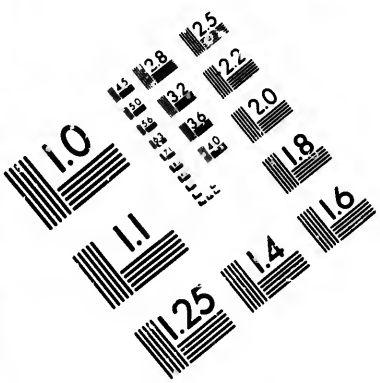

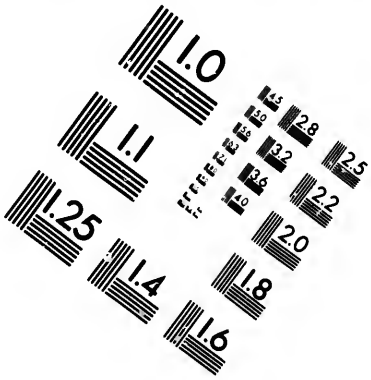

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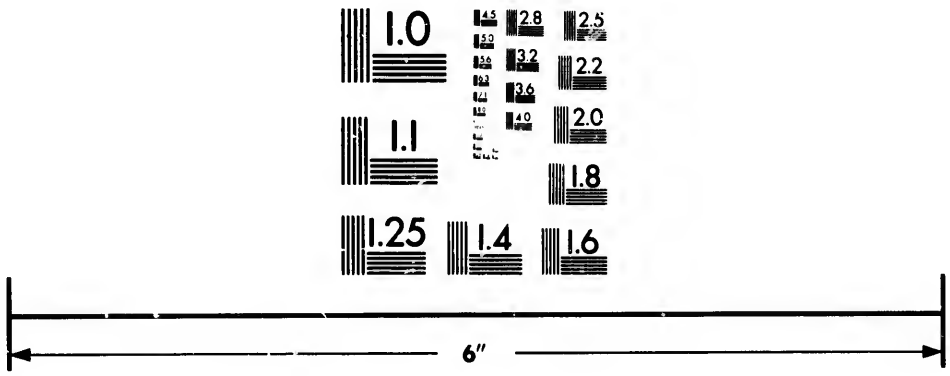

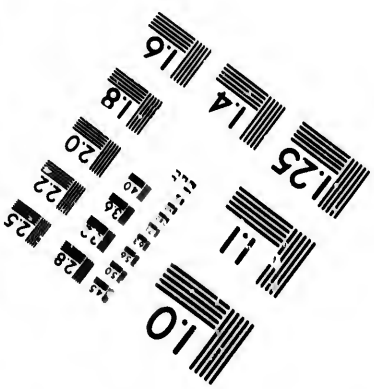

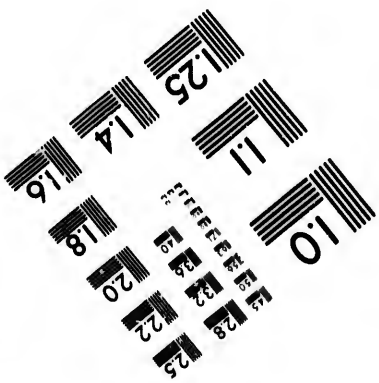

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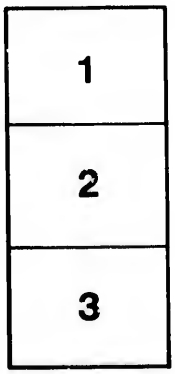

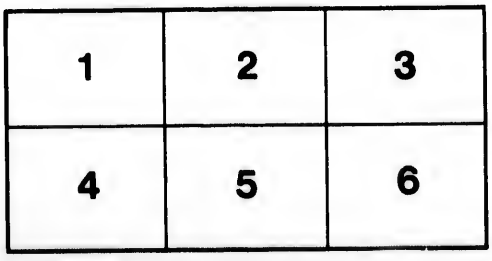

FRIDTJOF NANSEN, SCIENTIST AND EXPLORER.

FRIDTJOF NANSEN

His Life and Explorations.

BY

J. ARTHUR BAIN,

AUTHOR OF "THE NANSENS" ("IDLER," MARCH, 1896); "FRU NANSEN" ("STRAND MAGAZINE," NOVEMBER, 1896); "A TALK WITH DR. NANSEN" ("STRAND MAGAZINE," CHRISTMAS, 1896).

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PREFACE.

THE only cure for the Arctic fever is the discovery of the North Pole. A goal at once so definite and so encompassed with mystery is sure to command human effort until it shall be reached, and never was mankind nearer to this consummation than at the present time. The operations of Arctic heroes, beginning with Sebastian Cabot and ending with Fridtjof Nansen, have gradually broken down the barriers that have stood for ages between restless man and his ambition. For many years Great Britain has stood foremost in the history of Arctic exploration, but Norway has lately proved a formidable rival in the person of Fridtjof Nansen, whose crossing of the great Greenland plateau in 1888 drew attention for the first time to the fertility of resource possessed by this strong-nerved Scandinavian.

Only the Arctic explorer himself is able to explain the source of the attraction that lures men to the icy north. However greatly opinions may differ as to the feasibility of the plans of the majority of the explorers; as to the practical results which may accrue to navigation or commerce; or as to the benefits to be derived by science from their observations in these regions, it will not be denied that the men who, in face of a terribly rigorous climate and of fearful bodily risks, sail northward with a fixed determination to wrest from Nature her most closely-guarded secret, are worthy of admiration.

In this record I intend to place before my readers not only the life and history of a brave man who has early in life eclipsed the performances of many of his predecessors, but to present it in such a manner as to allow the ordinary reader to draw a parallel between the doings of Fridtjof Nansen and those of the men who have gone before him in the path which he has himself chosen.

In comparison with the journeys of Dr. Nansen and his companions, all other Arctic ventures of recent years fall into the shade. No explorer of the Arctic regions since Franklin, no traveller indeed save Columbus, has gained so great a hold upon the imagination of his contemporaries. As in his journey across Greenland, so in his attempt to find the North Pole—he modestly but fearlessly confronted danger with the full knowledge that to fail was most probably to die.

There is much in Nansen to inspire respect and confidence. His character and bearing are unmistakably those of the man who achieves greatness.

Without fear on the one hand or vanity on the other, he spoke of his purpose with simple candour exaggerating nothing, making light of nothing, not greatly concerned as to what the world might think of his project, except to let men see that he had excellent reasons for the birth and growth of the faith that was in him. Amid the many discouragements he met with, none stung him so much as the implied censure of the people who said that the risk was needless; that neither time, money, nor life ought to be expended on his quest; that its only reward could be, if successful, a trivial gain of knowledge; and that the only result of failure would be the death of the explorer and his companions. To these he once made a famous answer—an answer that deserves to ring throughout the ages in the ears of the doubters and faint-hearted:—"Man wants to know; and when man no longer wants to know, he will no longer be man."

The unprecedented public interest which Nansen's record has aroused in this land proves that to-day, as much as ever, the heart of the British public warms to great deeds. And hardly the less so, be it remembered to our credit as a nation, when the doer of them is a foreigner, and the laurels he wins are for another brow than Britannia's.

In conclusion, I wish to acknowledge the kindness of Fru Nansen and Alexander Nansen, to whom I am indebted for much of the information contained in my earlier chapters; of Messrs. Longmans, Green & Co., for their prompt permission to make extracts from "The First Crossing of Greenland," the "Life of Nansen," etc.; of Mrs. Alec B. Tweedie; of the

proprietors of *The Illustrated London News;* of the editor of *The Strand Magazine;* of Sir Clements R. Markham, F.R.S., President of the Royal Geographical Society; of Dr. John Murray; and numerous others who so readily granted me leave to enlarge on my own information by quoting from their publications and writings.

The large excerpts from Dr. Nansen's address, due to the courtesy of the editors of the *Proceedings of the Royal Geographical Society*, are rendered desirable by the numerous *canards* afloat at the present time regarding his plan in the polar expedition of 1893–1896.

J. ARTHUR BAIN.

NANSEN HOUSE, MILLHOUSES,
SHEFFIELD, *April*, 1897.

DR. NANSEN IN FURS.

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SKILÖBNING.

FRIDTJOF NANSEN.

CHAPTER I.

SCHOOL LIFE AND PASTIMES.

THE earliest ancestor of whom Nansen has trustworthy records was one Ewart, of the same surname, a merchant of Flensburgin, Schleswig-Holstein, who died in 1613. Ewart Nansen's son, Hans, went with his uncle on a merchant ship to Russia; afterwards became Russian interpreter at the Court of the King of Denmark; and, later, a special Danish envoy to the Czar. Subsequently, as chairman of the Icelandic Trading Society, he made many voyages to Iceland and Russia, and wrote, in Danish, a "Compendium Cosmographicum Danicum," which had many editions (1633-46)—a compilation

much affected by seamen until comparatively recent times. The Nansens of to-day are traced from these ancestors, one of the first of whom thus showed a bent for travelling, and for writing on his travels. Indeed, the family has been distinguished for its soldiers, sailors, lawyers, and administrators, who have done good service for their native land. From his mother Nansen inherits a strong mind in a healthy body. As a young lady his mother was noted as a snow-shoe runner, and that at a time when ladies were not encouraged in outdoor sport. "Her will-power and love of activity, her intrepidity, her practical and resolute nature have descended to her son." His gift of thoroughness he owes to his father—a refined gentleman of the old school, and a distinguished advocate, who has been followed in this direction by his younger son, Alexander, now in practice in the Norwegian capital.

Fridtjof Nansen was born at Fröen, two miles and a-half from Christiania, on the 10th of October, 1861. He began his career as a skilober at the tender age of four. 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 couldn'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.

"'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 at Fröen, and it lured us day by day till we couldn'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 didn'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 Telemarken peasants snow-shoeing, and I recognised at a glance that I wasn'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 wouldn't have any prize."*

He made rapid progress in outdoor pastimes, and soon became famous as one of the most accomplished skaters, skilobers, and sportsmen in Norway. He and his brother, Alexander, used their ski in the winter in their daily journey to and from their school at Christiania, and many a storm was braved by the brothers in order that they might not miss their studies. During the interval, therefore, between Fridtjof's fourth and his eighteenth year, while he was attending school at Christiania, he was steadily cultivating his capacity for physical endurance. His upbringing was of the homely, Spartan kind that prevails in Norway, distinguished only by extra hardihood and by an utter carelessness as to the comforts of life. Long fishing excursions, in which

* "Life of Nansen" (Longmans, Green & Co.).

he forgot about food, or hazardous ascents of snow mountains, were his principal relaxations from the monotony of home and school life.

In the first two sporting meetings at which Nansen competed he won several cups, medals, and championship races. Thus unconsciously he prepared himself for the dangers and the strain upon his physical powers that were to come in later years.

Nansen himself writes in "The First Crossing of Greenland":—"I have myself been accustomed to the use of ski since I was four years old. . . . I know of no form of sport which so evenly develops the muscles; which renders the body so strong and elastic; which teaches so well the qualities of dexterity and resource; which in an equal degree calls for decision and resolution, and which gives the same vigour and exhilaration to mind and body alike. . . . Nor can there be many lands so well fitted as ours for the practice of skilöbning and its full development as a sport. From our childhood onwards we are accustomed to use our ski, and in many a mountain valley, boys, and girls too, for that matter, are by their very surroundings forced to take to their ski almost as soon as they can walk."

The hills about Fröen witnessed Nansen's first ski runs; on the frozen ponds in Vestre Aker he found his first inland ice; and it was to the heights of Tryvand and Nordmarken that he went to prepare himself for the work of Arctic exploration.

At a ski run which took place in February, 1882, he distinguished himself by carrying off a cup, which was offered by his father as a prize to the best skilober around Christiania. This trophy, the Ladies'

Cup, is the subject of an annual competition at Christiania, which attracts thither the fleetest skilobers that Norway possesses, the hills and forest paths where the races take place being overcrowded with those anxious to witness the keen contests.

It has been said that as a skater Nansen also took high rank. When he was only sixteen years old he took the first prize in the great annual skating match near Christiania, and a few years later was second in a most important skating competition, the "King Skater," King Ajel Paulsen, carrying off the principal honours after a supreme effort.

Very early in his boyhood Fridtjof showed a high spirit of courage, a fondness for the invigorating sports of his own country, a love of outdoor recreations and trials of physical strength, and he gloried in the excitement and dangers of the chase.

As a schoolboy he was industrious, and passed out of the intermediate school at the age of sixteen with distinction. In his teens much of his spare time was taken up with sport, and he used to pass weeks at a time alone in the forests. He himself writes of those days :—"I disliked having an outfit for my excursions. 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 solitudes."*

"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

* "Life of Nansen" (Longmans, Green & Co.).

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. On one occasion he descended upon a farm in Stubdal so ravenously hungry that the people did not forget his visit for many a day."*

It was on these long winter journeys that he learned to love nature with a depth of love seldom shown by boys. He early recognised that there were "no gains without pains," and, alike in sport and study, he put his whole soul into his task. He was a muscular as well as a handsome young fellow —tall, well-formed, and manly, which made him a hero among the lads who shared his sports. There was no recreation in which he did not take part with keenest ardour, and did not soon become an adept. He was a born leader of boys, as of men, and a rival he could not brook. Rivalry for the leadership was apt to make him brusque and irritable.

On many an early summer morn he was wont to follow the Frogner river, which wound its way past the front door at Fröen, with angler's hook and line. In this stream he bathed summer and winter, frequently breaking the ice in winter to procure his dip.

He never tired of boating and sailing, nor of boarding the sealing or whaling vessels as they lay in Christiania Harbour. The rough, weather-beaten sailors took a strong fancy to the stalwart, inquisitive lad, who listened with open mouth and dilated

* "Life of Nansen" (Longmans, Green & Co.).

pupils to their doings in the land of the seal, the walrus, and the whale, and to the surmises about the unknown regions beyond.

That the boy makes the man is perhaps more evident in Nansen's up-growing than in most cases. He was ever a studious youth; perhaps over-much given, in his schoolmaster's eyes, to finding out the why and wherefore of things. From early childhood his thoughts were more to him than his meals; and when he was absorbed in anything he was oblivious to his surroundings. His brothers and sisters were frequently provoked at his everlasting "What's that?" "But how can that be?" He would forget his appointments, and when they went in search of him would find him in the usual "brown study." "There's the duffer at it again," they would angrily exclaim. "You'll never come to any good, you're such a dawdler."

"In the upper school," write his biographers, "it is possible that sport and a thousand and one private preoccupations absorbed too much of his time. In any case, we find a heartfelt sigh going up from the half-yearly report of his masters, Aars and Voss, in 1879:—'He is unstable, and in several subjects his progress is not nearly so satisfactory as might have been expected.' It is true that their expectations were probably rather high in the case of a boy who astonished his teacher of mathematics by giving a geometrical solution of a problem in arithmetic."* Nansen was, however, conscious of powers which only required development to secure

* "Life of Nansen" (Longmans, Green & Co.).

unbounded success; but he was too wise to muse over useless ambition, and turning to the work that lay nearest his hand he did it with all his might, contented to bide his time. Thus early in life he took to natural science and original research, and showed that he was compounded of intense curiosity, utter indifference to personal comfort, all engrossing ambition, and a resolution as hard as adamant.

Nansen was a reckless climber—at times utterly regardless of life and limb—and his escapes from death can only be accounted for by his fine

SKI.

Style of Telemarken Ski (with two grooves in the bottom), and Finmarken Ski (plain or one groove).

Extra long flat Ski, as used by Dr. Nansen for smooth ice.

physique, and that immortality which attends men whose work is not yet done. The story of how he crossed Vosseskavlen by night, in the dead of winter, has been told by himself. His daring made the peasants, on whom he unexpectedly called for something to eat, stand aghast with fright when they heard of his intention. Not even the best skilober in the district would dare the same feat. As ski formed so important a feature in the Arctic work of Dr. Nansen, a description of these articles and their uses may prove of interest.

In "The First Crossing of Greenland" Nansen says:—"Ski are long narrow strips of wood, those used in Norway being from three to four inches in breadth, eight feet, more or less, in length, one inch in thickness at the centre under the foot, and bevelling off to about a quarter of an inch at either end. In front they are curved upwards and pointed, and they are sometimes a little turned up at the back end too. The sides are more or less parallel, though the best forms have their greatest width in front, just where the upward curve begins, but otherwise they are quite straight and flat, and the under surface is made as smooth as possible. The attachment consists of a loop for the toe, made of leather or some other substance, and fixed at about the centre of the ski, and a band which passes from this round behind the heel of the shoe. The principle of this fastening is to make the ski and foot as rigid as possible for steering purposes, while the heel is allowed to rise freely from the ski at all sides."

The ski are driven forward, they are not lifted. With the snow in good condition, the rate of progress is surprising, and without great effort a speed of from eight to nine miles an hour may be kept up on ski for a considerable time—70 or 80 miles a-day being no unusual achievement.

CHAPTER II.

SCIENCE, SPORT, AND EXPLORATION.

IN 1880 Nansen matriculated with credit, proving that distractions had not seriously interfered with his studies. 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.*

It was shortly after this that he finally decided to take up zoology as a special study. In 1880 he had entered the University of Christiania, the only institution of the kind in Norway, where he had manifested a strong scientific bent. He was specially fond of zoology, and soon became known at the University as an enthusiastic zoologist.

In 1882, at the age of twenty-one, and at the advice of Professor Collett, he went as a passenger to the polar seas in a Norwegian sealing steamer named the *Viking*, for the purpose of increasing his zoologi-

cal knowledge, and likewise to train himself for zoological research.

The vessel was ice-bound for twenty-four days off the mysterious and fascinating east coast of Greenland, in latitude 66° 50′ N. In "The First Crossing of Greenland" the young explorer states:—"Many times a-day from the maintop were my glasses turned westward, and it is not to be wondered at that a young man's fancy was drawn irresistibly to the charms and mysteries of this unknown world."

This cruise occupied nearly six months, and served a double purpose. It enabled Nansen to add considerably to his knowledge of zoology, and he received his first lessons in ice navigation. His party were frozen in off the east Greenland coast at the end of June. He complains that this was the more deplorable as it was the best time for seal catching. The young explorer consoled himself for the disappointment by bear shooting and by scientific research. Everything he captures—animals, birds, and insects—he conscientiously examines. He carries out the instructions given him by his professors with great faithfulness, and proves by the work done that he was an ardent zoologist.

On his return he contributed articles to both scientific and sporting journals. In the former he showed that he was the fortunate possessor of keen receptive and perceptive faculties, his chapters on the habits of the seal and polar bear being especially worthy of remark. In the latter he gave a number of demonstrations in rifle firing. During his enforced stay on the Greenland coast, he shot more than five hundred seals and fourteen polar bears, many of

whose skins now adorn his study at Lysaker. His descriptions have both animation and insight, and call up with clearness the scenes of his exploits. He owes much to the fact that he could use both pen and gun with equal facility at an early age.

The following entry is from his diary of the voyage, dated the 28th of June, and gives a glowing account of the perils and delights of his first bear hunt in high latitudes:—"As I lay peacefully this morning dreaming of bears which I never got hold of, I was awakened by a whisper in my ear, 'You had better turn out, for we have got a bear right under the ship's side.' Hardly had I heard the word 'bear' before I sprang up, rubbed my eyes, gazed with astonishment at the second mate, who continued whispering, as if the bear were outside the cabin door, 'You must look sharp;' and look sharp I did, for I was up and on deck in a moment with rifle and cartridges. Quite right; there was the bear within range, quietly and reflectively walking backwards and forwards, and stopping now and then to sniff the air and scrutinise the ship, which was evidently a novelty. There is no hurry, I thought; I can very well wait and enjoy the sight of this splendid, proud animal till the captain comes. But why does he not come? Yes, there he is at last; and I was just burning to speak to him when I heard a report. As if stung by a serpent I rushed up, in order that I, too, might at least send a shot after the bear on his journey. But no. Undisturbed by such trifles, he still walked quietly about, although the bullet had struck the snow close beside him. The shot was from one of the seal-shooters, who could no longer restrain himself. It was there-

fore best to make our way on to the ice without further delay. Once down I crept along, and was soon within range, but the bear had meanwhile caught sight of me, and had gone up on to a hummock or crag of ice to reconnoitre. It was a pretty sight. I aimed just behind the shoulder—one does not shoot in the head for fear of spoiling the skull and skin—pulled the trigger of my rifle, and—it missed fire. It was fatal, and to make everything complete, the cartridge stuck fast, so that I nearly tore all my nails off in getting it out. At last, however, it slipped out, and I was ready to begin again. Luckily the bear, instead of running away as I had expected, approached and showed me his broad breast. I aimed straight into the whirl of white fur, and this time there was a report. Bruin did not like his reception; he growled, bit the ground, fell over, but jumped up again directly, and started off. I put another cartridge into my rifle, and sent a bullet into his hindquarters, which were now the only visible parts of him. A new growl, and a still more hasty retreat. I followed him from floe to floe, but at last they became too far apart for him to jump, and he had to take to the water. In this way I gained on him, and put a bullet between the shoulder-blades, just as he was climbing up the other side of a large piece of ice. He was done for now, and fell back into the water, looking at me furiously out of his small, fiery, black eyes, but could do no more. Another bullet, and his sufferings were at an end."*

On this journey Nansen sighted Jan Mayen and

* *Longmans Magazine*, July, 1894.

