1893. It was much more fully equipped than the previous expedition had been. Among the novelties were eight Mexican mules, which were said to be of a remarkably strong and hardy breed, and which were taken for the purpose of transporting provisions from our winter quarters up to the border of the inland ice. We also took along a pigeon-house containing a large number of carrier pigeons. It was Peary's intention to use these birds, while travelling in the interior of Greenland, to carry messages to the winter quarters of the expedition, but they did not prove to be well adapted to this kind of service.

In addition to the usual number and kind of boats, we were provided with a launch fitted with a petroleum engine that we expected would be of great service in short excursions for hunting and in making surveys near our winter quarters. This, too, proved a disappointment, as the boat was too light, and the engine did not give sufficient power. Peary had hoped, after the long winter set in, to use this engine in the house in connection with a dynamo which we had taken along to furnish us with electric lights.

YOUNG ESKIMO GIRLS AND NATIVE HUT AT GODHAVN

When we left America our party numbered fourteen members. This number was later increased to fifteen, as Mrs. Peary, who accompanied her husband in this as well as in his previous expedition to the Arctic regions, in the autumn gave birth to a daughter, who lived and was well and strong when the voyage to the civilized world was made. Mrs. Cross, an elderly woman, also went with us to serve as cook, and, when needed, in the capacity of nurse. On the return voyage in the *Falcon* the following autumn, she was taken ill, and she lived but a short time after the ship arrived at Philadelphia.

The other members of the expedition were as follows: Mr. Entrikin, engineer; Dr. Vincent, physician; Mr. Baldwin, meteorologist; Mr. Clark, zoölogist; Mr. Swain, secretary and stenographer; Messrs. Lee, Davidson, Carr, and myself. Then, without being really a member of the

THE FALCON AMONG ICEBERGS

expedition, Mr. Stokes, an artist, went with us for the purpose of painting Arctic scenes. Lastly, there was Matt, Peary's colored servant, who had accompanied us on our previous voyage.

On our way northward the *Falcon* stopped at several of the English mission stations on the east coast of Labrador in order to purchase dogs from the Eskimos. We obtained about twenty, and then set our course directly for Greenland. On July 26 we sighted the lofty snow-covered mountains, and that night we stopped at the Danish colony, Holstensborg. Two days later we reached Godhavn and then proceeded to Upernavik.

On July 31 we passed Melville Bay, and on August 3 the *Falcon* anchored in Bowdoin Bay, about twenty miles east of our first winter quarters.

We proceeded at once to construct a dwelling. On account of having twice as many people, we were obliged to build on a larger scale than we had done before. The house was made thirty-three feet long and fourteen feet wide and was divided into several small rooms.

On August 20 the *Falcon* sailed for Newfoundland. In the following days the house was finished and Peary christened it Anniversary Lodge.

Meanwhile I was engaged in moving some five thousand pounds of provisions from the coast to the inland ice. In this work I had the assistance of twenty natives. We had planned to have the hauling done by mules, but of the eight which we had when we left Philadelphia five had died and the three that survived proved entirely unfitted for service in the wild region to which we had taken them.

During the months of September and October a good

WALRUS TAKING A SUN BATH

deal of time was spent in hunting, in order that we might secure a supply of meat for use in the coming winter. We also erected a depot, in which to store provisions, on the inland ice.

Our hunters were very successful. Before the end of October they had secured seventy reindeer and twenty walrus. The meat of the animals last named was used for feeding our dogs during the winter. The autumn was unusually mild as far as temperature was concerned, but it was rainy and disagreeable. Bowdoin Bay did not freeze over till the early part of November. This was a full month later than it froze in 1891.

On October 26 the sun left us, to be absent from our sight for about four months, and the monotonous winter life began. Five days later a catastrophe occurred that came very near carrying the expedition into utter ruin. A mighty iceberg, loosened from the mountain near our dwelling, swept down the bay with terrific force, and caused a flood that inundated the shore and house and carried with it the thirty-two barrels of petroleum upon which we were depending for fuel and light during the winter. Fortunately only four of the barrels were totally lost. The others were recovered with great difficulty after quite a proportion of their contents had been lost by leakage. From this time we were obliged to be very economical in the use of coal oil, and all hope of having electric lights had to be abandoned.

With the opening of winter we began to receive visits from our friends, the Eskimos, who helped us faithfully and untiringly with whatever work we happened to have on hand. The months of November and December were largely spent in preparing clothes and equipments for the

journey in the coming spring. Christmas and New Year were celebrated in an appropriate manner. February brought the severest cold, minus 37° Celsius. On the 14th of this month daylight appeared again. During the winter more than half of our dogs had died; but as the Eskimos had a large number, we had no difficulty in purchasing thirty from them.

On March 6 the whole equipment was brought up to the border of the inland ice, and everything was in readiness for the long and wearisome journey.

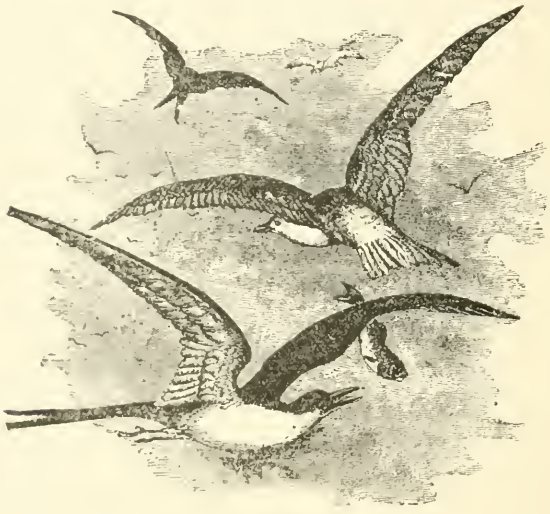
At this time I was attacked by an illness, probably produced by eating pemmican, which made it unadvisable for me to attempt to take further part in the work of the expedition. I was compelled, very reluctantly, however, to give up my long cherished plan, though at Peary's request I remained a few days longer at the depot. On March 14 I returned to the house, accompanied by Lee, who had frozen one of his feet so seriously that he could not proceed with the others. About two weeks after our return Dr. Vincent also reached the house with Davidson, who had frozen one of his heels very badly during the terrible equinoctial storm that raged in those regions March 22 and 23. During this storm the temperature was minus 45° Celsius, a remarkable phenomenon in connection with such a violent wind as then prevailed.

After the storm was over it was found that several of the dogs had been frozen to death and all of the others were more or less injured. This was the last news I heard from the expedition till May 1, as I was absent on a sledge trip around Melville Bay, which I undertook with a friendly native hunter and eight dogs.

On my return to winter quarters I found that Peary

and his companions had been compelled to give up the journey and had come back from the inland ice. The violent storms and the extremely low temperature, minus 45° Celsius, had greatly diminished the number of dogs. Mr. Entrikin had both of his feet frozen, and all the other members of the party were in a condition which entirely unfitted them to continue the trip.

There is very little to be said about the remainder of



SEA-BIRDS

the time that we spent in Greenland. We were all earnestly longing for the *Falcon* to come and take us home.

One beautiful evening toward the close of July two natives brought us word that a ship had arrived. The news was received with great joy and hearty cheers.

The return voyage in the *Falcon* was quickly and safely made, and was without any incident worthy of notice.

This is all that it seems necessary to say concerning

the expedition. Lieutenant Peary received a quantity of provisions and coal from the *Falcon*, and remained at winter quarters, intending to spend another year in that desert region. Lee and Matt, the colored servant, also remained with him.

CHAPTER XXI

NATIVES AT SMITH SOUND

Late in the afternoon of July 23, 1891, the *Kite* was slowly nearing land on the south side of Whale Sound. From the deck we discovered what appeared to be human dwellings. A boat was quickly lowered, and we pulled for the shore. The land was considerably elevated, but we succeeded, though with some difficulty, in effecting a landing. We then found a collection of tents and earth-huts situated in a sheltered position at the foot of a mountain.

There were about a dozen people at this little settlement. The men promptly came to the shore to meet us, but the women and the children cautiously kept in the background. Two of us involuntarily held out our hands to greet them in the manner of civilized people, but our action made a singular impression upon those with whom we desired to become acquainted. Instead of shaking hands they stared at us with surprised looks upon their faces, apparently without the slightest idea of what we meant. Soon, however, they seemed to understand that we were peaceable people, and that we had no intention of injuring them. Then all was changed, and the scene which at first had been quite dull became very lively and interesting.

One of our sailors who, during the landing, happened to be smoking a short pipe attracted a great deal of

attention, and the clouds of smoke that he puffed out at intervals made a strong impression upon the natives, who evidently thought he was endowed with mystical and supernatural gifts. Their astonishment was greatly increased when, with a quick movement, he lighted a match and thus produced still larger clouds of smoke from his remarkable "lamp." It was evident that the people before us had never come in contact with civilized men, and that most of them had never seen a ship. The latter appeared to them a wonderful object.

The natives were not the only ones who were interested and surprised. Their appearance made as strong an impression upon our minds as we had made upon their own. Uncouth, dirty, and with features anything but regular, they seemed to belong to an inferior race, while their long, shaggy black hair, which hung over their skin-clothed shoulders and, in some cases, even over their small dark eyes, gave them a singularly sinister and an almost terrifying appearance.

Later on I saw that some of the natives were not so negligent in regard to their hair as were those with whom we here came in contact. Some of the women, especially the younger ones, often had their hair fastened in a sort of topknot by a thin seal-skin strap. Sometimes, too, a man would be seen having a similar strap around his head, in order to keep his eyes free from his long greasy locks of hair. These locks, which closely resemble the manes of horses, are knotted into solid masses, and make nice and warm domiciles for numerous parasites.

The Eskimo forehead is low, the face broad, and the features ugly. The eyes are almond-shaped and small, but their power of vision is really wonderful. The nose

is small and broad, the mouth large with thick lips, which with the fair sex have no resemblance to the ideal "cherry lips" of which so much is said and written by civilized people. Probably this is the reason the men do not kiss their wives, but instead, if they wish to show especial tenderness, press their flat noses still flatter against the faces of the others. As a rule this caress is accompanied by an audible sniff.

Within the protruding lips shine rows of strong teeth which are firmly set in heavy muscular jaws, and which are used, not only for eating, but also for pulling loads and in the various kinds of their daily work.

The women also understand, as well as their sisters living farther south, how to use their mouths. Sometimes, too, they use them for very practical purposes. As a single illustration, I will mention the fact that, after it has been stretched and dried, they chew, inch by inch, each skin that the men secure in hunting. In this way they make the skins so pliable that they can readily be made into clothes.

From the description I have given it will readily be seen that, if judged by his face, an Eskimo would not take a prize at a beauty show in competition with Europeans. The bodies come much nearer our ideal, and the hands and feet are of only medium size and are well formed, though the appearance of the men's hands is often injured by numerous cuts and scars.

In regard to the color of the skin of these people it is difficult to form a correct opinion. This, because of the dirt with which it is thickly and almost constantly coated. When sufficiently clean to show its natural tint it appears to be a light brown shaded with yellow or gray. Though

it gives them a decidedly unpleasant appearance, the uncleanness of the Eskimos at Smith Sound should not be made too much a matter of reproach. It is one of the natural and almost inevitable consequences of the hard conditions under which they live.

During nine or ten months of the year all the water they have for drinking, cooking, and other purposes is obtained by melting snow or ice in stone vessels which are held over small flames of blubber. This is not only slow and toilsome, but if done to any great extent it also requires a larger quantity of blubber than they can well provide. Consequently a bath is an unknown and, under existing circumstances, an almost impossible luxury. Still, if they were anxious to be clean they might do something in this direction by means of a wet bird-skin or a sharp stone. And I think we awakened some interest in this respect during our sojourn with them. The women, in whom a desire to please seemed as strong as it is in their sisters of civilized lands, certainly made some attempts to improve their appearance.

Possibly one reason why these people care so little about cleanliness is the fact that it does not appear to be essential to health. The air seems to be free from bacteria, and the severe and long-continued cold evidently tends to prevent the diseases which filth is certain to generate in warm climates.

The natives at Smith Sound are isolated from all other tribes. In 1892 there were two hundred and thirty-four individuals. During the next two years the number of births exceeded that of the deaths by nine.

CHAPTER XXII

HUNTING

In order to obtain an intimate knowledge of the Eskimos it is necessary to observe them at their daily occupations. First of all, you must go hunting with them. Autumn has come, and in every day that passes the sun draws nearer and nearer to the southern horizon. Ere long comes a day when it sends its last golden greeting to the desert landscape and disappears from view. In a lonely and protected fjord you will see a red-cheeked Eskimo, who by jumping over the blocks of ice near the land has succeeded in setting foot on the newly frozen autumn ice. His face is beaming with joy. Life is offering him many attractions. Summer, with its constant smiles day and night, had begun to be somewhat monotonous, and he greets the winter as a dear and welcome guest. Now that new ice has formed on the bay he can begin the exciting hunt for seals. On the shore in front of the low hut stands his young wife, smiling at the thought of soon having some fresh seal meat after living during the summer upon tough narwhal flesh and the auks, which furnish most of the food supplies during that season.

Cautiously the native tries the strength of the ice with his seal-spear, and moves farther and farther out upon its glassy surface. Smaller and smaller he seems to become, until at length he disappears behind an immense iceberg.

This is too much for his three faithful dogs to quietly bear. Standing on the shore, they have watched, with ears erect, and with every indication of intense interest, their master on his lonely walk. They now pull impatiently at the straps with which they are tied to heavy

WATCHING FOR SEAL

stones, and their plaintive howls fill the air. They realize that the ice is strong enough to bear, and still they are left behind. Does their master forget how cheerfully they used to draw him on the sledge over the ice? His apparent neglect seems more than they can endure. Their howls become still louder and more dismal until his wife goes up to them and pets them all. Then they lie down on the cold rocks and go to sleep.

Meanwhile the hunter continues his walk upon the ice. He moves slowly, and has an air of constant watchfulness.

In his right hand he carries a seal-spear and the line belonging to it. In his left hand he has a piece of bear-skin, and fastened with a strap on his back is a well-worn hunting-knife with a handle made from the tooth of a walrus.

Suddenly he stops and bends over the ice. He has discovered an opening about five inches in diameter. This is a breathing-hole of a seal. He now cautiously places the small piece of skin on the ice near the hole, and quietly sits down to await the appearance of the seal. But as a seal often has several of these breathing-holes it may be a long time before he will come to the one at which the hunter is located. Patiently the hunter sits there, hour after hour, like a cat watching a rat-hole, until the nose of the seal appears in the small opening.

This is a critical moment. The opening is small, and the spear must be guided with a true aim and sure hand or the game will be missed, and the long and weary wait will bring no return. If the hunter fails, and there is a lack of food at the house, he must either wait again or, if he happens to know of other breathing-holes, go as quickly as possible to the one which he thinks the frightened seal will be the most likely to visit.

If he hits the seal he finds that the opening, which was made only for its nose, is much too small to allow the body of the animal to come through. He therefore at once sets to work to enlarge the spot. This work is done with the hunting-knife, which is used with wonderful dexterity. If, when it is pulled upon the ice, the seal is not dead, it is killed with the knife, but with a bone needle the hunter soon sews up the wound, in order to prevent as far as possible the loss of blood.

Then, with his heart filled with joy, the native returns to the shore to get the dogs and sledge with which to take the game home. He could, without much difficulty, pull the seal along over the snow-free ice, but the desire to enjoy the first sledge-ride of the season is too strong to be resisted.

He is soon with his dogs. They greet him with deafening barks as he approaches the shore. They are quickly loosened and everything is made ready for the trip. With a practised hand the master swings the short whip handle, to which a lash about seventeen feet in length is attached, and the team carefully picks its way over the rough stones. When the clear ice is reached it strikes into a full gallop. No reins are used in guiding

SLEDGE FROM SMITH SOUND

this wild team. Only the whip is needed for their control. When the driver beats on the ice to the left of the animals they go to the right, and when he strikes the ice on the other side they move to the left. If he wants to hurry one of the dogs he knows how to touch a tender spot, but he is usually careful not to be too severe.

The seal is soon reached and placed upon the sledge. On the way home the hunter may make a detour to some

tongue of land where he has a fox-trap which he wishes to examine and see if it is in order for the coming winter. These traps are made of flat stones of about uniform size, and placed in a rectangular position. A large flat stone is so arranged that when a fox pulls at a piece of blubber that is placed at the farther side of the inclosure it falls

ESKIMO FOX-TRAP

and completely closes the opening by which he entered. How many foxes are caught in this way I cannot tell, but it must be a large number. It requires about eight skins to make a coat for a man, and the garments are not very durable.

Formerly the Eskimos made traps in this form, but considerably larger, for bears. In 1894 I saw the ruins of an immense trap of this description on the now uninhabited Ellesmere Land. But at present such means are not employed. A considerable number of bears are killed in these regions every year, but the work is done in a braver manner than by catching them in traps.

The finest place for bear-hunting is south of Cape York, on the ice-bound Melville Bay. Out on these vast

fields of ice, far from home, the Eskimo has fought many a hard battle with the large and powerful Arctic bear.

To conduct such a battle successfully both courage and presence of mind are required. Consequently some of the natives are much better adapted for this work than are others. At the present time one of the most prominent hunters in this section is a man named Akpallia. When we saw him in 1891 he called himself Nordingjer, but two years later we found that, without applying to

BEAR ATTACKING SEAL

the courts for permission, he had changed his name. I could not obtain from him any definite information regarding the reason for this proceeding. Possibly he had been bothered with letters intended for another person

of the same name. Well, however the matter may be explained, the man is an experienced bear-hunter. He is nearly forty years of age, and many a hairy giant has perished at his hand. Soon after his return from a hunting-trip I obtained shelter for the night in his hut. It was rumored that for once the bears had the best of the fight, and that they had torn one of his arms and also killed two of his dogs. After making many inquiries I succeeded in obtaining from him an account of his latest trip. This, in substance, I will repeat, as it will give the reader a pretty good impression as to the general method in which bear-hunting is conducted.

During the month of March Akpallia suddenly felt an ardent desire to revisit Melville Bay, his old hunting-ground. He promptly repaired his sledge, patched his bird-skin shirt (he was a widower and therefore had to do this work himself), and gave his dogs a good meal. This done he took a long sleep, and in the morning, after leaving his children, a boy and two girls, in the care of a neighbor, he started on his expedition. Four days later he arrived at Cape York, one hundred and twenty-five miles distant from his home. Here the bear-hunters have their headquarters. There are usually several families located at this point, and most of the men are expert hunters.

Akpallia remained for a couple of days among the flesh-pots of the Cape York colony. Two of the local hunters agreed to accompany him on his intended trip. One of these was only a half-grown lad, but he was taken along because he was the owner of a genuine gun. This he had obtained from the crew of an English whaling ship in exchange for a large quantity of ivory, and he was

much elated at securing what he considered a great bargain. Though at this time he had only powder enough for two loads, and had no lead for balls, but was obliged to use small stones in their stead, and though by an unfortunate explosion the length of the barrel had been reduced to about twenty inches, the gun was still regarded as rather a formidable weapon, and its young owner was as highly regarded by his comrades as though he had killed a dozen bears.

At length the three hunters left Cape York. They had three sledges and fifteen dogs. For two days their search was in vain, but on the morning of the third day they found the fresh tracks of bears.

One who has never seen the Eskimo under similar circumstances can form no adequate idea of the intense excitement into which he is thrown by such an event. The dogs, too, show a wonderful degree of interest, holding up their heads, erecting their ears, and eagerly gazing over the great white field of ice. Their masters talk in rapid whispers, stop and listen, run a short distance, then stop and look around again, until the observer begins to seriously question whether people who act in such an apparently ridiculous manner because they have found the tracks of a bear can be skilful hunters. But further observations will convince him that, notwithstanding such childish actions at certain times, they show the most wonderful presence of mind when in dangerous situations.

The tracks discovered by our friends were those of a female bear and her two cubs. For a time the hunters all followed the same tracks; but when, after proceeding for some distance, they came to the fresh track of a single bear, leading in an entirely different direction, they

parted, Akpallia choosing to follow the track last discovered and to attempt to kill the bear without the aid of his companions.

At length he caught sight of the bear of which he was in pursuit. It was lying at the foot of an iceberg, quietly sunning itself, but so far away that it appeared like an almost shapeless mass. The excitement of the hunter is now intense. In a hoarse and muffled voice he exclaims to his dogs, "Takkotakko! takkotakko!" (look! look!). The dogs at once turn their heads inquiringly toward their master as if to ask if he has really discovered something. They can only see the monotonous snow-drifts and the fields of ice, which stretch in every direction beyond the utmost limit of their vision. Then he continues: "Nannuk! nannuk! nannuksua!" (a bear! a bear! a large bear!). Hardly are these words uttered when the dogs become so excited that he cannot restrain them. They leave the long circuitous course of the track and rush instinctively, and in the wildest haste, in the right direction.

When they are only about a half mile distant from the bear, he rises and for a moment stands erect, with head and neck stretched out toward the approaching team. In this position he becomes visible to the dogs, who now pull the sledge over the ice with increasing fury. The bear appears to know by intuition the bloodthirsty character of the Eskimo and his swift-footed dogs, and with all possible speed he flees from the dangerous place. Akpallia jumps from the sledge to make it lighter for the dogs, and, holding with his hands one of the guiding arms behind, his legs dance wildly under him as he follows the frenzied animals.

The bear runs fast, but he cannot go as rapidly as the dogs. The distance between them becomes perceptibly shorter. But Akpallia has to jump on the sledge again in order to save his strength for the coming struggle. He is a rather large man, and his weight considerably retards the speed of the dogs, but he knows that bears cannot run a long distance and that the hunted animal will soon be obliged to slacken his pace.

At length the team is within about four hundred feet of the bear. Then Akpallia bends over and cuts the rope that keeps the dogs together. The sledge stops instantly and the loosened dogs rush for the enemy with almost lightning speed. As soon as the bear perceives that flight will be of no avail, he turns and faces his assailants.

Meanwhile Akpallia has seized his spear from the sledge and is hasting to the battle-field. This hardy son of the icy desert knows nothing of fear. His two companions long ago disappeared in the distance. Single-handed he is to fight a ferocious beast of prey — a beast that with one blow of its paw can easily take his life. Intelligence, coolness, strength, courage, endurance, and agility will all be required to give him a fair probability that the conflict will end to his advantage.

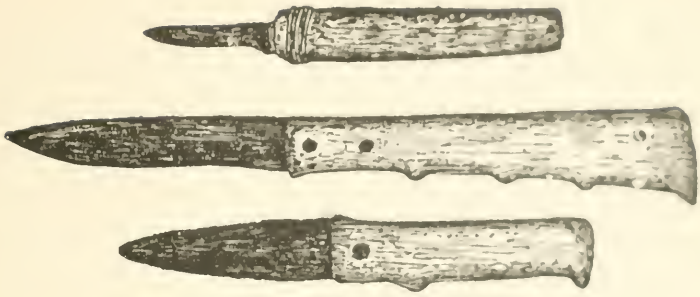
As soon as Akpallia reaches his prey he grasps his spear with both hands, and with all his strength endeavors to pierce the bear to its heart. But the animal, turning suddenly and unexpectedly, deflects the course of the spear, and its point strikes his broad shoulder-blade. In a moment the bear breaks the spear with his paw and Akpallia is disarmed. Wholly ignoring the barking dogs, the wounded animal turns in rage upon the hunter. Akpallia takes a few steps in the snow in order to reach

his knife, which he threw down when preparing to make an attack with the spear, but his foot slips, he falls, and the next instant a forepaw of the bear is resting heavily upon the upper part of his left arm. With almost superhuman efforts he tries to get free, he screams in the face of the mighty brute in hope of scaring it away, he strikes against its breast with his fist. All in vain! The claws of the bear have penetrated deeply into his flesh, and he cannot loosen their hold.

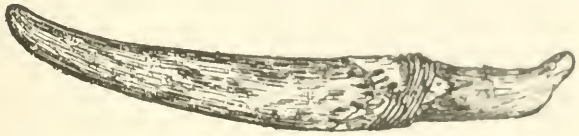
It is only because the bear has other foes that are distracting his attention that he does not do the hunter more harm. No sooner do the dogs see the predicament in which their master is placed than they make a ferocious but foolhardy attack upon his foe. The two oldest, a pair of handsome animals resembling wolves in appearance, that have been with their master in many a hard-fought battle, attack the bear in front, one of them even biting the paw that holds the arm of his master in the snow. But the bear does not loosen its grip. With a quick blow of the other paw it puts one of the dogs out of the fight. The situation, which was dangerous before, has now become desperate. But it soon grows worse. Another bear appears from behind an iceberg near by, a second dog has fallen bleeding upon the snow, and Akpallia appears to be beyond all hope of deliverance.

At this critical moment two sledges appear. They are coming at full speed around the iceberg, which had long kept the bear last noted from view. With these sledges are the comrades of the prostrate hunter. Seeing his condition, they give terrific yells, which he answers with loud calls for help.

The bear now leaves his victim, joins the other beast,

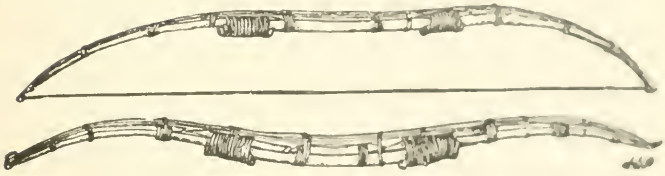


Eskimo Knives



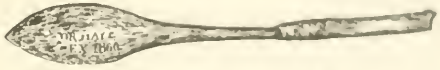
Knife with Ivory Blade and Wooden Handle

Ivory Pin, two thirds natural size



Bows

Spear or Lance



Arrow-Head, one fourth actual

DIFFERENT WEAPONS AND IMPLEMENTS

and Akpallia is saved. The dogs from the newly arrived sledges are set at liberty, and intercept the bears in their flight. After a short but sharp fight, in which the dilapidated gun plays an important part, the huge beasts are slain. Then Akpallia's wounds, which fortunately have not caused much loss of blood, are bandaged with long strips of dirty and greasy seal-skin, the bears are skinned, and as much of the meat as can be carried is loaded upon the sledges.

One of the wounded dogs had died upon the spot. The other was still alive, and was taken home on a sledge. In due time the hunters reached the colony at Cape York, where their adventure, with all of its details, was described to an interested and appreciative audience.

Similar things often occur in Eskimo bear-hunts. The life of the hunter is like a game in which no one can refuse to take part. The stakes are high, even life itself; clothes and food sufficient to last for only a short time are the prizes to be gained.

The manner in which the natives hunt the walrus in these regions also seems to be worthy of description.

Very early in the spring the families leave their winter huts along the coast near Inglefield Gulf to go north almost to Cape Alexander, where they temporarily live in snow huts.

Early on some morning when the weather is clear and favorable, the men set out for a walrus hunt. There are, perhaps, a dozen sledges. Each is drawn by five or six dogs and carries two hunters. As a rule it requires a drive of two hours to reach a good hunting-place, which must be near the open sea. Sledges are left quite a distance back of the thin ice, where the hunt takes place.

The dogs are taken along and play an important part in the affair. The hunters walk about a half mile, or farther if necessary, to ice which moves with every step they take. They now have to use great care to avoid dangerous places, and are obliged to continually test the strength of the ice with their spears. These implements usually have a pointed piece of narwhal tooth tied to one end to prevent their slipping on the smooth surface of the ice, but a few are fitted with pieces of iron which their owners obtained by barter from white men, by whom they are visited only at long intervals. This spear is about five feet in length. It is illustrated in the collection of weapons and implements, a drawing of which will be found on a preceding page.

It is on the thin wavy ice cover just described that the hunt begins. Soon there seems to be a singing and cracking in the ice; then there is a break into many pieces, and up through the opening thus formed a bearded walrus quietly and majestically lifts its large head and grinning face. You hear its deep breathing, that in the twilight of the forenoon seems to resemble a slow snoring, and you see its breath like a cloud of vapor, which in the very low temperature that prevails looks as white and shining as the steam from the valves of an engine. A moment afterward the animal slowly and quietly disappears in the deep. The cold waves close over the dark head, but even while it is descending you hear similar sounds from other places.

It is usually while the walrus is engaged in breaking the thin ice in order to form a breathing-hole that the Eskimo rushes to the attack, though sometimes, in spite of the cold, one is found that has crept up on the ice where it was strong enough to bear its weight.