Spitzbergen, and spent some time in Iceland, where he afterwards landed previous to his crossing of Greenland.

One of his finest trophies at Lysaker is a skin of one of the largest bears shot by the party. This lies under his writing-table, and Nansen jocularly remarked concerning it:—"I can truly say that I sit with my foot on the neck of my enemy!"

The bladder-nose seal is the largest and strongest seal to be found in Arctic waters. Such is its immense power it can readily jump out of the sea, describe a curve in the air, and plump down on the edge of a floe that stands six or seven feet above the surface. Nansen, on his first voyage, was attacked by a fierce-looking male bladder-nose that leapt over the gunwale of his attacking boat. "He struck at me," says Nansen, "with his teeth, missed me, but caught the woodwork, on which he left deep marks."

Nansen tells us that seal shooting is excellent practice, and tends to make one a cool and steady rifle-shot, "for the thing is to hit the seal only in the head, or, at worst, in the neck. . . . To hit him elsewhere is worse than missing him clean, as if shot in the body he takes to the water at once."

Although from the point of view of excitement and scientific research this, his first Arctic cruise, was a success, so far as the sealing was concerned it was a failure, for by the time the ice gave way the sealing season was over, and they had nothing better to do but set their course homeward. Nansen ends the account of the journey thus:—"Lightly the *Viking* sped over the waves as fast as wind and steam could carry her, and great was the joy on board when the

weather-beaten peaks of dear old Norway appeared in sight, rising from the sea."

What the Arctic regions are like, as also something of Nansen's power of vividly describing them, may be gathered from the following extract:—"To give those who have not seen this world of ice an idea of what it looks like is not easy, as it is so different from anything else. It is a strange thing with this region that when you are there you think it sometimes monotonous perhaps; but when you are away from it you long to get back again to its white, vast solitude.

"When you approach the ice-fields of the polar sea you hear them afar off by the noise of the breakers against the floes; it sounds like the strange roar of a distant earthquake or thunderstorm. Over the horizon to the north you will also see a strange light; this is the white reflection which the ice throws on the sky above. When you sail on you will after a while begin to meet the white floes riding on the dark water. It is along the margin of this ice that the sealer hunts for the seal; between these tremendous floes he forces his way with his strong ship to his prey. But many a hard struggle he has to fight here when the elements are in tumult. Nothing more foaming wild than a tempest in the winter-night in the north can easily be imagined. When the storm whistles over sea and ice, lashes snow and foam in your face, and seizes you so that you cannot stand on deck; when the waves rise into huge water-mountains, between which the ship disappears, and is all in foam; when sea and ice meet, and the waves rise like towers and break in over the floes like greenish-

yellow waterfalls, and the huge floes are thrown against each other and crushed into dust, while the water foams and ice-blocks are thrown high against the dark sky—then it may happen that you will feel the wild horror of the polar sea. No stars, no northern lights, no light of any kind over this furious uproar. Heavy storm-charged clouds fly across the sky; all around you is blackness and darkness, noise and tumult. It is the wild demons of nature in fight. It thunders and roars, it hisses and whistles in every direction—it is the Ragnarök which is coming; the world is shaking to its foundations.

"But in the middle of this wild fight of the sea and the demons, between these tower-like waves, a small frail work of man is riding, a ship with living men on board. Woe to them if they now make a single mistake; woe to them if they come too near one of these floes or put the ship's bow between them at the moment they strike together; in the next instant they will be crushed and disappear! But through the noise words of command can be heard; punctually they are obeyed; the sealer steers quietly his way out into the sea. He is accustomed to such a turmoil, and he knows that the world will still last a while.

"But there is not only storm in the polar sea; indeed, it can be just as mild and peaceful there as a day in spring at home, with bright sunshine and glittering snow. When you come some distance into the ice it is so as a rule, and that which most often comes before my memory when I think of the polar regions is not the storms, not the hardships, but this strange peace, so far from the vortex of the world,

when from the bright blue sky the sun is pouring its flood of light over the white, snow-covered ice, outward and outward to the horizon. It glitters in the snow and sparkles in the deep blue water; it gleams and glitters everywhere around, while cold blue tints are reflected from the sides of the floes, and border them with all tints of blue and green, clear as the clearest crystal, far down into the cold, transparent water. And in the sunshine the seals are lying in thousands and thousands on the floes, enjoying life. Some of them sleep, others are busy with their toilette, and prune and scratch themselves; others again are playing, whilst some are in the water and dive up and down, and the sun is shining on their wet heads. The whole is a picture of the most perfect, charming peace, and the memory never wearies of recalling it to view.

"But when you penetrate farther into ice, and farther northward, the open water gradually disappears, and the sea is totally covered by immense drifting ice-floes; the whole world becomes one field of white, snow-covered ice; only now and then between the floes a narrow strip of dark water can be seen. Soon all life also disappears; no seals any longer—such as those keep near open water; neither any birds; the only animal which you may perhaps meet is a single lonely polar bear, but soon he also disappears, and there is nothing left except yourself and the endless ice in constant drift across the sea towards the south, towards warmth and sun, where it is soon destroyed. So extends the polar sea northward and northward to the Pole.

"In the summer the sun is shining all day and

night, and circulates round and round in the sky, and never disappears until the autumn comes; but then begins the long, dark winter night, which at the Pole itself lasts six months. Then the stars are constantly shining over the desolate snow-fields. When the moon comes it circulates round the sky and shines day and night until it disappears again. But sometimes the northern lights begin their play, this great mystery of the north; then there comes life; it scintillates and burns; sparkling lights and rays are running to and fro over the whole sky, until they disappear again, leaving the scene quiet and desolate as before.

"In this dead, frozen world it is that the polar explorer has to live. There he roams with sledge and dogs in summer, and from thence he sends longing thoughts in the dark winter night southward to the dear ones at home, over whom the same stars are twinkling in their cold peace." *

When ice-bound off East Greenland on this journey of 1882, he brooded over plans for reaching and exploring the mysterious coast which so many had sought in vain, and he even asked the captain's permission to be allowed to take a boat and attempt to cross the intervening floes. This, however, the captain could not permit, as he was out for sealing, not exploring. The idea of penetrating inland also crossed his mind about this time; but it was not until the autumn of 1883 that he conceived the idea of crossing from shore to shore. In "The First Crossing of Greenland" he tells us:—"One autumn even-

* *The Strand Magazine*, December, 1893.

ing in the following year, that is to say, 1883—I remember it still, as if it were only yesterday—I was sitting and listening indifferently as the day's paper was being read. Suddenly my attention was roused by a telegram which told us that Nordenskiöld had come back safe from his expedition to the interior of Greenland; that he had found no oasis, but only endless snowfields, on which his Lapps were said to have covered on their ski an extraordinarily long distance in an astonishingly short time. The idea flashed upon me at once of an expedition crossing Greenland on ski from coast to coast. Here was the plan in the same form in which it was afterwards laid before the public and eventually carried out."

In the autumn of 1882, Nansen was appointed curator of Bergen Museum, and soon enhanced his reputation by the publication of many scientific pamphlets.

During this curatorship he made numerous journeys up the Hardanger and Sogne Fjords, which lie on either side of Bergen. Around these, the two most celebrated fjords of Norway, the grandest scenery which that country possesses is to be seen. The voyager up or down these magnificent fjords will see hills towering skywards, and adamantine cliffs descending sheer down into the clear blue sea. Indeed, "for the lover of scenery, the yachtsman, the sportsman, the student of archæology, geology, natural history, and botany, or for the tourist, probably no portion of northern Europe contains more of general interest than the fjords and the fjelds of the Hardanger."*

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*"In the Northman's Land" (Sampson Low, Marston & Co.).

In the winter of 1886, Nansen crossed the mountains from Christiania to Bergen, frequently passing the night in a snowdrift. When nearing his destination he fell down some precipitous crags, and bruised himself severely. In the following year an earnest request reached him from the inhabitants of a village near Bergen to "come and hunt some bears which are carrying off our cattle."

In his various excursions carried on for science and sport Nansen became very familiar with the vast stretches of woodland, of rocky mountains, of lakes, of rivers, of glaciers, and of snowfields that go to make up his dear Norway. In winter he could be seen on ski or skates, and in summer he spent all spare hours in boating and shooting excursions.

A friend of his tells me that Nansen spent three summers in a little country place on the coast near Bergen, examining the animals on the bottom of the sea there.

In 1885, Nansen won the Bergen Museum gold medal for a paper entitled "Contributions to a Knowledge of the Anatomy and Histology of the Myzostomida" (Bergen, 1885).

A memoir on the same subject was contributed in 1887 to the Jena *Zeitschrift für Naturwissenschaft*, Band XXI.

It was in 1887 that Nansen obtained his degree as Doctor of Philosophy for his treatise on "The Structure and Combination of the Histological Elements of the Central Nervous System."

The biological work of Nansen is little known outside the circle of specialists, and yet before he

set out on his attempt to cross Greenland he had done good scientific work. When settled down at Bergen he began the histological study of some lower orders, which constitutes his claim to scientific recognition. He commenced his research here with an attempt to trace the secondary variations in the myzostoma, a group of parasitic worms, by a close microscopic examination of their structure and organs. From this he took up the nervous system of the invertebrates and subvertebrates on a broader scale, and, in the course of his inquiries, visited in the spring of 1886 the renowned marine laboratory at Naples. Nansen frequently stated that he was quite prepared to put up with the simplest of living to enable him to get funds to prosecute his scientific studies. In 1885, as we have seen, he had been awarded the Joachim Friele gold medal for his work on the myzostoma; but he had actually taken the medal in copper, and applied the value of the gold to the furtherance of his travels and his task at the Naples laboratory. This visit added greatly to his scientific knowledge, and his country was benefited by his travels, for so much was he impressed with the importance of this, the first institution of its kind, that on his return home one of his earliest tasks was to moot the establishment of similar stations along the Norwegian coast, a work that was carried out several years later.

Nansen next worked out and demonstrated the law of the bifurcation of sensitive nerve roots, an important contribution to histological science, which gave him a prominent place among biologists.

Great, however, as was his devotion to science,

Nansen was alive to other and more tender attractions, and when his time came could go out to conquer in that sphere also. Early in 1889, on a ski expedition among the hills around Christiania, he met Miss Eva Sars, the young lady who afterwards became his wife, was engaged to her in August, and they were married in September of the same year.

NANSEN IN HIS KAYAK.

CHAPTER III.

FIRST CROSSING OF GREENLAND.

NANSEN held his appointment at Bergen Museum until 1888, when, after six years' deliberation, he started on his memorable journey over the Greenland ice plateau, and traced on the map of that country a dotted line which will never be erased. His great feat of crossing the island from east to west established his reputation as an explorer and scientist of the first rank. Nansen was fully alive to the dangerous nature of his expedition. He knew that the European press had denounced his scheme as that of a madman's; that they prophesied for him and all who accompanied the expedition a horrible and lingering death from starvation among the ice-floes, or on the snow-covered wastes of the inland ice: yet, in the face of all opposition, he went, accompanied by chosen men. Much ridicule was centred on his effort. One Norwegian comic paper published the following

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

The first half of the year 1888 was perhaps the busiest six months Nansen ever faced. "At the beginning of December, 1887, he is back in Bergen. At the end of January, 1888, 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 28th he defends his doctorial thesis, 'The Nerve Elements: their Structure and Connection in the Central Nervous System;' and on May 2nd he sets off for Copenhagen, on his way to Greenland." *

Nansen and his five companions — Sverdrup, Dietrichson, Trana, Balto, and Ravna; the first three being Norwegian, and the other two "River-Lapps" —all famed skilobers — were the first to cross the inland ice, and his book, "The First Crossing of Greenland," translated into many languages, made his name famous throughout the world. In it, when we at last get to his own work, we have a graphic description of his perilous journey over the drifting ice-floes off the east coast in his attempt to

* "Life of Nansen" (Longmans, Green & Co.).

reach land, and details of the daring and heroic crossing to the west coast, over boundless snowfields, till the party finally reached Godthaab. During the journey on the inland ice the cold was so intense that even the woollen socks upon their feet were frozen solid. They were storm-bound for days together, and frequently the tempests racked their

SVERDRUP. DIETRICHSON. NANSEN.

COOKING UNDER DIFFICULTIES IN THE FIRST CROSSING OF GREENLAND.

tents to pieces; on the march the sledge ropes burnt their shoulders, but, in spite of all opposition, "westward" was the only order. There was fortunately no choice of routes. It was death—or the west coast of Greenland. At Godthaab they had to winter, owing to the last vessel being unable to wait for them, although opportunity was given them to send two

letters home—one from Nansen to Herr Gamél, of Copenhagen, the other from Sverdrup to his father. Nansen says:—"These two letters 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 £17." It was the ship *Fox*, of McClintock fame, that brought the letters to Europe.

They all returned to Norway in June, 1889, in the best of health, a high tribute, indeed, to Nansen's intelligent judgment.

As a writer, Nansen's treatment of his subject is fascinating. This, "The First Crossing of Greenland," and his later important anthropological book, "The Eskimo," which has been translated into English by Mr. William Archer, sufficiently show. The latter publication is the outcome of his winter's residence at Godthaab, for he spent much of his time in wandering amongst the natives, dwelling in their huts, taking part in their dangerous hunting excursions on land and sea, and becoming a proficient "kayaker" and sledge driver. At considerable inconvenience and sacrifice of his sensibilities—for the stench which arises from the filthy surroundings of the Eskimo is, to a refined European, appalling—Nansen lived their life in his endeavour to obtain an accurate knowledge of their habits. The Greenlanders are an extremely interesting people, and in this book Dr. Nansen not only gives an account of his own wanderings and observations, but a general account of the life, manners, morals, and numerous superstitions which have survived the introduction of Christianity.

His journey produced a treasure-house of scientific fact and thrilling adventure, and revealed to the world this unparalleled and heroic feat, besides showing the possibilities to come in the event of this brave servant of science continuing his schemes of exploration.

On their triumphant return they became the heroes of the day. Every town in Europe united in paying tribute to Dr. Nansen and his brave comrades for the indomitable pluck and perseverance shown throughout their hazardous and dangerous journey.

Nansen subsequently visited France, Germany, and Great Britain, where he lectured to intensely interested audiences on his adventures in the crossing of the vast icy continent. He is well known to the British public, and his striking figure was one of the most prominent objects in the streets and drawing-rooms of London in the summer of 1889. He visited England again in 1892, and made many friends wherever he went. On his return from Greenland, he became a member of a host of geographical and scientific societies, and received many gold medals and other distinctions. In the *Proceedings of the Royal Geographical Society* (1891, page 294) we learn that the Victoria medal of that Society was conferred upon him in 1891 for the following reasons:—"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 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 and scientific results of his expedition." This aptly expresses Nansen's reasons for his crossing of Greenland. Needless to remark the attempt was not made for commercial purposes.

Dr. Nansen is an exceptionally accomplished linguist, speaking several languages fluently. English he both speaks and writes. During twenty-nine lectures he delivered in the provincial towns of Great Britain in the spring of 1892, and also in his forty lectures on his voyage of 1893-96, delivered in the months of February and March, 1897, he seldom referred to his notes. "I have the MSS. beside me," he remarked, "because delivering the same lecture so often I am apt to forget if I have touched on all points. This would be the same if I lectured in Norwegian. I really do not find it much more difficult to lecture in English than in my own tongue." Indeed, he has a positive affection for English life, which is fostered by his love of English literature. In his library are the works of Shakespeare, Tennyson, Huxley, J. S. Mill, Herbert Spencer, and Darwin; but his English literary sympathies are by no means restricted to these representatives of imagination and science, for

he will tell you that he is a great admirer of the novels of George Eliot and George Meredith. He will end, perhaps, by saying that, "If I were not a Norwegian, I would be an Englishman rather than belong to any other nation."

Dr. Nansen's visits to England have been many, but his stay has always been of short duration.

He is, of course, a zealous student and collector of works on Arctic exploration, boasting, in fact, that he has read all that has been published in the way of first-hand information on this subject. He is also an artist and photographer of no mean order, and his collection of photographs taken in Greenland was the subject of universal admiration during the lecturing tour that followed his Greenland journeyings.

After this it will not sound surprising to say that "a man so various" is also a keen politician. To this aspect of his nature he has many opponents, the fact that his views are democratic by no means diminishing their number; but, whether in or out of opposition, Nansen is a man to command respect.

Nansen makes friends wherever he goes. He left many sad hearts among the Eskimo at Godthaab when he departed homeward. In "The First Crossing of Greenland" he relates:—

"The day before we started, one of my best friends among the Eskimo, in whose house I had often been, said to me, 'Now you are going back into the great world from which you came to us; you will find much that is new there, and perhaps you will soon forget us. But we shall never forget you.'"

Balto, the irrepressible Lapp, who accompanied Nansen in the crossing of the inland ice, writes of his

first meeting with the doctor:—"It was a most glorious and wonderful thing to see this new master of ours, Nansen. He was a stranger, but his face shone in our eyes like those of the parents whom we had left at home, so lovely did his face seem to me, as well as the welcome with which he greeted us."

In explaining his fascination it would be idle to ignore the physical splendour of the man.

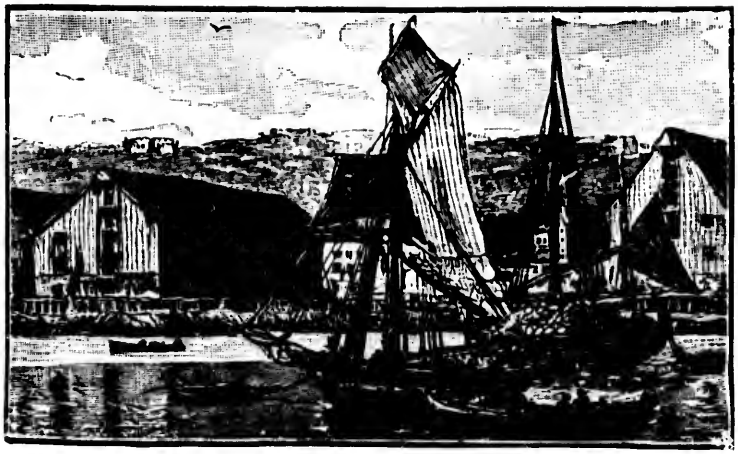
A gentleman who met Nansen in 1888 says:—"I had the good fortune to meet Dr. Nansen when he was stopping in London as the guest of Professor Fowler, Director of the Museum of Natural History at South Kensington. This was not long after his return from his walking tour in Greenland. The impression he makes on one is that of youth, health, strength, vigour, and enthusiasm. A student, and devoted to science; in physique, he is best described as a good-natured, flaxen-haired, blue-eyed giant. The tight-fitting suit of rough grey cloth he wore set off his noble figure to advantage."

Seven years later the same writer remarks:—"There could not in these modern days be a man of more pronounced Viking type than Dr. Nansen. His very name, Fridtjof, conjures up memories of the days when the Vikings were the terror of Europe. Who does not know Fridtjof's *Saga*, the great poem that has so often been translated into English?"

Nansen is thirty-six years of age, but he looks older than his years, doubtless owing to the hardships he endured in crossing the ice plateau of Greenland. He is over six feet in height, and by constant physical training he has made his muscular frame one of the finest and most equably developed that any man of

science ever possessed ; for it must not be forgotten that in this athlete, whom few men could challenge with success in his favourite sports, the habit of scientific research is equally well developed. His contributions to zoology and histology have earned him a name, independently of his Arctic explorations. He wears his fair hair falling straight back from his high forehead. He has the deep blue Norwegian eye. His firm mouth is surmounted by a small, fair moustache. He is so tall and straight and well-made that people turn round to look at him in the street. Quickness and determination characterise the man. The name that he gave to his ship, *Fram* (forward), is his own motto. He made up his mind not to look backward and count upon escape. He did the same when he crossed Greenland in 1888–89. He broke off all means of retreat. The men who knew Greenland best said success was impossible. He dared the deed and accomplished it.

On his return from Greenland, Nansen was appointed curator at Christiania University, which appointment he held until he set off on his polar voyage.



CHAPTER IV.

FRU NANSEN.

EVA SARS NANSEN is a member of one of the best families in Norway. She is the youngest daughter of the late Professor M. Sars, a Norwegian naturalist of great eminence, and was born in Christiania in 1858. It would, indeed, be a matter of difficulty to find a more interesting and distinguished family in the Scandinavian peninsula than that of the Sars. Fru Nansen's father was the talented author of "Fauna Littoralis Norwegiæ." He devoted much attention to natural history, and was the discoverer of a crinoid in the North Sea belonging to a species that was supposed to be extinct.

Fru Nansen's mother, the best story-teller in Norway, is a sister of the Norwegian poet, Welhaven, a contemporary of Vergeland. The Sars' *salon* is a centre of the intellectual world of the Norwegian capital, whether artistic, scientific, or political, remind-

ing one of the Parisian centres of talent and wit in the days of Louis Quatorze. The family consists of four, two brothers and two sisters. Ernest, the eldest, has won distinction in literature. He is classed among Norway's most celebrated historians, and he and the famous Bjornstjerne Bjornson are the chief Radical leaders in Norway. Ossian, the younger son, has trodden in his father's footsteps, is looked upon as an authority in matters relating to natural history, and is the present professor of zoology at the University of Christiania. Fru Nansen's sister, like herself, is endowed with great musical taste, and is the wife of the well-known singer and teacher of singing, Herr Lammers.

The musical training of Fru Nansen was the work of Herr Lammers and his wife. For five years she was an apt pupil, and when she went to Berlin to continue her studies her artistic education was already far advanced. For a whole winter she studied in the German capital with Madame Artot, and gave special attention to the title-parts in the operas of *Mignon* and *Carmen*. Yet she never became an operatic singer, as she was shy of making an appearance on the stage in that capacity. On her return to Christiania she commenced to teach singing, and this useful employment still occupies part of her time.

Her musical talent is great. She frequently appears at concerts, and her assistance, highly appreciated and frequently solicited as it is, is given readily, and with a winning grace that enhances the charm of the favour. Her first public appearance out of Norway was in Stockholm in November, 1895, and from that day her success as a public singer was assured. She

FRU NANSEN.

The principal Concert Singer in Norway.

felt she must make a career for herself during the doctor's absence—that she must place herself on an equal footing with him—and she has already succeeded in her desire. The tours which she has taken through Sweden and Denmark (1895 and 1896) have been attended by conspicuous success. The series of concerts she gave in Stockholm, Copenhagen, Christiania, Bergen, and other towns in the winter of 1895–96, were a splendid triumph. Her charming manner, and the courage evinced at her lonely lot, won the hearts of all, who felt for the woman whose husband was risking his life in the cause of science.

In manner Fru Nansen is more French than Scandinavian, but at heart she is a thorough Norwegian. She sings by choice the songs of her native country, and their composers, Jansen and Grieg, are among her warmest friends.

Like most Norwegian ladies, Mrs. Nansen works hard. When not touring she employs her leisure in music. Before marriage, Dr. Nansen and his *fiancée* agreed that the modes of life of neither should be materially changed; that he should not abandon his scheme of exploration, and that she should continue her teaching.

In one respect they have leanings in common. Mrs. Nansen is not only a distinguished singer, but she is perhaps the most skilful lady skilober in Norway. She has accompanied her husband in many of his winter runs in the mountains and valleys of their beloved Norway, and in many of his winter and summer sports.

In "A Winter's Jaunt in Norway," Mrs. Alec B.

Tweedie writes:—"What a strange contrast the Nansens are! He is a great, big, tall, fair Norwegian, with all the strength of the Viking race in his manly bearing and earnest face. She is a jolly, bright little woman, with dark hair, and all the merriment and warm colouring of a more southern people, although she, too, is pure Norwegian. She is able to accompany Nansen on all his sports. She is very fond of sailing, of which they do a great deal in the summer, for the fjord of Christiania almost surrounds the house, which is built on a promontory. In winter they ski together, for Nansen thinks no sport or anything else perfect unless accompanied by his wife. He is very fond of joking and chaffing her too, and when speaking about a visit we contemplated up Nora Fjeld, on ski, a mountain about five thousand feet above the sea, and lying between Christiania and Bergen, he said, 'My wife knows Nora Fjeld well, because there it was that I saw her dead-beat for the first and only time.'"

It is not surprising to find that Mrs. Nansen should have sought to accompany her husband in his great polar expedition. The perils of the Arctic regions had no terrors for her, and up to the time of the launching of the *Fram*, Dr. Nansen's polar vessel, it was actually the intention of the explorer to allow his wife to form one of the party. At the last moment, however, he was petitioned by Captain Sverdrup not to do so. The other members of the crew, although having every belief in Fru Eva's ability to withstand the voyage, joined Sverdrup in his petition, and accordingly Dr. Nansen deemed it prudent to leave his wife behind. He was guided in his decision by

the possibilities of a nip in the ice, followed by a long sledge journey, and by the consideration that a woman, however courageous, could not but retard the progress of the whole party. Eventually Fru Nansen, too, became reconciled, and recognised that "home" was woman's first concern.

The position of Fru Nansen during the doctor's absence was not an enviable one. Month after month, year after year passed without certain information. Rumour after rumour came to hand. One felt keenly for her during March, 1896, when every mail from the northern frontier of Russia might have brought accurate tidings of good or evil. But she worked hard for herself and her husband, her correspondence alone being a labour of great magnitude. She has a staunch heart; and this, coupled with an inherent hatred of idleness, will stand her in good stead when the time again arrives for her spirit to be put to the test.

She has the courage that does not fly at an idle rumour, and which enables her to reason even against hope. That, at least, we glean from the jottings of an irrepressible interviewer, whose article in the *Lokalanzeiger* is quoted in the *Daily News*. He says:—

"I asked Madame Nansen what impression the news received had made on her—the rumour of Nansen's successful return in March, 1896—whether she was overcome with astonishment, hope, or joy. 'No, not at all,' was the answer, 'for I did not believe it. I regarded it as a *canard*, and it left me perfectly composed and cool.' 'Do you not believe in your husband's success, then?' 'Oh, I am per-

fectly convinced that he will reach his goal and come back, but that it would take place so quickly, so easily, and so smoothly, this I did not believe.' 'It would be most interesting to hear your precise opinion,' I said. 'I am stormed with telegrams and letters, but, to tell the truth, I understand nothing about these difficult questions. I leave it to the

"MY COMFORT AND MY JOY."

geographers and men of science, and I don't like speaking about it. Only this much I can tell you. I believe in my husband's return, but not now. It is too soon. Besides, the statements are so vague. There is nothing positive and decided in them. They are all unauthentic reports. How could I place any hopes in them?' Mrs. Nansen said this

in the most decided tone, and in her beautiful eyes there sparkled such confidence that I can quite understand this woman waiting for years without losing hope and faith. I speak of the admiration which the whole civilised world shows for her husband. 'Yes, I know that great sympathy is felt for him,' she answers, 'and this makes me strong. It is my comfort, my greatest joy.' We are sitting at the window, from which one has a magnificent view of the lake, the fir woods, and the high mountains which appear in the distance in a blue haze. I speak of the exquisite scenery. 'It is now rather monotonous,' she answers in a sad voice, looking across the ice-bound fjord; 'but in summer, when the lake is open, you should see it then!' At this moment a lovely little girl, of some five or six summers, enters the room—Nansen's only daughter, Liv (life)—and looks at me rather suspiciously for keeping her dinner waiting. Her mother draws her to her, and strokes her golden curls. 'This is also my comfort and my joy during the long absence of my husband,' said Madame Nansen, her eyes beaming with love and pride."

NANSEN'S HOME AT LYSAKER.

CHAPTER V.

NANSEN'S HOME.

IN 1893, I had the pleasure of receiving an invitation to visit Mrs. Nansen at Lysaker. It is situated on Christiania Fjord. Here Dr. and Mrs. Nansen have been visited by many Arctic enthusiasts from all parts of Europe. The courtesy of Mrs. Nansen is proverbial. My own experience of it grew out of our kindred interests.

Our way to the house lay through beautiful meadows and an odorous pine wood. The day was perfect. As we lingered on the way, and wandered from the path in wood and meadow, we wondered at the doctor's leaving such a scene as this to court unknown dangers. After practising our amateur Norsk on the wayfarers, Godthaab Villa was pointed out to us.

Our view gives but a faint idea of the loveliness of its situation. The house is situated at the foot of a hill, uniquely set in the midst of a wood, and the promontory upon which it stands juts boldly out into the fjord. The selection of the site was made by the doctor, who had a picturesque log-hut built, and named it Godthaab Villa, to express his gratitude for finding a haven of rest on the west coast after his perilous journey across Greenland. It was constructed after the old Norwegian style of brown pine wood in trunks, and both the house and furniture are carved in characteristic old dragons and serpents' heads.

Fru Nansen received us most graciously, her smiling face immediately dispelling any feeling of strangeness. Apologising for her bad English (quite unnecessarily, as we subsequently discovered), she led the way to the drawing-room, a most original and artistic apartment, filled with exquisite art beauties and curiosities from all parts of the globe. The whole house, indeed, is full of trophies and relics from Nansen's Greenland and other expeditions. From the window of this room we had a magnificent view down the fjord and right out to the sea. It was a splendid day, and our hostess remarked that she had seldom seen the view to better advantage.

Crossing the drawing-room and passing along an alcove, we were ushered into Dr. Nansen's room. His study is a charming spot, and at once affords an index to his tastes. It is furnished in thorough old Norwegian style down to the very chairs and hangings. The arms of the carved wooden chairs are formed by the old Norse serpent twist. It

would be difficult in all Norway to find a more typically Norwegian room. His beloved books were still on the shelves—sacred to his own use. There are relics from barbarous and semi-barbarous countries on walls and floor.

One's interest centred in the polar bear skins, victims of Nansen's gun when in the east Greenland seas, and in the grand piano standing in the middle of the apartment, on which Fru Nansen played to her husband in the few hours that he devoted to recreation. Perhaps the most surprising thing was the enormous table, which was in harmony with the large proportions of the study. This article, which was made to the order of the explorer, resembles a huge bench, except that its legs and sides are curiously ornamented. The doctor when at home requires it all for his papers. He is very systematic—a desirable trait in the character of the leader of an Arctic expedition—and confusion is altogether absent from his study.

In one corner of the room was a quaint three-cornered fireplace, quite in keeping with the walls and furniture. As is the custom in Norway, the Nansens use wood as fuel, coal being accounted a luxury. Several oil paintings from the brushes of Dr. and Mrs. Nansen adorn the walls, and the original drawings and engravings used in "The First Crossing of Greenland" have a prominent place.

In the alcove adjoining the drawing-room we saw a fine life-size crayon portrait of Dr. Nansen, just completed by a leading Norwegian artist.

We soon learned that it did not depress Fru Nansen in the slightest degree to talk of her absent

DR. NANSEN'S STUDY AT LYSAKER.

DR. NANSEN'S STUDY AT LYSAKER.

husband. She pointed out to us the place where she had last seen him, and showed us two instantaneous photographs taken at the time of his departure, the first depicting Dr. Nansen gazing through a pair of glasses at his wife from the bridge of the *Fram* as the vessel steamed slowly down the fjord on its way to the sea; the second showing him in the act of waving his hat to her in a last farewell. These, as may be imagined, were so precious to her that she would not on any account allow them to leave her possession.

Dr. Nansen for his part had a souvenir of a most enjoyable kind, in the shape of phonograms of several songs sung by his wife, and the childish prattle of his fair-haired child. These sounds, the offerings of science to a scientific mind, would be a solace to him in his dreary exile, reminding him of the loved ones whom he had left.

"How long," we asked, "do you think your husband will be away?"

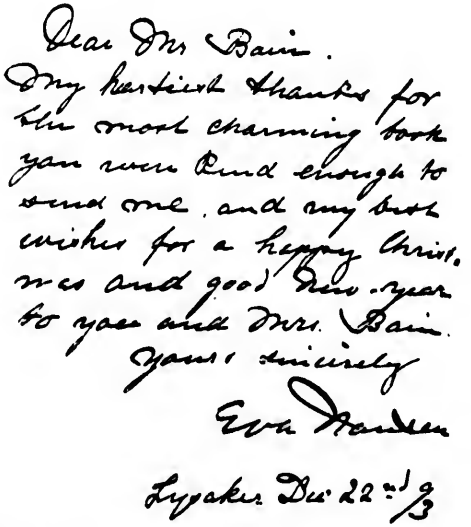
"Captain Sverdrup says two and a-quarter years if good fortune attends him. They are provisioned for six. . . . You should have seen the ship's deck," she resumed; "it was covered with provisions."

"It will be seen from the photograph," Fru Nansen resumed, "how well they are stocked with provisions. If the crew can only stick to the ship as she drifts with the ice or current, they need have no fear of starvation for five or six years to come."

We asked, "Where will the doctor write you from?"

Fru Nansen replied, "From the New Siberian Islands, if he touches there. I am not sure, however, that they will obtain and forward his letter."

Then she resumed, "Not for a moment do I doubt his return. Why, if I had not indeed the greatest confidence in his success I should never have been foolish enough to let him go. The *Fram* may be crushed, but they have special boats in case of that disaster. If they, too, are lost, then they have their lighter boats and strong, portable silk tents and sleeping-bags to place on the ice, in which to live as they drift on or travel over the ice on their ski, for


Dear Mr Bain.
My hartiest thanks for the most charming book you were kind enough to send me. and my best wishes for a happy Christmas and good New year to you and Mrs. Bain.
Yours sincirely
Eva Nansen
Lysaker Dec. 22 nd 93

FRU NANSEN'S ACKNOWLEDGMENT OF "LONDON STREET ARABS."

(as in the crossing of Greenland) these will form a special feature of locomotion should the ship be deserted."

We then dwelt upon his triumphant return, and she seemed pleased indeed when we compared it to the return of Stanley after the finding of Emin Pasha. We spoke of the kindly interest that the people of Great Britain were taking in the expedition, and of

the rush there would be for copies of his promised book.

Then, after a pause, she proceeded, "I love your England. I was there for a few weeks on my wedding tour, and I should like to go again to learn the language perfectly."

We informed her of Mrs. Stanley's artistic talent, and she was greatly pleased by a description of that lady's work. Such interest did she manifest, that on reaching England we sent to her Mrs. Stanley's book, "London Street Arabs," which contains a collection of pictures from original drawings by the author, and in reply, Fru Nansen expressed her delight on receiving that "most charming book."

For a time Fru Nansen took up painting, and studied under the well-known artists, Bergslien and Eilif Peterssen. "But," she remarked, "I did not continue my lessons, for I felt I would never make a great painter."

Perhaps the most animated portion of our conversation was on the subject of languages. We remarked that Norsk was readily learned, and Fru Nansen rejoined, "I find German the easiest to learn, and English next, but French!—oh! it is so very difficult to me."

Fru Nansen is a fit companion, mentally and physically, for the Viking who went to seek fame in the chill North.

We left Godthaab Villa, its hostess and child, with regret, and thought of the long, dreary, anxious days of suspense before Mrs. Nansen, and of the inexpressible, intoxicating joy of the moment when the news reaches her of her husband's safe return.

NANSEN'S LARGE BOAT.

CHAPTER VI.

HOW TO CROSS THE NORTH POLAR REGION.

THIS was the question that Dr. Nansen discussed before an over-crowded meeting of the members of the English Royal Geographical Society in London, on the evening of the 14th of November, 1892.

In his speech he first dealt with the scientific value of Arctic and Antarctic exploration, and, after touching on past expeditions to the Arctics, he asked:—"Why have all previous attempts failed?"

"The reason is simple enough," he replied; "the expeditions were everywhere, at a greater or less distance from the Pole, stopped by drifting floe-ice which formed immense impenetrable masses, and in most cases was carried down against the ships by currents from the north. It was impossible to penetrate the ice, and to walk over it was almost equally impossible, since it is moved by constant currents from the north; there was no choice left but to

return. If we could only discover a land stretching to the Pole the chances would be favourable enough. The difficulties of reaching it would not then be much greater than those of crossing Greenland. But we know of no country which is likely to have such an extension to the north. Greenland seems to end not very far north of the latitude already reached, and Franz Josef Land is probably only a group of islands.

"Many people think that the North Pole can be reached by balloons or balloon ships, and that it will be so reached one day. I do not deny the possibility of this; on the contrary, I regard it as very probable. But the only way at present would be to entrust one's-self wholly to the wind, and this is an uncertain way so long as we have no knowledge of the wind-currents of these regions. To go in a submarine boat under the ice would be rather risky so long as submarine navigation is as little developed as it is at present.

"But is there no other way to reach the North Pole?

"I believe that if we take careful notice of the forces which nature herself places at our disposal, and endeavour to work with them, and not against them, we shall find, if not the shortest, at all events the most certain route. We have already seen that most polar expeditions have been stopped by irresistible currents from the unknown north, carrying immense masses of thick floe-ice. From this fact we seem entitled to draw a very simple conclusion, namely, that if currents run from these regions, currents must also somewhere run into them, and that if expeditions have been carried by the ice southward from the unknown regions, others may be floated northward into these

regions if they can only strike the currents on the right side. Thus, then, we have the way already indicated ; the problem is to find the right place.

"If we consider the experience of whalers and sealers who have sailed for a long series of years in the Arctic seas on both sides of the Pole, one singular circumstance must strike us at once, namely, that ships caught in the ice on this side of the Pole, near the Greenland Sea, are carried southward, and that the crews run, as a rule, no great risk. Not so on the other side of the Pole, north of Behring Strait; ships caught in the ice there drift northward and often disappear, some with few and others with many men on board ; most of them probably are destroyed in high unknown latitudes. These facts must lead the thoughtful observer to the conclusion that there are differences in the sea currents which may be utilised in favour of a polar expedition. Let us, therefore, examine the question more closely.

"The most important polar current is, without doubt, that which runs southward along the east coast of Greenland. This has a considerable speed, and carries an immense quantity of water out from the polar basin. It fills the whole opening between Greenland and Spitzbergen, with the exception of a narrow belt along the coast of the latter, and it runs over the deepest known bottom in the Arctic regions; there are ascertained depths of 2600 fathoms. The depth of the actual current itself cannot, however, be so much. I do not think that we are entitled to assume that there is any current of importance deeper than 300 fathoms ; and in order to be within the mark, let us say only 200 fathoms. It might be

expected that under this polar current another current was running northward. From what we know of the water, we seem, however, to be fully entitled to say such cannot be the case. On the contrary, water at a much greater depth probably comes from the unknown north. The breadth of the polar current on the surface is 250 nautical miles, and at the depth mentioned it seems to be about 170 nautical miles. To calculate the average speed of the current is very difficult; it probably runs more rapidly at the surface than in its deeper parts, and, on the other hand, the speed is nowhere constant during the whole year. Sometimes, especially in the summer months, it is very rapid, but at other times it seems to have a much slower course. Taking everything into consideration, I do not think we are entitled to estimate the average speed of the whole current for the year at more than two nautical miles a-day. By this calculation we arrive at the conclusion that the polar current between Greenland and Spitzbergen *carries southward between* 80 *and* 120 *cubic miles of water every twenty-four hours.*

"Whence is all this water derived? It cannot originate at the Pole itself; the place of the water that flows out from the polar basin must be supplied by water running in. It is also evident that the influence of a current so considerable as this cannot be limited to a small area; it must affect the polar basin like an immense pump, sucking the water even from the shores of Siberia and Behring Strait. This is the more certain as the polar basin is found to be unusually shallow wherever it has been sounded. There are only a few currents known which run into

the polar basin. A small branch of the Gulf Stream is known to run northward along the west coast of Spitzbergen. This current is, however, too insignificant to be of much value in this connection; to some extent it certainly also rounds the north coast of Spitzbergen, and returns southward again towards its eastern coast. The main body of the Norwegian Gulf Stream passes eastward to the north of Norway, and enters the polar basin north of Novaya Zemlya. This current is considerable; our knowledge of it is, however, not sufficient to enable us to form any certain idea about the quantity of water which it carries along; but according to the calculation of Professor H. Mohn, in his important memoir on the Northern Ocean, and according to information from the sealers, I think we may assume that it carries at least 60 to 70 cubic miles of water every twenty-four hours into the polar basin. A third current running into the polar sea is that which runs northward through Behring Strait. This cannot be of great importance, as the Strait is so narrow and shallow; but from the latest descriptions of the current we are perhaps entitled to assume that at least 10 or 14 cubic miles of water are here running northward daily.

"The currents certainly furnish the most important supplies of water to the polar current along the east coast of Greenland. Another addition comes from the American, and especially from the Siberian rivers that run into the polar sea. The drainage area of all these rivers is very considerable, embracing nearly the whole of Northern Asia, or Siberia, besides the principal part of Alaska and British North America. The rain and snow of this region are not, however,

very considerable ; and the whole quantity of moisture falling over Siberia I have calculated to be no more than about 626 cubic miles in one year, if the Russian meteorological data on Siberia are correct. On account of evaporation we cannot assume that more than a certain part of this water reaches the polar sea ; perhaps not more that one cubic mile daily during the year. This is not much, compared with the size of the ocean currents ; but this addition is of special importance, as it consists of fresh and comparatively warm water, which principally runs out into the basin during the summer, and which for a very long time keeps at the surface of the sea on account of its lightness, and thus produces surface currents running northwards from the Siberian coast. This is also the reason why there is so much open water along this coast every summer. To this stream of fresh water the evaporation from the melting of ice in the polar sea contributes very little. The moisture of the air over the area draining into the polar sea must consequently originate mainly in the Atlantic and Pacific Oceans. This constant addition of fresh water must evidently be the principal reason why the water of the polar current between Greenland and Spitzbergen contains somewhat less salt, even at considerable depths, than the water of the North Atlantic seas.