As a rule the native uses only the spear when he attacks a walrus. This spear is made in such a way that it can be used as a harpoon if desired, and thus saves the trouble of carrying two kinds of instruments. As the skin of the walrus is exceedingly thick and tough, the hunter thrusts the spear into its body with his right hand instead of throwing it, and in his left hand holds a coiled line that is firmly fastened to it. The spear is made in a form that admits of its being pulled from the animal, while the harpoon could not be drawn out.

As soon as the walrus is struck it disappears in the water, and the hunter must be alert and active to prevent his carrying away the spear and line. He cannot rely upon his mere physical strength in such a contest. With a strong blow he plants the pike of the spear in the ice, and winds the line around it twice. If the pike gives way or the ice breaks where it is driven in, the game will be lost, and with it also the spear-head and line. It sometimes occurs that the feet or legs of the hunter become entangled in the line, and he is drawn into the water. Two hunters from this small tribe have recently perished in this way.

But suppose the ice and spear hold, and all goes well. In this case the hunter feels greatly relieved when the line slackens. Soon the animal again comes to the surface. With his knife the hunter quickly makes two holes in the ice, draws the line down one of the holes and up through the other. Now the spear is free, and every time the animal comes to the surface it receives a sharp thrust. This is continued until the walrus dies from wounds and exhaustion.

In summer the North Greenland walrus are often seen

ATTACKING A WALRUS

in companies of considerable size. Then it is not safe to disturb them. To attack them in an open boat involves considerable danger, and to interfere with them in a kaiak would be equivalent to suicide. Of these facts we had a practical illustration in August, 1891, when Dr. Cook, Gibson, Verhoeff, and myself were taking a boat trip over Whale Sound. We saw several herds of walrus sunning themselves on floating ice. Upon making an attack we were, to our great surprise, immediately surrounded by something like a hundred of these monsters, which evidently were bent upon our destruction. Fortunately we were all well armed with rapid-firing magazine rifles, and Ekva, an Eskimo who was with us, had a harpoon and a spear. But notwithstanding our excellent equipment for the battle, it was with great difficulty that we escaped from the enraged animals. It was a long and hard fight, some of the time at such close quarters that we used our oars and boat-hooks to drive off those of the herd that were so close as to threaten the instant destruction of our craft. How many of the animals we had killed during the fight we could not tell, as most of the dead ones were drawn under the water by their comrades, who used their long tusks for this purpose. With the harpoon lines which the native had brought we secured two bodies. During such a fight the aim of the walrus is to get his tusks over the edge of the boat, by which means it would easily be capsized. If he is successful there is little hope for the occupants unless there is another boat close by. In earlier times many Norwegian walrus hunters lost their lives in this manner at Spitzbergen.

In addition to the method of hunting for seals which has already been described, which takes place on the new

A GROUP OF SEALS

ice in autumn and early winter, and which is called "maupok," or waiting hunt, there is another method of securing these animals that is of sufficient importance to justify its description. This plan is followed in spring and summer, when the seals spend much of the time lying upon the surface of the sunlit ice. In April the ice, which commenced to form six months before, has reached a thickness of about five feet. It is therefore only by great perseverance and the gradual enlargement of its breathing-holes, that the small fjord seal can make its way through the thick ice in the spring.

For this kind of a hunt the Eskimo likes to start early in the morning, so that he may have plenty of time for the work that is before him. To be sure, the sun at the end of April is up day and night, and at any hour in the twenty-four you may see seals upon the ice. But in the daytime the sunshine is stronger, the air is warmer, and the seals are more sleepy, and consequently are more easily captured than they are at night.

The native has not been long upon the ice, before with his keen vision, he detects some dark spots far away on the white expanse. He chooses one of these, and soon his swift dogs bring him to within a half mile of his game. Here he halts lest the dogs should frighten the seals, causing them to plunge into the water and escape. After leaving his team the hunter takes his harpoon and goes on foot toward his game.

As he approaches the seals he bends over more and more until at last he gets down upon the snow and creeps on his hands and knees. He wishes to have the seal believe it is not an enemy, but one of his own kind that is approaching. If one of the animals looks up the hunter

at once stops moving along, scrapes in the snow with one hand or foot as the seals often do, and imitates the singular hissing sound which they make.

It is very interesting to observe from a point near by the seals and their habits and ways. Some will be seen resting comfortably on their sides like human beings, some lying on their bellies with their heads down on the

SHOOTING SEALS

ice and apparently asleep, and others lying on their backs and scratching their round bodies with their short fore-paws. Now and then one will quickly raise the upper part of its body, stretch its flexible neck, and look earnestly around, scenting in all directions.

When the hunter has approached quite near the seals, he suddenly rises, takes a few quick jumps to get as close to them as possible, and the next moment his harpoon flies through the air. One of the animals has been struck in the back. They all disappear in the water, but the wounded one is soon drawn up on the ice and killed.

The hunter now calls his dogs, and they come to him at their highest speed. The method of killing seals with firearms hardly needs to be described.

Of the larger animals of the sea that are hunted by the Eskimos only the narwhal remains to be mentioned. The hunt is now pursued in kaiaks, but until about 1870 the natives had nothing of this description, and the hunting was done on floating ice. The Eskimos of North Greenland, having used them for so short a time, do not make as fine kaiaks as their South Greenland brethren, or manage them with anything like the same degree of skill. In fact, the kaiaks in use at Smith Sound at the time of our visit were both clumsy and dangerous.

The hunters of narwhal keep their kaiaks near together, and as soon as one of the party has harpooned an animal the remainder hasten to his assistance. When the animal has been killed they all join in towing it home. The game is then divided according to certain established rules. The one who first attacks and wounds an animal, be it narwhal, bear, seal, walrus, or reindeer, is always regarded as its real slayer, and therefore receives the lion's share of the resulting honors and profits.

The meat of the narwhal is quite tough, but the natives consider it both nourishing and palatable. In summer it can be obtained in large quantities. The sinews along the back are dried and used for thread. They are much stronger than are those which are obtained from the reindeer and which also serve the same purpose.

Among the land animals which the natives of this region engage in hunting, the reindeer is by far the most important. In former years the hunt in this region did not amount to much. The reindeer were numerous; but

as the bow and arrow formed the only weapon used for this purpose, it was difficult to kill them. They were hunted, especially in spring and summer, principally for sport and with very little regard to the value of their flesh and skins. But when the natives obtained rifles, as

REINDEER

several of them did from the Peary expeditions, and became acquainted with their use, reindeer meat became a common article of diet, and the skin came into very general use as a material for men's clothing. In 1891, when we first visited this locality, the natives were using the bow and arrow almost exclusively for hunting; but before our departure in 1894 these articles had been pretty generally discarded, and it is probable that in the comparatively near future they will be found only in the glass cases of ethnographical collections. Then, too, in a short time nearly all the reindeer will be destroyed. For such natural hunters as the Eskimos the pleasure and excite-

ment of the chase are too great to be restrained by any considerations of future good. As long as there are reindeer to be had, the natives will kill them without any regard to their requirements for food or clothing. These people are children of the present, who later on will have to pay dearly for the use they are making of some of the destructive powers which they have obtained from their civilized visitors.

How the reindeer is killed with firearms need not be explained, but it may be of interest to note that a skilful and patient hunter can approach near enough to shoot it with a bow and arrow or even to kill it by throwing a stone.

Hares were formerly caught in large numbers in North Greenland by snaring, but now they are shot with rifles.

It is a singular fact that the ptarmigan has never been hunted by the people of this tribe. As its meat is excellent food, the immunity which it enjoys is probably due to some ancient superstition.

Of the sea-birds, the auk is the only one that plays an important part in the domestic economy of the inhabitants of this region. They are caught with a net which is attached to a long pole.

This hunt is largely engaged in by families who have pitched their tents near the mountains where the birds make their nests. As these are always along the steepest and most inaccessible parts of the coast, the occupation is both difficult and dangerous, and serious accidents sometimes occur.

A few years ago a man of middle age, and the father of a family, lost his life while catching auks at the southwestern point of Saunders Island, called Akpan (Auk

Island) by the natives on account of the enormous number of auks which are found there. In company with Aningana (moon), a half-witted fellow, he had climbed up on the cliff, more than 2,000 feet high, that extends the full length of the island. When he had reached a point from which he could see a large flock of auks directly below, he had Aningana lower him down the perpendicular wall of the cliff, in order that he might reach the narrow ledge upon which the birds make their nests. In this work the auk hunters use the same lines and straps

CATCHING AUKS WITH A NET

as they use in walrus hunting. And, what indicates a still less degree of caution, they do not hesitate, no matter how dangerous the precipice, to trust their whole weight to a single person on top of the mountain. On this occasion Aningana had only just commenced to lower his com-

rade when his strength gave out, he let go of the line, and the unfortunate hunter was dashed to pieces on the rocks at the foot of the cliff. The place was pointed out to me as I passed on a sledge. When I looked up to the great mountain wall I could hardly believe that men would run such fearful risks in order to secure a few birds or eggs.

Another time it happened that an Eskimo, while catching auks, had one of his legs crushed by a falling rock. The poor fellow could not faint, — he knew nothing of any such relief, — so he managed as best he could to drag himself home. There, by advice of the wise men and women of the tribe, his leg was amputated. In a short time he was perfectly well; and he, in common with the other members of the colony, had a great deal of amusement in connection with his stumpy limb.

When we consider the kind of instruments used by the Eskimos in amputating legs and arms, it is difficult to see how their work can be successful. They have dirty knives, and for bandages use strips of greasy seal-skin. But nature seems to give the best of assistance on such occasions, and with but little help from man heals wounds and broken bones that with civilized people would require the most careful and skilful treatment.

CHAPTER XXIII

THE NORTH GREENLAND DOG

THE qualities of hardiness and endurance which are so pronounced in the Eskimo of North Greenland are even more conspicuous in his faithful dog. In fact, the extent

A FAVORITE DOG

to which this animal can endure hardship, exposure, and suffering is almost inconceivable.

The North Greenland dogs are of different colors, but the ones most commonly seen are gray, spotted white, and black haired. Not infrequently there is a round light spot over each eye. Dogs that are entirely white are

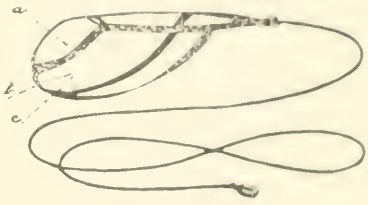
also found in considerable numbers. The latter can hardly be distinguished from the white Arctic wolf that is chiefly found on the islands north of the continent of America. As a rule the Eskimo dog carries his bushy tail neatly curled up on his back, but there are some which let it hang down like the wolf. There can hardly be a doubt that the species of dogs which the Eskimo now has in subjection once lived in the northern temperate and Arctic regions and was identical with the present species of wolves. It also appears certain that, while its size has diminished since it was domesticated, there has not been any admixture of foreign blood.

The close physical resemblance to the wolf which these dogs, after a long period of domestication, continue to bear is doubtless owing to the fact that they subsist upon the same kind of food and have almost as wild a life as did their ancestors. They are fed upon raw meat and blood, blubber, walrus-skin, and the entrails of all kinds of animals that their master kills. Water they have only in the short summer, when they can help themselves from the streams which flow from among the rocks. In winter, even after the most fatiguing work, they must be content to quench their thirst as best they may with the snow on the ground.

The dogs are not fed regularly each day, but on an average they get something to eat every other day. If for a time the colony happens to have an abundance of meat, the dogs are allowed to help themselves. But at other periods, especially in winter and during long sledge journeys, they are sometimes obliged to go without food for three or four days. They do not seem to suffer nearly as much from these irregularities of feeding as would

naturally be expected. Apparently they are able to eat enough at a single meal to last them for several days. With the exception of the first few weeks after their birth, they spend their whole lives under the open sky. Even in the severest cold or the most violent storms this exposure does not often seem to annoy or injure them.

Notwithstanding the wild and irregular life which he leads, the Eskimo dog exhibits many of the traits of the more thoroughly domesticated house dog of warmer climates. He is affectionate, obedient, and faithful to his master. In return the Eskimo cherishes a deep love for his dogs, though he seldom manifests this feeling toward them by caresses or kindly words. On the contrary, a stranger seeing him start on a sledge journey would get the impression that he used the whip with far too great a degree of severity, though he would soon learn that the frequent use of the lash is just as necessary in managing a team of dogs as is the use of reins and whip in driving horses.



DOG HARNESS

a, Opening for head; *b* and *c*, [illegible]

When the dogs pull a sledge they are fastened to the front of it by seal-skin straps which diverge from a common centre in such a way that the animals can run side by side. Although this harness is exceedingly simple, it serves its purpose remarkably well. Usually the fleetest of the dogs has a little longer strap than any of the others, in order that by running just ahead of its companions it may encourage them to greater exertions. The leader of the team seems to have a clear understanding of the honor and responsibility of his position.

The Eskimo dog is not at all lacking in intelligence. This fact is clearly indicated by the skilful manner in which it perpetrates its frequent thefts. These stealings are confined to eatables; but as this term includes their own harness, their master's tent, trousers, kamiks (boots), and shirts, the straps on sledges, and many other things made of skin, they take a pretty wide range. Such thefts would naturally be somewhat trying to the patience, but the Eskimos regard them with comparative indifference. I have seen an Eskimo wake up and find the hair of his reindeer coat all over the outside of his tent and most of the garment eaten, but his anger against the dog that had done the mischief did not go any farther than to say, "Naav ajotupilalek sjo sjo — Sinapadujo — takko!" or something like, "Well, did you ever see such a miserable fool!" Then he would tie the "miserable fool" to the stone from which it had broken loose and say no more about the affair. In contrast with this I have seen two men belonging to a highly civilized race wake up and find their fur gloves torn and half eaten on the snow near their hut. One chose a well-known method of venting his wrath, and cursed until his companions could almost smell sulphur in the air. The other, who was too good to be profane, caught the dog that he considered the culprit and beat it until the whip-handle was broken. In the treatment of animals the men of enlightened nations would often be put to shame by comparison with the kind-hearted Eskimos.

I once suggested to a native that he should punish his dogs for having stolen, from right before her face, the last piece of blubber that his wife had in the hut. I shall never forget his answer. It was to the effect that the

punishment ought to fall upon himself, as he had not had food for his dogs for several days. As the dogs do not steal when they have enough to eat, it does seem hard to punish them for trying to procure food for themselves when no one offers to supply them.

The dogs often eat their reins; and as these are very tough to bite, they are usually swallowed in pieces of considerable length. A member of the expedition once discovered one of the thirty dogs which we then had engaged in eating his bridle. Thinking that he might save the small piece that was protruding from the dog's mouth, he started to take it away. Great was his surprise to obtain a strap nearly ten feet in length, which, although it had been chewed a good deal, was still fit for use.

When many hungry dogs are together it is necessary to keep a close watch over them, even if they are well fastened, in order to avoid being shamefully plundered. If under such circumstances you lie down to sleep, there seems to be a sharp competition, especially among the smaller female dogs, to see which one can get loose first and steal the most. But there are always some dogs, especially among the males, that never will condescend to attempt to get loose, but which become extremely indignant when they see their less honest comrades appropriate the master's property. They howl and growl uninterruptedly in a singularly short and noisy way that can never be mistaken after it has once been heard.

In addition to the noise made by the dogs that remain tied, there is not infrequently a deafening racket in consequence of violent fights among the thieves when one or another feels that he has not been allowed a fair oppor-

tunity to obtain his share of the plunder. This betrays their wrong-doing; and if the sleepy owner will get up and attend to them at once, he may prevent any very serious damage. But if the dogs are allowed to continue their depredations they will not be satisfied with trifles. And they seem able to surmount nearly all obstacles. The stones of the meat stores they upset with their noses; they open boxes that have been well nailed by attacking the weaker places with their teeth; steel wires they tear to pieces; ropes they gnaw; and to almost every kind of package or material they are as destructive as is many a human robber. They only hesitate when they come to a barrel of hard-tack. Although they devour boot-soles and the entrails of all kinds of animals with great relish, they do not stoop so low as to attempt to eat one of the hard and dry things that are called shipsbread and are eaten by men.

In the civilized world the prolonged howling of a dog in what should be the still hours of the night is regarded as a certain indication that he is troubled or distressed. In North Greenland the case is altogether different. At our last winter quarters, where we often had about one hundred dogs at a time, we had the plainest proof that their howls in the night were caused by joy, and that in purpose, at least, they took the place of song in human beings. They particularly excelled as chorus singers; and when they were unusually happy, as when they had finished an excellent meal or had enjoyed a good night's rest, they always treated us to a concert.

To make the whole chorus take part in the concert it was only necessary that a single one of the number sing a long "O — au — o — au — o — au — o — au!" But it

DOGS OF NORTHERN GREENLAND

was imperative that this be done by one of the older and more dignified members of the party. If one of the younger and less prominent ones attempted to start the performance, it was generally an utter failure. He emitted a few faint howls, but the others did not respond, and with a very foolish look upon his face he ceased his efforts to provide a musical entertainment.

To hear a chorus of a half hundred dogs with well-trained voices makes a powerful impression even upon people who have no ear for music. But to persons of musical ability and cultivated taste the performance seems so ridiculous that they can hardly refrain from laughing in the solemn face of the leader. The entertainment is certainly a fine as well as an original "opera comique."

It is quite amusing to see the Eskimo feed his dogs. He cuts the meat in pieces as large as his fist, piles them on a board, stands directly in front of the place where the animals are tied, and when they have all become quiet, with their eyes fixed upon the meat, he can begin the feeding. This is the only way in which he is able to control them so that the weaker as well as the stronger ones can get their share. Piece after piece of the meat is thrown by the master and dexterously caught by the dogs until all is gone. If all the dogs in the team are old acquaintances, and in the habit of being fed together, the feeding-time is likely to pass without disturbance; but if there are any strangers among them the whole meal may be a violent and continuous conflict.

The Eskimo dog is naturally very much inclined to fight. Good friends actually fight for pleasure. They sportively snap a few tufts of hair from each other's skin, howl and bark for a while, and the whole thing is over.

But it is very different when strange dog teams are carelessly allowed to come within reach of each other. Then the fur will not only fly, but the snow between the fighters will soon be crimson with their blood.

Another characteristic of this race of animals is that each team of dogs has its own king. He may not be the strongest, but he is the most fearless and skilful fighter among them, and not one of them dares to oppose his tyrannical rule. When two strange lots of these dogs are thrown together a very important fight will immediately be commenced by the kings of the two teams. At the same time there will be a general battle between the other dogs of the teams to settle their relative rank for the future. When these fights have been finished, and not till then, the equilibrium of the little society is fully established. But the vanquished king is utterly broken in spirit. His tail, formerly carried proudly curled on his back, now hangs limp and drooping, and the head that was so erect is now held down, while the half-closed eyes follow every movement of the victor, who pomposly stalks around his subjects, and seems almost bursting with pride.

There is a peculiar epidemic disease that every year destroys a large number of these dogs, and which the natives say has sometimes been so severe as to threaten the extinction of the breed. When attacked by this disease the dog loses its appetite, becomes cross, sometimes will even bite its own master, and at length develops all the symptoms of madness in its advanced stage. No one certainly knows the cause of the disease, but as it occurs only in the severest weather and during the long night of the year, it is probable that cold and darkness are the

principal factors in its production. The foxes also in this region are said to be subject to this disease.

It was only natural that the appearance of the disease, of which there were several cases among the dogs at Redcliffe House, caused the members of the expedition a great deal of anxiety. Its close resemblance to hydrophobia was a sufficient cause for alarm; but we were greatly relieved to find, and to have our observations confirmed by the natives, that the bite of an affected animal was not dangerous to man.

As the success of future polar expeditions may very largely depend upon the use of Eskimo dogs, it seems to be of great importance to prevent an outbreak of this disease. I am convinced that this can be done by having electric lights in winter, furnishing the dogs a moderate degree of protection during storms and periods of severe cold, serving their meat warm instead of frozen, and supplying them with a sufficient quantity of water to drink.

In North Greenland the dogs often mate for life. If young are expected in the cold season, a bed is prepared on one of the side benches in the hut, near the lamps, and here the mother remains with her pups until the winter is over, though to quench her thirst she is often obliged to go out in the cold and darkness to lick the snow. Hardly anywhere are pups more kindly treated or more dearly loved than they are in the hut of the poor Eskimo. The father of the household plays with them and names them, the mother sews nice white collars of bear-skin for all the dark-haired ones, while the children caress and pet them all day long.

In the spring the pups may be large enough for the owner to commence their training. Some fine day he

furnishes each with a small harness and, with some of the older animals, takes one or two at a time for a short drive. It does not require much time for them to become familiar with the meaning of the whip and of the different calls, and when this stage is reached their education is completed.

A GROUP OF PUPS

ESKIMO BOY

CHAPTER XXIV

HOME LIFE, HABITS AND CHARACTER

To civilized people the domestic life of the Eskimos, or Innuits, by both of which terms the natives at Smith Sound are designated, seems very peculiar.

The winters are spent in low, small huts. These are built of stones and moss, and are always near the ocean. The usual size of a hut is about thirteen feet in length and breadth. The roof is so low that a man of ordinary size cannot stand erect under it. Sometimes huts are built so close to each other that they are converted into one by simply cutting through the separating wall.

The inside of a hut is reached through a long and narrow entry, also built of stone, which is so low that one is obliged to creep when he goes in or out. A small square opening in the end wall leads up to the living-room. Directly over the entry is a square window, closed with a skin, and often almost covered with snow. In its centre there is an opening a few inches in diameter, through which the hot and almost suffocating air of the hut

escapes as a ray of steam, and which also serves as a peep-hole when the inmates hear noises outside.

The family sleep in the back part of the hut on a platform, about twenty inches high, which is made of stones and covered with bear or reindeer skins. Benches of the same height are also built along the sides of the hut. Upon one of these stands a bowl-shaped lamp of stone. Directly over it is an oblong cooking-vessel, made of the same material, which is hung by strings from the roof.

The flame of the lamp is sustained by blubber and fine

AN ESKIMO HOUSE IN WINTER.

peat, and serves to both light and warm the small room. If the light goes out another is started by means of sparks from flint or ironstone.

In the immediate neighborhood of their winter huts the natives build stone chambers, about half in and half above the ground. Here the house-mother keeps her

stores of skins and other valuable materials, and the hunter places his winter furs. The stores of meat are a little farther from the hut and are covered with a pile of stones.

In the spring, when the days lengthen and the rays of the sun begin to spread a little warmth over the landscape, the Eskimo leaves his close and dark winter abode, packs the seal-skin tent of the family on his sledge, and goes to some place not far distant that is free from snow and appears to be a desirable location for a summer residence. Here he pitches the tent, and the whole family enjoy the freer life of the new home.

As a rule, before leaving their winter huts the Eskimos remove the roofs so that the interiors may be thoroughly ventilated. They live in tents from the end of April till September. Then they return to huts; but as they are fond of change, they sometimes select a different place from the one in which the last winter was passed.

The mother of the household attends to the lamp both in the hut and the tent. She is careful to renew the blubber beside it when the supply already there is melted, and to so adjust the flame that there will be as little smoke as possible. She also melts the snow that is used for various purposes, and does the cooking for the family.

That the domestic utensils are not kept in a condition that would be considered decent by civilized people is not surprising when we remember that the Eskimos really have no sense of cleanliness. The large stone pot, the flat dishes, the drinking-cups, and the boards upon which the food is kept are covered with a thick layer of dirt, grease, and dried blood, the odor of which will, until he has become accustomed to it, deprive a white man of

his appetite. But after a long day's walk over the rough snow-fields, in a low temperature, when the muscles are weary, and the whole system cries out for food and water, the most dainty son of civilization will be glad to eat of the plain and poorly prepared food and drink from the greasy cups of the hospitable Eskimos.

The dishes which the Eskimo housewife offers her

STONE HUTS OR IGLOOS — TAKEN AT MIDNIGHT

family and her guests at the different seasons of the year are neither numerous nor complicated. Meat of walrus, seal, narwhal, bear, reindeer, hares, and auks, with different kinds of blood, forms the foundation of all her cooking. Spices, salt, or other condiments are entirely unknown. Considerable blubber is eaten, but the larger

part of it is used for furnishing light and heat. As a rule, the meat is cooked, but it is sometimes eaten raw, especially when it is frozen. When it has been kept long enough to reach a condition in which most civilized people would consider it spoiled, it is esteemed a great delicacy. The liver of several animals and certain entrails of the seal are prized for food, as is also the material found in the stomach of the reindeer. The latter consists of vegetable matter, but it is so rarely obtained that it can almost be said that meat is the exclusive article of diet of the North Greenland Eskimos.

Dog meat is sometimes eaten, but only under exceptional circumstances. Nothing short of the greatest necessity will induce a native to kill one of his dogs. Besides, the dogs are generally very lean and their meat is not palatable. The people consider the flesh of pups a good article of food, and I think they are capable judges in this matter. Once when I was at the Cape York colony, and nearly starved, I was given some frozen raw meat of a pup that tasted very well. It somewhat resembled the meat of a bear. This might not be the general opinion of the quality of this kind of food, but it is stated merely as my personal impression.

The natives at Smith Sound use nothing but water for drinking purposes. When we first offered them tea and coffee many of them refused, but after a time they began to like these drinks. They also soon learned to like hardtack, which, considering the fact that they are, in the true sense of the word, "a breadless people," is not very surprising. Of spirits and tobacco they were entirely ignorant, and we were careful not to enlighten them. It is remarkable that they do not use, or even know of any kind of

stimulant. In this respect they are yet in the original "state of innocence" which no other people in the world appear to have preserved.

The meals are eaten in a very plain and easy manner,

CAPE YORK, SMITH SOUND — ESKIMO SLED ON THE ICE

The housewife places the pieces of boiled meat in a vessel, from which the members of the family, all of whom are very scantily clothed, take them with their hands when they want them. In eating, a large piece of meat is taken to the mouth with the left hand and cut off close to the lips with a sharp knife that is held in the right hand.

As with civilized people, marriages among the natives of this region are contracted for life. As a rule the relation of husband and wife continues as long as they both

live, though separations sometimes occur. A few years ago Agna left her husband, Kaochu, saying that he was too old, and went to live with Kala, a middle-aged widower. In excuse for this fault of the in many respects estimable woman, it can only be said that although her husband was not so very old, he really did present a superannuated appearance. His walk was unsteady, one leg was crooked from rheumatism, his face was full of dirty wrinkles, his nose and cheeks had taken on a bluish tint from exposure to wind and weather, his eyes were edged with a red border, and his hair — his hair — well, let us not attempt to carry the description any farther. And yet this little lame man is full of fun, and gives his neighbors the pleasure of many a laugh. His friends, and a daughter who keeps house for him, see that he does not suffer from want.

Polygamy does not exist among these people, possibly because the conditions are unfavorable, but husbands and wives are not always faithful to each other, and a want of fidelity in this respect is not regarded as at all a serious matter. The unmarried young people are strictly chaste.

The position of the married woman is as dignified and respected as is that of the man, though in any important disagreement she is obliged to submit to the will of her husband.

The relations between parents and children are as close and as affectionate as they are in any part of the world. When small, the children are rather nice looking, but as they grow up their features become much coarser and have a less attractive appearance. At birth their parents give them names, usually only one, but sometimes two, for each child. These names are commonly

the terms used to designate animals or other familiar objects. The children are rarely punished, and as they are thoroughly good-natured punishment is seldom needed. The youngsters often appear very sweet and cunning, as, for instance, when playing in the open air a game corresponding to the "tag" of civilized lands, or when coast-

INTERIOR OF HUT

ing on the little sleighs which their kind fathers have made for them. Except in the mildest way they never quarrel or fight, and they never call each other names or use abusive language in any way. In short, they are a lot of dirty angels.

Marriages take place at a very early age. The man wishes to marry as soon as he thinks he can support a wife, usually when from sixteen to twenty years old, and the girls are considered marriageable when they reach the age of fourteen years. Love seems to be the foundation for all marriages. Even if it were preferred, marrying for money or other worldly goods would not be possible. The engagement lasts quite a long time, but

there are no ceremonies whatever connected with the wedding. The number of children in a family is usually three or four. Sometimes, but not often, it reaches five or even six.

When a visiting Eskimo arrives from some distant colony he does not say "Good day" or "How do you do," and the men and women upon whom he is calling do not welcome him with words. A bashful smile is all that he offers, and the same greeting is returned. Soon one of the older Eskimos, in a low voice, makes some remark or asks some question, and thus a conversation will be slowly started. When the visitor is leaving, he does not say "Good-by," but harnesses his dogs to the sledge and goes away without saying a word about it. In their whole behavior these people show a most absolute independence which will astonish any civilized person who comes in contact with them.

Before starting on a long journey the natives drink as much water as possible. This is done as a precaution against thirst, which in a fatiguing journey in the extremely dry Arctic air is a fearful torture.

During the winter night, which lasts nearly four months, there is never a lack of sociability. This tends to make the time pass more quickly for the people than it otherwise would do. The younger families, especially, travel around a great deal, visiting their parents, aunts, uncles, and other relatives and friends. In many cases they spend more time in this way than they do at home. Even if for a short time they are at home, they have usually made a previous arrangement to entertain some guests.

In December and January the darkness is so intense

that travelling can be done only by moonlight. When the moon appears, once in four weeks, it remains constantly visible for about a week, and gives a splendid light for the travel-loving Innuits.

There is happiness shining on the broad faces of the natives when in the month of February the sun, after the depressing darkness of the winter, begins to give to the clouds nearest the horizon a golden coloring. And when the sun itself for the first time comes into view the joy is unbounded. Old and young, men, women, and children, gather on the rocks behind the huts of the colony, where the view is unobstructed, and with joyful shouts greet the returning king of day.

The Eskimos at Smith Sound have no definite method of computing time or of stating the exact date at which any given event occurred. If they want to indicate a certain hour of the day, they state the position of the sun or the stars in the sky at this time. They have names for our four seasons and terms to designate the to them important periods of the year, as "the days that we move into tents," "the days when the sun leaves us," and various other times and events.

It would naturally be expected that a people situated like the Eskimos, compelled to fight a hard battle for a mere existence, and who are in almost constant danger of finding their food supplies exhausted, and with no certain means of replenishing them, would be very serious and unhappy. We would suppose that they would regard life as an evil which for some reason had been forced upon them, and from which death would bring them a welcome relief. But with regard to the Eskimos such an opinion would be wholly incorrect. To one who lives with them

until he is well acquainted with their ways and understands their language, their joyful laughter, their amusing witticisms, their frequent jokes, and, in fact, their whole conduct, will indicate beyond the shadow of a doubt that these people are unusually well satisfied with their lot in life.

Upon looking more closely at the matter, this satisfaction with what seem to be very hard conditions of existence will not be as difficult to explain as it at first glance appears. In the first place they enjoy excellent health. As they advance in years they suffer somewhat from rheumatism, but they seldom have any other severe illness. Snow-blindness, a slight inflammation of the eyes caused by the bright reflection of the sun on the snow, frequently attacks the men in the spring, but it does not often prove serious in its results. Another and a very important reason for their contentment is found in the fact that this small Eskimo society is founded upon the principle of equal rights and privileges for all of its members. Money is entirely unknown. Love to one's neighbor is a fundamental law. A society in which liberty, equality, and fraternity are not, as in many civilized lands, merely a distant and an almost hopeless ideal, but are the actual rule of life and conduct, can hardly fail to secure a large share of happiness and contentment.

If one of the hunters is more skilful or has better success than his companions, so that during the summer he obtains a larger quantity of meat than will be needed by himself and his family in the winter he does not conceal the surplus, or attempt to withhold it from the others. On the contrary, with pleasure and pride he will distribute it among those whose eyes are not as keen or whose arms

are not as strong as his own, or who were not as fortunate in finding good hunting-grounds.

If the question were raised whether the expert hunters, who secure an adequate quantity of provisions for the winter in a comparatively brief time, will not be more inclined to spend a part of the summer in idleness than to continue the hunt in the interest of others, the answer would be that as long as the ambition of these men continues as great as it is at present, there is no danger of their relaxing their efforts, even if their natural kindness of heart is not taken into the account.

It is a rule among this people that any game which a hunter does not take home, but leaves at some convenient point, covered with stones for possible future use, can be taken by others, if needed, with perfect right, and without asking permission of any one. It often happens that meat stored in this way by one man is used by others. In fact, the tribe forms a single family, and each member, without exception, consecrates the work of his life to the common good. They have the joys of life, as well as the hardships and sufferings, in common. It is seldom that this tribe are visited by a real famine; and though some authors have represented them as improvident, my observation convinced me that they endeavor to enter the winter with a full stock of provisions, and that they usually succeed in obtaining a liberal supply.

The members of this tribe manifest a strong affection for each other. This, perhaps, is not remarkable when it is remembered that the company is comparatively small, and having for a long period been isolated from all other tribes, the members are related to each other by blood as well as by the common ties of humanity. As an instance

of the general concern for the welfare of the individual I well remember how anxious the members of the colony appeared at a time when one of the younger hunters remained away a day longer than was his usual custom.

It is extremely seldom that Eskimos quarrel, and when a disagreement occurs it is a very tame affair. The parties do not talk loudly or call each other names, but simply separate. They are a quiet and gentle people, and very much dislike anything in the way of disturbance or discord.

Judging from the best information we could obtain, it seems probable that the natural period of life is about sixty years. The debility incident to old age is then fully developed, and in many cases is accompanied by an inflammation of the lungs which soon proves fatal.

The communistic form of their society renders stealing from each other impossible. And it must be said of them that they are really an honest people. When we first went among them they would often take articles from the members of the expedition; but as they had no knowledge of the principle of private ownership of property, they could not justly be blamed for doing so. When they learned that we disapproved of their course we could always rely upon their honesty. Still, it was plain to see that they were intelligent enough to perceive the injustice of our holding them to a strict account while we were taking possession of their land without their permission and without compensation, and killing the reindeer which would have been useful to them for food.

The Eskimos rarely told us an untruth. When they did so it usually appeared to be in order to fool the white people who thought themselves so wise, rather than from

either malice or habit. They seldom or never lie to each other, but it is very hard for them to tell a truth that they know will be disagreeable, and they employ all kinds of subterfuges to avoid such an unpleasant task.

Upon the whole, the morals of this interesting tribe must be regarded as approaching the standard of Christianity. But it is to be remembered that while the people of Christian nations are subjected to many and strong temptations to violate the principles of religion, the Eskimos live under much simpler conditions, and can far more easily avoid transgression. For many of the evils which stain civilized society these people have neither motive nor opportunity; and while in various ways they earnestly endeavor to follow the right, there are other directions in which their virtues are negative rather than positive.

The good humor of the Eskimos is inexhaustible. When a large company is gathered, as occurred several times at the house of the Peary expedition, their mirth is unbounded. It would be utterly impossible to describe the "circus" we had when a party of Eskimos came to the house, and for the first time in their lives saw a mule. Their mirth was exuberant, but was far from childish, and many and witty were their remarks about the long ears and the hairless tail of the animal before them.

One of the leading wits of the tribe was little fat Ekva. He would sit for hours in the centre of a little circle and keep the audience laughing at his talk and jokes. But he did not forget his family. He was always careful to put into a dirty seal-skin bag part of the hard-tack that was given him and carry it to his little two years' old child Annedor when he went home.

In the Eskimo tribe at Smith Sound there are no chiefs

or persons who in any way bear rule over others. Each member is his own master, and one never interferes with the affairs of another. The older men who have been or who still are remarkably skilful hunters seem to receive a good deal of respect, and their words have considerable influence upon the other members of the colony, but this is merely a matter of deference, and not a recognition of authority. No greater degree of liberty can be found in any part of the world than is enjoyed by the happy people of this cold and desolate land.

CHAPTER XXV

INTELLIGENCE, RELIGIOUS IDEAS AND CUSTOMS

From the description already given, the reader will readily admit that the natives at Smith Sound, like their brothers farther south, are really an intelligent people. The weapons which they make and the manner in which they conduct their hunting expeditions show that they are not wanting either in ingenuity or in skill. In recent years contact with the members of the Peary expedition has done much to develop these qualities as well as to bring the merits of the tribe to the attention of civilized people.

They greatly surprised us by the facility with which they learned to use firearms and the skill which they exhibited, after practising for only a few hours, in handling our whale-boats.

I think Kolotengva is one of the most gifted men in the tribe. He is certainly one of the ablest and most efficient of the younger members. He is about twenty-five years of age, with a powerful frame and muscles like steel. His eyes are small but bright, and he can clearly discern distant objects that are invisible to ordinary people. His hair, which is long and black, is quite curly and forms a fine frame for his brave-looking face. In many ways he reminds me of chiefs of whom I have read in Indian tales. No one in the whole tribe was prouder than Kolotengva, no one more independent, no one

cooler in danger, shrewder in hunting, or more faithful in friendship. Tungvingva, his wife, was a red-cheeked, smiling child with dark eyes and snow-white teeth.

This couple had a pastime in which no other members of the tribe ever engaged. This was drawing. Sometimes they made sketches of the ships of the Kablunak (white men), sometimes men were represented, at others animals, huts, tents, or kaiaks. As I had fortunately brought a larger quantity of these things than I needed, I kept them supplied with pencils and paper. Many of their drawings were very interesting, and all, without a single exception, showed that they were keen observers.

A picture drawn by Kolotengva in my sketch book represents a hunting scene. Two hunters, an Eskimo with a bow and arrow and a Kablunak with a rifle, are approaching two reindeer from different directions. Their sledge is waiting at the foot of the mountain upon which the hunt is taking place. The Kablunak is shown in a somewhat intoxicated condition and as being lightly clad, but as a whole the picture is quite instructive. Another picture, drawn from memory by Tungvingva, represents the steam sealer *Kite*. It was one of her first attempts to draw with a pencil, and is quite creditable. Still another drawing by Tungvingva represents two white men. As they have their hair cut, instead of wearing it long like the natives, she has simply represented them as bald-headed, and has thereby caused the ears to stand out rather more prominently from the fine heads than their owners would desire.

Kolotengva was a great admirer of the knowledge and inventions of the Kablunak, and was glad to adopt and recommend to the tribe any of our customs or methods

that could be made of practical use in the conditions under which they lived. He was the first to provide himself with pockets in his seal-skin coat. He found them a great convenience, and his example was soon followed by many of the other young men.

Kolotengva had a comrade whom he liked better than he did most of the others. This was Kudla. I do not know a better description of these two than "hurragutter."[1] Wherever anything was going on they were invariably to be found. They were always full of fun, and were sure to do something very comical.

In July, 1894, I was accidentally present when Kolotengva and Kudla returned from a reindeer hunt. While talking with them I noticed that the former's face and hands were so thickly covered with mosquito bites as to give him the appearance of having had the smallpox, while the latter was entirely free from such marks. When Kudla perceived that I was going to speak about it he forestalled me with the remark, made very seriously and with an assumption of superiority, that the mosquitoes had troubled little Kolotengva very badly while he was asleep at night, but as for himself the insects did not dare to attack him. "And why?" continued Kolotengva immediately, "because even the mosquitoes refuse the miserable stuff that is flowing through your veins." This is only a specimen of the satirical fun and repartee of which these young fellows were masters.

If possible a still more pronounced hurrah boy was Kaschu. He was about thirty years old and was as lively as a cricket. His face, which was broad and round, looked

[1] Hurragutter, literally translated would be "hurrah boys." It is equivalent to our terms "one of the boys," "a gay boy," or "a jolly fellow."

as if it had been hastily cut out of a piece of timber by a wood-carver. When he was perfectly happy he laughed so heartily as to stretch his mouth from ear to ear and shut both his eyes. If for any reason he considered himself in danger he invariably closed one eye. His physical endurance was almost unlimited, and it would be extremely difficult to find a travelling companion more energetic and at the same time more genial.

Kaschu pitched his tent near the winter quarters of the second Peary expedition, and remained there for a long time. Every morning, even after it had become very cold, he could be seen, without a stitch of clothing, walking around and taking his weather observation for the day. When the white men had any amusements in progress Kaschu never failed to be with us. When we were running on ski, on the hills back of the house, he accompanied us, and in time he became quite a skilful ski runner, though his appearance was far from elegant. When running fast he made the most frightful faces, and when at full speed he believed that he was in great peril and always closed one of his eyes.

As I have commenced giving biographical sketches I will add a few more of some of the typical members of the tribe.

Among the very old people there were the parents of Kaschu, Arodoksua and Migibsungua. As an indication that the old man knows something of the laws of health, it may be stated that since he ceased hunting he takes exercise every forenoon by walking for a long distance on the ocean ice, pushing his empty sledge in front of him. Recently he has suffered considerably from rheumatism. His wife is quite well, and her tongue is active from early

in the morning until late at night. When strangers are present she is almost continually praising her matchless son, Kaschu. Her other son, the half-witted Aningana, she seldom mentions, but she represents Kaschu as a wonderful boy. When she describes him as a fine-looking fellow, one who is familar with his wooden head, his large mouth, and his half-closed eyes can hardly keep from laughing.

Among the most worthy of the married couples of the tribe should be named Ingapaddu and Ituschaksui, the parents of Tungvingva. They have six children, the largest number in one family within the memory of the oldest member of the tribe. Ituschaksui is a good mother, and looks carefully after the comfort and welfare of her family. I have seen her go out on the ice for more than a mile to tell two of her younger children, who were playing there, that it was growing cold and they should have some covering on their hands.

Ituschaksui has two younger brothers, both of whom are married. Their names are Aseio and Panikpa. Like their sister, they are highly gifted, particularly Aseio, whose pale, narrow face and large, thoughtful eyes are the outward signs of a clear intellect and quick perceptions. He is, however, not very strong, and for this reason his wife, Anavi, has often been obliged to perform the kinds of work that usually fall to the men. So she has turned into somewhat of an Amazon. She can drive a sledge-team with suprising dexterity and ply the whip with as much strength and persistence as any ordinary man.

Panikpa is of a rather retiring and philosophical nature. He prefers to have his tent or winter hut in a lonely place where people do not pass daily, and where he, with his

wife and their small children, can enjoy life in a peaceful and quiet manner. I have had many long conversations with Panikpa, and he always seized the opportunity to make inquiries in regard to foreign lands. His faith in the Kablunak is very great, and he has a strong desire to see their cities, railroads, horses, and many other things of which he has learned something from pictures and verbal descriptions. It is very doubtful if his wish in this respect is ever gratified. But even now his horizon is more extended than is that of many a peasant in civilized lands, and the nature of his inquiries indicates a very thoughtful mind.

Another prominent member of this tribe is Kayegvitto, a smart, good-natured fellow who is taller, and probably is also stronger, than any of his comrades. This superiority has made him very vain. He seems to have formed the opinion that he is really the leading man of the tribe and that he ought to be acknowledged as such. He evidently gained this idea by observing the conduct of our own people. He observed that there was one of our party who was treated with great respect and was obeyed by the others. Doubtless this awakened a desire on his part to act as leader of his companions. His vanity was quite conspicuous, as there was no trace of it in any other member of the tribe. His comrades treat the matter as a sort of a joke, smile, and say something equivalent to "Kayegvitto — yes, poor fellow, he is a little off."

On one occasion this vanity on the part of Kayegvitto proved of great benefit to our party. This was about the middle of winter, when the second Peary expedition was at the north. The supply of food for our large number of dogs had become greatly reduced. We had heard

that Kayegvitto had a considerable quantity of meat at the colony Nachsa, on the south side of Whale Sound. It was decided that I should go there and try to obtain a supply. I set out and on the following day reached the colony while the moon was shining. I was received at the shore by all the male inhabitants, prominent among whom was Kayegvitto. No sooner did the latter see that it was a Kablunak who had come to pay them a visit than he shot into his hut like an arrow, but he soon returned, clad in an old and well-worn coat that he had obtained the previous autumn by trade from one of the members of the expedition. This, he appeared to think gave him a sufficient degree of dignity to enable him to represent his "subjects" in proper manner.

I at once walked up to him, took his hand, and shook it very hard. The ceremony of shaking hands is not customary among the Eskimos of this tribe, but they had learned its meaning, and in this case it appeared very flattering to Kayegvitto. I then explained to him my errand, telling him that Peary, the great master (nalegaksuak) from the distant land, wanted meat for his hungry dogs, and that I had come to ask Kayegvitto, the great master of the Innuits, to supply him. I said that Kayegvitto had a good deal of meat, he was a great hunter, and that only he was nalegaksuak of the Innuits. The last sentence was highly pleasing to the person to whom it was addressed. He repeated it several times, and then invited me to spend the night at his home, an invitation which, of course, was promptly accepted.

On the following morning a conference was held to discuss the matter of giving me the supplies for which I had asked. After I had for a couple of times called this

heavy, coarsely built man the great master of the Innuits, Kayegvitto, with an air of superiority that was indescribably ludicrous, ordered his companions to fill my sledge with meat. Once in a while he would assist in the work by graciously picking out for me the larger pieces of meat. The Eskimos who, for the occasion, had voluntarily condescended to be the subjects of Kayegvitto, heartily enjoyed the whole affair, and were good-natured enough to continue the comedy to the end.

When the meat was loaded Kayegvitto received a suitable present, which apparently he had not expected, and I left the great man standing in the moonlight, still dressed in his thin coat, although the temperature was something like minus 40° Celsius.

In this tribe there is a little orphan boy whose name is Kadluktu. He lived for a long time at our winter house, under Matt's berth, and was well fed with the remnants of our meals. He was a nice and bright little fellow, and we took quite an interest in him. Matt, especially, seemed to have an almost fatherly care for him. First he gave him a thorough washing over his whole body. Then he employed a couple of old women to free his clothes from dirt and vermin, an operation that was greatly needed. When these things had been done, he cut the boy's hair as close as that of a seal; and as far as outward appearance could go, Kadluktu was civilized. The little fellow has no steady home. He lives sometimes with one family and at others with another, but wherever he goes he is always treated kindly.

Kaoni is the name of a queer fellow who has a large wife and four children. I suspect that he is a bit henpecked. At the colonies which Kaoni visits there is

always fun for the inhabitants, but it is at his expense. He is extremely awkward in everything that he does, and in addition to this he has the unfortunate habit of stuttering. So it is inevitable that he should be the principal figure in the funny stories which his neighbors tell each other. The following will serve as a sample of these humorous narrations. It represents a conversation such as occurs when two hunters who live near him meet each other: —

"Nukta caught a narwhal day before yesterday, and Angodlu and Mahotia each caught a seal yesterday."

"Indeed! Akkomodingva and I also killed two seals yesterday. Kaoni was to go with us, but the kaiak he had borrowed upset just as he pushed out from land, and then he stayed at home." [Long and subdued laughter from both hunters.]

"What did Kaoni say when he came back again?"

"Ka-ka-ka-ka-ka-iak is no good." "Ka-ka-ka-ka-ka-oni either, we added." [Again prolonged laughter from both parties.]

On our last expedition we took with us an Edison phonograph, and often allowed the Eskimos to listen to it. Strange to say they did not seem to be very much impressed with this wonderful invention. They never for a moment appeared to connect this apparatus with anything supernatural. They laughed at it, and seemed to enjoy hearing its hidden voices, but evidently looked upon it much as they would have looked upon a toy with which they had been familiar for years. We expected that they would regard the voices as those of the spirits who hold a prominent place in their religious conceptions. But their keen intelligence seemed to immediately make

plain to them that the phonograph, like many other curiosities which the Kablunak possessed, was a wonderfully complicated, but otherwise a quite natural, product of the work of human hands and minds.

Most Eskimos can easily count up to twenty, but in practical affairs they seldom or never have any need for so large a number. When they refer to more than five objects they usually say "many," or use some similar term without attempting to be exact. Sometimes, however, when in the long winter nights they sit in their low huts and cut from ivory small figures of men, or animals, or curiosities of various forms, they try to count them, and go as high as thirty or forty. They count on their fingers: one, atasuk; two, magluk; three, pingarsut; four, sissami; five, tedlumet. If they want to go higher they call six the first finger on the second hand, or igluane atasuk (sometimes abbreviated to igluane); seven will be the second finger on the second hand, or igluane magluk, and so on until they reach ten. Then, as they have no more fingers, they begin to count over again on the fingers but give them the names of the toes. Therefore thirteen will be three toes on the first foot; seventeen will be two toes on the second foot, and twenty will be the last toe on the last foot. If the Eskimo wants to count a larger number than twenty, he starts on a new man. Twenty-one will then be one on the new man (Innuit aipachsjani atasuk). In this way the count can be carried up to forty.

The Eskimos are quite ingenious and are possessed of a good deal of mechanical skill. These qualities are particularly exhibited when they have occasion to repair guns or other weapons or implements, for which work

they have nothing suitable in the way of tools or materials. One of their most difficult tasks is to put a gun in repair after the spring of the lock has been broken. It may be a long time, months, perhaps, before the owner or any of his friends can devise a remedy; but one is pretty certain to be found, and on some fine day the gunner may again be seen in search of game, with his weapon in good working order. He may have been forced to give up the old lock, the spring now in use may be made of ivory instead of steel, and the discharge may be effected by pulling aside a piece of wood which has kept the hammer drawn back; but in spite of all these things the gun is again a serviceable weapon, and the owner is able to do as much execution as he could before the accident which disabled it occurred.

East of Cape York there are several large meteors. These were carefully examined by Lieutenant Peary in the spring of 1894. It is said that when the English polar expedition under Sir John Ross visited this region in the early part of the present century, the natives were using pieces of iron, which they obtained here, for pointing their spears and harpoons. It is not easy to understand how they were able to hammer the iron into a suitable form without heating it. This method of working the metal was not known to the Eskimos in this vicinity until they came in contact with the members of the Peary expedition. It is therefore probable that in earlier times the natives were able to use only a few flat splinters which, by the agency of natural causes, had become separated from the larger bodies.

The Eskimos are careful to protect the feet of their dogs from injury by the hard and sharp ice that forms

upon the surface of the snow in spring. For this purpose they make socks of seal-skin, which are tied to the legs of the dogs below the lowest joint, and which prove very efficient.

These people know the difference between hard and soft woods, and readily distinguish between pine and fir and oak and ash. As they have never seen a living tree, this seems quite remarkable. If they could suddenly be brought where they could see the mighty oaks or the dark green pines, similar to the trees which have furnished the small pieces of timber of which their sledges are made, they would shout with joy.

The Eskimos have a good deal of musical taste, but in most cases it is so slightly developed that they are not able to catch our plainest and simplest airs. Still there are some exceptions. Ituschaksui was our most advanced pupil. We succeeded in teaching her to sing several of our common songs correctly. All the others to whom we tried to teach these airs would introduce many false notes. Still, their own songs, with which they were thoroughly familiar, they sang very nicely. This was especially true in chorus. Here no single voice made itself prominent among the others, and the general effect of the singing was quite pleasing.

The religious ideas of the Eskimos at Smith Sound, though not very clearly defined, are nevertheless quite interesting. In this small tribe we find a shadow of the belief, or perhaps a groping after the ideas, that were held by our own ancestors thousands of years ago. In reality we are considering a people who are just beginning to emerge from the stone age. They are an original people who have remained in character and in conduct almost

unchanged through the lapse of the ages, and who furnish one of the most interesting objects of study to those who desire to trace the development and progress of mankind.

The various religions of civilized people have assumed certain definite forms. The doctrines of each can be stated in a few brief articles of faith which are set forth in the most positive terms. But it is altogether different with the religion, or rather with the religious conceptions, of the Eskimos. The views of this people are vague and undecided. Upon most points there is no general agreement as to what constitutes the truth, but each individual has his own ideas. These take a very wide range, but they are mostly in a shadowy form.

Probably this uncertainty is very largely due to the small number of people in the tribe. In large societies people are strongly influenced by the opinions and beliefs of the masses around them. The fact that millions of people have accepted certain doctrines gives to these forms of belief a very strong presumption of truth. But where the public, so far as is known, embraces only a very few hundred people, its influence upon the individual must be relatively small. And where, as in this case, no common statement of belief has been formulated, the personal element attains a still greater degree of prominence. My opinion upon this point has been strengthened, perhaps I might say that its truth has been confirmed, by various conversations which I have had with the natives themselves.

After becoming well acquainted with him, and gaining his confidence to such an extent that he was willing to talk with me upon a subject which is one of the last which uncivilized people will discuss with others, I asked

Kolotengva, "Do the Innuits believe that there is a life after death?" He replied: "Yes. When an Innuit dies his soul (or rather 'shadow') will wander to a land below us, where there is good hunting, much sunshine, and everything pleasant. But others think that the soul goes to a land high up in the air, and nobody is sure what is right. We Innuits are so few, and there are so many Kablunaks, and you know everything. Tell us how it is about this matter."

It is not necessary to state in full my reply to this request. Suffice it to say that I went so far as to promise Kolotengva an eternal life much happier than his life on earth. No better consolation can be offered a man who is troubled by the thought of death.

When a Christian feels the cares and sorrows of life bearing heavily upon him, and finds trial and disappointment his constant companions, he turns in prayer to an almighty and compassionate God, and obtains the help and consolation which he so sorely needs. With the Eskimos mighty but invisible spirits take the place of God, and in some measure compensate for their want of knowledge of a single all-powerful Ruler. They think that these spirits can be imprisoned by their angekoks or magicians. When this has been accomplished it is thought that conferences can be held with the spirits, and that they can be persuaded to cure sickness, give success in hunting, and aid in all of the various affairs of the daily lives of their petitioners.

Both men and women can become angekoks, though all are not equally well adapted for such a distinction. Clearness of intellect, dexterity, and a talent for acting are all required to enable a man to secure respect as a magi-

cian. The older angekoks teach the younger people who think themselves especially qualified for the position, or who are attracted to the mystic occupation. The time required for learning extends over several years, and during the course of instruction many mysterious ceremonies are performed.

The principal spirit of which the Eskimos profess to have knowledge is Tornahuksua ("the giant shadow"). According to the angekoks he lives exclusively upon the land, can do harm as well as good, and though of supernatural size, he has the human form. When on a quiet day in summer some sudden noise of falling rocks is heard in a colony, the inhabitants will say in a low and anxious voice, "Tornahuksua! Tornahuksua!" They think this mighty spirit is then wandering along the dark cliffs of the mountain-side.

Another spirit of considerable importance is called Kokvoia. This is said to have long black arms, and to live in the sea. There are also many other spirits and mystic beings, but they are all of an inferior order. There is, as has been indicated, a great deal of superstition among the natives, but it is so vague, and varies so much with different individuals, that it is hardly possible to note any specific form which can be said to be characteristic of the tribe.

It is difficult to say how many angekoks are to be found among the Innuits at Smith Sound. In fact, there is a great difference of opinion among the members of the tribe as to which individuals of their number are entitled to this distinction. For myself, I do not think that there is a very strongly marked difference between the magicians and many of those who are not fully recog-

nized as such. My impression is that all who can show a little feeling and mysticism in their songs make pretensions of belonging to this class on every occasion that offers itself. It is, however, one thing for a person to pose as an angekok and quite another to so appear as to inspire others with reverence. There are hardly more than a half dozen in the tribe who are really venerated by their companions. Of these, four are men and two are elderly women.

The youngest of the four male angekoks, and the one who is the most highly respected, is Kayapaddu. He is about thirty-five years of age, fat and smiling, and has only to put on the blue snow-spectacles with which Peary presented him to very closely resemble a good old-fashioned minister. When he gave his spiritualistic séances, the light from the train-oil lamp was turned so low that the occupants of the room could hardly see each other. Then Kayapaddu, holding a skin drum in one hand and a drumstick made of bone in the other, would go forward on the floor and begin to sing and drum.

At first his song was low and quiet, but gradually it would show more and more excitement, his body would sway so that his long hair would wave wildly around, and his face would take on an agonized expression. In a few hours he was covered with perspiration. He pressed his hands to his forehead, cried and moaned, then suddenly burst out in a roaring, almost a demoniacal laughter, and at last succeeded in making appear for him some invisible spirits of the lower orders that he used as messengers to the higher powers. Now he frequently changed his voice. Sometimes it represented the voice of a spirit, at others it was perfectly natural. He became more and more noisy

and demonstrative, until at length many of his hearers became so nervous and excited that they trembled with emotion and some of them began to moan with him.

If the object of this performance was to heal the sick, or to prolong the life of one who appeared to be dying, Kayapaddu would sometimes continue the exercises for several hours. He would seldom give up until the patient was either dead or improving. If death occurred at such a time it would be said, in favor of the angekok, that recovery was impossible, as some hostile spirit had obtained power over the soul, and had previously stolen it, or some similar excuse for his failure would be made. If, on the other hand, recovery ensued, respect for the magician appeared to be greatly increased.