"We thus see that the polar basin is daily receiving a large inflow of water. As little evaporation takes place from its ice-covered surface, there must necessarily be a corresponding outflow, and the most natural outlet is the broad and deep opening between Spitzbergen and Greenland. According to what has

already been said, the water running out here seems very nearly to correspond in quantity to the inflow mentioned.

"Currents also run southward through Smith Sound, Jones Sound, and Lancaster Sound, in the Arctic Archipelago of North America; but as these sounds are very narrow and shallow, the body of water which their currents carry off is of little importance in this respect. The current running southward between Spitzbergen and Franz Josef Land is also insignificant when compared to the east Greenland current. By considering the contributions of water already referred to which this last current probably receives, it may be possible to form some idea of the approximate course of this current through the unknown regions. The waters of the North American rivers form, very likely, a portion of the currents through the Arctic Archipelago of North America; a small part of the current through Behring Strait, perhaps, runs also in this direction. We have left then, for the formation of the east Greenland polar current, the Novaya Zemlya current, the Siberian rivers, a part of the current through Behring Strait, and the moisture falling over the polar basin.

"It seems quite natural that these sources should converge, and to some extent unite to form the Greenland current. We must expect, therefore, to find the main body of the current which is formed in this way lying somewhere to the north of the middle of that extended area from which it receives its converging sources, and this place must consequently be somewhere in the neighbourhood of the New Siberian Islands. Here we also have the mouth

of the Lena River, which carries a considerable body of comparatively warm water northward into the polar sea. From this region the current must naturally run in a northerly direction by the shortest route to the outlet between Spitzbergen and Greenland, and this must be to the north of Franz Josef Land, and near to or across the North Pole. But the direction of the current may perhaps, to some extent, be disturbed by the winds. Unfortunately, we do not know much of these in the Arctic regions; from the little we know it would appear, however, that the winds should be favourable for such a current, and that their average direction during the year is very nearly the same as that which we have assumed for the latter. This we can also conclude from the observations made during the drift of the *Jeannette.*

"I have tried to convince you that from what we know about the ocean currents and the winds along the 'threshold of the unknown regions,' we are entitled, in fact are obliged, to assume that these regions are traversed by an ocean current. But is there no direct evidence of the existence of such a current? I think there is."*

Dr. Nansen here laid down the following facts as supporting his theory:—

(1.) The course taken by the American vessel *Jeannette*, which was caught in the ice to the east of Herald Island (north of Behring Strait) on the 6th of September, 1879, and drifted to the north-west until she was crushed on the

* Extracted by gracious permission of the Royal Geographical Society.

13th of June, 1881, north of the New Siberian Islands, where she sank.

(2.) The finding on an ice-floe near Julianehaab, on the south-west coast of Greenland, just three years after the *Jeannette* had sunk, of a number of objects belonging to her or her crew.

(3.) The finding of a "throwing-stick" or "harpoon-thrower" of a peculiar shape (a handle used by the Eskimo for throwing darts), on the west coast of Greenland, near Godthaab, which must have drifted from the west coast of Alaska, the only place where throwing-sticks of a similar kind occur; also the amount of Siberian driftwood which every year reaches the coasts of Greenland.

(4.) The thickness of the ice carried southward along the east coast of Greenland.

(5.) The samples of mud and dust taken from ice-floes between Iceland and Greenland, on being microscopically examined, lead to the conclusion that they are partly mud carried into the sea by the great Siberian rivers. The diatom flora of some samples showed the presence of species only to be found at Cape Wankarema, near Behring Strait.

(6.) By examination of a great many specimens of pumice found on the shores of Norway, Spitzbergen, and Greenland, Bäckström, a Swedish geologist, comes to the conclusion that they consist of the group of minerals called Andesites, and must have been carried southward by the polar current, having most

probably originated from unknown volcanoes in the polar regions, or from the great Andesitic volcanic regions near the Behring Sea.

"From all these facts," continued Dr. Nansen, "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 Behring 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.

"There are two methods of trying to attain the result I long for. First, 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, second, to take only boats along, encamp on an ice-floe, and live there while floating across. My plan is based on the use of both these methods. . . .

"Our first goal will be the New Siberian Islands or the mouth of the Lena River. I have been uncertain whether I will go through the Kara Sea, or will prefer the route from the side of Behring Strait; but think now that I shall take the former. When we have reached the sea north of the Lena Delta we shall have to wait for the right moment to go northward along the western coasts of the

New Siberian Islands, and try to reach the farthest possible point north in open water. This will probably be in August or the first days of September, 1893. The current caused by the warm water from the Lena River will certainly be a great help to us, as it seems to be of great influence during the summer, producing an extensive open sea, in which one of the boats from the *Jeannette* was even wrecked. To be able to navigate the ship properly through the ice I thought of using captive balloons. By help of these we could easily in clear weather get a splendid view over the surroundings, and see where there is ice, and in what direction there is open water; we could then in a moment see what direction to take as clearly as if we had it traced on a chart, and should lose no time by trying in a wrong direction. The great difficulty is that there is very much fog in this region just on account of the warm Lena water; but a good clear day with balloon work would then be the more valuable, and would make up for a great many others with fog. A still greater difficulty is, however, that the balloon equipment, especially the steel cylinders with the compressed hydrogen, are so heavy that I fear it would be too difficult to carry them in our small ship, and as they are also very expensive, I fear I shall have to give them up.

"When we can get no farther we shall have nothing left but to run into the ice at the most favourable spot, and from there trust entirely to the current running across the polar region. The ice will perhaps soon begin to press, but it will only lift our strong ship. While drifting we shall have plenty of time and

excellent opportunity to make scientific observations. Probably we shall in this way, in the course of some years, be carried near the Pole, or across it, and into the sea between Spitzbergen and Greenland, where we shall get into open water again, and be able to return home.

"There is, however, a possibility that the ship, in spite of all precautions, may be crushed in the ice; but if this happens the expedition will have another resource. It will now be time to use the ice as quarters instead of the ship, and we shall have to remove all our provisions, coal, boats, etc., to an ice-floe, and camp there. Besides the light, ordinary boats, I have built two big boats for this purpose, 20 feet long, 9 feet broad, with flat bottom, and so deep that we can sit and lie comfortably inside them. They have a deck, and are so big that the whole crew can live even in one of them. These boats will be placed side by side on the ice, will be covered with thick warm tents and snow, and will give us two good warm saloons. Thus we can continue our journey. There is certainly no reason why one should not be able to live comfortably enough in this way if one is only prepared for it. The only difference will be that we have now got two small ships standing on the ice instead of the big one lying between the floes. When we emerge into open water on this side the Pole there will not be any great difficulty in returning home in our boats; such a thing has been done many times before.

"It is my conviction that the only difficulty will be to get duly into the current north of Siberia; when this is fortunately done, we must be carried some-

where northward. There is no case in which a ship has been nipped in the pack-ice without being carried in some direction. Whether we will succeed or not, I feel convinced that this is the way in which the unknown regions will some day be crossed. To travel in this manner is certainly no new fashion; it has been tried many times before. I need only remind you of Sir Leopold McClintock's drift with the *Fox* during eight months in the winter of 1857–58, when he drifted 1200 miles from the northern part of Baffin's Bay down towards Labrador. Several years later (1872) a party from the *Polaris* expedition drifted on an ice-floe even a longer distance very nearly along the same route. Along the east coast of Greenland many such ice-drifts have occurred. I may remind you of the whole fleet of whalers—about twenty-eight in number—which in June, 1777, were nipped between latitude 74° and 75° N., and which drifted in the ice southward along the whole east Greenland coast. The last ship was crushed in October in latitude 61° 30′ N., after having drifted a distance of 1250 miles in one hundred and seven days. Some of the men continued the drift on the ice, rounded Cape Farewell, and reached at last the Danish settlements on the west coast, the whole drift being about 1600 miles or more. In the winter of 1869 and 1870 the *Hansa* crew drifted on an ice-floe, as you will remember, along the same coast, very nearly the same route and the same distance as the whalers in 1777, until they, after nine months, arrived safely at a settlement west of Cape Farewell. During our attempt to land on the east coast of Greenland, in 1888, we also, as will be known, had some little

experience in this drifting, and in 1882 I also tried a little of it with a Norwegian sealer.

"In the sea between Novaya Zemlya and Franz Josef Land the Austro-Hungarian expedition in the *Tegetthoff* drifted for a period of one year and a-half; but as I have already mentioned, a striking difference between this drift and those above-mentioned is that it had no southern direction; it went *north-east*, *north*, and *north-westward*. In this respect the drift of the *Jeannette* during two years from a point to the north of Behring Strait is also most remarkable, as it went in a *north-westerly* direction.

"It will thus be seen that drifting in the ice is no new mode of travelling in the Arctic regions, neither is it new to make discoveries in this way. During the drift of the *Tegetthoff* the most important Arctic discovery of recent times was made—viz., Franz Josef Land, and during the drift of the *Jeannette* several islands were discovered. The only new feature in my plan will be that I *wish* to be drifted, while these previous expeditions drifted *against* their will.

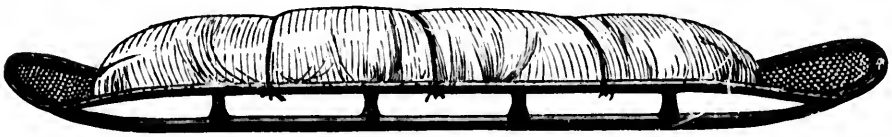
"There is a possibility that we may be stopped by unknown lands near the Pole, or that we may strike an eddy or a side current, but we hardly run any great risk in any of these cases. If, in the former case, we should fail to get our ship afloat again, we should have to leave her and strike out for the nearest current to drift on again, or return homeward travelling over the ice. When we only take care to travel with the current and not against it there will certainly be no special difficulty in doing this; and if the distance should be too great, we should leave all boats, taking only light sledges, with necessary provisions, etc.,

beside canvas for boat-making, walk on until we reach Spitzbergen or any other land where there is open water. Here we would make boats of canvas, or, if possible, of the skins of seals or walruses, like that we made when we reached the west coast of Greenland. If we are caught by a side current this must at last bring us somewhere; it cannot for ever run in a ring round the Pole; and wherever we come near the coasts of the polar sea, we shall have no difficulty in returning home. It may be possible 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 that mathematical point in which the axis of our globe has its northern termination.

"The only experience which can give us some idea as to the time the current will require to drift the expedition across is the drift of the relics from the *Jeannette*. If we assume that they required one year for the drift southward along the east coast of Greenland from latitude 80° N., only two years remain for the rest of the journey, and this requires a speed of no more than two nautical miles daily. This does not seem too high a rate when we remember that the *Jeannette* drifted at the same speed the last half-year of her drifting. It cannot, therefore, be considered improbable that we should reach open water on this side of the Pole within two years after our start from the Siberian side. One cannot, however, expect that the course will be one straight line forward during all this time. There will certainly come periods during which the drift is quite stopped, or when we may even be carried back-

ward, and the route and time can thus be easily lengthened; but when we, as already mentioned, take provisions for five or six years, we may consider that we have an ample margin. This may, perhaps, seem to many to be a long time, but there is a great advantage in this route, and that is, that when the expedition is once well begun, there will not be much help in looking backwards; our hope will lie on the other side of the Pole, and such a knowledge is a good help to get *fram*, or forward.

"There are a great many things in our equipment which ought also perhaps to be mentioned; but, as



NANSEN'S SKI SLEDGE (LOADED).

this paper has already become so long, I shall only mention a few of the most important points.

"To get fresh food we will shoot as much as possible, and for this purpose we will carry light sealing boats, as also Eskimo kayaks. The use of these excellent light craft I learnt to appreciate in Greenland; they are very good to shoot and fish from, can easily be carried long distances over the ice, and can be used wherever there is a little open water.

"To make excursions over the ice in case we shall meet with land—which, of course, is very likely—we will take dogs, sledges, ski, and snow-shoes with us, besides full equipment for sledge travelling. I hope to spend a great deal of time in this way by making

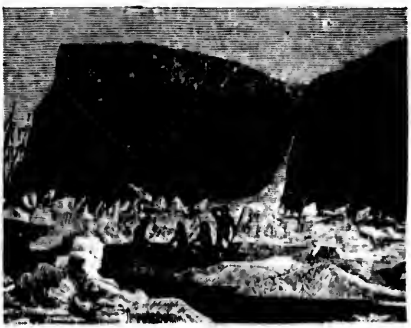
excursions in all directions where anything of importance may be expected. For entertainment during the long winter nights, as well as for all kinds of scientific work, a good library will naturally form a most important part of our equipment.

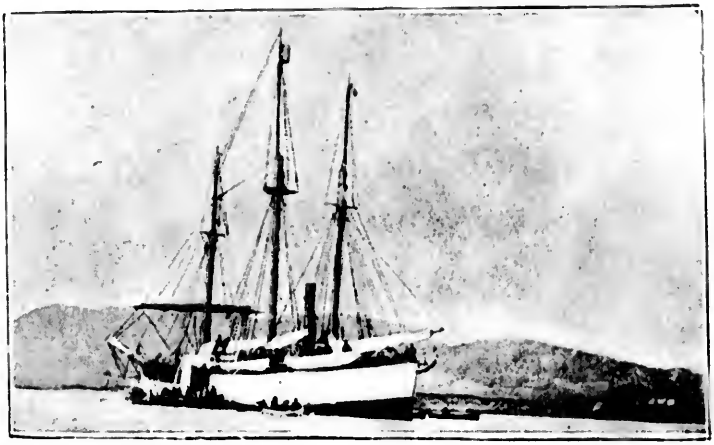
"Our scientific equipment will be chosen with the greatest care, and the best instruments accessible will be taken. I shall not, however, tire you with an enumeration of them; they will naturally, to a great extent, be much like what other Arctic expeditions have had. I may only mention that I have also got a pendulum apparatus and the necessary astronomical universal instrument, in the hope that we may get some opportunity of making pendulum observations on northern latitudes, which is, of course, of the greatest interest.

"One of the greatest difficulties we will have to overcome will perhaps be the scurvy. It has been very bad on many previous expeditions, and during the long time we expect to be away, it is not impossible that it might occur. I do not, however, consider this to be very probable. I am examining the question very closely, and all possible precautions are being taken to avoid it. In our time science ought to be able to produce an equipment as regards provisions which will make scurvy an impossibility. It is a ghastly enemy, that is true, as we do not know its nature and origin. But it seems as if it almost never occurs except in connection with badly-preserved meat, and especially salted meat, and I cannot understand why, then, we should take such a thing with us; there is plenty of other things to choose from. Alcoholic drinks will, of course, not be taken.

"To live a healthy life in all respects is naturally very important. Two of the principal conditions to keep one's health are heat and light. In order to produce the necessary heat, we live together in a small room during the coldest season. We will also have good warm clothes. Woollen ones I regard as best for indoors, but in the open air skin or canvas suits to put outside the woollen clothes are necessary to protect one against the biting wind and the snow-drift. To heat our saloon there will certainly not be much wanted, even during the severest cold. A few paraffin lamps or a small paraffin stove will certainly be sufficient. There will, of course, also be care taken to get good ventilation. We thus run no risk, I think, of suffering from want of heat. With the light it is, however, worse. Almost no organism can exist without that, and therefore various illnesses occur during the long Arctic nights. This it would seem difficult to avoid in regions where the darkness lasts six months. I believe, however, that we shall be able to overcome this difficulty also by help of the wonderful electric light. We shall have a dynamo for producing electricity. Many will perhaps ask how we shall get the necessary power to make it work. This cannot, however, be difficult. On one hand we have the wind. The meteorologists are certainly of opinion that this will not, as a rule, be very strong in the cold over the polar sea; but a little we must find there also, and if the sails of our windmill are made sufficiently big, we do not want much to turn them. But even when there is no wind at all we will be able to produce power. We are thirteen men, strong, and

well picked, as I hope, and when a capstan is arranged on deck we will be able to do work similar to that which a horse does in its horse-mill on land. In this capstan four men take their turn at a time; thus we will obtain good and regular exercise—somewhat monotonous perhaps—and will at the same time be useful by producing electricity, so that we can have an electric arc-lamp burning eight hours a-day. Everybody will understand what a blessing that must be when one is surrounded by constant darkness. When the sun begins to sink, to disappear behind the horizon in the south for the last time, we begin to walk in a ring in the darkness on the deck of our ship, in order to produce a new sun. In this way we will slowly move forward. I hope that you, ladies and gentlemen, will sometimes send us a kind thought while we go round in our mill there far north in the solemn silence of the long polar night."





THE "FRAM."

CHAPTER VII.

NANSEN'S ARCTIC SHIP.

AS soon as the Storthing in 1890 agreed to aid Nansen, he made arrangements for the construction of a suitable vessel. After several models had been submitted to him by Mr. Colin Archer, of Laurvik, he finally decided as to the build. The work was proceeded with at once, and at the expiration of over two years the vessel was ready for sea.

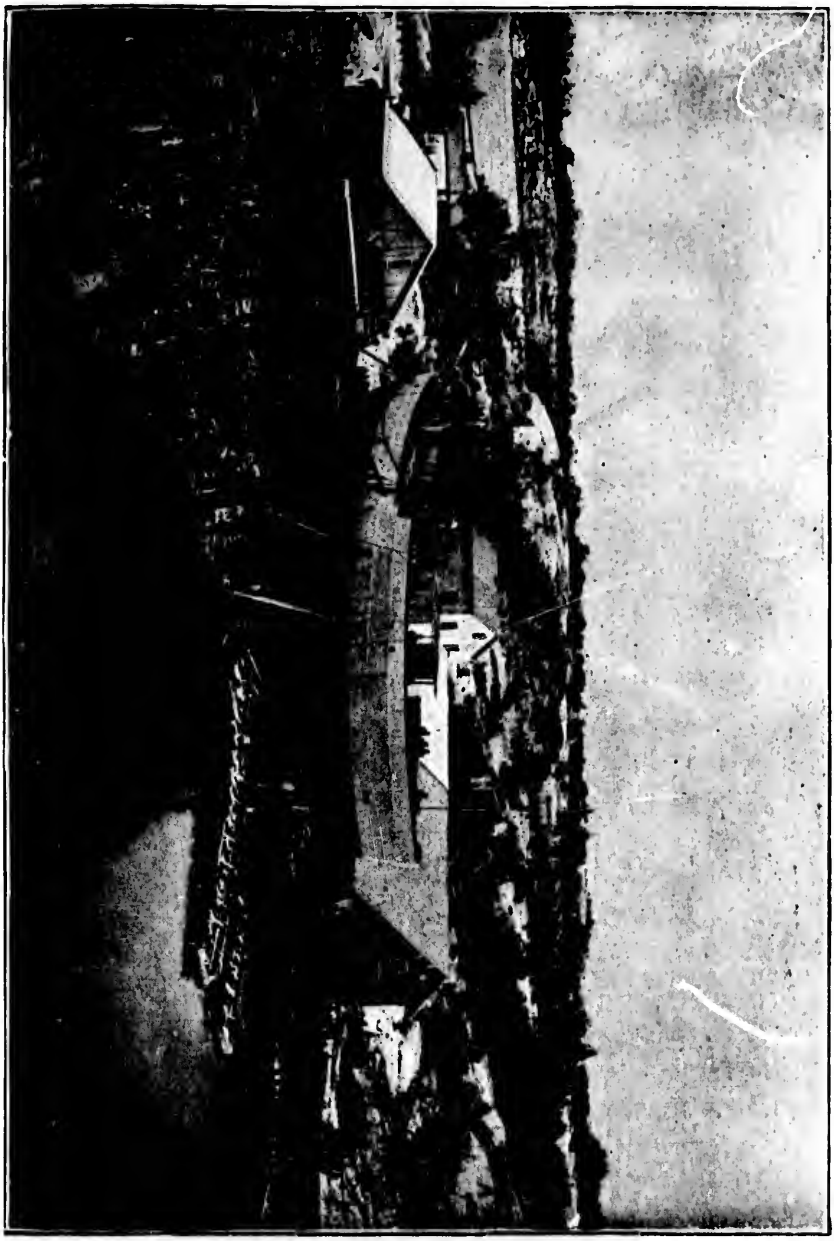
The *Fram* (*anglicé*, forward) is the strongest vessel of her size that has ever been built for Arctic exploration. She was launched at Laurvik, a seaport of Norway at the head of a small fjord on the east side of Christiania Fjord, ninety-eight miles by rail, S.S.W. of the capital, on the 26th of October, 1892, and was christened by the doctor's wife, amid great acclama-

tion from the friends and sightseers who had gathered from afar to see this strange ship begin her career. Those who were present at the launch say it was a moment of deep emotion when, amid the booming of guns and the cheers of the assembled people, the curious vessel plunged into the waters of Rœkevik Bay and rose again, slowly but proudly, to ride them in its freedom.