There is no doubt that the natives who are present at these performances believe that the spirits are really present, and that they negotiate with the angekok. And for my part I dare not doubt that the angekok acts in good faith. It is often said, and perhaps correctly, that if a lie is repeated times enough, the one who tells it comes to believe that it is true. There can hardly be a question that the angekoks are self-deceived.

The belief which appears to extend to all races and all parts of the world in amulets, or objects that have the power to protect their wearer from evil spirits and give security when danger threatens, is common among the Eskimos at Smith Sound. These amulets are often narrow bracelets of black seal-skin without hair. For women necklaces of the same material are in common use. Pieces of seal-skin clothes that once belonged to people who have died, small ivory figures of men or animals, and various other objects are also employed. The amulets are suppos-

crated by singing mystic songs over them. As a rule the older people decide, or at least suggest, what objects the children or young people ought to select for the purpose.

When an Eskimo dies the remaining members of the family observe many formalities, in order that the soul of the deceased shall not feel insulted. They are not to mention his name, but must cry and mourn a certain length of time after his death. Those who have touched the dead body or anything belonging to it must for a long period observe certain rules in regard to their clothing and diet.

Before the body is taken out it is dressed in full travelling costume. Then it is drawn by straps through the entry of the house, taken for some distance from the dwellings and away from the shore, and is well covered with stones. Often the corpse is bent so that the knees touch the breast, and is then rolled in skins. This is done to save the labor of making as large a grave as otherwise would be needed. The house in which a death has occurred is immediately vacated. If it is ever used again it will be only after a long period of time has intervened.

All the property of the dead that his friends think could be of service to him in his long wandering to the land of souls is placed near the grave. The natives believe that it is the "souls" of these objects, and not the material things themselves, that will be useful to the departed in his long last journey. And while the soul is going toward the distant sunlit hunting fields the body remains in eternal sleep. Only the chilling blasts of the wind penetrate among the stones and sweep through the faded fur coat in which all that was mortal of the man is clothed.

A BRIEF HISTORY

OF THE PRINCIPAL

EARLIER ARCTIC EXPLORATIONS

FROM THE NINTH CENTURY TO THE
PEARY EXPEDITION

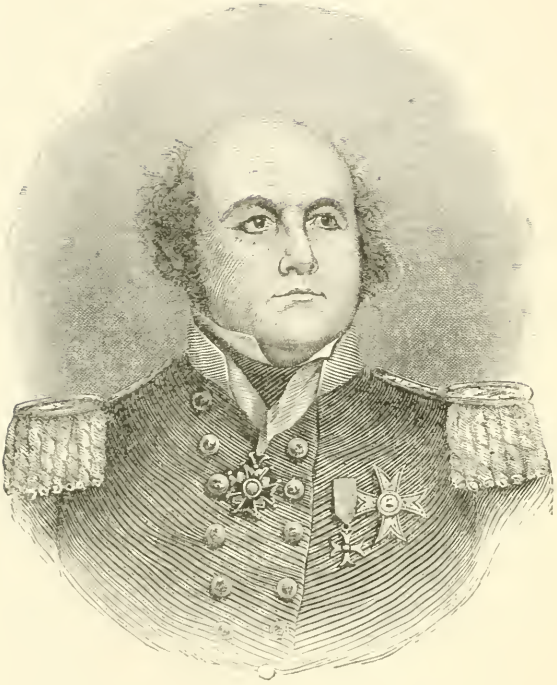
INCLUDING THOSE OF

CABOT, FROBISHER, BERING, SIR JOHN FRANKLIN,
KANE, HAYES, HALL, NORDENSKJOLD,
NARES, SCHWATKA, DE LONG,
GREELY, AND OTHERS

BY

JOHN E. READ

ASSISTANT EDITOR OF THE "[illegible]"



John Franklin

EARLIER ARCTIC EXPLORATIONS

CHAPTER XXVI

PIONEER VOYAGES

Who first engaged in Arctic exploration, and from what point and on what date the first expedition started, is unknown. Pytheas, a geographer who lived in the time of Alexander the Great, claimed to have entered the Polar Zone. He reported the discovery of various regions, and represented that he had "explored Northern Europe even to the world's end." To some region that he visited the name of Thule was given; but whether this was Iceland, one of the Shetland Islands, or some other country, cannot be determined.

Whatever may have previously been discovered, it is probable that in the middle of the ninth century there were no human settlements farther north than the Faroe Islands. It is certain that at this date the Scandinavians were a hardy and restless people, fearless and persevering, and possessed of an unquenchable spirit of adventure and thirst for discovery. There is reason to suppose that about the year 860 a party of these sea rovers, while attempting to reach the Faroe Islands, were driven upon an island which presented such an inhospitable appearance that they named it Snowland. A few years later a party of Swedes visited the same island and gave it the name of

Iceland, by which it has since been known. In or about the year 874 Norwegian adventurers established the first permanent settlement upon the island and laid the foundations of a prosperous colony.

Previous to this, voyages in the northern waters appear to have been undertaken principally for the purpose of adventure. But in 890 Simon Otho, or Other, a Norwegian sailor, reputed to have been in the service of Alfred the Great of England, seems to have engaged in a maritime exploration which had a commercial end in view. At this time the Venetians and the Moors controlled commerce and shut out the English people from direct trade with Turkey and India. It was therefore desired to find a way of reaching these countries without passing into the Mediterranean Sea. According to ancient records the king fitted out a ship and commissioned Otho to make a voyage of discovery "for the glorye of God, the honour of his kinge, and publique goode of his countrie." Thus equipped Otho commenced a search for a northeast passage to India. Just how far he went cannot be determined, but it is certain that he sailed around the northern extremity of Iceland, and that he was the first navigator who crossed the Arctic Circle. After enduring many hardships he returned home without making any valuable discoveries.

When the Iceland colony had been established about a hundred years it was joined by Thorwald, a powerful chief who had been expelled from Norway. He was soon followed by his son, who is known in history as Eric the Red. The latter had heard of a land upon which a sailing party had been driven in a storm, and in the year 982 he started on a voyage on which he discovered a country

which he called Greenland. It is supposed that this pleasant name was given in order to induce people to settle there. That it proved disappointing to some of its visitors is indicated by one of the early writers, who said that "certainly there is no place in the world yet knowne and discovered that is less greene than it." In spite of the forbidding aspect of the country, Eric succeeded in establishing a colony which soon became of considerable importance. The Christian religion was accepted and the church prospered to such an extent that in 1121 a bishop was consecrated. For about three hundred years thereafter the colony was strong and thriving. At the close of this period a rapid decline commenced, and the church and colony fell into utter ruin. The causes of their disappearance are involved in an impenetrable mystery.

In the year 1000 Leif, a son of Eric the Red, having been told by a visitor from Iceland who had encountered contrary winds of a land that he had seen while on his way, started on a voyage in hope of discovering this unknown region. The numerous accounts of this voyage which have come down to the present time show considerable variation as to details, but it is clear that the party saw Newfoundland and Nova Scotia, that they landed on the coast of New England, that they wintered near Plymouth Rock, and that here was born a child that in all probability was the first one born of European parents on the American continent. On account of the great number of vines which were found, the country was named Vinland. All this occurred nearly five hundred years before Columbus set foot on the New World.

In 1380 two Venetian brothers, named Zeno, are said

to have sailed to the north and on their return given interesting accounts of the countries which they had seen, but just what lands they reached cannot be determined. Various other venturesome navigators sailed upon American waters, but for a long period after the discovery of the New England coast no important results were obtained.

The wonderful discoveries of Columbus gave a new and powerful impetus to maritime adventure and exploration. From this time on, instead of the roving voyages of individuals, expeditions were organized with great care, often under the authority of the government of the country whence they sailed, and were commanded by men who were educated in the science of the time and also were in most cases practical seamen. In 1496 John Cabot, a Venetian then living at Bristol, and his sons were authorized by a royal patent from Henry VII. of England to sail under the English flag "to all parts, countries, and seas, of the east, of the west, and of the north," and as officers of the king to take possession of whatever lands they might discover. The explorers were obliged to furnish their own ships and equipment, and it was not until the spring of 1497 that the expedition started. On this trip John Cabot was accompanied by his second son, Sebastian, who became a noted explorer. Newfoundland and Labrador were discovered some eighteen months before Columbus reached the mainland of America. In 1498 John Cabot received another commission from the king, but for some unknown reason he was not able to go with the expedition, and Sebastian Cabot took command of the two ships that had been provided. There is no doubt that an effort was made to find

a northwest passage to India, but accounts of the expedition are so hopelessly confused and conflicting that it is impossible to determine the course that was pursued or the highest degree of latitude that was reached.

In the year 1500 Gaspar Corteral, of Portugal, a member of a noble family and connected with the court of King Emmanuel of that country, sailed from Lisbon and explored the coast of Labrador for several hundred miles. The following year he made another voyage, and probably reached Hudson Strait; but during a violent storm his ship disappeared, and no trace of it or of its crew was ever found. In 1524 France sent out an expedition, commanded by Giovanni Verazzano, which followed the coast of the United States and of British America to a latitude of 50°. After his return Jacques Cartier sailed from France and reached the Bay of St. Lawrence, which, with the St. Lawrence River, he afterward more fully explored.

During the reign of Henry VIII. two polar expeditions were made by the English, but they added little or nothing to the knowledge of northern regions that had previously been acquired. Then a company of merchants, said to have been men of "great wisdom and gravity," fitted out three ships for an expedition to search for a northeastern passage to India and China. Sir Hugh Willoughby, who, though he seems to have known very little about naval affairs, was considered "a most valiant gentleman," was chosen commander. Instructions for the voyage were carefully drawn by Sebastian Cabot. This expedition sailed in 1553. While off the North Cape a gale separated the ships. Willoughby came within sight of Nova Zembla, but progress northward being impossible on account of the ice, he turned back to the mouth of a river

in Lapland, where he went into winter quarters with the crews of the two ships which had kept together. Here they all perished with cold or hunger. The ships were afterward recovered and started for England with the bodies of the departed, some seventy in number, but they foundered at sea and the living were engulfed with the dead. The third ship, commanded by Chancelor, reached a place where there was "no night at all" and sailed into the White Sea. The crew landed at Archangel and opened the way for an extensive commerce between England and Russia.

In 1576 Martin Frobisher sailed from England in hope of discovering a northwest passage. Great demonstrations were made by the people, and Queen Elizabeth sent a gentleman on board to inform the crews that she wished them "happie successe." A point off the coast of Southern Greenland was reached, but the winds were so contrary that a landing could not be effected. One of the vessels was lost and the commander of another deserted the expedition and sailed back to England. Frobisher continued his voyage and passed into what is still known as Frobisher Strait. Returning home, he carried, with various other things, specimens of minerals which were tested by various parties, by some of whom they were said to contain gold. Great excitement was occasioned by this report and the queen placed Frobisher in command of another expedition. These ships brought back some two hundred tons of the ore, but it was found to be not only destitute of gold but absolutely worthless. A third and larger expedition was soon prepared and sent out under the same commander, but it met with various and great disasters and accomplished nothing of marked importance.

martin frobisher

From Justin Winsor's "Narrative and Critical History of America."
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In 1580 two ships departed from England in search of a northeast passage. They were commanded by Arthur Pet and Charles Jackman. They entered the Kara Sea, but soon found farther progress impossible and returned. Three years later Sir Humphrey Gilbert, who had written upon the subject of the northwest passage, secured from Queen Elizabeth permission to make a voyage to America and to take possession of all "heathen and barbarous countries" which he should discover. One fifth of the

gold and silver secured was to become the property of the crown, and homage was to be paid to the sovereign. With these exceptions Sir Humphrey was to have absolute authority in the regions of which he should take possession. After two unsuccessful efforts, the first from trouble with the crews and the second from bad weather, he sailed with five ships. One soon returned. The others reached Newfoundland, and formal possession was taken of the island. One ship was sent home with a number of the crew who were sick, and one of the others struck on the coast and was destroyed by the waves. Only sixteen of the crew escaped. The captain and about one hundred of his men went down with the ship. Fogs were heavy and food supplies were becoming scanty. The crews of the two remaining ships desired to go back to England. After exacting a promise that they would return with him the next spring, Sir Humphrey consented to grant their request and the homeward voyage was commenced. The ship on which Sir Humphrey sailed was greatly overloaded, and, encountering a hard storm, it went down with all on board. The remaining vessel succeeded in reaching England, though in a somewhat disabled condition.

A company of English merchants, with the "desire of advancing God's glory and the good of their native land," fitted out two vessels for a voyage to discover a passage to India. This expedition was placed in charge of John Davis, who sailed in 1585. After reaching the coast of Greenland and following it to a considerable distance, he turned to the west and discovered the strait to which his name has been given. He reached a point much farther north than any previous navigator, but storms and fogs

were encountered and the ships returned to England. In 1586 and 1587 Davis revisited the places discovered on his first expedition, and reached a somewhat higher latitude but great quantities of floating ice soon caused him to leave the dangerous locality.

The next polar expedition of great importance was commanded by William Barents, of Holland. He made three voyages, the first in 1594. During this voyage he reached the northern point of Nova Zembla, but could not proceed farther on account of the ice. That he was wonderfully persevering in the face of great difficulties is evidenced by the fact that in trying to get through the pack of ice he put his ship around eighty-one times. He returned home and the following year had command of another expedition, but soon after he reached the Kara Sea a great storm arose and large quantities of ice drifted around the ships. Efforts to proceed were futile and the weather became severe. At this juncture a council was held, and it was resolved that they had done the best they could to carry out the instructions under which they had sailed, but that it was now to be "seen that it does not please God that we should continue our voyage, and that it is necessary we should desist." They therefore resolved to return to Holland as quickly as possible. The government declined to take further risks in the matter, but offered a reward to any one who should discover the passage. A few residents of Amsterdam equipped two vessels, one of which was commanded by a seaman named Rijp, and the other by Barents, which sailed in 1596. Early in June they came to Bear Island and later in the same month they discovered Spitzbergen. Here the commanders were unable to agree as to the course to be pursued. They

therefore separated, and each followed the direction which seemed to him most likely to lead to a successful issue. After sailing for some time and making no discoveries, Rijp returned to Holland. Barents reached the northeast corner of Nova Zembla, entered a bay which was called Ice Haven, and was closed in by the ice. Here, with the sixteen men of his crew, he was forced to spend the winter. With a quantity of drift wood which they found, and some planks from the ship, they built a house. Here they suffered almost beyond endurance. An entry in their journal states that the cold was so intense that "what fire soever wee made it would not warme us." Often the walls were covered with ice and clothing froze while it was being dried by the fire. For eighty-one days they were without the sun. One of their number died. During the spring the weather became milder and plans were formed for an escape from their dreary abode. But it was not until June 14 that they were able to leave, and then they were obliged to go in two open boats, as the ship was fast in the ice. Barents, who had been ill for some time, died on the fifth or sixth day of the voyage. After enduring great privations twelve of the crew reached Lapland and were taken home by a Dutch vessel which stopped there on its return from a trading voyage. More than two hundred and seventy years later the house which Barents and his crew had occupied, and in which they had endured such terrible privations, was visited by a Norwegian trader named Carlsen, who found cooking utensils, tools, books, a flute, and numerous other articles, apparently just as they had been left when those who had used them so long ago departed never to return.

During the next few years various expeditions sailed

to the north, but no valuable results were secured. In the year 1607 Henry Hudson entered the list of Arctic explorers, and in the four voyages which he sailed he made discoveries of great importance. The first of these expeditions was sent out by the Muscovy Company. His orders were to "go direct to the North Pole." His ship was small and his crew consisted of only twelve men and a boy. He passed along the east coast of Greenland and examined the coast of Spitzbergen, but after reaching a latitude of about 81° his progress was checked by ice and fog. His stock of provisions was scanty, and, the weather becoming intensely cold, he returned home. The following year he sailed again, in a little larger vessel, and hoped to find a northeast passage; but heavy fogs and an enormous quantity of ice prevented him from reaching a higher latitude than 75°. Upon this voyage he found the waters teeming with whales and seals, some of which he hoped to capture, and with the proceeds defray the expenses of the expedition. In this he was as unsuccessful as he was in the main object of his trip, but from his discovery very extensive and profitable fisheries were afterward developed. The next year Hudson engaged in the service of the Dutch East India Company. His report of this voyage indicates that he followed his own inclinations more closely than he did the course which his employers expected him to pursue. For though he started northeastward, he soon, under the plea that the ice was impenetrable, sailed to the west. Continuing this course, he reached the bay upon the shore of which New York city now stands, and discovered the magnificent river which bears his name. In the spring of 1610 Hudson sailed upon what proved to be his final voyage

A ship of fifty-five tons, called the *Discovery*, was fitted out by persons who believed that a northeast passage could be found, and who chose Hudson as its commander. He visited the Orkney and Faroe Islands, passed near Iceland, and reached what is now called Resolution Island. From this point he was unable to proceed to the north. Turning toward the south, he came to the great strait which has received his name. Progress was exceedingly difficult on account of ice, but he pressed onward until he came to the great body of water that is now known as Hudson Bay. This appeared to him to be a great open sea, and he believed it was a part of the Pacific Ocean. He sailed for a long distance into this great bay, but the weather became severe and it was necessary to go into winter quarters. What appeared to be a suitable place was found upon an island, the vessel was brought to the shore, and was soon fast in the ice, and preparations were made for spending a long and dreary season at this inhospitable retreat. The crew were greatly dissatisfied. Their means of protection from the cold were wholly inadequate, their supplies of food were very scanty, and during the winter they endured great hardships. Hudson, however, seems never to have lost courage or wavered in his determination to do all that was within his power to bring his voyage to a successful issue. But in the spring, when an attempt was made to continue the exploration, a portion of the crew mutinied. Hudson, his son, several sailors who were sick, and the carpenter, who refused to remain with the mutineers, were sent adrift in an open boat and were never heard of again.

A careful study of what data could be obtained led to a belief that by sailing across the great open water that

Hudson had discovered the shore of China could be reached. In 1612 Captain Button was sent out by Prince Henry of Wales to find a northwest passage and proceed to the Asiatic coast. He reached the mouth of the Nelson River, where at a later date the Hudson Bay Company established its first station. Here he was obliged to stay until spring, when he continued the voyage until he reached a latitude of 65°. Then he turned southward, and after touching at Mansell Islands sailed to England. Although he had not been able to find it, he expressed a firm belief in the existence of the passage. About this time various other expeditions were sent out, but no discoveries of great importance were made.

In 1616 William Baffin reached and explored the great body of water which has received his name and which geographers have pronounced "the most magnificent bay in the world." He passed Lancaster Sound, into which Parry sailed some two hundred years afterward, and discovered Smith Sound. His reports were not credited at the time; but later explorers found that they were true, and that his lunar observations had been taken with a remarkable degree of skill.

Several other expeditions were sent out at brief intervals, but for a long period no point was reached as far north as Baffin had penetrated, and faith in the existence of a northwest passage gradually declined. Then, too, about this time the interest of explorers was turned toward America, which became the objective point of numerous voyages for the discovery of new regions and the establishment of colonies.

Toward the close of his career Peter the Great of Russia formed the plan of sending a party to explore the

northeastern portion of his dominions and find at what point, if any, the continents of Asia and America were separated by water. Empress Catherine was interested in the project, and after the death of the Czar carried out his wishes in this respect. An expedition under the command of Captain Vitus Bering, a Dane who had become a trusted officer in the Russian navy, left St. Petersburg in 1725 and proceeded by land to Ochotzk, a distance of nearly four thousand five hundred miles. Here two ships were built, and in July, 1728, the party sailed toward the northeast. They made various observations along the coast of Kamtschatka, and proceeded to latitude 67° 18′, when, finding no appearance of land and fearing the rigors of the rapidly approaching winter, they returned to the port from which they had sailed. Here the weary months of the winter were passed. The effort to reach the American continent was then repeated, but was in vain.

The final voyage of this great navigator was made in 1741. With two ships he left a harbor in Kamtschatka on the 4th of June, and on the 18th of July he discovered the continent of America. The captain of the other ship had sighted the same coast, at a lower latitude, three days before. He remained in the vicinity for some days, lost several men who went on shore, and then, with the remainder of his crew, returned home. Bering made an effort to proceed to a higher latitude, but was driven back by a violent storm. The scurvy broke out among the crew, and it was decided to return to Kamtschatka, but on the way they missed their course. Several of the crew had died, and so many of the survivors were sick that it was almost impossible to manage the ship. Fogs and

gales were encountered, and they were in almost constant fear of being wrecked. In November they were driven upon a small island, which received the name of the commander of the expedition. There they made what preparations they could and went into winter quarters. On the 8th of December Bering, who had been ill for some time, passed away. The discovery and naming of Mount St. Elias, and the discovery of Bering Strait, which proved that Asia and America were not connected by land, were among the fruits of this expedition, in which one of the most meritorious of the great Arctic explorers lost his life. This was followed by several other Russian expeditions, some by sea and others by land, by which considerable additions to the previous knowledge of various sciences were made.

CHAPTER XXVII

INTEREST RENEWED

In 1743 interest in Arctic exploration was revived by an offer made by the British Government of a reward of £20,000 for the discovery of the Northwest Passage by way of Hudson Strait. Various voyages were made, but their main object was not accomplished and the results were very meagre. In 1776 the government removed the restriction as to the route, and offered the reward for the discovery of "any northern passage" navigable for ships, and also added an offer of £5,000 to any one who would penetrate to within one degree of the North Pole. Among the navigators who attempted to solve the great Arctic problem were the famous Captain Cook, whose course was blocked by ice in latitude 70° 20′, and Sir Alexander Mackenzie, who discovered the great river that is called by his name. William Scoresby, a noted whaler, while on a cruise off the east coast of Greenland, in 1806, succeeded in working his way through the ice into a great open sea and reaching a latitude of 81° 30′, a higher point than had previously been attained.

From the officers and crews of whaling vessels which returned from the coast of Greenland in 1816 and 1817, the British naval authorities learned that the sea was then unusually clear of ice. It was therefore considered a favorable time for pushing the work of exploration; and in 1818 an expedition, under the command of Captain

John Ross and Lieutenant William Edward Parry, both of whom were subsequently knighted for their services in this field of investigation, was sent to discover the Northwest Passage. The two vessels with which they had been furnished sailed in April and arrived at the Danish settlement on the Whale Islands in June. Here they learned that the preceding winter had been unusually severe. After various delays, and encountering great dangers from the ice, they reached a rugged coast upon which they landed and which they explored for quite a distance. Proceeding on their voyage, they followed to a considerable extent the course which Baffin had pursued. Various sounds that he had described were passed; but as appearances indicated that they were either bays or else were impassable on account of ice, no effort was made to explore them. On the 30th of August they reached one of these inlets which was bordered by majestic mountains and which, being free from ice, it was resolved to explore. This proved to be Lancaster Sound. For some thirty miles the course was unobstructed, and the officers and crews were hopeful and almost confident that full success was soon to crown their arduous and perilous undertaking. After proceeding a little farther they found, much to their disappointment, the appearance of a mountain range directly across their course. The weather was threatening, and Captain Ross hastily gave orders to return to the bay. When this was reached the western coast was followed for some distance, and then the expedition returned to England, arriving there safely in October.

This failure to discover the passage for which so many other navigators had searched in vain strongly tended to

confirm the opinion that Baffin had formed, and many others had accepted, that from Lancaster Sound there was no entrance to a sea lying to the west. From this view Lieutenant Parry dissented, claiming that this expedition, like others which had preceded it, "had been relinquished just at a time when there was the greatest chance of success." After a careful investigation of the causes which led Ross to return, the government directed Parry to make another voyage. In accordance with this commission he sailed from England, with two ships, in May, 1819.

The ships were provisioned for two years, and were well supplied with whatever was supposed to be needed in such a voyage. The instructions under which he sailed required the commander to make as thorough an exploration as possible of Lancaster Sound, and, in case that was found to be impenetrable, to enter other inlets, if open ones were found. A direct voyage to Lancaster Sound was attempted, but when latitude 73° was reached vast masses of ice were encountered. For some ten days navigation was extremely difficult, and many times the ships narrowly escaped being wrecked. On the 25th of June an open way appeared, and the voyage was continued with but little difficulty till on the 30th of July the southern entrance to Lancaster Sound was reached. This was about four weeks earlier in the season than the expedition of the previous year had come to this point. On the following day the crew went on land and found a flagstaff that had been set the year before.

The ships then passed up the sound, and officers and crews watched with great anxiety for evidence that should determine whether the mountains which Ross had

claimed to see, and to which he had given the name of Croker Range, really existed, or were, as Parry firmly believed, only imaginary. The point at which the range had been located was passed without obstruction and was found to be a splendid bay. Continuing their voyage along the wide inlet, which, in honor of Sir John Barrow, one of the principal promoters of the expedition, was named Barrow Strait, the party became confident that their course would lead them to an open sea. They were soon disappointed by coming to an island from which a body of ice extended to the northern shore. For some time the compass had been losing its sensitiveness, and at length it became entirely useless. By this it was known that they were near the magnetic pole; but the time in which Arctic exploration could be continued was so brief that it was not considered wise to delay in order to take exact observations. Varying their course to avoid the ice, and pressing forward with what speed they were able, they came, on the 22d of August, to a strait some eight leagues in width, that seemed to be free from ice, which was named Wellington Channel, but which, for want of time, was not explored. On September 4 the meridian of 110° west longitude was crossed, and Parry announced to his crews that they were then entitled to the reward of £5,000 which had been offered to subjects of his Majesty who should first reach that meridian within the Arctic Circle. In honor of the event a point of land on Melville Island, near by, was named Bounty Cape.

The weather was growing severe, the nights were dark, and, as the compass was useless, progress was slow and difficult. Still, it was hoped that exploration could be continued for some weeks. But only four days after

crossing the meridian which they had been so anxious to reach, their course was completely blocked by solid ice. After waiting about a fortnight in hope that the barrier could be penetrated, they became convinced, not only that further progress was impossible, but also that to remain where they were involved great and immediate danger that the ships would become fast in the ice. It was therefore decided to return as far as Melville Island and attempt to enter one of the two good harbors which had been observed as they passed a few weeks before. Considerable difficulty was experienced in reaching the vicinity of the western harbor, which seemed to offer a safer retreat than the other, and then it was found necessary to cut a channel more than two miles in length and wide enough to admit the passage of the ships, through ice that averaged seven inches in thickness. This difficult task accomplished, the ships were brought, on the 26th of September, to a safe anchorage, in five fathoms of water, at a point near the beach. Here they were destined to remain until August of the following year.

For a few weeks some game was secured by hunting parties; but as the weather became more severe, the animals that were suitable for food migrated, and only foxes and wolves remained on the island. Before the close of October the mercury sank to 24° below zero, and it became necessary to spend most of the time on board the ships. In order to keep his men cheerful, and help while away the long and dreary period which he knew must elapse before they could leave the spot upon which they were practically imprisoned, Parry organized a theatrical party which gave a performance every two weeks during

the long night of three months that set in at the time this unique place of amusement was opened. A weekly newspaper was established, and served, in some measure at least, to take the attention of the men from their unpleasant surroundings and keep their minds active and interested. By these diversions, and by the regular exercise on the decks of the ships, which was required by the commander, the health of the men was well maintained. During January it became very cold, the thermometer registering from 30° to 40° below zero a large part of the month. February brought still severer cold, 55° below zero being indicated on the 16th, but it also brought the sun. March gave a little relief, but it was not until the last of April that there was a rapid rise in temperature. With the increased warmth birds and quadrupeds returned from the south, and hunting expeditions were made with the double purpose of giving the men exercise and of increasing the food supply.

During the first half of May the ice was cut, and on the 17th of that month the ships were once more afloat, but until the 2d of August they remained locked in the harbor by the great body of ice that lay between them and the open water. When it became evident that considerable time must elapse before their voyage could be resumed, Parry and a party of his men made a partial exploration of Melville Island. On most of the area the soil was barren, but the western coast had some vegetation and a greater abundance of game. Not only were moss, grass, saxifrage, and dwarf willows found, but one of the party was surprised and delighted by securing a ranunculus in full flower. In June the snow thawed rapidly and walking became very difficult. The ravines, too, were

filled with torrents of water, which made them both difficult and dangerous to cross.

On the 2d of August the body of ice by which the ships had for so long a time been imprisoned broke up and floated away. The voyage was resumed; but on the 15th of the month, when the southwestern extremity of the island had been reached, an impassable barrier of ice was found. Careful observation, from a high point of land, led to the belief that there was no possibility of advancing in that direction, and a search for a passage farther to the south was decided upon. This proved unsuccessful, and the expedition returned to England. In this voyage Parry had reached a spot more than thirty degrees of west longitude beyond the extreme point touched by any of his predecessors.

At the time the expedition commanded by Ross was sent out to discover a northwest passage, another, under Captain Buchan and Lieutenant, afterward Sir John Franklin, was fitted out to discover the North Pole. Two ships were provided, and instructions were given to proceed into the Spitzbergen seas, and, passing between Spitzbergen and Greenland, push directly for the Pole. The weather was bad and the ships were soon separated, but early in June they met at an appointed place off Spitzbergen. Learning from the officers of whaling vessels that the sea to the west was filled with ice, Captain Buchan sailed to the north; but before passing the northwestern point of Spitzbergen the ships became fast in the ice, and for thirteen days they were carried to the south at the rate of about three miles per day. After getting free they made another attempt to proceed, but early in July they were again imprisoned in the ice. Here they were

detained for three weeks. Further efforts to pass northward appearing to be useless, it was decided to give up the attempt and endeavor to pass along the eastern coast of Greenland. They were soon overtaken by a violent gale; and as one of the ships was badly injured, it became necessary to proceed to Fair Haven for repairs. When these were made the ships started on their homeward voyage and reached the Thames on the 22d of October.

In order to increase the chances of success in the effort to learn the real condition of the northern polar regions, a party was sent out by the British Government, in 1819, to pass overland and survey the northern coast of the continent from the mouth of the Coppermine River to Bering Strait. This party consisted of five persons: Sir John Franklin, who was appointed commander; Dr. Richardson, a naval surgeon; George Back and Robert Hood, midshipmen; and John Hepburn, a seaman. They left England in May and after a perilous voyage reached York Factory, a station on Hudson Bay, August 30. Here they were delayed about ten days in making necessary preparations for a continuance of their trip. Following rivers and lakes as much as possible, but in many places finding their course impeded by rocks or rapids, they reached another station of the Hudson Bay Company, called Cumberland House, on the 22d of October, having traversed a distance of about seven hundred miles.

Notwithstanding the lateness of the season and the increasing intensity of the cold, Franklin felt that a part of the company ought to proceed to one of the stations on Athabasca Lake, or perhaps even farther north, where, he had been informed, guides and interpreters could be secured. It was arranged that Franklin, with two of the

party, should go on, and that the other two members should remain where they were until spring. Accordingly, Franklin, accompanied by Back and Hepburn, started on the 18th of January and arrived at Fort Chipewyan, a station at the northwestern shore of Athabasca Lake, near the end of March. This point was about eight hundred and fifty miles from the one at which they had left the remainder of their party. The journey was tedious and dangerous. While walking, they were obliged to wear snow-shoes. These weighed two or three pounds each and made the wearer feel that he was dragging "a galling and stubborn weight at his feet." The cold was intense; but as the mercury froze in the bulbs of the thermometers, its degree could not be measured. The difficulties of the situation were increased by a scarcity of provisions, and terrible suffering was experienced before the destination of the party was reached.

At Fort Chipewyan Franklin and his companions remained until July, when they were joined by Hood and Dr. Richardson, who had been left at Cumberland House. Other stations had been communicated with, and nearly twenty Indians and Canadian boatmen had been engaged to assist in the expedition. A little after the middle of July the party started, in hope of reaching the mouth of the Coppermine River before going into winter quarters. But the greatest exertions were unavailing; and on reaching a point some five hundred and fifty miles from Fort Chipewyan they selected a spot on the bank of a frozen river, where they erected a hut to which they gave the name of Fort Enterprise. Here the party killed a large number of reindeer and prepared for future use the meat that was not required for immediate consumption. Two

trips were made, one in a canoe and the other, by Franklin and Dr. Richardson, on land, in order to determine the distance to the Coppermine River. This proved to be about eighty miles. Both parties returned in safety, but they had endured great suffering from cold and want of food.

It soon became apparent that a sufficient quantity of game could not be obtained to supply the company with food during the long winter that was then setting in, and Back proposed to lead a company to some of the stations that had been passed, even to Fort Chipewyan if necessary, and hasten the delivery of provisions that had been sent up from Cumberland House. This journey, which was marked by extreme privations and attended by great dangers of various kinds, occupied, with the return trip, nearly five months. During this time Back had walked more than eleven hundred miles. The winter was exceedingly cold, and at one time the thermometer indicated 57° below zero. Even the trees were frozen through, and in trying to cut them nearly all the axes were broken. In December the food supplies got very low, and great anxiety was felt on this account; but about the middle of January a quantity of provisions sufficient for more than two months was received from one of the other stations. With the opening of spring reindeer appeared, and danger from starvation was passed for a few months, at least.

As the weather grew milder, preparations for the onward journey were begun. Before the camp was broken arrangements were made with an Indian chief, who had been with them for some time, to bring a supply of provisions to the fort before September, in order that, if they returned that way, they would not be in want of food for

the next winter. Early in June the first party, led by Dr. Richardson, started. On the 14th of the month Franklin and the remainder of the force left the fort, taking with them three canoes, which were drawn over the snow and ice by men and dogs. Travelling was difficult and provisions were scanty. Several of the men became lame, and in order to lighten the load one of the canoes was left on the way. Franklin and some of his companions fell through the ice and narrowly escaped being drowned. On the 1st of July the Coppermine River was reached and the canoes were launched upon its waters. Navigation was difficult and perilous; but on the 18th of the month the mouth of the river was reached, and a great polar sea stretched out before them. On the way they had secured some salmon, and also killed several musk oxen, but even with these additions their stock of provisions was small. The distance travelled from Fort Enterprise to this point was three hundred and thirty-four miles. For more than one third of this distance it had been necessary to drag the canoes and baggage over the snow and ice. Yet after all the time they had spent, the sufferings they had endured, and the dangers they had encountered, they had only reached what, when the main purpose of the work was considered, was the real starting-point of the expedition.

After a brief stop at the mouth of the river the party of twenty men, in two canoes and with provisions for only fifteen days, started toward the east. For four days they kept near the coast. This had considerable vegetation, and the water was comparatively free from ice. They then came to a rugged point which they doubled. In a short time they were hemmed in by the ice, in which they

were detained for several days. Some of the men went on shore and succeeded in killing a few deer to eke out their scanty supply of provisions. As soon as possible the voyage was renewed. Cape Kater was rounded, and the canoes passed into the open sound. An exploring party was sent on shore, in hope that an Eskimo village could be found; but the spot was too barren to be inhabited even by the hardy natives of the polar regions.

Passing along the coast, they came, on the 19th of August, to open water, which, to their great disappointment, they found was only a large bay. This was named after Lord Melville. They were still far from Repulse Bay, which they had hoped to reach. Their canoes were in bad condition, their stock of provisions was almost exhausted, but little game could be secured, and the rapid approach of the terrible Arctic winter was heralded by unmistakable tokens. A long distance had been travelled, but the route was circuitous and the extreme point reached was in latitude 68° 30′. A headland on the shore of the bay was named Point Turnagain. Here the effort to continue explorations was abandoned, and it was decided to return to Fort Enterprise.

The lateness of the season made it impossible to return by the way they came. In order to shorten the distance and diminish the danger, it was thought best to pass for some distance up Hood's River, which they had recently discovered, and then proceed overland in as direct a course as possible. They halted at a magnificent cataract, which they named Wilberforce Falls. This point was about one hundred and fifty miles from Fort Enterprise. Here, in order that they might be more easily carried, two small canoes were made from the larger ones which they

had used thus far. Other preparations for the overland trip were completed, and on the 1st of September the party set out on what proved to be one of the most terrible journeys of which there is either record or tradition.

The party had proceeded only about twelve miles when they were overtaken by a heavy snow-storm and compelled to halt for two days. They covered themselves with their blankets, but could obtain neither fuel nor food. When the storm abated they renewed their journey, which was rendered still more difficult by the snow which had just fallen. The boatmen complained of the labor of carrying the canoes, and, after a time, either through accident or design, allowed one of them to be broken by a fall. As it was injured beyond repair, this canoe was used for fuel. Intense suffering made these men utterly reckless. In spite of all that the leaders could say, they abandoned the other canoe, and even threw away their fishing-lines. For three weeks the party made what progress they could through a most desolate region. They not only suffered from cold and weariness and weakness, but most of the time they were on the verge of starvation. For days at a time they had no food except a nauseous and almost indigestible species of lichen, and they were even reduced to the extremity of eating their old shoes. At length they reached the Coppermine River, but it was several days before they could construct a raft upon which they were able to cross. As some of the men were too weak and ill to proceed, the party was compelled to divide. Several of the boatmen perished from hunger and exposure, and Hood was murdered by one of the Indians.

Back was the first to reach the fort. Instead of find-

ing a supply of provisions, as had been promised, the building was empty. Leaving a note stating that he had gone in search of the Indians who had been depended upon to furnish supplies, he continued his toilsome journey. Franklin and five companions reached the desolate fort on the 11th of October, and nearly three weeks later Dr. Richardson and Hepburn arrived. Old skins, bones, and lichens were used for food until the 7th of November, when some Indians, who had been sent by Back, brought a quantity of provisions. About a week later the journey was resumed. Fort Chipewyan was reached in safety, and here the party remained until the following June. The next month they reached York Factory, and the difficulties and dangers of their most remarkable journey were at an end.

The fact that Parry had failed to discover the Northwest Passage was not regarded as proof that it did not exist. Neither did it diminish confidence in the zeal or the competence of the commander himself. So when he expressed an opinion that by commencing explorations at a lower latitude the desired opening could be found, the government placed him in command of another expedition.

In May, 1821, with two ships and a transport loaded with provisions and other necessities, Parry again set sail from England. The entrance to Hudson Strait was reached early in July. At this point the transport was unloaded and sent home. Strong currents were soon encountered, and the ships narrowly escaped destruction by enormous icebergs. In September Repulse Bay was reached, and found to be clear of ice. Leaving the bay, Parry proceeded, in accordance with his instructions, to

explore the coast line. This work was continued, under many difficulties, until it became imperative to seek winter quarters. These were found on the shore of a small island, and the ships were soon fast in ice. Here Parry adopted the same means for keeping his men cheerful and contented that had been tried on his previous voyage, and with an equal degree of success. A party of Eskimos living near by made frequent trips to the vessels, and the officers also visited the snow huts of these peculiar people.

It was not till the 8th of July that the expedition was able to proceed, and even then it was necessary to do a great amount of work in getting the ships out of the ice. A little more than a week later they approached an elevated region which they hoped would prove to be the northern shore of the strait; but when its entrance was reached they were greatly disappointed to find an impassable barrier of ice. After waiting nearly four weeks in hope that an opening would be made, it was decided to take observations on land. A party proceeded to the northern point of the peninsula near which their progress by water had been checked, and discovered a strait in which there was a strong current and considerable loose ice. Returning to the ship, an effort was made to reach this strait, but it proved unsuccessful. In this neighborhood another winter was spent, and the ships were not again afloat until past the middle of August. Several of the crew had become ill, and Parry reluctantly sailed for England.

Soon after reaching home Parry had a dangerous illness; but in 1824 he was ready to take up his work again, and was sent out, with the two ships used on the voyage

just described, to explore Prince Regent's Inlet, in hope that it would lead to an open sea. The expedition left England in May, and, after encountering many dangers, arrived late in September at the point where they had been compelled to halt in 1819. Near here a harbor, which was named Port Bowen, was found, and Parry made preparations to pass his fourth winter in the Arctic regions. It was a dreary season, and in some respects proved even more tedious than any of its predecessors. On the 18th of July the ships were again free and the voyage was resumed. In a short time large bodies of ice were encountered, and one of the ships was so badly injured that it had to be abandoned. The crew was taken on board the other ship, which at once returned to England.

Three other expeditions were sent from England at about the time that Parry started for Prince Regent's Inlet. Of these, one was commanded by Captain Lyon, who was instructed to make a more thorough survey than had yet been attempted of the coast as far as Point Turnagain. Another was led by Franklin, with orders to pass down the Mackenzie River to the sea, and then proceed along the coast to Bering Strait. The other was commanded by Captain Beechey, who was to pass around Cape Horn, proceed to Bering Strait, and continue his voyage to Kotzebue Sound, where he was to meet the expedition led by Franklin. The results of this combined effort were very meagre. Captain Lyon was overtaken by storms and encountered vast drifts of ice, and when some eighty miles distant from Repulse Bay was obliged to give up the enterprise. Franklin and his party passed the winter at Great Bear Lake. In the spring they sailed

down the Mackenzie River to the point where it separates into different channels. The party then divided. One detachment, under Dr. Richardson, passed to the east, in order to explore the coast as far as the Coppermine River. The other, led by Franklin, went to the west, in hope of reaching Icy Cape and meeting Captain Beechey. The former party accomplished its purpose with but little difficulty, and, returning, reached their winter quarters on the 1st of September. They saw a large number of birds of various kinds, and at one point were greatly annoyed by mosquitoes.

Franklin and his party had a much severer experience. Unfriendly Eskimos made them much trouble, and they were delayed by fogs and storms. By the middle of August the cold had become severe and the men were suffering greatly from weariness and exposure. It was therefore necessary that they at once return to the house at Great Bear Lake. The extreme point reached was named Return Reef. It was afterward learned that Captain Beechey was then only one hundred and fifty miles away. The second winter was passed at the lake. It proved very severe. At one time the temperature was 58° below zero. With the approach of mild weather the party returned to England. During the summer the ship under Captain Beechey reached the appointed place and remained as long as the weather would permit; but as they had already returned to England, no trace of Franklin and his companions could be found.

Although he had been repeatedly baffled in his Arctic expeditions, Parry was not discouraged. Scoresby had suggested that by constructing boats in such a manner that they could also be used as sledges, it might be possi-

ble to reach the Pole by passing over the ice. Parry accepted this idea and presented it to the attention of the government officers. It met their approval and was promptly put into execution. Two boats were built, and with the *Hecla*, one of the ships which he had previously commanded, Parry set out on his fourth expedition.

In 1827 the ship was sailed to the north coast of Spitsbergen, where it was left in a safe harbor. On the 22d of June the men took to the boats. Three days later they reached the ice, but it proved to be very rough and was intersected by numerous channels. Progress was extremely slow and toilsome. Rains were frequent and there were heavy falls of snow. Dense fogs caused many delays. At length, finding that they were being carried south by the drifting of the ice in the water, faster than they were proceeding north on its surface, it was decided to return to the ship. This was only one hundred and seventy-two miles distant, although they had actually travelled two hundred and ninety-two miles. The most northern point reached was 82° 45′, which, so far as was certainly known, was the highest latitude that had then been reached by man.

In 1829 Sir John Ross, whose voyage in 1818 had been so barren of results and had brought upon himself not a little adverse criticism, proceeded to the polar regions in a small steamship that had been placed at his disposal for this purpose by his friend Sir Felix Booth. This ship, named the *Victory*, was commanded by James Clark Ross, a nephew of Sir John. It was the first steamer ever used in Arctic exploration. Lancaster Sound was reached in August. The voyage was continued to what is known as the Gulf of Boothia. Here

a sheltered position was found, which was named Felix Harbor, where winter quarters were taken. When spring opened, various land journeys were made. Not until September did the ship get afloat, and it had proceeded only about three miles when it again became entangled in the ice. Here it remained until the following August. On the 28th of the month the ship was again free. But the wind soon arose, the weather suddenly became cold, and when they had sailed only four miles they were once more firmly surrounded by ice. Here they remained till the spring, when, on account of the failing health of the men, the small quantity of provisions on hand, and the great uncertainty as to when a free passage through the ice could be found, it was resolved to abandon the ship.

After a wearisome and dangerous journey the party reached the spot where the *Fury* had been wrecked in Parry's third voyage. Here they found a quantity of provisions that had been saved from the ship, and here they passed a most miserable winter. There was great suffering from cold and illness, and several of the men died. Early in the summer of 1833 the survivors resumed their journey. About the middle of August open water was reached, and the party took to their boats. Twelve days later two ships were sighted. On one of these their signals of distress were observed. This ship proved to be the *Isabella*, which Ross himself had once commanded. The weary explorers were taken on board and given every possible means of comfort. On the 18th of October the rescued party, all of whom had long before been given up for dead, arrived at England. The principal result of this expedition was the reaching and determining of the exact location of the North Magnetic

Pole. This was accomplished by James Ross, in April, 1832.

As year after year passed and no tidings from Ross were received in England, great anxiety was felt for his safety. A fund was raised in order to fit out an expedition to search for him, and, if he could be found, give him needed relief. The government aided the movement; and Back, who had accompanied Franklin to the north and had since been promoted captain, was placed in command. In February, 1833, he sailed from England. With his party he reached Fort Chipewyan on the 29th of July, and about a fortnight later arrived at a station on Great Slave Lake. Here two parties were formed to explore the region, in hope of finding a navigable river upon which the journey could be continued. On the approach of cold weather they returned to the lake, where a house, which they named Fort Reliance, was built, and where they passed the winter.

The season proved to be terribly severe. On the 17th of January the thermometer registered 70° below zero. Food was scanty and it was impossible to secure fish or game at that time. A large number of Indians flocked to the house; and though a little food was distributed among them, many perished from hunger. On the 23d of April the party were greatly cheered by the arrival of a messenger with the news that Ross had reached England in safety. This left them free to make further explorations, which was, indeed, a secondary object of the expedition. On the 7th of June the house was closed, and the party proceeded to the Great Fish River, which has since been named after Back, of which they made a careful examination. After an absence of about four months

they returned to Fort Reliance, where they passed another winter. In the following March the homeward trip was commenced, and in September the party arrived in England.

In 1836 the British Government equipped another expedition to continue the exploration of some of the coast lines that had been partially surveyed. Back was placed in command of the ship *Terror*, on which he sailed in June. The party was doomed to disappointment. They hoped to winter in Repulse Bay; but before reaching that point they encountered a violent storm, by which they were driven back for quite a distance, and ere long the ship was caught in a mass of ice. Much of the time they were driven by the wind, or carried by the current, with the great body of ice in which they were wedged as in an enormous vise, and they were often in imminent danger of destruction.

The ship did not get free until nearly the middle of July. It had been seriously damaged, and an immediate return to England was the only course that could be adopted. The trip was made with all possible speed, but the ship was in a sinking condition when port was reached. Although the expedition had failed, it was not from want of skill or effort. This fact was fully recognized, and soon after reaching home Back was knighted. The survey which he was unable to make was completed the following year by Dease and Simpson, who were sent out by the Hudson Bay Company, and who made extensive explorations of the coast of Boothia and Victoria Land.

CHAPTER XXVIII

HEROIC ENDEAVORS

The next expedition to the Arctic seas left England on the 26th of May, 1845. The government had fitted out two ships, the *Erebus* and the *Terror*, in the best possible manner, and also provided a transport, with a cargo of food supplies and general stores, to accompany them as far as Davis Strait. The *Erebus* was commanded by Sir John Franklin, who was chief officer of the expedition, and the *Terror*, by Captain Richard Crozier. The combined crews numbered one hundred and thirty-eight men. The object of this expedition, as defined by the government officers, was "the accomplishment of a northwest passage by sea from the Atlantic to the Pacific Ocean," and very minute instructions were given as to the course which was to be pursued. The ships and transport arrived safely at Davis Strait. Here the latter was unloaded and at once returned to England. The two ships then went on their way. On the 26th of July, 1845, they were seen by a whaling vessel named the *Prince of Wales*. They were then near the middle of Baffin Bay, waiting for an opening in the ice, which had blocked their way. From that time they were seen by white men no more.

It was expected that about two years would pass after the ice fields were reached before word could be received from the explorers. When this period had elapsed and

nothing was heard from the party, their friends in England began to fear that some disaster had befallen the expedition. As weeks and months went by, leaving the silence unbroken, the feeling of apprehension deepened. In 1848 the British Government sent out three expeditions in search of the missing explorers. Of these, one was to attempt to reach the Polar Sea by way of Bering Strait, one was to pass down the Mackenzie River to the sea and then follow the coast to the Coppermine River, while the other was directed to pass through Lancaster Sound and Barrow Strait. Two ships were fitted out for the expedition first named. They were the *Herald* and the *Plover*, under Captain Henry Kellett and Commander Thomas E. L. Moore. The second was led by Dr., now Sir John Richardson, who was accompanied by Dr. John Rae, who had already won fame as an explorer in the service of the Hudson Bay Company. The third was under Sir James Clark Ross and Captain E. J. Bird, with two large ships named the *Enterprise* and the *Investigator*. Full directions were given to each of these parties; and as all points that Franklin was at all likely to reach were to be visited, it was hoped and believed that this united effort would speedily be crowned with success. The expeditions made some valuable additions to the knowledge of the regions which they visited, but as far as their principal object was concerned they were utter failures.

In 1849 the British Government offered a reward of £20,000 to private persons, of any nationality, who should discover and rescue the missing explorers. This, together with a deep interest in the fate of Franklin, led to the formation of numerous parties to prosecute the search. Lady Franklin also provided means for sending men and

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vessels to aid in the work. In 1850 there were at least twelve ships, besides boat and sledge parties, engaged in the enterprise.

Among the expeditions was one from the United States. This was mainly fitted out by Henry Grinnell, a New York merchant, but it was under government control. It was commanded by Lieutenant De Haven, who had seen service in an exploring expedition in the Antarctic regions. Two ships, the *Advance* and the *Rescue* were furnished. They left New York on the 24th of May, 1850. The plan proposed was to proceed to Melville Island, pass the winter wherever they were caught in the ice, and then follow whatever course should seem most likely to lead to success.

The ships of several of these expeditions came near each other in Baffin Bay. At this point they were long delayed and were often in extreme peril from enormous masses of floating ice. Some of the best ships spent five weeks in sailing northward only thirty miles. When the course became more open the ships parted company, going in different directions in order to make the search as thorough as possible.

On the 23d of August, 1850, the first trace of the missing party was found. This was at Cape Riley, where the crew of a boat from the British ship *Assistance* landed. Several articles were found which had evidently belonged to Europeans, but they could not be identified with the Franklin party. This was followed by a trip to Beechey Island, about three miles distant. Here was discovered the spot where Franklin spent the winter of 1845–46. The graves of three men who had died during that season were also found. These were marked by oak boards upon which the names and ages of the deceased had been inscribed. Careful search was made by parties from three of the vessels which were near the island, but nothing could be found to indicate in what direction Franklin intended to proceed when he left the camp. It was ascertained, however, that during the winter his ships had been fast in the ice a little south of Beechey Island.

About the middle of September the vessels engaged in the search were ice-bound, and the work was necessarily suspended. When spring opened sledging expeditions were formed to prosecute the search on land. Twelve parties were organized. One of these, under Lieutenant McClintock, travelled seven hundred and sixty miles. The others covered lesser distances. Great suffering was

experienced from cold and fatigue, and one of the men died from exhaustion. One of the parties reached the spot where Parry had encamped in 1820, and another discovered a wide strait of open water, which was named Victoria Channel, but no trace of Franklin or his men was found.

Although the numerous expeditions which had been sent out were utter failures as far as the accomplishment of their main purpose was concerned, some very important results in other lines were secured. The most noticeable of these was the discovery by Captain afterward Sir Robert McClure, commander of the British ship *Investigator*, of the Northwest Passage. This great event occurred on the 26th of October, 1850. Year after year expeditions followed the ones which have been named. Several ships were lost. Heroic efforts were made by officers and men, and terrible sufferings were endured, but the mystery regarding the fate of Franklin was not dispelled.

In 1853 Mr. Grinnell, aided by several individuals and organizations, fitted out his second expedition to the Arctic regions. The ship, which was named the *Advance*, was commanded by Dr. Elisha Kent Kane, who had accompanied Lieutenant De Haven in the first Grinnell expedition. With eighteen men he sailed from New York on the 30th of May, intending to pass as far north as possible in Baffin Bay, and thence proceed, with sledges and boats, on land and water in such direction as should give the greatest hope of success. After reaching Melville Bay there was great difficulty and danger on account of fogs and ice. At Littleton Island a quantity of provisions were stored, to be used, in case of necessity,

on the return trip. Although the region was dreary and desolate in the extreme, abundant evidences were found that it had once been the seat of an Eskimo settlement.

As winter approached, the ship was brought to a sheltered place, which was named Van Rensselaer Harbor, where it became fast in the ice on the 10th of September. Sledging parties were sent out for the double purpose of establishing depots for provisions and for making explorations. This work could not be continued after the 20th of November, as the sun then passed below the horizon to remain for one hundred and twenty days. The winter was extremely severe. The temperature was often 40°, and at one time dropped to 75°, below zero. Most of the dogs, of which a large number had been procured for sledging purposes, died from brain disease caused by the depressing influences of intense cold and continuous darkness. Many of the men suffered severely from scurvy, and the others were greatly debilitated by their close confinement and the hardships which they had endured.

On the return of the sun, sledging parties were formed and the work of exploration was resumed. These journeys proved extremely difficult. Two of the men died as the result of exposure and privations, and Kane had an illness that for several days seemed likely to prove fatal. A latitude of 82° 27′ was reached, and a coast line was mapped which extended nine hundred and sixty miles. To complete this work involved not less than two thousand miles of walking and sledge travel. Among the discoveries which were made were a magnificent column of greenstone, four hundred and eighty feet high, rising on a pedestal which itself towered two hundred and eighty feet above the ground, which was called Tennyson's

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Monument; and an enormous wall of ice, three hundred feet in height, which was named the Great Glacier of Humboldt. The party carried its explorations to Cape Constitution, in latitude 82° 27′. A lofty peak on the opposite coast of Grinnell Land was named Mount Edward Parry.

At this time the summer was well advanced, but there were no indications that the ship would get clear of the ice. The stock of provisions was small, and the health of the party had become greatly impaired. A careful con-

sideration of the subject showed that it would be extremely hazardous to attempt to pass another winter in the ship. Therefore Dr. Kane resolved to make an attempt to communicate with some English ships, belonging to a searching expedition, which were lying off Beechey Island. With five of the strongest men he started in an open boat, but a terrible storm was encountered, and in spite of their most earnest efforts to force a passage, the ice presented a barrier which they could not break through. They returned to the ship, intending to hoist signals that would bring to their aid other explorers, if there were any in that region.

On consulting with his men, Dr. Kane found that some of them believed it would be possible to escape overland to the nearest Danish colony. He then gave each and all the choice of making such an attempt or of remaining with him in the ship. Nine of the men preferred to go. The remainder, more wisely as it proved, decided to stay with their commander. After enduring the most terrible sufferings, those who had left found their way back to the vessel.

About seventy-five miles distant from the ship was an Eskimo village. The inhabitants were friendly to the weather-bound explorers. For a time communication was kept up, and some food supplies were obtained; but with the coming of continued darkness, and a great scarcity of meat at the settlement, this source of relief was cut off. By March all the men were suffering from scurvy, and more than half of the number were seriously ill. The supply of fuel was exhausted, and lamps were used for both light and heat. Everything in the ship was turned black with soot. Two of the men became desperate and

attempted to desert. One of these was successful, but he seems to have repented, as he afterward returned with some food that he had obtained from the Eskimos.

Before spring had fairly come, preparations were commenced for abandoning the ship. The three boats were repaired, sledges were put in order, and a supply of clothing and bedding was got in readiness for use. On the 17th of May, after the reading of prayers and the Scriptures, the flags were hoisted and hauled down. Then the seventeen survivors of the party, four of whom were too ill to walk alone, started to cross the ice and water which, for thirteen hundred miles, lay between them and the north of Greenland.

For nearly a week the party was able to proceed only a little more than a mile per day. Early in June one of the men met with an accident which, a few days later, resulted in his death. Various Eskimo settlements were visited, and at some of them the supply of provisions was replenished. On many occasions it was necessary to halt for rest. Various accidents occurred, and difficulty and danger were the constant companions of the weak and weary party. At length, to their great relief, open water was reached, and on the 19th of June they took to their boats, one of which was soon swamped. It was a fearful voyage. Hunger, cold, weariness, and exposure to storms brought terrible sufferings. After being in the open air in an Arctic climate for eighty-four days, the party reached Upernavik, the seat of a Danish colony on an island off the coast of Greenland. Here they remained until the 6th of September, when they embarked on a ship bound for the Shetland Islands. But at Godhavn an American expedition that had come out to search for them was seen, and

they were transferred to the ships which had been sent for their relief. In October they were safely landed at New York. Many important surveys had been made and much valuable information concerning the Arctic regions had been gained, but not the slightest trace of Franklin had been found.