Two men deserve great praise in the construction of the *Fram*—the designer, Mr. Colin Archer, and the shipbuilder, Mr. Anders Olsen. Hardly any other man in Norway could better guarantee a solid and careful finish of the polar vessel according to the approved model than Mr. Colin Archer. As a designer of ships he has done much. A Norwegian paper, speaking of his life's work, says:—"His is a name of known and dear sound to pilots and yachtsmen all round the country. His life's aim has especially been to improve the pilot boats during the last twenty-five years. For what he has done in this direction we owe him great thanks, in spite of inherited Norwegian antipathy to anything new."

Mr. Archer is of Scotch descent. His youth was passed in Laurvik, to which place his father removed in 1827. When young he went to England, and, later, to Australia, where he lived some time. For the last twenty-eight years Laurvik has again been his home.

The larger portion of this chapter is quoted by kind permission of the Royal Geographical Society from Nansen's lecture, "How can the North Polar Regions be Crossed?" A few additions and alterations were necessary, as further light was thrown on the expedi-



THE LAUNCHING OF THE "FRAM."

tion after it started, although in the main the extracts are strictly accurate. After dealing at some length with his drift theory, the doctor continued :—

"I have built a wooden ship as small and as strong as possible; it is just big enough to carry provisions for thirteen men for five or six years, besides the necessary fuel; her size is about 600 tons displacement, with light cargo. She shall have an engine of 160 indicated horse-power, which will give her a speed of six knots, with a consumption of $2\frac{3}{4}$ tons of coal in twenty-four hours. With sails alone she will likely attain a speed of eight or nine knots under favourable circumstances. She will consequently be no fast vessel, nor a good sailer; but this is of relatively little importance on an expedition like ours, where we shall have to depend principally on the speed of the current and the ice-movement, and not on that of the ship. A ship's ability to break her way through the pack-ice does not at all depend on her speed, but on her steam power and her shape; for it is naturally the thing of importance to get a strong ship, and the most important feature in her construction is that she shall be built on such lines as will give her the greatest power of resistance to the pressure of the ice. Her sides must not be perpendicular, as those of ships generally are, but must slope from the bulwarks to the keel; or, to use a sailor's expression, her 'dead rise' must be made great, so that the floes shall get no hold of her when they are pressed together, but will glide downward along her sides and under her, thus tending to lift her out of the water. The sides of most ships used in the Arctic seas have been almost straight up and down, in spite

of which defect they have stood the pressure of the ice pretty well, and many of them have even been lifted completely out of the water, and have for longer or shorter times stood dry on the ice without being damaged. This practically happens very often with the small sealing vessels from the north of Norway which catch seals and walrus in the sea round Novaya Zemlya and Spitzbergen. . . . Though the *Jeannette* had a shape which in this respect was very bad, and though she was an old and not very strong ship, she managed to withstand the ice-pressure for nearly two years (twenty-one months). It will consequently be understood that a very slight alteration of shape will give us a very strong ship, and one which can scarcely be crushed by the floe-ice if it is properly handled. For the same reason the vessel ought to be as small as possible, as the lighter she is the more easily she will be lifted by the ice, and the less pressure there will be on her sides; it is also easier to make a small ship strong than a big one. A small ship has other advantages, as it is more convenient to navigate and to handle in the ice, and it is easier to find good and safe places for it between the floes.

"As great length is a weakness during the pressure and twisting of the pack-ice, the ship ought also to be as short as her necessary bearing capacity will allow. The result of this in connection with the very sloping sides is that our ship is disproportionately broad compared with her length. Her breadth is about one-third of the latter. Flat sides are avoided as much as possible near the places which will be most exposed to the attack of the ice, and the hull has

plump and rounded forms. There are no sharp, projecting corners; every edge is broken and rounded. Even the keel does not project very much; it is almost covered by the planking, and only three inches are visible outside the ice-skin, and the sharp edges are quite rounded. On the whole the ship will, I hope, leave no place for the ice to catch hold of. Round and slippery like an eel, she will escape its cold and strong grasp.

"The ship will be pointed at both ends, and on the whole she resembles very much a Norwegian pilot-boat, or, as I am told, a Scotch buckie boat, only that she of course is carvel-built, and that the keel and the sharp bottom are cut off. Her bottom is near the keel, comparatively flat, in order that she shall have something to rest on without being capsized in case she should be completely lifted on to the ice. Both stem and stern are considerably curved in order that the ice shall get no hold there. The stem is also much sloped, because it will then more easily force the ice-floes under her when she is breaking her way through the ice.

"The screw can be raised when necessary, and protected from damage in a well. It can also easily be changed if it is broken, and for that purpose we shall carry two reserve screws. This is, as will be known, an usual arrangement in modern sealers or whalers; but besides this, the rudder can also easily be unshipped and raised through a well. This is, I think, a fortunate and ingenious idea of the ship-builder, Mr. Colin Archer, and is a very simple arrangement. The rudder is, moreover, placed so low that it will be entirely submerged even when the

ship is lightly loaded. This is so arranged in order that the ice shall not be able to strike it, and thus break it by even a sudden pressure or movement; it will, instead, meet the strong stern. The latter is the Achilles heel of the sealers and whalers, where the ice may very easily damage them by breaking the rudder. During my last voyage with the *Jason* to the east coast of Greenland we had such an accident, showing how easily it may happen. When the rudder, then, is not so arranged as in our ship, it takes a long time to have it unhooked and another put on, especially when you have no great crew. Our stern is, as usual, furnished with two perpendicular stern posts, one a propeller post, the other a rudder post, made of big oak timbers about 27 in. broad. On both sides of these are bolted very big and strong curved oak timbers, running along the sloping stern upwards to the deck, thus forming, in a way, a double stern. Between them are the wells, through which the screw and rudder can be lifted. This stern construction is very simple, and certainly exceedingly strong.

"The stem is, of course, also made very strong. It is composed of three big oak baulks, one inside the other, so that the thickness of solid oak is 50 in. Inside the stem big and strong breasthooks of oak and iron are placed to connect the ship's sides with each other and with the stem. From these breasthooks stays go to the pawl-bit in order to strengthen the stem and divide the pressure. Outside this wooden stem comes an iron one, and outside this again come transverse iron bars and plates, which go some small distance backwards on each side to protect the wood against the ice.

"Both the stem and the stern posts are, of course, carefully attached to the keel by strong cross and longitudinal iron clamps and wooden knees. When I add that the stern is also protected by an iron sheeting, it will, I hope, be understood that the two extremities of our ship are pretty well protected.

"The keel is made of two big baulks of American elm, 14 in. square. As is already mentioned, it will be almost covered by the outer planking, so that there will only be a projection of a few inches. Above the frame timbers are placed two keelsons, one 17 in. and the other 12 in. in height, both bolted together to the timbers and keel.

"The frame timbers are made of selected Italian oak, which is very hard. Only naturally-curved timbers are used; such are much stronger than those curved by the help of the axe. These timbers were originally meant for some man-of-war, and were thirty years ago bought for the Norwegian navy; they may thus be said to be well seasoned. The thickness of the frame timbers is about 10 in. to 12 in.; they are ranged in couples, squared, and bolted together, all joints being bound with iron. The pairs of frames are placed almost close together, leaving only a space of 1 in. to 2 in. between each. These spaces were left in order to give the very dry timbers a little room in case they should swell when they came into the water; the spaces are, however, filled with a mixture of pitch, tar, and sawdust, so that if the outer plankings were shaved away the vessel would still remain nearly water-tight.

"The ceiling consists of pitch-pine planks alternately 4 in. and 8 in. in thickness. It is twice care-

fully caulked with oakum to make it tight. The planking consists of three layers: first, a 3 in. oak layer, over which another of 4 in., and, finally, an outer planking, or 'ice-sheathing,' of greenheart, which increases in thickness from the keel towards the water-line from 3 in. to 6 in. Greenheart is, as you will know, a very hard, strong, and slippery wood, well fit to protect the hulk against the damage of the ice, its only fault being that it is so heavy that it sinks in water. Each layer was carefully caulked with oakum and pitch in the ordinary way before the next skin was placed on to it.

"The whole thickness of the sides of the ship is thus 28 in. to 32 in.—a solid mass of pitch-pine, oak, and greenheart, with a little pitch in between. It will easily be understood that a ship's side of such dimensions and material will alone have a great power of resistance to the pressure of the ice. But this power is, to a very essential degree, increased by the many beams, stays, and strengthenings of every kind placed inside the vessel. There are two decks, an upper and lower one, each of 4 in. red pine. The deck beams are of oak and pitch-pine, 10 in. or 11 in. square. Numerous upright stanchions and stays are placed as supports to the beams and the sides; they unite the beams of the two decks to each other and to the ship's side. The principle of arrangements of the stays is that they shall be placed as perpendicular in the ship's side as possible, in order to strengthen these against pressure from the outside, and to divide the latter. For this purpose the perpendicular stays between the beams of the two decks, and between the lower deck beams and the keelsons, are also very

well fitted. . . . The whole is like one coherent mass, and the ship may almost be considered as if built of solid wood.

"The beams of the lower deck are placed somewhat under the water-line, where the pressure of the ice will be worst. In the after-part, above the engine, we were obliged to raise the deck a little, in order to give room for engine and boilers; but instead the beams are here supported by two sloping stanchions on each side instead of one, so that also this part must be considered as very strong. As the lower deck was raised, we were also obliged to lift the upper one in order to give room for cabins. These are thus covered by a half-deck or poop, three or four feet in height.

"The whole ship is divided into three rooms or divisions, by two water-tight wooden bulkheads, so that if the vessel, in spite of all, should happen to spring a leak, there will still be two water-tight divisions left to keep her floating. She is also furnished with pumps, one of which will be a great centrifugal pump, which may be driven by the engine, and put into communication with all the divisions, and thus empty the vessel in a short time in case she should leak.

"The most important feature in the rig of a polar vessel ought to be that it is as simple and as strong as possible, and at the same time it should be light, and make little resistance to the wind when the vessel is steaming. For these reasons we have chosen to rig her as a three-masted fore-and-aft schooner, the sails of which are very easy to handle from the deck, which also is of some importance

when you have a small crew not consisting of first-rate sailors only. On the foremast there will also be two loose yards for a square foresail and topsail. The area of her sails will be about 650 sq. yds. The undermasts are rather high and strong; the mainmast is 82 ft. in length, and the topmast is 50 ft. On the top of this is the crow's-nest, which will thus be at a height of about 105 ft. above the water. It is of importance that the crow's-nest be placed as high as possible, in order to get a wide view over the ice.

"The quarters for officers and crew are so arranged that the saloon is in the middle, on all sides surrounded by the cabins, the galley, and the bunkers; thus, by help of these rooms, the saloon is well protected against the cold and moisture arising from the ship's side. One of the greatest difficulties with the life on board the vessels of most polar expeditions has been that the moisture of the warm air in the small cabins was condensed on the cold sides of the ship, and was there frozen to ice. The mattresses in the berths in these walls were therefore very often transformed into as many lumps of ice. To avoid a repetition of this has of course been of importance to us. We have therefore located the saloon as described in order that we may all live there night and day, in case it should be necessary, during the most severe cold. We shall thus follow the same principle as the Eskimo, living many people in a small room to make it warm; we shall certainly not then want much to heat it.

"But besides this, every precaution is taken to isolate the walls and make them warm, and to pre-

vent the moisture being condensed on them. The ship's sides are, on the inner side, covered with tarred felt; then comes a thick layer of cork; inside this a wooden wainscot; then a layer of felt a few inches thick; next comes a nearly air-tight layer of painted canvas or linoleum; and then another wainscot. The air-tight canvas is there in order to prevent the warm and moist air from inside penetrating into the layers of felt and cork, and giving off moisture there, thus transforming them into ice. This principle we have followed, on the whole, also in the roof. The walls between the cabins and the saloon are made in a similar way, and the roof and floor are very thick, consisting of many layers. In the roof there is a layer of reindeer hair a couple of inches thick, which I think must be very effective as a heat insulator, as the reindeer hairs are so very porous and elastic. On the floors and walls may, of course, also be laid bear-skins and carpets, to make them still warmer. I hope you will get the impression that everything is made to give us a snug and comfortable saloon and cabin, fit for a climate such as we may expect.

"The principal dimensions of the vessel are as follows:—Length of keel, 101 ft.; length of water-line, 113 ft.; length over all, 128 ft.; beam at water-line amidships, excluding the 'ice-sheathing,' 33 ft.; greatest beam, excluding the 'ice-sheathing,' 36 ft.; depth moulded, 17 ft.; the draught with light cargo is 12 ft.; the displacement is then about 530 tons, but when, with heavy cargo, the draught is 15½ ft., the displacement will be about 800 tons. Her free-board will then be only 3⅓ ft. Such will probably be the case when we leave the last place where we can

get coal, as we will, of course, then load her with as much as she can carry. We will soon burn a good deal in the engines and she will be gradually lifted again.

"The hull, with boilers filled, weighs about 420 tons. With a displacement of 800 tons, she has consequently a bearing capacity for 380 tons of coal and cargo. Our equipment and provisions will not likely weigh much more than 60 or 70 tons; thus 300 or 320 tons bearing capacity will be left for coal and fuel, and this is enough for about four months' steaming with full speed. We shall not, however, likely be able to make use of our engines more than two months after we have been loaded with coal for the last time. A great quantity will thus be left for heating and cooking during the winters. For heating purposes we shall also carry petroleum, which has the advantage of giving light besides. For the cooking we shall carry alcohol. . . . *Fram* will certainly be the strongest vessel ever used in the Arctic regions. She is built with great care, and I feel certain that she can be crushed only in a quite extraordinary combination of circumstances."

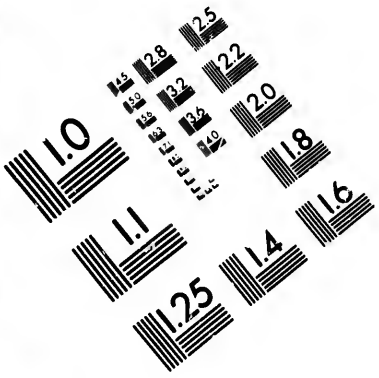
From the saloon you get direct to the berths. Nansen (who occupies without a doubt the smallest, darkest, and least comfortable), Sverdrup, Scott-Hansen, and Dr. Blessing have each a separate berth, while the remainder have two larger berths between them.

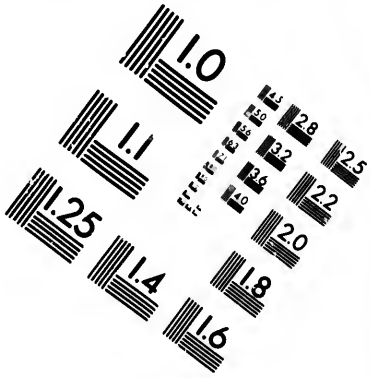
Dr. Nansen said, "Let us have gay colours;" and gay they certainly were. Above the surface of the water the *Fram* was painted grey, the gunwale is green, the poop and great tanks for water and

petroleum were painted scarlet. Red, white, and green, like a Heligoland flag, were the prevailing colours on deck. The crow's nest is white, the saloon is also white, the doors, etc., tastefully picked out with red and green. Across the saloon, between the two doors by which it is entered, is a wooden couch, in shape and possibilities of comfort remind-

SALOON OF THE "FRAM."

ing one of the old-fashioned settle, and at each end there are projecting sides carved to represent dragons' heads, in the same style as that used by the Vikings for the decoration of their ships and houses; these heads are artistically decorated with white, red, and gold; but, as if to bring one back to the realms of utility, a large and practical-looking table stands





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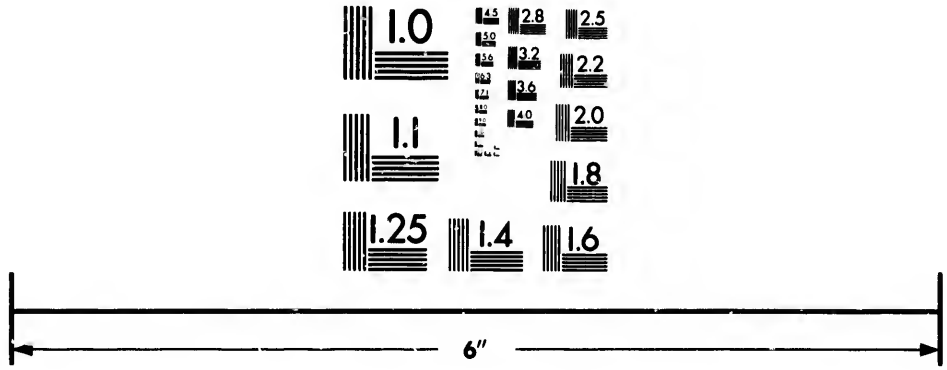

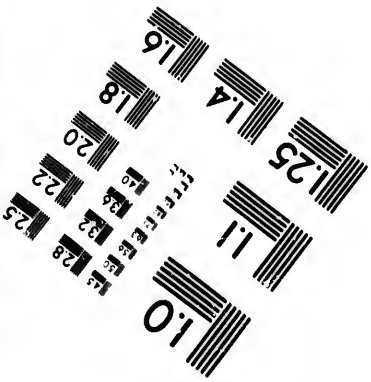

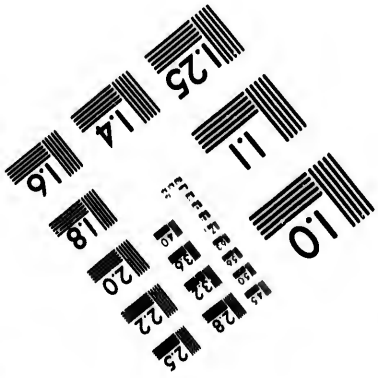

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in front of the couch. To the left is a harmonium, which can readily be turned into an organ and played by turning a handle. Around the mizzen-mast, which ascends through the middle of the cabin, is arranged a settle, and there is also a stove heated by steam. Several paintings, Norwegian landscapes and portraits, by well-known artists, have been given to the expedition, and are to be seen in the saloon. An admirable portrait of Fru Nansen and her daughter, by Werenskiöld, the celebrated Norwegian artist, is also hung on the walls, while within the cabins are to be seen scenes of "home life" and portraits of dear friends.

The expedition was fitted out most thoroughly. Everything was carefully thought out during eight years previous to sailing, and over £25,000 was expended upon the ship and its outfit, the vessel alone costing nearly £10,000. In all his equipment Nansen showed a freshness of thought and skill in arrangement that argued well for success.

That Dr. Nansen spared no energy to make everything as nearly perfect as possible has been frequently demonstrated, and I call to mind his remarks in "The First Crossing of Greenland" regarding the testing of the adaptability of his sledges. He writes:—"I made numerous experiments and changes, and even undertook a journey on ski over the mountains from Bergen to Christiania before I finally adopted the pattern we used." Such diligence deserved to meet a due reward.

The Norwegian National Assembly granted a considerable sum, the remainder needed being contributed by private individuals, and amongst those

whose liberality secured the admirable outfit were King Oscar, Mr. Fearnley, and Mr. Dick.

Dr. Nansen would not start until everything was paid.

With reference to the grant of money made by the Government to his expedition, Dr. Nansen remarked, previous to sailing:—"My countrymen are poor, but they have been most generous to me. If I had made the expedition an international affair, I could have obtained much money very quickly. I even had money offered. But I was anxious to make the expedition a national one. I thoroughly believe in my power to accomplish my object, and is it not natural that I should wish to give my countrymen the first thought and the honour accruing to a triumphant expedition? Our success will be due to their generous enterprise."

Polar exploration, it might be well to explain here, means far more than the facing of grave danger or mapping out of the route. The leaders of expeditions such as those of Nansen, Jackson, Peary, and others, require a close acquaintance with all the various and delicate instruments used for thorough geographical survey work, and practical knowledge of their use. "It is required of such expeditions," says Mr. Herbert Ward, "to furnish, in addition to a popular account of the voyage with its attendant incidents, such accurate and practical information as can be recorded by scientists. The temperature of the soil, snow, and ice, both on the surface, and at various depths, evaporation, terrestrial magnetism, galvanic earth currents, hydrographical and pendulum observations, records

of observations on atmospheric electricity, the growth and structure of the ice, the physical properties of the sea-water, besides collections of specimens in the departments of zoology, botany, and geology—such are the subjects of inquiry and the nature of the information required of a polar expedition. In addition to compiling exhaustive data, the leader in his reports has to conform to the accepted mode of expressing the geographical facts that may be acquired."*

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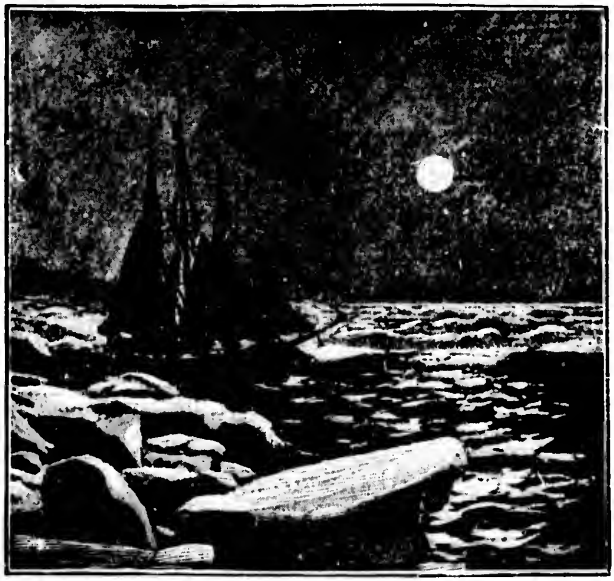
* *English Illustrated Magazine*, November, 1896.



FIRST MEETING WITH THE ICE.

CHAPTER VIII.

"WE ARE THIRTEEN ALL TOLD."

DR. NANSEN dedicates "The First Crossing of Greenland" to his "five comrades, in token of gratitude and good fellowship." In the introduction he says:—"My chief thanks are nevertheless owing to my five comrades, to whose combined efforts the successful result of our undertaking is, of course, mainly due. Every one who has conducted an expedition will know how ready the world is to do the great injustice of heaping the whole praise or blame for its success or failure on the shoulders of the leader alone. And this injustice is greater than usual in the case of an expedition like ours, in which each member serves as one of a team

of draught cattle, and the result of which cannot, therefore, be dependent on the efforts of a single individual. My comrades, too, I must thank for the terms of good fellowship on which we lived, and for the many pleasant hours we spent together in spite of uncongenial surroundings. On these hours I have often dwelt with peculiar fondness in the course of my narrative. I have once more called to life many a little incident which to others indeed may seem trivial, but which has a special value to us."

The same spirit was shown by Nansen to his companions on board the *Fram.*

At the conclusion of a great public banquet held in honour of Nansen and his companions in the Freemasons' Hall, in Christiania, a week before sailing, Professor Mohn in an effective speech said:— "Fridtjof Nansen and his brave companions will all share the one cabin on the *Fram;* they will all share the same dangers and hardships of the voyage; and when they all return, as I firmly believe they will, they will all share equally the honours and reward which their success will warrant."

Nansen himself remarked previous to sailing:— "My object is a serious one. I would serve science. I would show the world that my countrymen are not behind any other nationality in courage and endurance. My comrades are fine, honest men, all of them. They are sailors; they have the same spirit in this enterprise as I myself have. We all leave wives behind us, except our physician, and none of us will gain riches."

Every one of his companions is a noted skilober,

Scott Hansen.

Blessing

Mogstad

Jacobsen.

Juell.

Amundsen.

Johansen.

Nordahl.

Henriksen.

Pettersen.

Deltagerne i Nordpolsfærder.

SOME OF NANSEN'S COMPANIONS.

and much of the success of the expedition was based upon this form of locomotion if the *Fram* had to be deserted.

"We are thirteen all told," wrote Nansen.

"THE LUCKY THIRTEEN."

FRIDTJOF NANSEN, ...	*Leader.*
OTTO NEUMANN SVERDRUP, . .	*Captain.*
SIGURD SCOTT-HANSEN, . . .	*Scientist.*
HENRIK GRAVE BLESSING, . .	*Physician.*
THEODOR CLAUDIUS JACOBSEN, .	*Mate.*
PEDER LEONARD HENDRIKSEN, .	*Harpooner.*
FREDERIK HJALMAR JOHANSEN, .	*Fireman.*
IVAR OTTO IRGENS MOGSTAD, . .	*Carpenter.*
BERNHARD NORDAHL, ...	*Electrical Assistant and Engineer.*
ANTON AMUNDSEN, ...	*Engineer.*
LARS PETTERSEN, ...	*Engineer.*
ADOLF JUELL, ...	*Steward & Sailor.*
BERNT BENTSEN, ...	*Sailor.*

These men had the one saloon in common, where all meals were taken and leisure hours spent. An excellent library was on board containing mental food for all sorts of readers—scientific, literary, or otherwise. They had cards which, judging from their besmeared appearance on their return, were much in vogue, chess, draughts, and other games in great quantity; an organ, violin, and other musical instruments. It was the officer's duty to make the men comfortable and happy in the dark days. After work, concerts, theatricals, readings, and lectures on the work of the expedition, helped to keep their thoughts off their solitary position, and from home, and thus enabled them to pass the three dreary, dark

six months' winters in comparative comfort and happiness.

As the *Fram* steamed away from Christiania shouts of farewell reached her crew on all sides :—

"Long live our brave Nansen!"
"Hurrah for Nansen's comrades! Hurrah!"
"Come home again to us, all of you!"

All Europe echoed that cry, and trusted that the *Fram's* crew might return in health and safety to their homes.

Nansen's companions in his arduous undertaking were all Norwegians. The applications from abroad to accompany the expedition were rejected. Among the applicants were a French lady, tired of life, and a little Swedish boy thirteen years old. But the honour was to be Norway's only! Some one said (may he be forgiven!) it was a pity no Swedes accompanied them, as should the ship run short of provisions they might have been found useful.

Conspicuous even among the taller and more commanding figures in the party is Sverdrup, round-shouldered, red-bearded; indomitable will written on his face; the proved friend and comrade of Nansen. Of all the crew he was the only one who took part in the first crossing of Greenland. The two Lapps of that expedition, Balto and Ravna, are reported to be dead.

Otto Neumann Sverdrup was the captain of the *Fram*, and Dr. Nansen's right-hand man. He was born on the 31st of October, 1855, at his father's farm, Haarstad, in Bindalen, Helgeland. Accustomed to

ski from early childhood in his wanderings in the forests and over the mountains around his home on all sorts of errands, he soon became an active and accomplished skilober. He was taught at home by a private tutor, but a student's life was distasteful to

OTTO NEUMANN SVERDRUP,
The Captain of the Fram.

him, and at the age of seventeen he went to sea, and led an active and a roving life in Norwegian and American vessels. In 1878 he obtained a mate's certificate, and a couple of years afterwards was wrecked in a vessel on the west coast of Scotland,

when, chiefly owing to his bravery and presence of mind, the crew were saved. In 1888 he joined Nansen's party on its trans-Greenland journey, and Nansen says of him :—"We never found him wanting in either coolness or resource."

When Dr. Nansen finally decided on undertaking the voyage to the Arctic regions—the two of them had frequently discussed the subject *en route* over Greenland—Sverdrup willingly accepted the command of the vessel, and devoted great thought and care to its equipment.

His coolness in the face of danger was admirably illustrated in his "night-watch" on the *drifting ice-floe* off the east coast of Greenland, previous to that historic crossing. They were rapidly drifting to the open sea. The swell was so great that when down in the hollow nothing could be seen but the blue sky. Floes crashed together, breaking and splitting, and large pieces of ice were thrown on to the floe, gliding dangerously near to the boats and tent, which had to be held down to keep them from being swept into the sea. But although death stared them in the face, Nansen ordered all to bed to rest, and prepare for a final emergency. Sverdrup, as the most experienced and cool-headed among them, was to take the first watch, and turn the others out at the critical moment. In two hours he was to be relieved. But faithful, unselfish Sverdrup let his comrades sleep on through the night, and in the midst of ever-increasing dangers. The floe was swirled out to sea, rocking up and down like a vessel in a storm. A huge wave dashed on the floe, splitting it and threatening to engulf the party; Sverdrup stood ready to arouse

the sleepers, but the danger was once more averted, and the solitary "watch" again resumed his vigil. When things got to the worst and death seemed imminent, the floe was suddenly seized by a counter current, and they were fortunately hurried in towards the land and safety.

That Dr. Nansen knew Sverdrup to be a capable leader is illustrated by the fact that he left the *Fram*, in the midst of many perils, in the full charge of this man, well knowing that if anything went wrong with the vessel or her crew his own honour was at stake. The safe return of the *Fram*, piloted yet further north after Dr. Nansen left her in March, 1895, shows a consistency, courage, and skill which has won for Sverdrup, in the minds of Arctic experts, laurels but little second to those gained by his able and accomplished chief.

Next comes Lieutenant Sigurd Scott-Hansen, leader of the meteorological, astronomical, magnetic, and geodetic observation departments, in all of which subjects he has had a special training. He was born on the 24th of July, 1868, at Leith, Scotland, and is a son of the Rev. Andreas Hansen, then chaplain to the Scandinavian Seamen's Church, Edinburgh. He was the youngest member of the expedition, yet his observations will vie in importance with any other work executed during this remarkable voyage of discovery. In 1873 he moved with his parents to Norway, his father being appointed to the living of Etne, Söndhordland, and subsequently, in 1880, to the perpetual curacy of Trinity Church, Christiania. Sigurd was educated at Gjertsen's High School, Christiania, and the Royal Naval College at Horten.

He joined the latter institution in October, 1886, after twenty-one months' service afloat. He was appointed second lieutenant in the Royal Norwegian Navy in 1889, promoted to first lieutenant in 1892, and during his brief career has shown a remarkable aptitude for scientific research. He is of small build and of dark complexion, with a pair of blue, sparkling eyes, ever bright with intelligence and good nature.

Dr. Henrik Grave Blessing was physician and botanist to the *Fram*. He is a native of Drammen, where he was born on the 29th of September, 1866, his father being at that time perpetual curate of Stromso Church, and subsequently vicar of Sunde, Telemarken. Young Henrik's education was undertaken by his father until 1879, when he joined the High School at Stavanger. In 1885 he proceeded to the University at Christiania, which he entered as a medical student, and, after passing his examinations, he was appointed assistant in the skin diseases department of the National Hospital in the capital. He took the degree of M.D. in 1893. As a university student he made a special study of botany, and subsequently of diseases of the skin, the knowledge of which is of especial value in the Arctics, where the dread disease of scurvy often breaks out, and with fatal effect. From youth upwards Dr. Blessing devoted all spare hours to skilöbning, and, though of short build, he is remarkably strong and healthy. In bidding Mr. Herbert Ward good-bye as the *Fram* left the Norwegian capital, Dr. Blessing said :—"This is the greatest day of my life. The world is all before me for the first time. . . . I am as happy as I can be. Good-bye."

The mate of the *Fram*, Theodor Claudius Jacobsen, was born on the 29th of March, 1855, at Tromsö, where he was educated until the age of sixteen, when he went to sea. Three years afterwards, having passed the examinations of the School of Navigation, he joined the merchant service, and served in various ships—among others, the English ship, *Hawarden Castle*, which he left in New Zealand. There he remained for two years, engaged as a workman, but not liking his employment, he again took to the sea. He first proceeded to New South Wales, thence to San Francisco, and joined the United States gunboat, *Curwen*. In 1883 he returned home, and has since been chiefly employed in Arctic waters and sealing expeditions as master of vessels belonging to the British Vice-Consul at Hammerfest, Mr. George Robertson. During the summers of 1891 and 1892 he served as ice-master, pilot, and harpooner to H.R.H. Prince Henri de Bourbon in the cutter, *Fleur-de-lis*, and the steam yacht of that name. On his leaving the Prince's service the latter gave him his own valuable gold watch in recognition of his usefulness and trustworthiness during their seal hunting and other sporting tours in Spitzbergen and Novaya Zemlya waters. Jacobsen proceeded on this expedition (1893–96) as ice-master and chief officer, and the principal duties of navigation when among the ice-floes fell on his experienced shoulders. His task was a most difficult one, but the safe return of the *Fram* shows how ably he seconded Sverdrup in piloting it through such dangerous waters.

Peder Leonard Hendriksen, the harpooner of the expedition, is a native of Balsfjord, near Tromsö.

From early life he was engaged in the fisheries, until at the age of nineteen he proceeded to the Arctic regions, where he has been constantly employed as harpooner in walrus and seal expeditions, and of late years as master of a sealer. For fourteen summers he was constantly engaged in hunting the seal, walrus, and whale, and at times the polar bear. How many of these creatures have fallen by his hand it would be difficult to say. He became renowned as the best hunter in the fleet, and over fifty polar bears have fallen to his gun. He is a tall, square-built man of exceptional physical powers, which have often been severely tested. When off Novaya Zemlya, in 1888, the schooner *Enigheden*, of Christiansund, on which he was harpooner, became a total wreck. The storm continuing, he was compelled to remain on deck for several days, during which he was literally encased in ice. He at last managed to crawl ashore, and, report says, "was able to thaw and dry his clothes." His herculean strength has enabled him to endure all hardships, and he entered on his latest voyage with an iron constitution and strong resolve. His harpoon and gun were the means of procuring fresh meat for the explorers, which did much to keep scurvy at bay. He has been described as "a giant in stature, with immense broad shoulders and a jolly, round face." He left a wife and four children at home, and very warm indeed was the welcome he received on his return to Norway.

Frederik Hjalmar Johansen was engaged as fireman and general utility man. As stoker, sailor, hunter, land surveyor, etc., he acted the part of a

veritable jack-of-all-trades. No matter the task, Johansen performed it well and good-humouredly, diffusing good-fellowship on board the *Fram*, which was, in the dreary Arctic winter months, accounted a blessing. He was born on the 15th of May, 1867, at Skien (the birthplace of Ibsen), where his father was keeper of the Law Courts, and where he himself was first educated. In 1886 he matriculated, and in the following year passed the philosophical examination at the University of Christiania. He studied jurisprudence, and on his father's death returned to Skien, filling the vacancy in the Courts for a year, after which he entered the High Sheriffs' and Police office in the same town. Johansen has also passed the University College, and is a reserve lieutenant in the Norwegian Army. He has devoted much time to athletics, and is known throughout Norway and France as the winner of several medals for gymnastics. In Paris, competing in a celebrated gymnasia, he made a clean somersault over forty-two men, and alighted on his feet as right as possible, for which remarkable feat he was presented with a gold medal. He also holds gold and silver medals for skilöbning and marksmanship. He is a good-tempered, handsome, muscular man, whose place in Nansen's estimation is proved by his being chosen as the leader's sole companion on the now famous sledging journey taken on leaving their Arctic home to reach the "farthest north."

Ivar Otto Irgens Mogstad was the carpenter, and hails from Aure, Nordmore, where he was born on the 7th of June, 1856. He passed an examination with honours in Forestry, and from 1882 until

embarking on the *Fram*, was head-keeper at the Ganstad Asylum. He became quite an expert with the rifle, and when only sixteen, shot his first bear. In 1881 he went as "huntsman" to Spitzbergen. He is a most intelligent mechanic, and has devoted much time to patents. When but a youth he took out a patent for a time-machine, a device for registering the days of the year. Later, he invented a mechanical potato-digger; but his most useful patent is the tourist's boat, a craft so constructed of sail-cloth that it can be folded up and carried under one's arm.

His employers give him most excellent testimonials. He is quick-witted, fearless, and full of resource, just the man for emergencies. He is, besides, a splendid violinist, and in that direction alone was invaluable to his companions during their voluntary but ofttimes monotonous exile.

Bernhard Nordahl was the electrical assistant and fireman. He was born in Christiania on the 4th of March, 1862. When fourteen years old he joined the naval service as ship's boy, and advanced to the rank of constable. Then he went to America and worked in a mechanical factory for a year. In 1886 he got employment in the Norwegian Electrical Bureau, where he remained for six years. Latterly he was foreman of Hezerdahl & Co.'s electrical department. Nordahl is an enthusiastic athlete, and is a noted gymnast and skilober, and his face tells you that he is beaming over with good health. He left a wife and five children behind. Like Johansen, he adapted himself to all tasks, and Nansen found in him a man on whom he could place the utmost reliance.

The chief engineer on board the *Fram* was Anton Amundsen. He was born at Horten in 1854, where he was educated, until at the age of fourteen he joined the Naval Mechanical Engineering Works as apprentice, and as such, served with Corvette Nornen and the Monitor Mjolner. In 1872 he served as fireman and stoker in the Navy, and in 1874 joined the Technical School, and obtained his certificate as engineer in the following year. Since that time he has served in the various grades of engineer on board numerous gun-vessels and torpedo-boats, full as they are of intricate machinery, until 1891, when he was promoted to the situation of chief engineer. In the winter of 1892–93 he passed through the Naval Engineering College, and quitted the naval service "on leave" to take part in Nansen's Arctic Expedition. He is specially adapted for the important position he had to fill on board the *Fram*, and plenty of employment, scientific and otherwise, was found for him apart from that in the engine-room. His wife and five children awaited his return in fear and trembling through the dreary three years' absence, and as hope became dim, the telegram announcing the *Fram's* return and her crew's safety brought overwhelming joy to their hearts.

The second engineer was Lars Pettersen, whose birth took place at Lund, Sweden, of Norwegian parents, in May, 1860. He was educated at Lund until 1875, when he was apprenticed to a smith at Malmö, subsequently joining the engineering works and locomotive factory at Trolhœtta. After serving there and on the Swedish State railways for some years, he came to Norway, and joined the sealing ship

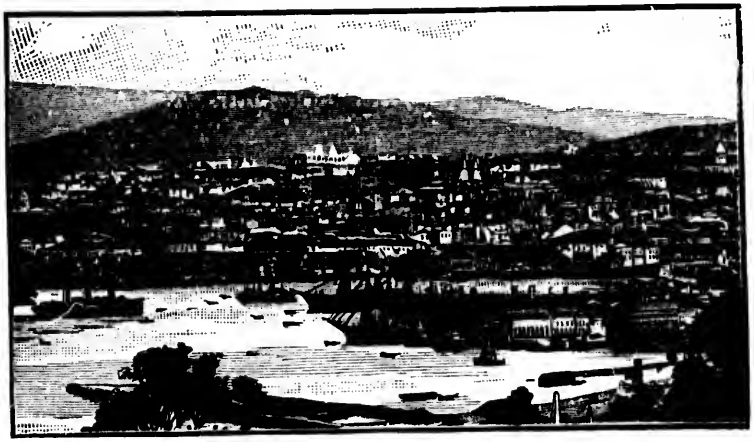
Herta, of Sandefjord, proceeding with her to the Arctic regions, north of Jan Mayen in 77° N. Since 1888 Pettersen has been employed in the torpedo department of the Naval Arsenal at Horten. Voyaging to the Arctic agreed with him so well that he longed and longed to go there again, and great was his joy on becoming engaged as engineer to the *Fram;* and meanwhile his situation at Horten was left open for him. He is a married man, and left a wife and two children at home.

The victualling manager was Adolf Juell. His position would have been an extremely delicate one had provisions run short on board the *Fram.* Fortunately they returned to Norway with still three years' provisions left, which they disposed of by auction later on—mementoes of this unparalleled journey. A stouter type of an Easterling than Adolf Juell it would be difficult to find. He has beautiful blue eyes, an open countenance, and a moustache which any military officer would be proud of. He is well-built and of a lively disposition—and such a talker! With his ready wit and good spirits, he had all the conditions requisite to faithfully fill his position as purser and steward on the *Fram.* He smilingly remarked previous to sailing that he had got the *hottest* job on board. He was born on the 26th of December, 1860, at the Farm, Braatö, near Kragerö, and is the son of Claus Neilsen, shipowner and shipbuilder. He was instructed at home by a tutor, and joined the merchant service in 1876. After gaining a mate's certificate, he joined the United States merchant service, and served for some time on the lakes. In the autumn of 1880 he joined the Chicago

Small-pox Hospital, where he rendered valuable service during the dreadful epidemic of 1880–81. Going to sea again, he joined the British steamer, *Alvena*, of the Atlas Line, as third mate. In 1885 he obtained command of a ship at Stockholm, which he resigned, after two years, to manage his mother's estate and business at Kragerö. He cancelled the name Neilsen, and adopted that of Juell on obtaining his certificate as master. He left a wife and four children, who welcomed him back in the best of health and spirits — none the worse for his three years' Arctic service.

Last on the list, and the last to join the *Fram*, comes a thoroughly typical Norwegian sailor, Bernt Bentsen, a native of Tromsö, who was to keep the *Fram's* decks in good order, and take his spell at the "wheel." He has had varied experiences—plenty of ups and downs, which have made him a man of ready resource in moments of danger. He joined the *Fram* at the last moment, intending only to go as far as Khabarova, but was there hired as the thirteenth of the expedition. He is a man in his best years, a strong and active sailor, with a good knowledge of the caprices of the northern seas, and a very amiable comrade.

From a picked crew such as this—truly a "band of brothers"—and under such a leader, much might be hoped; nor is it a matter for surprise that the results achieved have even bettered expectation.



CHRISTIANIA.

CHAPTER IX.

THE DEPARTURE.