The long absence of Dr. Kane caused a great deal of anxiety in the United States, and in February, 1855, the Secretary of the Navy was authorized by Congress to send an expedition for his relief. Two ships, the *Release* and the *Arctic*, were equipped and Lieutenant Hartstene was placed in command. Baffin Bay was reached in due time, and a careful search was made at the numerous points where it seemed possible that Kane might be detained. All efforts to find the missing men proving fruitless, the ships were turned toward the south and proceeded to Upernavik and thence to Godhavn, on Disco Island, where, as already related, the explorers were found.

Upon his return home, and the publication of his report of the voyage, Dr. Kane received many honors, not only from his countrymen but also from societies and individuals in foreign lands. As soon as possible he prepared a complete narrative of his Arctic explorations, which was published in book form and made him famous as an author. His health, which had never been firm, had suffered from his terrible exposures, and, before his book was completed, rapidly failed. In hope of obtaining relief he sailed to England; but his strength declined, and after a brief visit he started for home by way of Havana, but died in that city, in February, 1857, at the early age of thirty-seven years.

The numerous maritime expeditions that were sent out

to discover Franklin were supplemented by diligent and extended search on land. Dr. Rae, who had not only seen a great deal of service, but had won popular recognition as an expert in this field, spent several years in this arduous work. In 1854 he met a band of Eskimos who told him about a party of some forty men who had starved to death at a place far west of where they then were. Four winters had passed since this sad event occurred. The men were drawing sledges and a boat over the ice. Their language could not be understood; but from signs which they made the Eskimos believed that their ships had been wrecked, that their provisions were scanty, and that they were going toward the south in hope of finding game on which they could subsist. Later in the same year several graves were found, and also the bodies of about thirty persons which had not been buried. These were on the mainland. On an island, not far away, five other bodies were found. Some of the bodies were in tents, some on the open ground, and others under a boat that had been placed so as to form a shelter from storms. Dr. Rae purchased of the Eskimos a large number of articles that had belonged to the party and that completely identified the men who had so miserably perished as members of the Franklin expedition. He at once proceeded to England, and, with his men, received the reward of £10,000 which had been offered to those who first should give definite information regarding the fate of the Franklin party.

The report of Dr. Rae caused a very general feeling in England that no member of the Franklin expedition could be living, and the British Government declined to risk more lives or expend more money for a further search

Lady Franklin, however, with the assistance of a few friends, fitted out a vessel, called the *Fox*, of which the experienced explorer Captain McClintock was placed in command. The officers and men numbered twenty-five The ship sailed from Scotland in July, 1857, was caught in ice in Melville Bay on the 18th of August, and drifted until late in April, 1858. Beechey Island was reached on the 11th of August, and a marble tablet, that had been sent out by Lady Franklin, was erected at the graves of the men who had died at that place.

The second winter was passed in a haven at the eastern entrance of Bellot Strait. Early in the spring journeys were made to establish depots of provisions. Natives were met with who said that many years before a ship had been broken up by the ice, that the crew had escaped, had gone toward the Great Fish River, and all had died of starvation.

On the 2d of April, 1859, the spring journey commenced. From a party of natives news was obtained of a second ship that had drifted on shore, and several relics were purchased. The explorers divided into two parties, one led by Lieutenant Hobson, the other by Captain McClintock. On the 6th of May Hobson found written records of the Franklin expedition. The first entry was dated the 28th of May, 1847, and stated that the party had passed up Wellington Channel and returned by the west side of Cornwallis Island, thus having completed the discovery of the Northwest Passage, of which they had been in search. They were then in winter quarters and all were well. The second entry, dated the 25th of April, 1848, states that Sir John Franklin died on the 11th of June, 1847, that eight other officers and fifteen men had

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died, that having been fast in ice since the 12th of September, 1846, the ships *Erebus* and *Terror* were deserted on the 22d of April, 1848, and that on the 26th of April the survivors would commence a journey in hope of reaching Back's Great Fish River.

Lieutenant Hobson proceeded in the direction indicated, and found human skeletons, a boat nearly buried in the snow, watches, books, and numerous other articles. Captain McClintock also reached the boat. In connection with what had already been found, these discoveries confirmed the statements of Dr. Rae, and proved beyond doubt that after leaving the spot where the records was found the party attempted to reach the Great Fish River,

that many of them died on the way, that some started to return to the ship and lost their lives, and that the remainder reached the river, but while waiting for the ice to break they all perished of exposure and starvation. Such was the terrible fate of the first discoverers of the Northwest Passage, which had been sought for hundreds of years.

Dr. Isaac I. Hayes, who went out as surgeon with the second Grinnell expedition, under Dr. Kane, was exceedingly anxious to prosecute further search in the Arctic regions, and endeavored to secure the organization of another party, and obtain a suitable equipment for that purpose. But the public had come to believe that no results could be obtained that would be of sufficient value to justify the risks of life and property that another expedition would involve. Yet his zeal was so great, and he so forcibly presented his views in lectures which he delivered in the large cities of the United States, that considerable interest was aroused and a sufficient sum of money was secured to purchase and fit out a vessel for his use.

In this ship, the name of which was patriotically changed from the *Spring Hill* to the *United States*, Hayes sailed from Boston on the 7th of July, 1860. The party, all told, numbered fifteen persons. The definite objects of the expedition were to extend, and if possible complete, the survey of the northern coast of Greenland and Grinnell Land, and continue explorations in the direction of the North Pole. The Arctic Circle was reached near the close of July, and the entrance to Smith Sound on the 27th of August; but winds were contrary and the ship was driven back three times before

it was possible to proceed to any great distance in the strait. A harbor, which was named Port Foulke, was found about twenty miles south of where Kane wintered in Rensselaer Harbor.

In April, with twelve of his strongest men and a number of dogs, Hayes started on a sledge journey, intending to cross the sound to Grinnell Land. Twenty-five days of ardous toil did not take them half the distance, but it utterly disabled several of the men. Unwilling to abandon the project while there was a possibility of success, Hayes sent all but three of his men back to the ship. The returning party took with them the boat that had been taken in hope that it could be launched on an open sea.

With his three companions, two sledges, and fourteen dogs, the resolute leader of the expedition pressed on, and two weeks after the parties separated he reached the land. An exploring trip along the coast was commenced. In less than a week one of the men became utterly exhausted. With another to care for him, he was left behind, and Hayes, with a single companion, continued his journey. On the 18th of May they reached Mount Parry. Here their progress was checked by rotten ice and fissures which could not be crossed without a boat. Observations were taken which showed that they were in latitude 81° 35′, a higher point than any previous explorer had reached on land.

The return journey was extremely difficult, but the ship was reached on the 3d of June. During his absence from the harbor Hayes had travelled thirteen hundred miles. In July the vessel was free from ice. Plans had been formed to sail to Grinnell Sound, in order to make

further explorations, but it was found that such injuries had been sustained during the winter that the vessel would not be safe among floating masses of ice. Therefore the party returned to Boston. Only one man had been lost, and his death was due to an accident.

In the year 1860, Charles Francis Hall, who from boyhood had been deeply interested in the fate of Franklin, and had been a close student of the literature pertaining to the Arctic regions, sailed from New London, Connecticut, in a whaling vessel, for the north. A boat which had been specially fitted for his use was taken along. His plan was to stop at some suitable point, organize a crew of Eskimos, and prosecute a search for members of the Franklin expedition, some of whom he believed had reached native settlements and were still living. He also desired to survey some portions of the region which was as yet unexplored. Search for the Franklin party was prevented by the loss of the boat soon after his arrival; but he found various relics of the Frobisher expedition, and learned that the body of water which for nearly three centuries had been known as Frobisher Strait was actually a bay. In September, 1862, he reached New London in a whaling vessel. With him he took two Eskimos, or Innuits, Joe and Hannah, with their little child. The latter was soon taken ill and died.

In 1864 Hall sailed again, with his Innuit companions, to the north. He had acquired considerable knowledge of the Eskimo language and customs. His plan was to live with these people two or three years, gain their confidence, and then secure their assistance in exploring all the region in which survivors of the Franklin party, if

such there were, would be at all likely to be found. This expedition covered a period of five years. The greatest efforts were made to learn the truth regarding the missing explorers. For a long time Hall was very hopeful of finding some of them alive, but at length he was forced to the conclusion that the last of that ill-fated party had perished several years before.

In 1869 Hall reached home and was received with

great honors. He then made a vigorous effort to secure an expedition for the purpose of discovering the North Pole. A great deal of interest was excited. Congress made an appropriation for the purpose, and a steamer named the *Polaris* was fitted out. Hall was appointed commander of the expedition. A scientific corps, to take observations in accordance with instructions from the National Academy of Sciences, was selected. A full complement of officers was chosen, and a crew of fourteen men was secured. Joe and Hannah, the Innuits who had previously accompanied Hall and had rendered him invaluable services, were also members of this expedition.

On the afternoon of the 3d of July, 1871, the *Polaris* sailed from New London, Connecticut, on her final voyage. Smith Sound was reached without special adventure. Passing through Kennedy Channel, the vessel entered what Kane had supposed was an open sea, but which proved to be only a small body of water. This received the name of Polaris Bay. Farther on a strait was discovered which, in honor of the Secretary of the Navy who had used his influence in aid of the expedition, was named Robeson Channel. In this strait a latitude of 82° 16′ was reached on the 30th of August. This was the highest latitude yet reached. It was fifty miles beyond the farthest point touched by Dr. Hayes, and nearly two hundred miles beyond where Dr. Kane had gone. Here progress was checked by ice, and for a while the ship was carried back by the drift. Hall and some of his men were anxious to make further efforts to proceed, but some of the subordinates were opposed to this course; and the commander, as it subsequently appeared, unwisely heeded their protests. On September 3

the ship was put into winter quarters in Polaris Bay, in a cove to which Hall gave the name of Thank God Harbor.

On the 10th of October, Hall, with three companions, started on a sledge journey for the purpose of exploring the adjoining region and selecting the most favorable route for the expedition to the Pole, which he intended to make in the spring. The ordinary difficulties of travelling in that region were encountered, but the party returned in safety, reaching the ship on the 24th of October. They had attained the highest latitude yet reached, and discovered a channel which they expected to utilize when the northward journey should be resumed. Soon after reaching the ship Hall was taken ill, and on the 8th of November he passed away. Thus ended the life of one of the noblest and most devoted of Arctic explorers.

It was rumored that Hall had been poisoned, but a thorough investigation by the government proved that he died from natural causes. His body was buried on the shore of Polaris Bay, and an American flag was placed over his grave.

Captain Buddington, who succeeded to the command of the expedition, had little desire for Arctic explorations, and though some short journeys were made, nothing of importance was accomplished. Toward the middle of August the homeward voyage was commenced. After sailing about fifty miles, the vessel was caught in the ice and narrowly escaped being wrecked. When free, the voyage was resumed, but in a short time a field of floating ice was entered, with which the ship drifted for a long distance. During the night of October 15 a gale drove the ice upon her in such a manner as to threaten her

immediate destruction. The captain ordered the crew to save whatever they could. Provisions, clothing, and various other materials were hurriedly thrown upon the ice. The Eskimo women and children were taken off, and several of the men left the vessel to move the goods to as safe a place as could be found. Suddenly the ship broke away and disappeared in the darkness, leaving nineteen persons, men, women, and children, adrift on the ice.

Of some poles and lumber which had been thrown from the ship, the party on the ice constructed a rude house in which they took up their abode. The stock of provisions was small, and, though a few seals and an occasional bear were captured, the party were constantly on short rations. In addition to the weakness caused by insufficient food, they suffered terribly from the depressing influence of severe cold, and of darkness, which lasted for eighty-one days. Meanwhile the floe upon which they were encamped was rapidly drifting toward the south. On the 11th of March it was broken up by a terrific gale. This left the castaways upon a comparatively small piece of ice, as far as area was concerned, but fortunately it was of considerable thickness. This, however, gradually wasted away; and Captain Tyson, the leader of the forlorn party, deemed it imperative that they take to their one remaining boat and attempt to reach a larger and firmer field of ice. This was safely accomplished, though not without great difficulty and extreme danger. Violent storms caused them great suffering and, by preventing the capture of seals, brought them to the verge of starvation.

On the 20th of April the waves swept over the ice and

carried away their shelter, together with nearly all the articles which they had thus far been able to save. Only by the most desperate efforts, continued for twelve hours, were they able to keep the boat from being washed away. Their condition was now even more pitiable than it had previously been; but as they were nearing the seal-fishing grounds they hoped to fall in with a vessel that would give them relief. On the 25th of April the ice became so insecure that they were obliged to take to the boat. A few days later a sealing vessel was seen, but either the unfortunate party were not able to attract the attention of those on board or else the ship was unable to get through the ice which lay between them. After this two other vessels were sighted, but the castaways remained unseen.

On the 30th of April deliverance came. Through a rift in the fog a steamer was seen near by. Signals from the boat were observed and the vessel went to their relief. In a short time the almost famished party was taken on board the ship, which proved to be the *Tigress*, from Newfoundland, which was on a cruise for seals. On the 12th of May the rescued party reached St. John's. The government sent a steamer for them, and on the 5th of June the people who had been exposed to so many perils, had so many hairbreadth escapes, and endured almost unparalleled exposure and privation, arrived at Washington.

When the *Polaris* was carried away from the ice it had fourteen persons on board. Information given by the party rescued from the ice led the government to fit and send out a vessel to find and rescue the officers and crew of the ship that had so suddenly disappeared. On the 14th of July, 1873, the *Tigress*, under Captain Greer,

sailed from New York on this errand of mercy. She was accompanied by the *Juniata*, a smaller vessel, which carried supplies for the *Tigress* and which was also designed to aid in the search. About the middle of August the *Tigress* reached Littleton Island, near which the *Polaris* was last seen by the party that drifted away on the ice. Here some Eskimos were found who said that the day after the separation occurred Captain Buddington had abandoned the ship. With some lumber from the vessel the men had built a house on the shore. Here they had spent the winter. Two boats were made, and in these the company sailed southward in the spring. During a gale the vessel broke loose from the ice in which it had been entangled, and, after drifting for a while, had gone down in the sea. Many articles that had been left at the winter camp were secured by Captain Greer.

The *Juniata* proceeded to Newfoundland and communicated the facts to the Navy Department at Washington. Instructions to continue the search were returned and another voyage was commenced, but news was soon received from a British vessel that the crew of the *Polaris* had been found. After the departure of the *Juniata* Captain Greer continued the search, but finding no trace of the missing party sailed to New York, where he learned that Captain Buddington and his men had been rescued by a British whaling vessel about three weeks before the relief voyage of the *Tigress* was commenced. As this ship was not homeward bound, the men were transferred to other vessels, and by way of Scotland at length reached New York. With the exception of their noble leader, Captain Hall, every member of the *Polaris* expedition reached home in safety. Many of them had been adrift

on floating ice for one hundred and ninety days, and all had been exposed to the greatest dangers and had endured the most terrible hardships. Their preservation and rescue may well be classed with the miracles of modern times.

Dr. Petermann, an eminent German geographer, sent out a small vessel in 1868 to prosecute exploration in the Arctic seas. Captain Koldewey was placed in command. The crew numbered eleven men. Great difficulties were encountered and only meagre results were obtained. Soon after the return of the vessel preparations were made to renew the work. Funds were secured, two ships, the *Germania* and the *Hansa*, were fitted out, and Captain Koldewey was appointed commander. Several noted scientists accompanied the expedition. The object in view was to penetrate to the very centre of the Arctic regions.

The ships sailed in June. Owing to contrary winds the Arctic Circle was not crossed until the 5th of July. On the 20th of July, owing to a misinterpretation of signals, the ships became separated. Captain Hegemann, of the *Hansa*, sailed away from, instead of proceeding toward, the *Germania*, as Captain Koldewey intended. On the 14th of September the *Hansa* was frozen in. The danger that she would be crushed appeared so great that a house was built upon the ice. This was constructed of a patent fuel made principally from coal, in the form of bricks, and was held together by a mortar made of water and snow. It was twenty feet long, fourteen feet wide, and eight and one half feet high at the ridge.

Early in October there was a heavy fall of snow which completely buried both the house and the ship. On the 19th of the month there was a terrific gale, the pressure

of the ice upon the vessel was increased, and a serious leak was started. During the night of the 21st of October the ship went down. A fearful winter was passed in the little house. Violent storms were frequent and the cold was severe. The great ice field upon which the men were located was drifted about at the mercy of wind and wave. On the 7th of May a place was reached from which there appeared to be an open stretch of water to the shore. The boats, which had been saved from the ship, were launched, and after almost insuperable obstacles had been overcome the party reached land. Several islands were visited, but it was not until the 14th of June, 1870, that the weary party reached a human habitation. On that date they arrived at Friedrichsthal, a station of the Moravian missionaries on the southwestern coast of Greenland, and early in September the entire party reached home. They had drifted more than eleven hundred miles on the ice, and had been preserved through a more remarkable series of perils and misfortunes than almost any other company of Arctic explorers who returned to their native land.

After losing sight of the *Hansa*, the *Germania* followed the coast of Greenland as far north as latitude 75° 30′, but near the middle of August was obliged to turn to the south. Winter was passed off Sabine Island. In the spring various excursions were made which resulted in valuable scientific and geographical discoveries. Before the work which they hoped to accomplish was completed, a leak in the engine boiler made it necessary for the party to return home. This voyage was completed in September, 1870.

In 1872 an Austro-Hungarian expedition was sent to

the Arctic regions. It was commanded by Lieutenant Payer, who had not only distinguished himself in the German expedition under Captain Koldewey, but who had also made extensive explorations on his own account. Captain Weyprecht, who had accompanied Payer in his previous voyages, was chief officer of the ship. The steamer *Tegethoff* was fitted out in the best possible manner, and Captain Carlsen, an experienced Arctic voyager, was employed as pilot.

On the 14th of July, 1872, the voyage was commenced. Fifteen days later the coast of Nova Zembla was seen. At about this time ice became troublesome, but the northern coast of Nova Zembla was rounded in safety. Here progress was checked and the ship was soon fast in the ice. The dreary Arctic winter now set in. The sun was absent one hundred and nine days. As there was danger that the ship would be broken by the ice, a hut was built in which to take refuge in case such an accident occurred. Much of the time the floe in which the vessel was encased was adrift and toward the end of October, 1873, it reached a point within three miles of an island lying off a mainland that had never been explored. Some brief excursions were made, but the beginning of the Arctic night soon made their continuance impossible.

The party were now in a higher latitude than where they passed the preceding winter, and the sun did not appear at this point for one hundred and twenty-five days. Snow fell to the depth of twelve feet and the cold was very severe. In March several expeditions were made by sledge parties. During one of these the temperature dropped to fifty-eight degrees below zero. One of the men died from lung disease aggravated by scurvy.

Many of the dogs died and others became so weak as to be of little use in the sledge teams. But in spite of all these obstacles considerable was accomplished in the way of exploration. One of the sledge parties reached a latitude of 82° 5′. In honor of their sovereign the leaders of the expedition named the country Franz Josef Land.

There were no indications that the voyage could ever be resumed, and the diminished stock of provisions, together with the failing health of the men, made it necessary to desert the ship. On the 20th of May, 1874, the flags were nailed to the mast and the men took to the sledges, upon which the boats and some provisions had been loaded. The deep snow made walking extremely difficult, and the wind drove back the ice to such an extent that at the close of two months of most arduous toil they were less than eight miles from the ship. On the 14th of August they came to open water, and four days later Nova Zembla was reached. A few days afterward they were taken off by a Russian vessel which landed them at Norway on the 3d of September. Although the explorers did not accomplish all that they desired to do, the scientific and geographical results of their expedition were of great value.

From 1858 to 1878 several expeditions to the Arctic seas were sent out from Sweden. The expense was borne in part by the government, but several individuals and societies were large contributors. The earlier expeditions were principally for scientific purposes. They resulted in the securing of a vast amount of information concerning the zoölogy, botany, and geology of the regions visited. Two of this series of expeditions should have special mention in this narrative. They are the ones which sailed in 1872 and in 1878.

For the expedition of 1872 two steamers and a transport were furnished. Naval officers had command of the ships, but the expedition was under the general direction of Professor Nordenskjöld, who had made several voyages to the North. The steamer *Onkel Adam* and the transport *Gladan* took out moss, coal, oil, fifty reindeer, and the parts of a dwelling-house ready to be put together. It was designed that these vessels should return in the fall; while the other steamer, named the *Polhem*, was to remain at the North during the winter.

The vessels which should have returned before winter set in were caught in the ice, and were obliged to remain with the *Polhem* in Mussel Bay, on the northern coast of Spitzbergen. This proved a great disaster, as the maintenance of the crews seriously reduced the quantity of provisions which had been designed for the party on board the exploring vessel. As illustrating the perils of the Arctic regions, it may be stated that a number of fishing vessels, with fifty-eight men on board, were also frozen in at this time off the northern coast. Eighteen men took open boats and succeeded in reaching Ice Fjord, where a quantity of provisions had been stored. Later in the season two of the ships got clear of the ice and, with the remaining men on board, sailed for home. In November a relief expedition was sent from Norway for the fishermen who had left the ships, but owing to severe cold and unfavorable weather, it was unsuccessful. Another ship was sent out in December, but was unable to reach Spitzbergen. In January, 1873, a third vessel was despatched, but the effort to find the missing men was a failure. It was afterward learned that the house was reached and a quantity of food was found; but as

indicated by a diary which they kept for some time, the men did not take regular exercise, and they neglected to freshen their meat. As a consequence of these indiscretions they all fell victims to disease, and the last of the party died before the summer opened.

The scientists connected with the Swedish expedition made many important observations; and though all their reindeer escaped soon after they were landed, several sledge journeys were undertaken with dogs. But while it accomplished much in some directions, the expedition wholly failed in its principal object of making a journey on ice to the Pole.

The principal object of the expedition of 1878 was the discovery of the Northeast Passage. It involved an expense of £20,000, of which sum three fifths was furnished by Mr. Oscar Dickson, of Gothenburg, and the remainder by the Swedish Government. A screw steamer named the *Vega*, which had been built expressly for use in the ice regions, was equipped in the best possible manner, and Professor Nordenskjöld, who had accompanied not less than eight Arctic expeditions, was placed in charge. The whole force, including officers, scientists, and crew, numbered only thirty men.

The steamer sailed on the 21st of July. She was accompanied by the *Lena*, a small steamer which was designed for use on the river of that name. Progress was slow on account of adverse winds, but Kara Sea was reached on the 1st of August, and five days later the vessels entered Dickson Harbor, near the mouth of the Yenisei River. On the 10th of August the voyage was resumed. The course was unobstructed for only two days. Then large masses of ice were encountered, and

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heavy fogs made progress both slow and dangerous. The difficulties and dangers of the situation were greatly increased by the fact that the Taimyr Peninsula lies farther to the west than had been supposed, and several small islands were discovered in what, according to the then existing charts, should have been the direct course on which to sail.

On the 19th of August the northern extremity of Siberia was reached. Here flags were raised and a salute was fired. The only party to observe these demonstrations was a large white bear, and he plainly manifested his disapproval of the proceedings. The next day the

ships proceeded along the east coast of the peninsula. A week later they separated. The *Lena* sailed up the river to its destination, Yakutsk, which it reached on the 21st of September.

The progress of the *Vega* was retarded by ice, but North Cape was reached on the 12th of September. Here it was detained for nearly a week. Several excursions were made on the adjoining land, which led to some very interesting discoveries. Among these were ruins of the habitations of a people, probably allied to the Eskimos, who inhabited this region some hundreds of years ago. Fogs and ice caused constant trouble, but on the 27th of September the east side of Kolintschin Bay was reached and the vessel was anchored. It was fully expected that the voyage would be resumed on the next day, but the night was cold and the numerous floes were frozen together so firmly that they could not be penetrated. It was hoped that the ice would soon break up, but winds from the north continued to pack heavy masses along the coast, and new ice was rapidly formed by the increasing cold. Before the close of November it was evident that the *Vega* was frozen in for the winter.

The ship was now near the northern part of Bering Strait, and only one hundred and fifteen miles from the Pacific Ocean. Had this point been reached one day sooner the voyage could undoubtedly have been continued without special difficulty, and an imprisonment in the ice for nearly ten months would have been avoided. Neither would the delay have occurred in an ordinary season. But cold weather came unusually early, and navigation closed more than two weeks before the date up to which whaling ships had, in different years, been able to get

into open water. During the winter meteorological and magnetic observations were regularly taken which have proved of great scientific interest and value. The ship was occasionally visited by Eskimos, of whom there were some two hundred living in the vicinity. The cold was severe, but there was no day upon which the rays of the sun were not seen above the horizon.

On the 18th of July, 1879, after being frozen in for two hundred and ninety-four days, the *Vega* got free from the ice and proceeded to Bering Strait. Two days later the Northeast Passage, for which Willoughby commenced the search three hundred and twenty-six years before, and which many others had vainly attempted to find, was completed. Again the Swedish flag was raised and a salute was fired. The point had been reached at which, as Professor Nordenskjöld expresses it, "the Old and the New World seem to shake hands." After visiting the shores of Bering Strait the *Vega* sailed for Yokohama, which port it reached on the 2d of September.

Omitting a description of various minor expeditions, we must find room for an outline of an important one sent out by the British Government in 1875. The objects of this expedition were to reach the Pole, if possible, to explore any regions which might be visited, but which had not previously been seen or described; and to obtain information that would be useful in forming plans for further operations in this direction.

Two ships, the *Alert* and the *Discovery*, were fully equipped for the purpose and were liberally supplied with provisions and other necessities. Captain Nares was appointed commander. The ships sailed on the 29th of May. Several islands off the Greenland coast were

visited, and a number of dogs and two drivers were obtained. Smith Sound was reached on the 29th of July, and for more than a month the ships had extreme difficulty in passing through the ice which almost constantly blocked their way.

The *Discovery* went into winter quarters at the shore of Lady Franklin Inlet, in latitude 81° 44′. The *Alert* pressed on, through a channel of open water which appeared between the ice and the shore, passed the point which the *Polaris* party had named Cape Union, and entered what appeared to be an open Polar Sea. On the 1st of September a position was gained nearer the Pole than any ship had previously reached, and the white flag was hoisted in celebration of the event. All the indications were favorable for further progress; but the channel soon ended, the wind changed, and the ship was carried near the shore. A comparatively safe place was reached, and on the 3d of September the ship was frozen in. The latitude was 82° 27′. In this until then wholly unknown region the party were obliged to spend the winter.

During the autumn depots of provisions were established for the use of sledging parties in the spring. Winter brought the darkness and dreariness which are among the chief characteristics of the Arctic regions at this season of the year. In March the cold was intense. On the 3d of that month the thermometers registered 73° below zero, but the following day brought some compensation in the fact that for a short time the sun was visible above the hills. But the cold, terrible as it was, proved less trying than did the sudden and violent changes in temperature, which sometimes amounted to sixty degrees within a few hours. As they were farther north than

bears, birds, or seals are found, fresh meat could not be obtained. One of the results of this deprivation was the prevalence of the scurvy, from attacks of which several members of the party died.

As early in the spring as it was practicable, sledging parties were sent out from each of the ships. One of these, led by Commander Markham and Lieutenant Parr moved due north, with instructions to go as far as possible in that direction and in hope of reaching the Pole; another, under Lieutenant Aldrich, was to pass to the west, making explorations along the American coast; and a third, led by Lieutenant Beaumont, of the *Discovery*, was to move eastward along the northern coast of Greenland. These expeditions led to many interesting discoveries, some of which were of great value to scientists. One of these was the finding of the remains of a great evergreen forest in latitude 82° 44′, a discovery which proves that vast climatic changes have occurred in the now desolate and barren region.