OF a deeply sanguine temperament is Norway's celebrated traveller, Dr. Nansen, who at half-past twelve o'clock on the 24th of June, 1893, set off to find the North Pole. This task, which has baffled the most courageous explorers, he, at the time of starting on his difficult mission, expected to accomplish in three years; but at the same time told his friends and well-wishers not to be anxious concerning his welfare if he did not return within twice that period.

As Nansen left Christiania, Dr. John Murray, the well-known authority on Arctic and Antarctic exploration, bade him good-bye, and said:—"I expect within two years to welcome you on your return from the Arctic;" but he expressed some doubt if he should again see the *Fram*. "I think you are wrong," was Nansen's reply. "I believe you will welcome me on this very deck, and, after my return from the Arctic,

I will go to the South Pole, and then my life's work will be finished." To another enthusiast he exclaimed :—"Ah! they say we will never come back. They say I am a dreamer, and that I shall fail. Well, we shall see. I can say nothing in answer to them. I would only ask people to give me time. Nothing has surprised me more than the interest and sympathy that have been shown to my expedition by English people." We feel that this is the spirit which deserves and is most likely to command success.

Dr. Nansen, on the morning of his departure, telegraphed to the *Times* as follows :—

[*To the Editor of the* TIMES.]

"Sir,—We are just about to sail. Please grant me the opportunity of publicly expressing our warm appreciation for all the generous sympathy which English people have displayed towards our expedition.—Yours faithfully,

"FRIDTJOF NANSEN.

"CHRISTIANIA,
"*24th June*, 10.50 A.M."

From the King and Queen of Norway and Sweden, Nansen received the following telegram at the hour of sailing :—

"Pray receive, at the moment of your departure, the Queen's and my own most sincere wishes for luck on the voyage, which, if the result turns out as we hope, will be a unique feat, and in any case will show Norwegian men's courage. Our best wishes to all on board."

To this Nansen replied :—"All of the expedition send your Majesties their most humble thanks as

they depart for their polar voyage, determined on doing their utmost for its success."

The departure is so well told by an eye-witness that I cannot refrain from quoting his description of what was truly a red-letter day in the history of Norway and of the world :—"The day was characterised by a cloudy sky, with cold wind and drizzling rain—a sudden but very welcome contrast to the tropical heat and drought which have existed here for many weeks past. At an early hour several members of Dr. Nansen's crew, all looking remarkably fresh and cheerful, rowed off to their ship, the *Fram*, which lay at anchor in a little bay of the fjord, alongside an old barque-rigged training ship, within 200 feet of the shore. Between seven and eight o'clock the bay became crowded with ferry steamers conveying passengers to business. Each steamer in succession, in drawing near to the *Fram*, slowed down ; hats and umbrellas were waved, and volleys of hearty cheers greeted the crew, who were all steadily at work in different parts of the ship coiling ropes and clearing the running gear. Towards eleven o'clock, the published hour of departure, all was in readiness, but Dr. Nansen had not yet arrived. The Arctic ship was now surrounded by a host of small boats of every description—kayak canoes, and shoe-shaped craft, miniature gondolas, racing skiffs, naval gigs, yachts' dinghys, and steam launches ; all more or less decorated with bunting and with branches of silver birch. Upon the quay, and by the shore, several thousand spectators had gathered to witness the sailing of the expedition. It was evident, by their

earnest attention, that no sluggish indifference clouded their imagination. As they gazed intently at the bluff, broad-beamed *Fram*, it appeared as though a thousand varied pictures of the vessel's aspect in the barren ice-field a few months hence, and of the thirteen venturesome Northmen, toiling and enduring, passed before their eyes. As the time passed, and the city clocks struck the hour of noon, and there was still no sign of Dr. Nansen, the murmuring crowd of spectators became silent. It was clearly evident that their hearts were in sympathy with the actors of an invisible scene, wherein the bitter pangs of parting with wife and babe formed the pathetic theme.

"Suddenly all eyes were directed towards a tiny petroleum launch which came speeding towards the *Fram*. There were two occupants; in the bow stood a sailor, boat-hook in hand; in the stern sat Dr. Nansen. A few moments later, when the launch dashed alongside the *Fram*, and Dr. Nansen, looking haggard and half-dazed, climbed upon his vessel, there was a dead silence among the spectators; no voice was raised to greet or cheer him. A more impressive tribute than this sympathetic silence could not have been rendered.

"A few minutes after Dr. Nansen's arrival on board, the anchor was weighed, and the *Fram* actually started upon her voyage, followed by several yachts and steam launches bearing numbers of Dr. Nansen's friends, who were anxious to accompany the expedition upon the first few miles of the journey. As the *Fram* steamed slowly down the fjord, three gun salutes were fired from the various batteries, all of

which were promptly acknowledged by the defiant barking of Dr. Nansen's favourite sledge dog. Half an hour's slow steaming down the fjord brought the *Fram* abreast of Dr. Nansen's home at Lysaker ; and here, for the first time, the sun beamed through a rift in the dark rain clouds, and shone radiantly upon the distant shore, revealing the figure of Mrs. Nansen, clad in white, standing upon the rocks by the water side.

"Almost immediately after passing Lysaker the rain commenced to fall in torrents, and, in fact, it continued to pour during the remainder of the day. When about five-and-twenty miles from Christiania, most of the steam launches took leave of the *Fram*, amid a storm of hearty cheers and shrill steam-whistles."*

A course was set for Laurvik, where the ship arrived on Sunday evening, and after taking on board the two large covered boats to be used in case of disaster to the *Fram*, resumed her voyage. The next port touched at was Bergen, at which place the doctor had many friends.

Nansen wrote anent the departure :—"On the 24th of June we started on our expedition from Christiania, and sailed northward along the beautiful Norwegian coast. Everywhere people came from the most distant places in order to see the strange ship and her crew. Whenever we stopped in some little place the deck was at once crowded with people who wanted to see everything."

Off Melo, in longitude 13° 20′ E., and latitude

* *The Illustrated London News*, 8th July, 1893.

66° 43′, the *Fram* was sighted by the s.s. *Rollo*, of the Wilson line, which carried a contingent of one hundred and sixty passengers on a trip to the North Cape. As the *Rollo* got even with the *Fram*, rockets were fired off, and the foghorn blown, while the passengers from all parts of the ship again and again cheered lustily. This had the effect of bringing Dr. Nansen from below on to the deck, and then to the bridge of his ship, where he returned those kindly salutes by raising his hat, and afterwards by firing two shots. He seemed much gratified by this hearty farewell, the last he received, from English "landsmen."

On the 21st of July the *Fram* left Vardo, their last harbour in Norway, and sailed eastward across the Barentz Sea. Nansen himself wrote to *The Strand Magazine* :—"We are now (as I write this) steering eastward across the sea from Norway to Novaya Zemlya, through fog, and against the wind. Yesterday we had a short, sunny glimpse of Goose Land on Novaya Zemlya, and were just steering in there when the fog came again and shut us out from the world around us. We were obliged to steer out to sea again, and make for Yugor Strait, the most southern strait which separates Novaya Zemlya, or rather Waigats, the most southern Island, from the Continent. Here we expect to meet a small vessel, which I have sent from Norway, with fifty tons of coals. At Khabarova, in Yugor Strait, a Russian, Trontheim, is also waiting us, with more than thirty sledge dogs. He had to travel from Tiumen, in Siberia, last winter to the Ostjaks to buy these dogs, and had then to travel the long way from Siberia,

through the north of Russia to Pechora, and from there he travelled with the dogs to Yugor Strait in company with the Samoyedes, who go north in the spring. I hope we shall find the dogs in good condition, as well as Trontheim himself, who will possibly accompany us on the expedition.

"When we have got our dogs and coal, and if the Strait and the Kara Sea are open, we shall make our way eastward along the Asiatic coast as quickly as possible. The first part of the way through the Kara Sea will perhaps be the worst, as the ice is often very bad there. More easterly the water running out from the rivers generally forces the ice a little from the coast, leaving an open passage along the shore. We shall have to pass Cape Chelyuskin, the most northern point of the Continent, which has only once before been passed by any vessel—viz., the *Vega*, on Nordenskiöld's famous expedition. If we still find open water, we shall go on eastward along the coast until we reach the mouth of the Olenek River, to the east of the Lena Delta. If we have time, I shall go in there to take twenty-six sledge dogs which are waiting for us. The reason why I want to get dogs there also is that the dogs from East Siberia are stronger and better than the West Siberian ones; therefore Baron Toll, who is now travelling in Siberia, proposed this, and has now kindly arranged this depôt for me; it is he also who arranged with Trontheim about these other dogs. If we get too many dogs, it is of course easy to pick out the best ones of the whole lot."*

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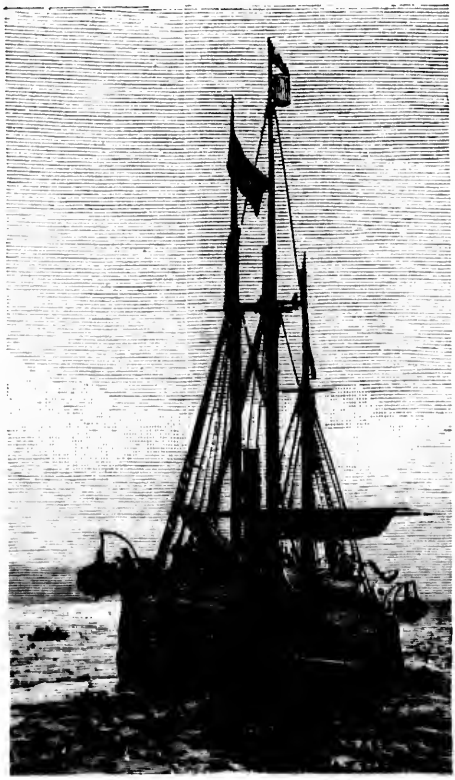
* *The Strand Magazine*, December, 1893.

Later, Nansen sent a telegram to the *Times* from Novaya Zemlya, which contained more definite information :—"The passage from Norway to Novaya Zemlya was good, except for wind and fog. Goose Land in Novaya Zemlya was sighted in the fog on July 25th, and the vessel turned south, meeting the first ice on the 27th, in latitude 69° 50′ N., longitude 50° E., about ten miles north of Kolguef Island. We forced our way through, the *Fram* proving a splendid ship in the ice, and arrived at Yugor Strait, a distance of 250 miles from the point where the ice was encountered, on July 29th. The vessel sent out with coal has not arrived, but we have sufficient coal, and we sail into the Kara Sea to-night. We have got thirty-four splendid sledge dogs from Siberia on board. The Yugor Strait has been open since July 3rd, and there seems to be little ice in the southern part of the Kara Sea, a favourable wind having carried it northward. I consider our prospects very favourable, and we shall make our way eastward most rapidly along the coast. Unless the ice prove unfavourable, we hope to reach the New Siberian Islands before the end of August, and if this should be accomplished, I look on our success as almost certain. If there is time, we shall call at the Olenek River, and probably be able to send news from there. —NANSEN."

He arrived at Khabarova, on the Kara Sea, as we have seen, on the 29th of July, and stayed there until the 3rd of August. In the interval he employed his time in completing the outfit and in observing the conditions of the ice.

Nansen had a struggle to get through the Kara Sea,

which had much ice in it. The ship, according to reports received from the Samoyedes, was twice driven back by the enormous weight of ice in the sea, but when last seen it was steaming full speed ahead into the great unknown.



DEPARTURE OF THE "FRAM," 24TH JUNE, 1893.

CHAPTER X.

THREE YEARS' SILENCE.

IN a letter to his brother, Alexander, dated the 17th of July, 1893, Dr. Nansen acknowledged freely his inability to state the time required to effect his purpose. "I certainly do not know how long I may be absent," he writes, "but, candidly speaking, I do not consider that there is any chance of our returning home in two years, provided we do not return this coming autumn on account of the unfavourable ice conditions. I do not think that we, in any case, will get home in less than three years, possibly four years may pass, or even five, but you may depend upon it that return we will; of this there is not the shadow of a doubt, for no expedition has ever been fitted out as ours. There is, certainly, a possibility that we will not reach the islands of New Siberia this year, but pass the winter at some spot on the coast of Asia, in which case an entire year will be lost, besides which it is not easy to

calculate the length of time the drift will occupy, but that in itself will take at least two years, of that I am certain."

The last letter sent home was dated the 3rd of August, and Nansen's first anxiety was to get through the ice-laden Kara Sea and round the dreaded Cape of Chelyuskin, the northernmost point of Asia, and which had but once before been passed by the celebrated Arctic voyager, Baron Nordenskiöld, on his famous journey through the north-east passage.

The following statement was made to a representative of Reuter's Agency on the 29th of December, 1893, by Dr. John Murray, in regard to the probable position of the *Fram* and her crew. He said:—"In all probability we shall not hear any more of Nansen for a long time to come. The last news from him clearly indicates that he was able to push his way through the Kara Sea early in August. By the time he arrived in the Nordenskiöld Sea he most probably found the dogs an intolerable nuisance on board his small ship, and very likely he had made up his mind that they would be of little use to him except in the improbable event of him finding a large stretch of land towards the North Pole. Supposing the expedition to be all well off Cape Chelyuskin, there seems no reason why it should go south to Olenek. Nansen had no intention of going as far east as the New Siberian Islands, supposing an opportunity offered of penetrating the ice to the north-east of Cape Chelyuskin, and all reports tell of open water in this direction during the past season. The chances are that he is now fixed in the ice some-

where between the longitudes 120° and 130° E., and latitudes 78° and 80° N. If so, he is then in the most favourable position for progress next summer. During the winter it is not likely that any great advance will be made, but in the spring and summer months it is believed that the drainage from the Siberian rivers, and the wind pressure on the surface of the ice-floes, combine to set the currents and ice from opposite the mouths of the Lena across the Pole and down into the Norwegian Sea between Spitzbergen and Greenland. If the *Fram* is carried through the polar basin without being crushed among the ice-floes she will have an extraordinary run of good luck. It is possible, but not probable, for I have no great faith in her being lifted upon the ice, should she come in for a 'nip.' But, supposing the vessel be crushed, Nansen's expedition is not at an end. In all probability he will be able to save his boats, transfer his stores to the ice-floes, and there construct comfortable quarters. Should his supplies fall short, he will always be able to fish up from underneath the ice plenty of food in the form of minute crustaceans, by means of two nets let down through holes in the ice. Once, when frozen in between Spitzbergen and Greenland, I procured enormous numbers of animals in this way, which made an excellent soup. I presented the Nansen expedition with a large number of silk nets for this purpose. Nansen may be five or many more years in passing across the Arctic basin; he may fail altogether, but I shall be disappointed if he be not heard of to the north of Spitzbergen during the summer after next."

In the beginning of 1895, feeling anxious about the Nansen expedition, I wrote to this great oceanographer on the probable whereabouts of Dr. Nansen, and in answer that renowned expert sent the following most interesting reply, under date of the 28th of February, 1895 :—

"From all I know of the physical conditions of the north polar basin and of Nansen's intentions, I should think the probabilities are all in favour of the view that he is at the present time comfortably housed on board the *Fram*, or on ice-floes, somewhere within 100 miles of the Pole. He may possibly be heard of during the latter part of the coming summer; it is more probable that nothing will be heard of him till the summer of 1896. Should nothing be heard of him by the close of the year 1897, I might then, but not till then, entertain the idea that some disaster may have overtaken the expedition.—Yours truly,

"(Signed) JOHN MURRAY."

Hardly a month of 1895 passed without rumours of success or failure being bruited about.

First, considerable excitement was caused in March by the report that a *balloon* from Nansen was sighted, travelling in a south-easterly direction, near Langfjord, in the north of Norway. But this balloon was entirely a "mystery."

Next came the rumour from the Paris *Figaro*, on the 15th of April, 1895. It appeared as follows in most of our English newspapers :—

REPORTED DISCOVERY OF THE NORTH POLE.

"The Paris *Figaro* publishes a rumour that Dr. Nansen has succeeded in his search for the North

Pole. It is stated that he discovered that the Pole is situated in a chain of mountains, and that he planted the Norwegian flag there to mark the spot. The temperature was two degrees above zero centigrade. These statements, it is added, are confirmed in a despatch received by the Crown Prince of Norway and Sweden."

Though on the face of it a *canard*, yet this rumour caused much popular excitement and discussion for a short period.

The first seriously considered report came from the east of Greenland in July, 1895, and appeared in the European Press as follows:—

"The steam sealer *Hertha*, of Sandefjord, Norway, arrived home on the 17th August, from the Danish colonial port, Angmansalik, in east Greenland, which she left three weeks previously, and her master reports that the director there informed him of the Eskimo having seen a three-masted vessel, with a short or broken foremast, drifting in the ice on two different occasions. She was first observed towards the close of July last (1895) by a party of natives some thirty miles off the Sermiligak Fjord in latitude 65° 45′ N., longitude 36° 15′ W., and subsequently by other Greenlanders off Sermilik in latitude 65° 20′ N., longitude 38° W. No smoke or signs of life could be observed. A report of this nature has naturally caused great excitement in Norway, the general belief being that it must be the *Fram* with or without the expedition on board."

From this date until the 13th of February, 1896, the Press allowed the subject as to the whereabouts of Nansen to rest.

Suddenly, the appearance of a telegram reporting that Nansen was sighted in the vicinity of the New Siberian Islands, on his return from the Pole, caused the most intense excitement throughout the civilised world. The startling rumour, emanating from an obscure Russian source, was at first received in all good faith; but as each successive day passed without bringing further news or confirmation, the truth in the report here given (*Times*, 14th February, 1896) became relatively less.

Dr. Nansen and the North Pole.

"St. Petersburg, February, 13th.

"A telegram from Irkutsk states that a Siberian trader named Kuchnareff, who has acted as agent for Dr. Nansen in Siberia, has informed the Prefect of Kolimsk (northern Siberia) that he has received intelligence that Dr. Nansen has reached the North Pole, that he has found land in that region, and that he is now on his way back.

"Later.

"The report that Dr. Nansen had reached the North Pole was received by the *Oriental Review* at Irkutsk from the trader Kuchnareff through M. Kandakoff, a police official of Kolimsk, who was a member of M. Sibiriakoff's expedition. The intelligence was sent by letter to Yakutsk and thence to Kirensk. It was then forwarded by telegraph. A more complete account has just been received from Irkutsk, according to which it appears that the news originally came from Ust Yansk, at the mouth of the Yana.—*Reuter.*

"Christiania, February 13th.

"The geographical authorities here do not consider the news received from Irkutsk that Dr. Nansen had reached the North Pole improbable, for the reason that if the explorer is really on his way home, Kolimsk would probably be the first station reached. The relatives of Dr. Fridtjof Nansen have requested the Norwegian News Agency to state that they attach no credence to the Irkutsk telegram announcing Dr. Nansen's discovery of the North Pole.—*Reuter.*

"Lloyd's agent at Bergen telegraphed yesterday evening as follows:—'St. Petersburg wires Dr. Nansen reached North Pole, found land, now returning.'"

The first true news announcing the return of Dr. Nansen and Lieutenant Johansen was received in Christiania, on the 13th of August, 1896, and from the information that has since been published, it is abundantly evident that Nansen must for ever be regarded as one of the greatest of Arctic travellers.

RETURN OF THE "FRAM." ARRIVAL AT TROMSÖ, 20TH AUGUST, 1896.

CHAPTER XI.

A TALK WITH DR. NANSEN, SEPTEMBER, 1896.

THE landing of Dr. Nansen at Christiania is now a matter of history, and very few words will suffice concerning it. The *Fram* was met, far down Christiania Fjord in the early hours of the morning of the 9th of September, by a flotilla of seventy passenger steamers and a small squadron of the navy, which escorted the paintless *Fram* up the fjord amidst the booming of the guns and the deafening hurrahs of the usually sober Norsemen. The *Fram* having been moored in the Piperviken, Dr. Nansen and his comrades were rowed in small boats by the boys of the training ship, *Christiania*, to the ship bridge, where the explorers were welcomed by the representatives of the city amidst the deafening cheers of the vast multitude. In acknowledging the address of welcome presented by the Mayor of the capital, Dr. Nansen made a characteristic speech,

every word of which was listened to with rapt attention:—"It is very difficult to express the feelings which fill the hearts of my comrades and myself. . . . We have done what we set out to do. . . . The plans I made myself, but it is due to my brave comrades that these plans have been carried out. Long live Norway! May it often be able to send out such men as accompanied me."

Then came the triumphal progress to the Royal Palace, when Dr. Nansen and his companions were welcomed by the King and Crown Prince. Here the explorer saw for the first time since she was six months old his little daughter Liv, now over three and a-half years old, who had been staying in the palace by special invitation of the King. A grand banquet closed the first day's proceedings, but the festivities were prolonged over several days, perhaps the most notable demonstration being that on Sunday, the 13th of September, which was set aside for the Folkesfesten (the people's feast), about which nothing has appeared in the English papers. It was on this occasion that the great Norwegian novelist, Bjornson, made a thrilling speech, filled with patriotic sentiments and bristling with wit, which provoked Dr. Nansen to one of the best oratorical efforts of the celebration.