' Commander Markham and Lieutenant Parr reached a latitude of 83° 20′ 26″, a point farther north than any previous explorer had reached. The enormous amount of labor involved in this undertaking may be estimated from the fact that although this spot was only seventy-three miles, in a straight course, from the ship, the party travelled two hundred and seventy-six miles going, and two hundred and forty-five miles on the return trip. The journey was largely over ranges of ice hills, many of them twenty feet in height, through ravines filled with snow, over or around vast piles of broken ice, or on floes where it was necessary to use picks or axes to make a path over which the sledge could be drawn. Add to all this the

suffering and the depression of the vital forces caused by the severe cold of the inhospitable region, and it hardly seems possible that the human frame could endure the terrible hardships to which these resolute explorers were subjected.

Lieutenant Aldrich and his party explored two hundred and twenty miles of coast line of which no chart had previously been made. Lieutenant Beaumont, with his company, made a survey of the northern coast of Greenland for a distance of some seventy miles. They all endured severe suffering. Several of the men were taken ill, and their already overburdened companions had to draw them on sledges for long distances, and one of the Beaumont party died on the way.

When his men returned to the *Alert*, Captain Nares decided that it was not advisable to continue the work of exploration. It was evident that at the point which he had reached the ice firmly and permanently closed navigation. Further attempts of sledging parties to reach the Pole, from the place then occupied, would certainly result in failure, would involve a vast amount of suffering, and probably would cause the loss of many lives. The men were already weakened by exposure, toil, and disease. It was therefore determined that the expedition should not remain there another winter.

It was not till the 31st of July that a passage through the ice appeared. Upon that day the *Alert* commenced her homeward voyage. The ship was often in great danger from vast masses of floating ice, but it reached Lady Franklin Inlet in safety on the 11th of August. The *Discovery* was at once put in readiness, but on account of the ice the ships did not leave the port until the 20th of

the month. They reached Melville Bay on the 18th of September, and the Arctic Circle was crossed on the 4th of October, just fifteen months from the day the ships sailed over it when they were outward bound. Ice, and storms, and adverse winds were encountered, and there were some vexatious delays; but on the 2d of November, 1876, the vessels sailed into the harbor of Portsmouth.

Although numerous and earnest efforts had been made to find records of the Sir John Franklin expedition, they had, with the single exception of the paper discovered by Lieutenant McClintock, been utter failures. That such documents would be of great value, both from an historical and a scientific point of view, was evident. That they were in existence, seemed probable from the fact that various parties of Eskimos, from whom articles which had unquestionably belonged to the unfortunate party had been obtained, told of books and papers which many years before white men had placed in cairns in their country. These rumors were repeated, not only by explorers, but by the masters of whaling ships which had visited that region. Among the parties who became greatly interested in these reports was Lieutenant Frederick Schwatka, of the United States Army. Mainly through his efforts, an expedition, the expenses of which were met by private subscription, was organized. A ship named the *Eothen* was obtained and fitted for service in the ice, a crew of twenty-three men was secured, and Schwatka, who had been granted leave of absence from the army, was placed in command of the exploring party. While the main purpose of the expedition was to find the records of the Franklin party, there was also the important secondary object of obtaining valuable geographical information.

On the 19th of June, 1878, the ship sailed from New York, and on the 7th of August reached Rowe's Welcome Strait, an arm of Hudson Bay. They were here visited by friendly natives. Winter was spent on the mainland, near Depot Island, in latitude 63° 51′. The reports of the natives in regard to the prospect of finding the records in search of which the party had come were not encouraging. One of the visitors said that, long before that time, his father had found, in a cairn on King William Land, a box containing a written paper; but as the latter appeared to be of no use to himself or his people, it had been thrown away. But he also told of another cairn which had not been opened, and of a spoon, which had been given to Captain Porter, which had undoubtedly been used by the Europeans who had perished in that region. Mr. Gilder, who was second officer of the expedition, found Captain Porter, who was on a whaling ship not far distant; but the information obtained from him was most disheartening.

Notwithstanding the discouragements that had been met, it was determined to prosecute the search. Mr. Gilder visited an Eskimo settlement more than seventy miles away, to obtain some dogs. Upon his return a great sledge journey was commenced. The Schwatka party was accompanied by thirteen Innuits, including women and children. The winter camp was left on April 1, 1879. The teams consisted of forty-two dogs, and the sledges were loaded with food supplies sufficient to last for five or six weeks. They proceeded toward the northwest, through a region that had not been explored. For some time travel was very slow and difficult. On the 15th of May a party of natives was found, and informa-

tion corroborating many of the points learned by previous explorers was obtained.

The journey was continued to Back's River. Montreal Island was searched for traces of the missing men, but without success. Richardson Point was crossed, and a party of natives were met from whom considerable additional information was obtained. On the 4th of June Schwatka and Gilder examined a cairn which had been built by Captain Hall over the remains of two men of the Franklin party. At a spot where a party of Europeans had encamped, they found many articles and also an open grave. A medal that had been placed on a stone at this grave indicated that Lieutenant Irving, of the *Terror*, had been buried there. The skull and what other bones could be obtained were taken in charge, and in due time were forwarded to Irving's relatives in Scotland. Other skeletons were found, but they could not be identified, and were therefore buried.

By the 3d of July the northern part of King William Land was reached, and four days later the party turned toward the south. Travelling was exceedingly difficult. Several cairns were found and various places where white men had camped. At Erebus Bay remains of a boat and numerous small articles were discovered. Parts of several skeletons were also found and interred. Early in the autumn many reindeer were met with and an abundance of meat for immediate use was obtained, but by the middle of October these animals had entirely disappeared.

After a period of rest the march was resumed on the 10th of December. Food supplies were scanty, and when an occasional reindeer was obtained the flesh was poor, and it was frozen as well as raw when eaten.

Wolves were exceedingly troublesome, and some of the party had narrow escapes from destruction by these ferocious beasts. Heavy snow-storms were frequent, and often prevented progress a week or more at a time. The cold was terribly severe, the mean temperature for January being 53° below zero. During the winter there were sixteen days when the thermometer indicated a temperature of 68° below zero, and on one day it marked 71° below. The men endured fearful suffering, and many of the dogs perished. By almost superhuman exertions Depot Island was reached on the 4th of March. But here a terrible disappointment awaited the almost exhausted party. The captain of the *Eothen* had not delivered the provisions which he had agreed to bring to that point. The only ship in the region was at Marble Island. This was reached after a wearisome march which occupied seventeen days.

Such, in brief, is the history of the longest and most remarkable sledge journey hitherto made. The distance travelled was three thousand two hundred and fifty-one miles, and most of the journey was in not only a desolate, but in an entirely unexplored region. The company were out during an entire winter, and one which, according to the testimony of the natives, was of unusual severity. The hardship of the journey was greatly increased by the fact that during most of the long period which it occupied the entire food supplies for men and dogs were obtained from the scanty resources of the country which they traversed. The principal results of the expedition were the interment of the bones of the crews of the *Erebus* and the *Terror*, the acquirement of much valuable geographical information, and the establishment beyond

a doubt that the records of the unfortunate Franklin party had been irretrievably lost. The return voyage was completed on the 22d of September, 1850. The energy and skill of Lieutenant Schwatka in the conduct of the enterprise received full recognition at home and abroad.

CHAPTER XXIX

GREAT DISASTERS

In the year 1879 Lieutenant G. W. De Long, of the United States Navy, was placed in command of an expedition which had for its principal object the discovery of the North Pole. This officer had served as a subordinate on the *Juniata*, in its voyage in search of Captain Hall, and was greatly interested in the subject of Arctic exploration. At his earnest solicitation Mr. James Gordon Bennett, of the "New York Herald," purchased and fitted out a ship, which was named the *Jeannette*, and which, for the purpose of exploring the Arctic regions, was placed under the control of the United States Government. Lieutenant Chipp was appointed executive officer; Lieutenant John W. Danenhower, master; and George W. Melville, engineer, — all belonging to the navy. Unfortunately, the Bering Strait route was selected.

On the 8th of July, 1879, the *Jeannette* sailed from San Francisco with thirty-two persons on board. Progress was slow, as the winds were unfavorable and the ship was heavily loaded. At St. Michael's, Alaska, forty dogs were obtained, and some Indians were employed to go with the expedition as drivers and hunters. According to government instructions, search was made for Professor Nordenskjöld, who was known to have started on a voyage of exploration with a view to obtaining information and also

to render assistance if necessary. On the last day of August it was learned that the *Vega* Nordenskjöld's ships had passed the winter in the bay which the *Jeannette* had reached, and had since sailed to the south.

An attempt was made to proceed to Wrangell Land, but in less than a week progress was stopped by ice. On the 8th of September there was a desperate effort to force a way to Herald Island, but only a little headway was made. A few days later a party with dogs and a sled proceeded to the island, in hope of finding a harbor, and also of securing some drift wood for fuel, but it was unsuccessful.

The ship had been heeled over some five degrees, and in this position was firmly held in the ice. It drifted, with the floe, in various directions, sometimes out to sea and at others within sight of land. During the first half of November large cracks appeared in the floe and huge masses of ice were thrown near the ship, which was in imminent danger of being crushed. On the 13th of the month the ship got afloat, and in a few days it was sent adrift in a gale, but was soon frozen in again.

Toward the close of the year Lieutenant Danenhower was disabled by an affection of one of his eyes, and for a long period was obliged to remain in a darkened room

The ship was in constant peril from the ice, and on the 19th of January the fore-foot was broken, and it commenced to leak badly. The deck pumps were put into immediate use, and as soon as was possible the steam pump was started. Attempts to fill the cracks somewhat diminished, but did not nearly stop, the inflow of water.

Early in June De Long had strong hopes that the voyage could soon be resumed, but the ship did not get free of the ice, and of course continued to drift. Fogs and storms were frequent, and there was constant danger. It was not till the 1st of September that a shift occurred which brought the ship on an even keel. It was still fast in the ice, and efforts to release it resulted in increasing the already dangerous leak. It soon became evident that the ship would not get clear until after another winter at least. It had drifted over an immense area, sometimes in straight lines but often in circles, — and it seemed destined to continue this erratic course indefinitely.

On the 16th of May, 1881, land was seen, the first for fourteen months. This was an island, and the ship drifted past it on the following day. It was named, in honor of the ship, Jeannette Island. On the 24th of the month another island was sighted. This was visited early in June by Engineer Melville and several other members of the party. It was named Henrietta Island, and was formally taken possession of in the name of the United States.

On the 12th of June the floe split in pieces and the ship was set free, but floating masses of ice pressed upon it and its bows were raised in the air. De Long gave orders to remove the chronometers, rifles, and other indispensable articles to the ice and prepare to leave the ship.

At about eleven o'clock that night the boats were lowered and the men formed a camp on one of the portions of the broken floe. At four o'clock on the morning of June 13, 1881, the masses of ice which had held it fast separated, and the ship went down.

Several of the ship's company were ill, and the surgeon advised a brief period of rest. On the 17th of June, at 6 P. M., the retreat toward the south commenced. The company travelled at night, in order to escape the blinding glare of the sun upon the snow. They had three boats, nine sleds, a large quantity of pemmican, and a fair supply of ammunition. The men were harnessed to the sleds. On account of the large quantity of material it was necessary to go over the same ground several times. The snow was deep and the toil was exhausting. After a week of this wearying labor, observations by the officer showed that not only had no progress been made, but that the drift to the northwest had been twenty-seven miles farther than their advance to the south. Toward the close of the month the conditions improved and some progress was made in the direction in which they desired to go.

On the 11th of July Bennett Island was discovered. On the 28th of the month a landing was effected, a flag was unfurled, and the party took possession in behalf of the United States. Here they camped for several days. On the 6th of August the party took to the boats. Of these the larger cutter was commanded by De Long, the smaller cutter by Lieutenant Chipp, and the whale-boat by Engineer Melville. On the 12th of September the men landed on an island off the Asiatic coast and a hunting party was sent out. The next morning they

left the camp and proceeded on their course toward the southwest. For several hours the boats kept near together; but a gale came up in the afternoon, and early in

From Melville's "In the Lena Delta." By the permission of Houghton, Mifflin & Co.

the evening they were separated, never to be brought near each other again.

The whale-boat was brought into one of the mouths of the Lena River. The men were almost exhausted, but by the help of a native pilot they worked up the river to a village, where they waited for the ice to form so they could proceed with sleds. A Russian exile went to Bulun to notify the authorities. Lieutenant Danenhower made a

search with a dog team for the other boats, but no trace of them was found.

On the 29th of October word was received that a party of natives had met two sailors of the De Long boat and were taking them to Bulun. The sailors had sent a note to the effect that De Long and the remainder of his party were in a starving condition. With one native and a team of dogs Engineer Melville went at once to learn the location of De Long and give him relief. Lieutenant Danenhower took charge of the remainder of the party and went to Bulun. He then followed Melville to aid in the search for the missing men. At Yakutsk a dispatch from the Secretary of the Navy was received. This directed that the invalid and frozen members of the party be removed to a warmer locality. Danenhower and his party went to Irkoutsk. From this point the lieutenant telegraphed for permission to renew the search, but on account of the condition of his health the request was not granted. He therefore returned home, reaching New York, with three of his men, on the 1st of June. With the exception of an Indian, who had died of the smallpox in Russia, the remainder of the whale-boat crew and the two men whom De Long had sent forward for relief were all in the United States early in 1882. One of the members, however, had become insane and was placed in a government institution for that unfortunate class.

The history of the De Long party and their terrible fate was fully learned from the journal in which the leader made frequent entries up to almost the hour of his death, and from the testimony of the two men who were saved. On the fifth day after the separation their boat was driven upon the ground. Most of its contents were

taken on shore, and preparations were made to walk to what was supposed to be the nearest settlement, about ninety-five miles away. The journey was commenced September 19. The walking was extremely hard, the loads were heavy, and the men were feeble from their exposure and sufferings in the boat. An occasional reindeer was killed, which eked out their scanty supplies of provisions. On the 3d of October there was nothing to eat, and the last dog was killed for food. A few days later, one of the men, who had been badly frost-bitten and very ill for some time, died. As the party had nothing with which to dig a grave, the body was buried in the river. On the 9th the two men who finally reached home were sent in advance, to obtain relief if possible. On the 10th the De Long party had nothing to eat but deer-skin scraps. On the 17th one of the men died, and at midnight of the 21st another was found dead. Part of divine service was read on Sunday the 23d. Upon some days no entry was made. Upon others the death of one or more members of the party was recorded. The last entry was dated Sunday, October 30. It states that two men had died during the night and that another was dying. This left De Long, the surgeon, and one sailor, all of whom must have died soon after the record last named was made.

The two seamen sent on by De Long endured the most terrible sufferings before they were rescued by some friendly natives. Life was sustained by eating their boot soles, burned bones, and pieces of their seal-skin clothes, in addition to a bird and an occasional fish. The natives took them to Bulun. A telegram was sent to Engineer Melville, who reached there on the 3d of November.

After learning the direction in which De Long had proceeded, he started for the Lena Delta. He obtained records from native hunters which enabled him to find the log-books and other articles which had been left on the shore. A long search, entailing great suffering, proved unavailing. As it was certain that the missing party had perished, and that nothing more could be done until a more favorable season opened and further supplies were obtained, Melville proceeded to Yakutsk.

Early in spring the search was resumed, and on the 23d of March, 1882, the last camp of the party was found and the bodies of ten of the men who had died at that point. One of the men, as De Long's journal stated, had died in a boat, and the body had probably been swept into the river near which the camp was formed. A tomb was erected on a bluff, and the bodies, in a box which had been made for the purpose, were placed therein. A cross, twenty-two feet high, was erected. Upon this cross was the following inscription: "In Memory of 12 of The Officers And Men of The Arctic Steamer *Jeannette*, who Died of Starvation In The Lena Delta, October, 1881." This was followed by the names of the men who met this terrible fate. Afterward caskets were sent to Siberia and the bodies were brought to the United States.

After the separation of the boats in the gale of the 12th of September, Lieutenant Chipp and his party were never seen. There can be no doubt that the frail craft, with all on board, was engulfed in the sea.

As whaling vessels returning from the North Pacific in 1879 brought no news of the *Jeannette*, and two ships of the whaling fleet which had been near where the exploring vessel was to go did not come back, the government

sent out the steamer *Corwin* to look after the seal fisheries in Alaskan waters and also to search for the missing vessels. The *Corwin* sailed from San Francisco in May, 1880, and returned the following October. No trace of the vessels was found. In 1881 the government sent out three ships on the same errand. One of these was the *Corwin*, which sailed from San Francisco on the 4th of May and again returned in October. Evidence was obtained that the two whaling ships had been wrecked and their crews had perished.

On the 16th of June the *Rodgers* sailed from San Francisco for Bering Strait. While in St. Lawrence Bay, late in November, the ship was burned. The officers and crew were relieved by a whaling vessel. The steamer *Alliance* was sent to search between Greenland and Iceland, and along the coast of Norway and Spitzbergen. She left Hampton Roads on the 16th of June and reached New York, on the return trip, on the 11th of November. Although none of these expeditions found traces of the *Jeannette*, a great amount of geographical and scientific knowledge was obtained.

In carrying out its part in an international plan for taking observations in the Arctic regions, the United States established, in 1881, two stations. One of these was located at Ooglaamie, near Point Barrow, in Alaska. The expedition was in charge of Lieutenant Ray, of the army, who sailed from San Francisco on the 18th of July, and reached his destination early in September. This party was recalled by an act of Congress, and reached San Francisco on the 2d of October, 1883.

The other expedition had a terrible experience. It was sent to establish a station near Lady Franklin Bay.

The objects in view were the making of explorations, the collection of animal, vegetable, and mineral specimens, and the taking of meteorological, magnetic, and other observations in accordance with the plan adopted by the International Conference, to which the establishment of this station and the one in Alaska was due.

Lieutenant A. W. Greely, of the army, was placed in charge of the party, which consisted of twenty-three men. Two Eskimos joined it at Upernavik. Very minute directions as to the work to be done, and the course to be pursued, were given by the government. A ship was to be sent each year with supplies, and depots of provisions were to be established at specified points. If the ships did not reach the station, Greely was to commence a retreat not later than September 1, 1883.

On the 7th of July, 1881, the party sailed from St. John's, Newfoundland, in the *Proteus*, a steamer which had been chartered for the purpose. At various points stops were made to procure dogs, obtain additional supplies, establish depots of provisions, and complete preparations for a long sojourn in a desolate land.

Littleton Island was reached on the 2d of August. Two days later, when only eight miles from the place of destination, progress was checked by ice. During the next few days the ship was driven back forty-five miles. On the 10th the wind changed, and the next day the ship crossed Lady Franklin Bay. It was decided to locate where the English vessel, the *Discovery*, of the 1875 expedition, had wintered. With great difficulty a passage was forced through the ice which had formed in the harbor. At a point about one hundred yards from the shore the ship anchored, and the work of unloading was com-

menced. A house was constructed, and the station was named Fort Conger. After a delay of several days, occasioned by ice at the entrance to the harbor, the steamer started on her return voyage, which was made in safety. Two of the party, who did not appear able to endure the hardships of the service, returned in the ship.

In accordance with the arrangement made when Greely was sent out, a vessel was despatched with supplies in 1882. This was the *Neptune*, which sailed from St. John's on the 8th of July, with William M. Beebe, a private in the general service, in charge. On account of ice and storms the station was not reached. Provisions were stored at various points and the ship returned.

In 1883 the government sent out two ships, the *Proteus* and the *Yantic*, with supplies for Greely and his party. This expedition was commanded by Lieutenant Garlington, of the army. The *Proteus*, in which Garlington sailed, was a strong vessel well fitted for service in the ice. The *Yantic*, with Commander Wildes in charge, was a much smaller, weaker, and slower craft.

The expedition left St. John's on the 29th of June. Godhavn was reached in safety. The *Yantic* was obliged to stay a few days for necessary repairs, and was then to go to Waigat Strait for coal. As soon as the weather permitted, the *Proteus* resumed the voyage, but soon encountered ice, was compelled to head toward the south, and was repeatedly turned from a direct course. At length Cape Sabine was reached, and the ship was anchored in Payer Harbor. Here the party remained four and a half hours. Whether the instructions were too indefinite, were misunderstood, or the commander of the expedition did not realize the vast importance of leaving

a full supply of provisions at this point, which Greely and his men were almost sure to visit two months later if the ship failed to reach Lady Franklin Bay, cannot be told, but the opportunity for leaving supplies was not improved. Two small depots of provisions which had been formed by preceding parties were visited, and one of them was repaired. Various magnetic and other observations were taken, and the work of the expedition at this point was closed.

As the ice-pack appeared to have broken, the voyage was resumed in the evening. After proceeding about twenty miles, ice was again encountered. On the morning of the 23d of July the situation was so perilous that an effort was made to return to the south; but in the afternoon the ship was hemmed in, and before nightfall it was crushed by enormous masses of ice. Early in the evening a change in the tide caused a movement of the ice which relieved the pressure, and the ship at once went down.

When it became evident that the ship would be wrecked, the boats and a quantity of provisions were taken out. After the *Proteus* went down the crew took three of the boats and the relief party the other two. A small quantity of provisions and a few other stores were landed near Cape Sabine. One party, under Lieutenant Colwell, who had accompanied the expedition as a volunteer, and had taken charge of the meteorological work, but who was not in authority, sailed across Melville Bay in hope of finding the *Vanda*. After being in their boat thirty-eight days, exposed to cold, encountering ice and tremendous gales, and covering a distance of eight hundred miles, the weary party arrived at Disco, where, to

their inexpressible relief, they found the ship. Garlington and his party, including the crew of the *Proteus*, had kept along the shore and reached Upernavik on the 24th of August, only two days after the *Yantic* had left that port for fear of being frozen in. Immediately upon the arrival of Lieutenant Colwell, the *Yantic* returned to Upernavik, took Garlington and his men on board, and sailed for St. John's, where it arrived on the 13th of September.

The season was so far advanced that it would be worse than useless to make further attempts to relieve Greely that year, but the government soon commenced preparations for sending an expedition at the earliest moment it would be possible to enter the Arctic Sea. Two ships, the *Thetis* and the *Bear*, were purchased; and the *Alert*, which had been used by Captain Nares in the expedition of 1875, was donated for the purpose by the British Government. A steamer, the *Loch Garry*, was chartered at St. John's to carry a supply of coal to Littleton Island.

Commander W. S. Schley, of the navy, was placed in charge of this expedition. The ships were fully equipped, and officers were chosen and crews selected with great care. Provisions were taken for two years. To induce owners of whaling vessels to interest themselves in the case, Congress offered a reward of $25,000 for the rescue of the Greely expedition or conclusive information regarding its fate.

On the 24th of April, 1884, the *Bear* sailed from New York. On May 1 the *Thetis* left the same port, and the *Alert* followed on May 10. The advance ships, the *Thetis* and the *Bear*, had much trouble with ice in Melville Bay, but succeeded in reaching Littleton Island — the *Thetis* on the 21st, and the *Bear* on the 22d of June.

Finding that Greely had not reached the island the ships at once proceeded toward Cape Sabine. Late in the afternoon of the 22d they were stopped by ice. Several parties were sent ashore, one of which soon discovered records of the missing explorers. The latest of these was dated October 21, 1883, and stated that full rations for only forty days remained. There seemed to be hardly a possibility that any of the party could have survived. Lieutenant Colwell, with a few others, pushed forward in a cutter, followed as soon as possible by the ships, to the site of the Greely camp, as stated in the papers that had been found. This was about five miles west of Cape Sabine. Fortunately, the wind had driven the ice from the shore, thus giving a free course.

About nine o'clock in the evening Colwell and his party reached the camp. Here Greely and six of his men were found. The others had perished. All the survivors were feeble; and several, including Greely, were almost at the point of death. They were given restoratives and a little food, and, when somewhat revived, were taken aboard the ships. The bodies of thirteen of the dead were recovered. Of these, one, an Eskimo, was buried at Disco. The other twelve were taken to the United States. Five bodies that had been buried at the camp had been swept into the sea. Besides the seventeen men who had died of starvation, one had been drowned while endeavoring to procure food, and one who was rescued had been so badly frost-bitten and was so reduced by exposure and want of food that he died on the homeward journey.

Greely and his men abandoned Fort Conger August 9, 1883, were adrift on ice for thirty days, and were con-

pelled to abandon their boats before they reached the spot where the final camp was made, and where they remained from October 21, 1883, until June 22, 1884. During the winter gales were numerous, and great quantities of ice were driven through the channel, thus preventing its freezing over and thereby cutting off the party from the supplies of food which were stored on Littleton Island.

The *Thetis*, *Bear*, and *Loch Garry* reached St. John's on July 17, 1884, and the *Alert* arrived on the following day. About a week later the three vessels which belonged to the government sailed for Portsmouth, New Hampshire, where they arrived on the 1st of August. Here the party was received by the Secretary of the Navy and other prominent officials, and a public reception was given. On the 8th of August the ships reached New York. Officers of the army and navy were present, and the relief expedition was received with imposing ceremonies.

While the station was maintained at Fort Conger much was done in the way of exploration, and some valuable discoveries were made. A party under Lieutenant Lockwood reached latitude 83° 24′, a point farther north than had been gained by civilized man, and which was not again attained until the intrepid Nansen made his splendid effort to reach the Pole.

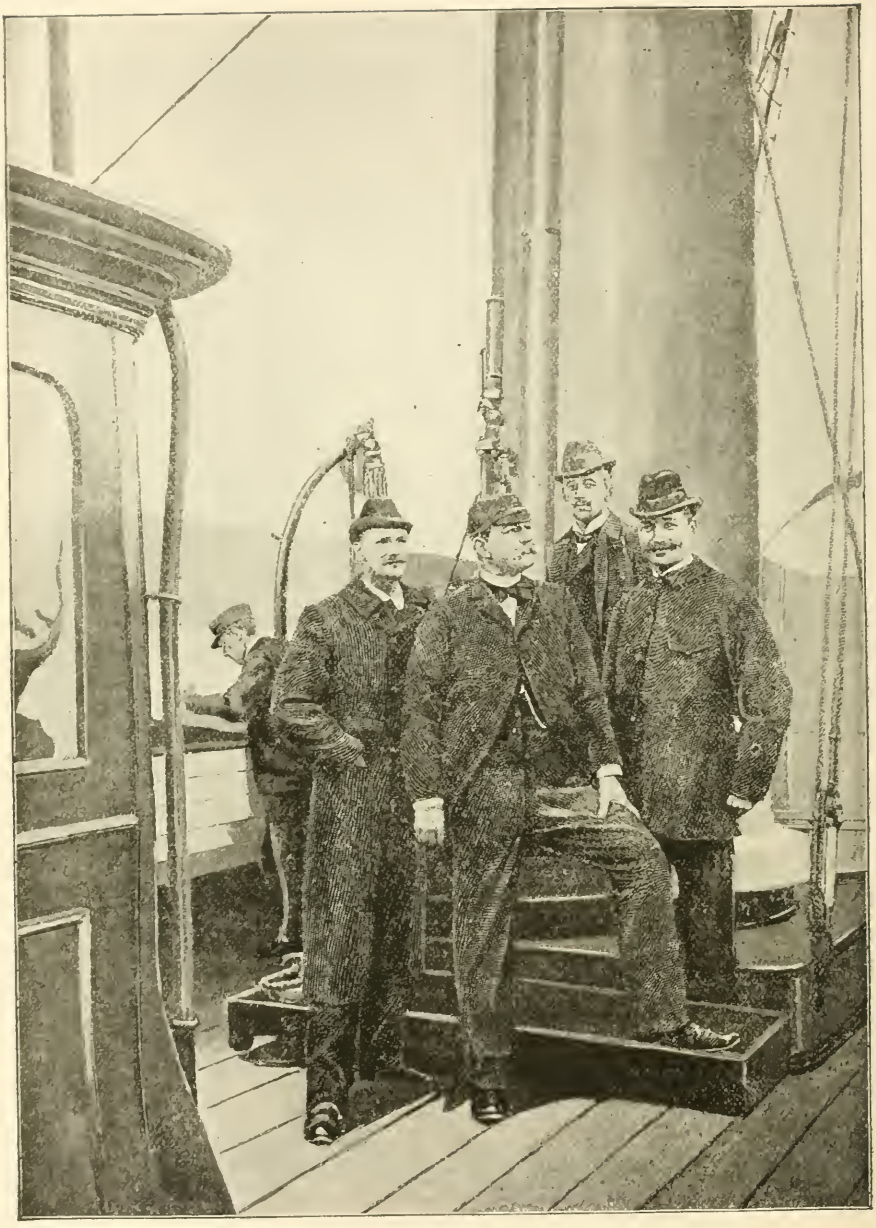
THE

POLAR EXPEDITIONS

OF 1897

FROM A RECENT PHOTOGRAPH BY

ANDREE HEAVY ANTARCTIC



Fränkel Andrée Strindberg

ANDREE AND HIS COMPANIONS

CHAPTER XXX

THE ANDRÉE BALLOON EXPEDITION

A WIDELY different, and apparently a far more perilous method than any which had previously been devised for reaching the North Pole, has been adopted by Professor Andrée, of Sweden. This is an attempt to make the journey by means of a balloon. It has not only awakened the curiosity of the public in general, but has also aroused the deepest interest in scientific circles. At the present writing the outcome of this most remarkable effort is unknown, and information regarding the progress of the expedition is eagerly awaited throughout the civilized world.

SOLOMON AUGUST ANDRÉE, the son of an apothecary in Grenna, Sweden, was born in that town in 1854, and there his father died in 1871. After graduating at the high school in his native town the young man attended the technical college at Stockholm. When he left this institution he became one of the owners of a small iron foundry near Jönköping. The business, which was conducted under the firm name of Möller & Andrée, did not prove very congenial. This led Andrée to seek employment as a practical engineer. After working in this capacity at various places for several years he became a teacher of natural philosophy (physics) at the college in Stockholm in which he had previously been a student.

In 1881–82 Andrée was a member of Dr. Ekholm's expedition to Spitzbergen which was sent out to take meteorological and other scientific observations. On his

return home he was appointed chief engineer at the Patent Office at Stockholm. Later, as a private undertaking, he crossed the ocean to Philadelphia in order to make a careful study of atmospheric conditions. He was struck with the continued regularity of aërial currents near the surface of the water and formed the opinion that the higher currents would be even more uniform and continuous. This led to a belief that it would be possible to cross from America to Europe in a balloon. As time passed on his interest in meteorology increased. He requested his brother, Ernst, who was a captain in the merchant marine and sailed to all parts of the world, to make accurate observations of the weather. From reports received, in response to this request, from Australia, Japan, and the East Indies, Andrée gathered many interesting facts which were soon published. For some time he was not able to experiment extensively in aërial navigation, but the results of several ascensions with the celebrated Norwegian aëronaut, Cetti, seemed to establish the truth of some of the theories which he had formed.

Andrée spent the summer of 1893 at Goteborg, on a visit to his brother who had become the manager of a sailor's home at that place. Andrée had already conceived the singularly daring plan of crossing the ocean in a balloon from the Cape Verde Islands, near the northwestern coast of Africa, to Venezuela. By making this trip he wanted to prove the possibility of travelling long distances in a balloon. By careful calculation the two brothers concluded that the distance between the points named could be traversed in ninety-seven hours. After a great deal of study an elaborate plan was completed. But when this plan was submitted to the great explorer Nor-

denskjöld, and other scientists at Stockholm, they said to Andrée, "If you have faith in such an undertaking why not rather try to go from Spitzbergen to the North Pole?" This led Andrée to consider the feasibility of such a project and eventually to engage in the great work which during the past few years has kept his name prominently before the public.

In the same year he obtained from a memorial fund at Stockholm, called "Lars Hjertas Minne," the sum of $1,400 to assist him in his aëronautical experiments, and the government allowed him to import free of duty, a balloon made in Paris on condition that he should report the results of his efforts to the Royal Swedish Academy of Sciences. This balloon, which was named *Svea*, was large enough to contain about forty thousand five hundred cubic feet of gas. With it Andrée made twelve ascensions, — the first late in 1893 and the last on March 17, 1897. He was usually very fortunate in his descents, but on one occasion he came near losing his life in the Baltic Sea.

In the promised reports to the Academy of Sciences Andrée published the results of his observations and explained his theories of aërial navigation. The first elaborate explanation of his project of a Polar expedition was made in a lecture read at a meeting of the Academy on the 13th of February, 1895. On the 15th of the same month the lecture was delivered at a meeting of the Swedish Society of Anthropology and Geography, and it was afterwards printed in pamphlet form with the following title: "Proposed Plan of an Expedition to the North Pole in a Balloon."

The lecture begins as follows: "If we observe what

means have been used to push forward over the ice fields of the Arctic regions, we find that the explorer so far only has used one single instrument, and that is the sledge. The sledge has always been the means of transportation, and the only difference in the many expeditions has been in harnessing either men or beasts to it. I will not give an opinion as to which is the better, but will only say that neither has been a success, though in the course of time fresh exertions have constantly been made. The fact remains that in attempting to push on over the polar ice we have lost numbers of men, ships, and money, and several hundred years of time, without having succeeded in crossing the icy desert and reaching the Pole.

"Is it not time to examine this question and look about for some other means of transportation than the sledge? Yes, it is time, and we will not have to look far to find the means that is particularly adapted for such purposes.

"This means is the balloon. Not the ideal perfectly steerable balloon that is dreamed of and worshipped but has never been seen, but the balloon that we really possess and that is judged so unfavorably while only its weak points are noticed and emphasized. Such a balloon is good enough to carry the explorer to the Pole and home again. With such a balloon the voyage across the icy desert *can* be accomplished."

Andrée was a delegate to the Geographical Congress which was held in London in July, 1895. There his plans for crossing the North Pole in a balloon obtained the greatest degree of publicity and were the subject of long and earnest discussion. The assemblage was strongly impressed by his scientific arguments as well as by his intense enthusiasm. The battle for the recognition

PANEL, LAND AND HARBOR, SHOWING A VIEW OF THE FRAME STRUCTURE OF THE BALLOON HOUSE

and acceptance of the balloon theory was won. Even Markham, the pride of the English polar-explorers, who at first would not listen to any talk of such an expedition, was brought so fully to its support that at a dinner which he gave to Andrée a few days later, he declared: "I should like to go with you myself, but," he added as he pointed to his charming wife, "here is what prevents me." Later utterances have shown that these encouraging words of the famous naval officer were not dictated by mere politeness to his guest.

Baron Nordenskjöld, whose great success in the work of Arctic exploration made him an invaluable ally, fully endorsed the arguments of Andrée. On Andrée's return to Sweden a subscription to defray the expenses of the projected expedition was started. In a short time the required sum ($36,000) was pledged by prominent Swedes. So great was the interest in this unique plan that ten times as much money could have been obtained if the subscription had been open to the public. The principal subscribers were Alfred Nobel, ($17,000); King Oscar II., ($8,000); and Baron Oscar Dickson, ($8,000). These gentlemen also paid the expenses of the second expedition, which amounted to about $8,000.

While noting these numerous and, to Andrée at least, very gratifying expressions of confidence in the proposed method of solving the Arctic problem, it should be stated that there were many people to whom it seemed extremely perilous if not actually impraticable. About the time of the departure of the expedition the opinion of Dr. Fridtjof Nansen, as to a successful ending, was sought by a prominent Swedish paper. The following rather non-committal reply was telegraphed from Lysaker on July 21, 1897:

"On my return here I received your telegram. I am not an aeronaut and therefore have no claim to be an authority. To me, having no scientific knowledge of ballooning, the expedition seems an undertaking that is possible to accomplish."

A number of other men who, as practical explorers or as close students of the subject, seemed to be competent judges, expressed the opinion that, while it was within the limits of possibility, a successful outcome was hardly to be expected.

Andrée spent the winter of 1895–96 in France and England. He made numerous ascensions with French aëronauts near Paris, discussed his plans with a number of scientists, and received from them many valuable suggestions.

The balloon was made by M. Lachambre, of Paris, and cost $10,000. It is about seventy-five feet in height from the opening of the balloon proper to the top, and not far from one hundred feet high from the top to the bottom of the basket. It is made of three thicknesses of silk held together with varnish and the whole overlaid with two coats of varnish. The gondola, or car, is about five feet deep and six and a half feet in diameter. It is made of wicker-work, is lined with varnished silk, and serves as a sleeping apartment for one of the aëronauts while the others are at work and at watch. It is covered with a lid of basket-work. In this lid there is a trap door which furnishes a means of entrance to or exit from the car. While at work the men stand upon this lid and are partially protected from the wind by a canvas screen. At about the height of a man's waist there is a large ring of the same diameter as the car. Upon this the scientific

instruments of the expedition are firmly fixed. So, while the explorers stand on the lid of the car, watching their progress through the air, they are really in the middle of their observatory with ample facilities for recording whatever they may deem worthy of note.

A number of the instruments taken in the balloon were invented by Dr. Ekholm and Strindberg. Among them is one for ascertaining the direction and velocity of the clouds, and another which registers the intensity of the sunlight. There is also an apparatus, invented by a German photographer, for making photographic maps of the regions over which they pass.

The provisions, sledges, and a collapsible boat, are stored in the netting above the ring. In order to promote convenience in handling, as well as to insure better preservation, the food supplies are placed in canvas bags. The apparatus for cooking is very ingenious. As either flame or sparks would be exceedingly dangerous near the highly inflammable gas of the balloon it was evident that cooking in the car would involve a terrible risk. So the work is done in a copper cylinder which is let down twenty-five feet below the car. Heat is furnished by means of an alcohol lamp. This is ignited by a mechanism in the car and extinguished by blowing through an india rubber tube. By looking in a reflecting glass the cook can easily see whether the lamp is burning.

While this balloon may be regarded as being in almost every respect a novelty, its most striking characteristic is the guiding and steering apparatus. This may be briefly described as consisting principally of guiding ropes. These are of different lengths, the shortest measuring about one thousand feet and the longest some twelve

TRANSPORTING THE CASE CONTAINING THE BALLOON FROM THE BOAT TO DANES ISLAND, SPITZBERGEN

hundred feet. These ropes hang from the bearing-ring just outside the car and, when the balloon is not at too high an altitude, drag upon the earth or the ice. They are of different lengths in order that if one of them gets entangled with any object the others may run free.

It was Andrée's intention to keep only about five hundred feet above the surface of the earth and let the guide ropes trail behind the car. Sails were rigged from a bamboo yard-arm extending horizontally across a second ring. By the obstruction of the guide ropes and by changing the sails to the right or the left, or by taking in a sail on either side, it was thought that a tack of thirty degrees could be made. This was an important matter, as without some apparatus for modifying its direction the balloon would go right before the wind. It was also important that some method of regulating the altitude of the balloon while floating in the air should be devised. Otherwise, when the weather is warm the heated gas will cause the balloon to rise, while a lower temperature, by reducing its buoyancy, will draw it nearer to the earth. This variation is overcome by means of automatic valves, placed at opposite sides of the balloon, which, under certain conditions, allow an escape of gas. This arrangement, in connection with the guide ropes and the throwing overboard of ballast, is expected to enable the aeronauts to keep the balloon at a very nearly uniform altitude.

After experimenting with various materials for generating the hydrogen gas needed for inflating the balloon it was decided that iron filings and sulphuric acid were the best that could be secured. In order to obtain a sufficient quantity of gas, forty tons of iron filings, thirty-nine tons of sulphuric acid, and seventy-five tons of water were used.

A CELT, THREE NAVAL OFFICERS, AND M. MACLEOD, ON BANKS ISLAND

The balloon house was constructed by chief engineer Ivan Svedberg, in Goteborg. It is in octagonal form with a diameter of about eighty feet and is about as high as an ordinary house of five stories. A balcony runs around the whole building. All the detail work was finished before any part of the building was shipped. Thus it was possible to erect the house in about two weeks after reaching its site.

A large number of carrier pigeons were taken along to be released when anything of importance occurred. There was also a supply of cork buoys which were strong enough to endure a fall upon the ice from the altitude of the balloon and light enough to float in open water. Each buoy had a small vertical staff with a Swedish flag large enough to be visible at quite a distance. In the centre of the buoy is a place for a water-tight metal box. In this box a letter is to be placed before the buoy is thrown overboard. These buoys may float in the currents for months, or even years, before they are brought to inhabited coasts or are picked up at sea.

Andrée believed that the balloon would follow one of the four courses indicated on the accompanying chart. That marked I. shows what he considered the most probable course, and the one indicated by IV. marks the one which he thought least likely to be followed. If the wind was from the south when the start was made the course should be constant to the Pole. From that point there might be a frequent change of currents and a consequent shifting to different directions.

If the balloon followed what was regarded as the course naturally to be expected, the party would find their landing-place in the northeastern portion of Siberia. But the

direction of polar winds cannot be foretold, and instead of reaching Siberia the party might be carried to the Samoied Peninsula, to Alaska, or to British North America.

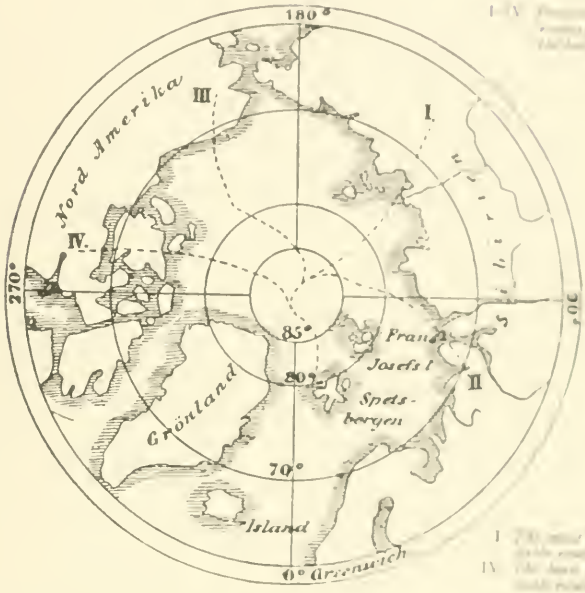


DIAGRAM SHOWING FOUR ROUTES EITHER ONE OF WHICH ANDRÉE'S BALLOON MAY HAVE TAKEN AFTER CROSSING THE POLE

Andrée's first expedition started on the steamer *Virgo*, from Goteborg, on June 8, 1896, and arrived at Spitzbergen on the 19th of the same month. For his companions Andrée had chosen Dr. Nils Ekholm, and Nils Strindberg. Dr. Ekholm is four years older than Andrée and has won considerable fame as a meteorologist. Nils Strindberg was born in Stockholm in 1872. He graduated from the University of Lund, where he made a special study of natural philosophy, and he has won an

excellent reputation as an amateur photographer. From the first day on which he heard of the proposed balloon expedition he had been eager to accompany Andrée on the trip. He is a nephew of the Strindberg who is prominent as an author.

Pike's house, the station of an English sportsman, on the northern part of Danes Island (which lies on the northwest coast of Spitzbergen), was selected as the most favorable point from which to make the ascension. The octagonal house was erected and the balloon was inflated under the superintendence of its maker, M. Lachambre. On July 27 the preparatory work was completed. All that was then required was a south wind. For this Andrée and his companions waited, but waited in vain. During the first week in August it was decided that, as the season was far advanced, the expedition must be abandoned and preparations for returning home were commenced. The house, balloon, and scientific apparatus, were taken to Tromsö to be stored, and Andrée, with his companions, returned to Stockholm. Though they were greatly disappointed it was said that they hoped to renew the effort the next summer.

During the autumn it was intimated that Andrée would not make another attempt to carry out the plan which had so signally failed. The fact that Dr. Ekholm had resigned as a member of the expedition was quoted as proof that the rumor was correct. It was said that from the time of its inflation the balloon lost a considerable volume of gas each day. This leakage, the Doctor believed, would make it impossible to keep the balloon afloat long enough to make the voyage to the Pole. Another version, which is probably the correct one, was to the effect

INSPECTING THE BALLOON, JULY 2, 1897

that Dr. Ekholm had been married shortly before starting on the expedition, and that on his return his wife exacted from him a promise never to attempt another experiment of this kind. Rumors that the expedition had been abandoned were published in numerous papers, until Andrée made a public and emphatic denial in December, 1896.

The necessary funds for a new expedition were quickly and easily obtained. King Oscar was the principal contributor. The government also gave Andrée substantial encouragement by placing the gunboat *Svensksund* at his disposal. During the winter experiments were continued and various improvements of the steering apparatus were effected.

When it became known that Dr. Ekholm was not to accompany the new expedition, Knut Hjalmar Ferdinand Fränkel offered to take his place. Fränkel was born in Karlstad, in 1870, studied at the technical college at Stockholm, graduated as an engineer in 1892, and was then employed by the government in building railroads in the northern part of Sweden. Andrée, who knew him as an able and efficient engineer, gladly accepted his offer.

Early in June, 1897, the expedition started for Danes Island and on the 14th of that month the case which contained the balloon was landed. This, on account of its great size, was an exceedingly difficult operation. M. Lachambre did not accompany this party, but sent his nephew, M. Machuron, a well-known expert, in his place. Under his direction the balloon was unpacked. It was found to be in perfect condition.

On June 19 the work of inflation was commenced under the direction of Engineer Stake who, with a number of carpenters and other helpers, had accompanied the expedi-

ANDREE'S BALLOON, THE "EAGLE," INFLATED AND READY FOR HER ASCENT

tion to this point. At midnight of June 22 it was completed. The balloon then contained about one hundred and seventy thousand cubic feet of hydrogen gas.

Meanwhile Andrée attended to the work of getting the instruments, and a supply of provisions, into the gondola. Fränkel, Strindberg, and an assistant named Schvedenborg, greased the immense guide ropes with a mixture of lard and vaseline in order to make them glide easily over the ice. The carpenters were also employed in taking down the upper part of the northern side of the balloon house.

Then a few days were spent in testing the air-tight qualities of the balloon. In the performance of this work an entirely new process was adopted. All the seams of the balloon were covered with strips of white material which had been impregnated with a certain chemical mixture. Wherever gas escaped these strips were blackened. Eight or ten men, holding on to the meshes of the netting, climbed simultaneously to the dome of the balloon to place the prepared strips in position. This was difficult work, but by its means several leaks, which with ordinary methods could not have been found, were soon discovered. These were carefully repaired.

The balloon, which bore the very appropriate name of *Örnen* (*Eagle*, in English), was ready to start on June 30, but nearly two weeks passed before the conditions were sufficiently favorable to justify the party in leaving. The following details of the ascension have been gathered from the diary of M. Machuron and various other sources.

From the first of July the members of the expedition were anxious to commence their voyage as soon as possible. They fully realized that each day's delay meant

a loss of one day of summer and of daylight for carrying on their work. Andrée was determined that there should be no such failure as that of the previous year, and declared that he would "start for the Pole on this occasion, cost what it may and in spite of all difficulties that may arise."

During the morning of July 11 Andrée was unusually silent and appeared to be in very earnest thought. At about ten o'clock he went to note the indications of the various meteorological instruments — anemometer, thermometer, barometer, etc. — which he had brought with him. The wind was then south-southwest. About half an hour afterwards he suddenly announced that he was ready for an immediate departure. He asked advice of the other members of the expedition, the captain of the *Svensksund*, and M. Machuron. All agreed that the time for action had come. At eleven o'clock the work of preparation was commenced. The carpenters, aided by the sailors of the *Svensksund*, began to take down the northern side of the shed, while at the same time the southern side was made higher in order to protect the balloon from the rapidly rising wind. One of the principal difficulties was to get the balloon free without having its tissues torn by contact with the boards and timbers of the shed. This danger was reduced as much as possible by padding the posts and other prominent parts with felt. As the demolition of the shed progressed and brought it more and more into view, the balloon, with its great height and large circumference, looked more like a substantial building than an object lighter than air. But it soon began to roll, and in order to steady it large bands were passed around it and fastened to the uprights of the shed. Then

the whole surface was again carefully examined to discover and check any leakage and repair any weak spots that might be found.

All the work was carried on with the greatest rapidity. Each member of the expedition assisted, and the herculean strength of Fränkel was shown by his easy handling of enormous beams and weights which an ordinary man could hardly move. The last thing to be done to get the balloon in readiness was to attach the car. This was accomplished at about two o'clock. The attachment was made to the ring, which itself was held by three strong ropes which were fastened to large stakes firmly driven into the ground.

Andrée now hurriedly wrote two despatches, one to the *Aftonbladet* and the other to King Oscar. They were to be taken by steamer to Tromsö and from there telegraphed to Stockholm. These messages, which were as follows, were received at Stockholm on the 16th of July: —

To *Aftonbladet*: —

To-day, Sunday, at 10.35 A. M. we began preparations for departure and are ready now, 2.30 P. M. We shall probably be going in N. and N. East direction and expect by and by to come into regions with more favorable wind conditions than here. In the name of all my associates I send warmest greeting to fatherland and friends.

ANDRÉE.

To King Oscar, dated Virgos Harbor, July 11, 2.35 P. M.:

In the moment of departure the members of the Polar expedition beg your Majesty to accept our respectful greeting and warmest thanks. ANDRÉE.

A GOOD START — THE DEPARTURE OF THE "EAGLE" FROM [illegible]

Everything had been made ready, and the long-desired moment for departure had now arrived. There was no ceremony, and hardly a word was spoken, yet the leave-takings were very affecting. The final preparations had been completed in haste, and there was no time for anything superfluous. The members of the expedition shook hands cordially with those who were to remain. There seemed to be a suppressed feeling of anxiety and emotion among the group, but the three explorers were remarkably calm. Andrée appeared as cool and collected as on any other day, and his air of quiet confidence fully reassured the others. Fränkel was resolute and cheerful, while Strindberg, though equally courageous, could not repress a slight trembling of his hands as the decisive moment came.

Andreé mounted the car, made a careful examination to see that everything was in order, and then in a tone of command called out, "Strindberg!" Strindberg mounted. "Fränkel!" Fränkel mounted. "Come!" said Andrée cheerfully. Not another word was spoken.

The captain of the *Svensksund* was in charge of the sailors appointed to cut the cords that held the balloon. They first released the bands that stayed the balloon around the centre. The rolling motion, which these bands had been employed to check, now commenced again. It was necessary to wait for a moment when the balloon should be in comparative equilibrium. Both the captain of the *Svensksund* and Andrée watched intently. Suddenly Andrée cried out "Cut!" The sailors vigorously plied their knives, and in a moment the released balloon bounded to the height of three hundred feet in the air.

Wild cries of "Hurrah!" and "Happy Voyage!" were raised by the spectators on the shore. They were loudly answered by the occupants of the balloon who were engrossed in watching the course of their aerial ship. Almost immediately the balloon rapidly descended nearly to the surface of the waves, but the wind was blowing violently, and it quickly rose and was seen moving away at great speed. The three explorers waved their handkerchiefs until the balloon passed out of sight of land. In about half an hour it vanished from the view of the spectators, but for some time longer they remained silently watching the horizon and rejoicing that they had been permitted to witness the departure of one of the most remarkable expeditions the world has ever known.

At the moment of leaving an incident occurred which, though in itself unfortunate, demonstrated the fact that Andrée had carefully and thoughtfully looked into all the details of the expedition and had provided for emergencies. As the balloon first bounded into the air two of the guide ropes, which were trailing for a considerable length on the ground, were broken by the tension caused by the sudden rise of the balloon and the friction of the ropes on the surface. If no provision had been made therefor such an accident might have caused the loss of the whole system of guide ropes before the expedition had fairly started. But Andrée had foreseen the possibility of such a mishap and had directed that these ropes should be made in lengths of about one hundred yards each and that these parts should be united with screws. Consequently, the accident noted meant nothing more serious than the loss of a fraction of the available rope for guiding the balloon.

The great utility of the guide ropes was evident at the very commencement of the voyage. Although the direction of the wind was from the south-southwest the guide ropes enabled the explorers to turn the course of the balloon nearly or quite due north. They were also of great service in keeping the balloon at a nearly uniform altitude. At first there appeared to be danger that it would be dashed against an ice-covered hill, some six hundred feet in height, that seemed to lie directly in its path. But as the balloon approached it soared over the hill, like an enormous bird, constantly keeping at just about the same distance from the surface.

Such, in brief, is the history of this remarkable expedition up to the time of its departure for the Pole. If it returns a new impetus will be given to the science and practice of aërial navigation. If the explorers perish their fame will be secure. Their names will be enrolled with those of the many earlier heroes who gave their lives to the work of Arctic investigation and discovery.

Andrée entered upon this expedition in full confidence that if he should fail others would promptly carry on the work. This is indicated by the closing words of a lecture on the proposed expedition which he delivered at the annual festival of the Swedish Society of Anthropology and Geography, on "Vega-dagen," April 17, 1896, and which were as follows: "If our expedition should return home without success, or even if we should perish, it will not be long before a new balloon expedition will be started for the same purpose as ours. This idea has taken such a mighty hold on the human mind that it cannot be quieted. It will necessarily appear again with the full strength of a natural law."

PEARY'S ARCTIC SHIP

THE GONDOLA OF THE "EAGLE" AS IT APPEARED TO HER PILOTS

THE PEARY EXPEDITION.

At the annual meeting of the American Geographical Society, which was held in New York city on January 12, 1897, the services of Lieutenant R. E. Peary in the work of Arctic exploration were recognized by an award of the Cullum Geographical Medal. At this meeting Mr. Peary expressed his confidence that the North Pole could and would be reached, and asserted that the principal factors of success in that work were time and money. He also briefly outlined a plan of operations which he believed could be carried out.

Among the main features of this plan are the raising of a fund sufficient to pay the expenses of the work for several years, if necessary; and making the journey toward the Pole by regular stages. It was proposed to go on a suitable ship to Whale Sound, where several Eskimo families were to be embarked, and then pass to, or beyond, Sherard Osborne Fjord, and at some convenient point land the Eskimos and the necessary stores. The ship would then return. The location chosen would be used as a base of supplies, and depots would be established at intervals as sledge journeys were made toward the North. The party would live in snow houses. Land would be followed to the northern limit of the archipelago, and then a "dash for the Pole," over what during a large part of the year is doubtless a frozen sea, would be attempted. As he considers a small party both safer and more efficient than a large one, Lieutenant Peary proposes, in the final effort, to take only two or three men, with dogs and sledges.

On May 26, 1897, Lieutenant Peary was granted a leave

of absence from the U. S. Navy for five years, and on July 19 he sailed from Boston, on the steamer *Hope* for the northwest coast of Greenland, expecting to return late in September. This trip, it is understood, is made mainly to arrange with a few Eskimo families to go with him on the main expedition and establish a colony in 1898. It is hoped that from the point then selected the sledge journey to the Pole can be commenced in the spring of 1899.

[The trip above noted was quite successful. Satisfactory arrangements were made with the Eskimos of Smith Sound to assist in the work to be taken up next year.

On its return voyage the *Hope* reached Sydney, C. B., on September 20, where it stopped to obtain a supply of coal. Lieutenant Peary brought with him six Eskimos, with their tents, sledges, canoes, and dogs. He also obtained a number of relics of the disastrous Greely expedition, and brought from Cape York the famous meteorite which weighs about one hundred tons and is supposed to be the largest body of the kind in the world. On September 22 Lieutenant Peary and his party arrived at Boston.]

ANTARCTIC EXPEDITION

As compared with those to the Arctic regions, Antarctic expeditions have been few and small. This is especially true as regards the work that has been done during the last half century. Of late however, there seems to be an increased degree of interest in the southern field.

From 1567, when Peru sent out the first Antarctic expedition, to 1773, when Captain Cook, with a British ship, crossed the Antarctic circle, several efforts were made by people of different countries to penetrate the southern

regions, but they had amounted to but little. From the days of Captain Cook to the present time there have also been expeditions, mostly on a small scale, from various lands. The most fruitful of these efforts was that of Sir James Clark Ross, in 1839–43. A point 78° 11′ S. latitude was reached and some interesting discoveries were made.

During the past summer an expedition for exploring the Antarctic regions has been fitted out under the direction of Captain Adrien de Gerlache, of Belgium, under whose command it left Antwerp about the middle of August. More than half the expense of this expedition was borne by the Belgian government.

The *Belgica*, upon which the explorers sailed, was originally built as a whaling ship for service in the ice, but it has been thoroughly refitted and greatly strengthened. She not only has engines capable of giving a speed of seven knots per hour, but also carries a large area of canvas.

The ship carries twenty-three men, several of whom are well-known scientists. Among the latter is Dr. Frederick A. Cook, of this country, who has made three trips to the Arctic regions, and who has sailed to Montevideo to join the present expedition when it arrives at that port. The vessel is well equipped and has supplies for two years.

The purpose of this expedition is not to reach the South Pole, but to make as thorough an exploration as possible of the shores of the Antarctic region. It is expected to reach Graham Land about the middle of October and be able to continue work until March, when it will probably be obliged to retreat to Cape Adare, to remain during the Antarctic winter.