Speaking of his departure from Norway, the doctor said:—"I know we felt a responsibility nearly too heavy to be borne. I well remember the evening when we steamed northwards along our beautiful coast; there lay a couple of fishing boats out on the sea, rocking themselves in the sunset on the bright surface—an ideal scene of peace and com-

fort. The fishermen raised themselves, bared their heads reverently, and looked after the curious ship which disappeared northward. It was then we felt how near we were to the hearts of the Norwegian people. We felt that we had taken part of their heart with us on board, and if we betrayed our duty, then we also betrayed the love which the Norwegian people had given us to be with us on our voyage. When I sent the last message to the Storthing previous to our departure—'That so far as our strength reached, so far should it be used to the honour of Norway'—I did not tell more than the truth; my comrades would have fought as long as strength lasted, as long as life was with them, for Norway's honour; and this also I will say, that the Norwegian people have no need to be ashamed of the men they sent with me. A more daring set of fellows have never stood shoulder to shoulder. I say fearlessly that no men have ever acted with greater faithfulness and love to their fatherland, no men have ever more faithfully discharged the duties which they took upon themselves than those who went with me in the *Fram* north of the polar circle."

Dr. Nansen then proceeded to speak of the singleness of purpose by which the crew of the *Fram* had been actuated, declaring that only one wish prevailed, and that was to justify the confidence and affection which the Norwegian people had manifested at their departure. He concluded: "I am certain of this, that the more the distance grew between us and the people of Norway, the greater became our love, the deeper our respect for our country, and the stronger our feeling of patriotism to Norway."

When Nansen sat down, and the ringing cheers of the assembled company had been with difficulty silenced by repeated signs from Bjornson, the president of the meeting, his companions were called upon one after another to receive testimony of the appreciation of the people for their splendid work. It would be difficult to find a group better suited for the special and arduous work, and equally difficult to convey to the English mind the adequate representations of the scene amid which this people's banquet closed.

Next morning I had an interview with Dr. Nansen at Lysaker.

When I arrived at Godthaab Villa the doctor appeared, and after a hearty hand-shake, led me into his drawing-room. He appeared in perfect health, despite his three years' sojourn in the icy north. He was a trifle paler than when I saw him in 1893. He assured me, however, that the trials and dangers he had gone through had but strengthened his physique.

"Are you pleased with the result of your journey?" was the first question I put.

"Oh, yes!" he replied with a smile. "The scientific results, I believe, will be acknowledged of great value. Professor Mohn and other scientific friends who are at work tabulating my material are quite enthusiastic over the observations made during our three years' wanderings." Dr. Nansen then proceeded to talk with me briefly on the main features of the voyage of the *Fram* and of his walk when he left the ship, and accompanied only by Lieutenant Johansen, he attempted to penetrate farther north.

The plan of the expedition is divisable into three parts:—(1) The journey in the *Fram* from Christiania until March, 1895, when Nansen left her to go polewards; (2) Nansen and Johansen's wonderful attempt to reach the Pole, and their heroic journey south to Franz Josef Land; and (3) The continued voyage of the vessel in charge of Sverdrup, and the adventures of her crew from March, 1895, until reaching home in August, 1896. After leaving Vardo the *Fram* had a good passage to Novaya Zemlya. She first met the ice in latitude 60° 50′ N., longitude 50° E., about ten miles north of Kolguef Island, but forced her way through in splendid style, and arrived at Yugor Strait on the 29th of July. On the evening of the 3rd of August they weighed anchor and soon entered the dreaded Kara Sea. On the 6th of August they were stopped by ice off Yalmal, and went ashore for botanical and geological purposes. Two Samoyedes here boarded the vessel, and these were the last human beings the *Fram's* crew saw until the return home.

"Are you superstitious?" was the next question I put to the Doctor.

"No, not a bit of it; but why do you ask?" he said.

"Well," I replied, "there are thirteen in your crew all told, and people look upon that as an ill-omen, and some superstitious folk prophesied ill of your expedition because it consisted of thirteen. Moreover, the false news of your expedition being homeward bound was telegraphed from Irkutsk on a thirteenth (13th February, 1896)."

"It certainly was a lucky number for us," he replied. "None of my men were ill at any stage of

"THE LUCKY THIRTEEN."

the voyage, none of them gave me a moment's anxiety; besides, I arrived home on the 13th August, 1896, and it was upon the 13th of the same month that my ship escaped from the clutches of the ice. So you see thirteen has no perils for me."

"Has any photograph of the thirteen men been published?" I asked.

"No, not yet," he replied. "The thirteenth man, Bentsen, joined us at the last moment, and he is superstitious to the extent that he manifests a strong aversion to having his photograph taken."

I was, however, able afterwards to obtain a photograph of the whole crew, from which the picture on page 135 is taken; but it is singular to note that though Bentsen consented to be one of the group he did his best to prevent the photographer from securing his features.

"The three years' hardships seem to have told but little on you or your companions," I said.

"No," he replied; "they are fine, strong men, accustomed to ice work, and all have returned home in perfect health, some indeed being stouter than when they left home. We owe our thanks, however, to Dr. Blessing for his patience, skill, and care, especially in the winter months of darkness."

The men were glad to get home after the third *winter* in these weird regions. They had had quite enough of the darkness, the results of which were shown in sleepless nights and shaky legs. They were not absolutely ill, but felt weak and languid—full of lassitude—and Dr. Blessing became very anxious about their mental state. When the return of the sun took place it was like a day of resurrection, and they

never looked behind from the moment its rays first brightened their surroundings.

"Will you come to England to lecture?" I asked the Doctor.

"Yes; but I cannot say when," replied Nansen. "The secretary of your Royal Geographical Society has invited me to lecture to its members, and I have consented, but I have not yet fixed a date."

Mrs. Nansen told me afterwards that she would accompany her husband on his lecturing tour in England, where she spent part of her honeymoon.

"I love your England, and so does my husband," she exclaimed with some fervour.

"What will become of the *Fram?*" I asked the Doctor.

"She will probably be kept at Horten; I may require her again soon, and cannot possibly have a better ship for Arctic or Antarctic work."

"Will you again attempt to reach the North Pole?" I queried.

"I cannot possibly say yet," he replied; "I think so. But perhaps I shall endeavour to discover the South Pole first, and then make a renewed attack on the North Pole on my return from Antarctic regions. I must, however, finish my work in connection with the records of my recent expedition before making definite plans for another voyage."

Continuing his brief narrative of the voyage, Dr. Nansen spoke of the journey from Yugor Strait through the Kara Sea, in the northern portion of which they were fortunate in discovering an island, on their eastern voyage, to the mouth of the Olenek River. They reached this point on the 15th of

September, but the shallowness of the water and the lateness of the season kept them from going in. As the winter was rapidly approaching they decided not to call for the sledge dogs, as arranged, lest the ice should close in and imprison them for the whole winter. Three days later they were steaming along the west of the New Siberian Islands.

On the 22nd of September Nansen and his companions *took a ticket with the ice*, or, in other words, made the *Fram* fast to a floe in latitude 78° 50′ N., longitude 133° 37′ E., and a few days later the ice closed round and the ship was frozen in for the winter, for failure or success. What must Nansen's feelings have been as he watched the ice-pack close around his ship, bearing him perhaps to an early grave, or, worse still, back to ignominy and the scorn of his fellow-men? Surely for this devotion to science the names of Nansen and his faithful companions will ever be set up as beacon lights to every youth whom danger awaits or duty calls. They saw no land after leaving the New Siberian Islands, but drifted north and north-west during the autumn and winter. Towards evening on Christmas day, 1894, latitude 83° was reached in longitude 105° E., and, several days later, latitude 83° 24′ N., the most northerly latitude until then reached by any explorer. It was during this slow and tortuous drift that Dr. Nansen made his greatest discovery of the voyage—the existence of a wide, deep sea towards the Pole, having a relatively warm temperature in its depth, a continuation of the Arctic Sea, situated between Greenland on the one hand, and Norway and Spitzbergen on the other. It was previously supposed that the north polar sea was

a shallow basin with icy-cold water from top to bottom. Dr. Nansen's voyage has not only upset this theory, but has astonished the scientific world by the remarkable discovery regarding its depth and temperature.

The pressure upon the *Fram* during this drifting was most severe, and I was allowed by a special permit from Dr. Nansen, who had refused scores of applications from curious sightseers, to make a close examination of the ship as she lay in the Piperviken, and can testify to the fact that she looks little the worse for the expedition, except that the paint upon her hull is now an unknown quantity. The way in which she successfully withstood the ice-pressure has naturally delighted the heart both of Dr. Nansen and her builder. The crew felt "as safe as in a fortress;" and were sheltered within from the severity of the Arctic winter. Twice only were they alarmed; once before Dr. Nansen left, and again a short time after his departure. On the first occasion the ice-pressure was most severe; to use Dr. Nansen's words, "she was firmly frozen in ice of more than 30 ft. measured thickness." This floe was over-ridden by great ice masses, which pressed against her port side with a force which threatened to bury and crush her. Boats, sledges, kayaks, and provisions were placed upon a neighbouring floe in readiness for the worst, but "the *Fram* was stronger than our faith in her," said Dr. Nansen in his address to the Royal Geographical Society (8th February, 1897), and the shout that went up from the vast multitude testified to their appreciation of Nansen's foresight in constructing such a vessel. The only disagreeable experience was the

crashing, creaking, and grinding of the ice as it closed around the ship. The *Fram*, as previous chapters explain, was so constructed as to rise in resistance to the ice-pressure and thus escape damage, and it so successfully accomplished this work that at times the crew came on deck to find the ship lifted from nine to twelve feet, and her bottom could be distinctly seen resting upon the ice.

In my visits to the *Fram* I was fortunate enough to meet several members of the crew, and I had a long chat with the gallant skipper, Sverdrup, with Jacobsen, and with Lieutenant Johansen, fair-haired, clean-shaven, with a bright, good-humoured face. As Johansen recounted Dr. Nansen's and his own ice-tramp, his comrades crowded round and listened with interest to all he told me; one and all envied him for being the chosen companion of Dr. Nansen for that daring excursion. I also met Lieutenant Scott-Hansen, the boy scientist, and Dr. Blessing, who told me that, apart from his medical duties, which were fortunately light, he aided Dr. Nansen and Scott-Hansen in the scientific work, and took some part in observing the Aurora and deep sea observations. Although quite a young man, he is a scientist and botanist of no mean order; a man of many parts. He employed some of his leisure in occupations so diverse as stoking the furnace and conducting an investigation into the action of the blood. He was the only unmarried member of the crew, and a romantic incident connected with him is not without interest. Dr. Blessing had been engaged to a fair Norwegian maiden before he became one of Dr. Nansen's party. After his departure the young

lady naturally became very anxious to communicate with her future husband, but although love laughs at locks and bolts, it is not easy for Cupid to send his messages to the ice-bound regions of the north, and for a time even feminine resource was unequal to the task of despatching a letter to Dr. Blessing, somewhere near the North Pole. One day, however, the lady read of M. Andrée's proposition for a balloon voyage to the Pole, and she approached him with a request that he would take a love missive in the hope that it would reach the object of her choice. Gallantry prevented M. Andrée from refusing the request of the young lady, and he took charge of the letter, in the full belief that he would meet the vessel, and be able to deliver the note to Dr. Blessing. When finally the projected balloon voyage had to be given up in consequence of the failure of favourable southerly winds, M. Andrée handed the letter to the captain of a whaling vessel that was going northwards, on the off-chance that it might fall in with the expedition. Singularly enough the vessel did encounter the *Fram*, with Dr. Blessing on board; the letter was delivered, and thus some time before reaching the Norwegian coast, the young physician saw the hand-writing of his *fiancée*, and read her written protestations of love.

One afternoon, on board the *Fram*, I spent in company with Hendriksen, the harpooner of the expedition, a veritable giant, with broad shoulders, and a pleasant, round, determined-looking face, and whose exceptional physical powers were severely tested on more than one occasion. He led the way to the *Fram's* saloon, and showed me through the

DR. NANSEN'S WORK-ROOM ON THE "FRAM."

cabin where the explorer slept during the voyage. All the crew shared the saloon in common. He displayed to my wondering gaze the rifles, hunting knives, harpoons, and other implements, and I was somewhat amused at the number of empty medicine bottles in the physician's berth, showing that he had not spared physic to the crew on the least sign of indisposition. Ascending past the galley upstairs we entered Dr. Nansen's and Captain Sverdrup's work-rooms, furnished with an elaborate stock of scientific and other instruments, and looked into the forehold, yet filled with provisions.

Nansen had written to *The Strand Magazine* on his outward journey:—"Of provisions we have plenty, and in great variety; much more so, I believe, than most previous expeditions in the Arctic. Variety of food is the most important thing in order to avoid scurvy, which has destroyed so many well-equipped expeditions. We have, of course, tinned meats in all possible forms; boiled, roast, and corned beef, ditto mutton, rabbits, collops, Oxford sausages, cutlets, pork, ham, bacon, etc.; tinned fish and roe in various forms; tinned fruits, dried fruits, jams, marmalades, blanc-mange, Bird's custard powder, egg powder, and baking powder; concentrated lime juice from Rose & Co.; rizine, peas, pea soups, lentil soup, bean soup, Frame Food, Bovril, dried vegetables, biscuits; Cadbury's chocolate, steam-cooked and dried meal and flour of various kinds, dried fish, dried potatoes; preserved milk, with sugar and without sugar; compressed tea, cheese, sugar, etc.; and, above all, butter, which is most important in the cold, where you especially want fat. We carry six tons of butter.

"For sledge expeditions we have, of course, specially concentrated and light foods, principally consisting of dried meat with fat. The Bovril Co. has, on my suggestion, made a special food consisting of these materials which is highly concentrated; they have called it 'emergency food.' For sledge expeditions we shall also use biscuits and butter, steam-cooked meal for porridge, milk, chocolate, dried fish, dried fruits, dried cranberries, sugar, a little compressed tea, and also some biscuits, to which I have added a quantity of a German product called Aleuronat powder, which principally contains albumen. I have added about thirty per cent. of this to the biscuits, so that a certain number of them, with a suitable quantity of butter, will be sufficient for one man per day; I believe a pound and a-half of biscuits, or a little more, and half-a-pound of butter will be an appropriate ration. For drinking we shall have nothing except water, which we shall get by melting snow. This water we may, however, mix with lime juice and sugar, or with milk, or make tea, chocolate, or soup of it, and thus we shall have pleasant drinks. A good drink is also water mixed with oatmeal. Spirituous drinks will not be allowed; tobacco will be distributed in very moderate rations on board ship; on sledge expeditions no tobacco, or very little, will be allowed."

As to dress Nansen writes:—"Out of doors in the winter when the winds are blowing we shall wear weather-proof suits, made of light canvas, gabardine, or similar stuff, which protects against the snow-drift. When it is very cold we shall wear fur suits, made principally of wolf and reindeer

fur. To sleep in the snow or in our tents during the sledge expeditions we have also sleeping-bags made of the same material, in which we can easily, and with comfort, stand a temperature of one hundred degrees below zero.

"Our tents are made of raw silk and are exceedingly light. Lightness is, of course, of the highest importance, when everything must be carried on the sledges. The tent floor is, however, of a somewhat heavier stuff, as that has to keep out the moisture which is easily formed when you sleep on the snow, with nothing under you except a thin canvas or calico layer. It is also well to have the tent floor rather strong, as it can then be used as a sail on the sledge when you have a favourable wind."

In the forehold Hendriksen showed me the sledges, kayaks, ski, and cooking apparatus used by Dr. Nansen and Lieutenant Johansen on their dangerous ice-journey. The sleeping bag used by them on their tramp was a particularly attractive novelty. It was made from the skin of a polar bear shot by Dr. Nansen, the fur being inside, and it must have been a warm berth with the two men packed inside it. All the Arctic equipment bore evidence of having been severely tested in actual use; the sledges especially bore traces of hard pulling, being patched with much care in many places. Their kayaks are about five yards long, made of skins many times mended. In these canoes they slept, breathing through air-holes. Beside them lies the head of the walrus which pierced one of the kayaks right through, also the skin of the polar bear which nearly hugged Johansen to death. There are, besides, the two ice-sledges on which the

kayaks and luggage were drawn; the snow shoes, quite black and worn out; the bamboo sticks, the saucepan, with the remains of the horrible soup; and, most important of all, a little box containing the diaries.

I had some conversation with Captain Sverdrup on the bridge of the *Fram*, and he assured me that the three years he spent on board their "Arctic home" were comparatively comfortable ones. Nansen and Johansen had, in his opinion, the worst of it. "An expedition like ours," he said, "is never free from excitement or grave danger, and we had our share. Our principal duties were to take regular scientific observations, and this was an onerous and responsible task, and we found plenty of physical exercise in endeavouring to keep the ship free from ice. That the dreaded Arctic disease, scurvy, did not show itself is attributed to the nutritious food we had and the readiness of all to partake of bear and seal flesh when caught."

One night when most of the ship's company were snug below, the dogs were suddenly heard barking furiously. It was ship's carpenter Mogstad's watch, so he went up on deck to see if anything unusual was going on, but as he could see nothing he went down below again, concluding that the dogs were just barking for the sake of barking, as is their wont. However, the noise was repeated at intervals, so he went up on deck again, and taking a lantern saw that several of the animals had disappeared and that some others were overboard on the ice. Mogstad called out for Hendriksen, and they both let themselves down on to the ice from the deck of the

ship, which at the time was high above the ice surface.

They walked off a little distance from the ship, to see if they could find any tracks. As they were searching about with no more formidable weapon than a small lantern between them, all at once a polar bear sprang up before them. Then there was a race between the three, the two men and the bear, to the ship. Mogstad, a bit more light-footed than his mate, reached the *Fram* first, but fell down twice on to the ice as he was climbing up her side. At the second fall he could not help muttering to himself, "Now the bear's got you, my friend!" But despair steadied his nerves, and be managed to hoist himself safely up behind the ship's bulwarks. He had hardly got on board, however, when he heard his comrade call out and saw that the bear had got hold of him, and had bitten him. But Hendriksen, a big, powerful, resolute fellow, dealt his assailant such a blow on the head with the lighted lantern he was carrying that the brute, half stunned and half scared, let go his prey, and Hendriksen seized the opportunity to skip up the ship's side. The bear revenged itself by carrying off several of the dogs.

In a private letter from Lieutenant Johansen we find a lively account of the feelings he and his fellows experienced during their long isolation. "Although far from all human kind," he says, "shut up in the desolate polar ice, miles and miles away from any secure port, and sometimes so crushed by the ice that we thought of forsaking the ship, we had still in the *Fram* a refuge free from care and full of quiet contemplation. . . . We felt untroubled and free as rarely

before in all our lives. Once a polar bear, probably plagued with ennui, paid us a visit. This queer, restless animal, who wanders ceaselessly by night and day, is a remarkable creature, and we valued its flesh as an agreeable change from the monotonous tinned meats."

"In what did your scientific work consist?" I enquired of Dr. Nansen.

"That requires a little consideration," said the Doctor. Then after a pause, "It consisted of exact observations, and my expedition will be chiefly a gain to meteorology and oceanography. We had to take magnetic and meteorological observations on sea and land, when we found any land. We had to observe the temperature of the ocean at all depths and seasons of the year, to sound, trawl, and dredge, and to study the character and distribution of marine organism. Yes, I hope our expedition will enrich the records of astronomy, geology, botany, zoology, and kindred subjects. During the whole drift I spent most of my time in taking a series of exact observations in the above subjects, but I was ably seconded in the work by Lieutenant Scott-Hansen and Dr. Blessing, and when I left the *Fram* the former took charge of the scientific work." The depth of the sea along the track of the ship ranged between 2000 and 2500 fathoms.

Dr. Nansen added that his favourite subject was biology, which he studied earnestly during the first series of Arctic voyages, for he loved science first and exploration second. He did not, however, have much chance of biological research during the recent voyage.

Lieutenant Johansen, who volunteered and was

chosen to accompany Nansen, told me in regard to their ice-journey, when it was decided that the Doctor and himself should leave the vessel to explore the north of their route and reach the highest possible latitude, that they tried to start three times. The first time, the sledge broke down at a short distance; the second start occupied three days, after which they had to return and complete their stock of necessary provisions. Their final start was on the 14th of March, 1895, when the *Fram* was at latitude 83° 59′ N., longitude 102° 27′ E.

Nansen and Johansen had, in starting, twenty-eight dogs, three sledges, and two kayaks for use in open water. Dog food was calculated for thirty days, and their own provisions for one hundred days. They found travelling at first easy, and hope was bright, and on the 22nd of March they reached latitude 85° 10′ N.; but the farther north they reached the rougher the ice became, and the drift at times set back their work, while the sledge dogs did not prove as serviceable as they had hoped. On the 25th of March, after great labour, they had but reached latitude 85° 19′ N., and four days after, latitude 85° 30′ N. It was fatiguing work to drag the heavily-laden sledges across the high, hummocky ice, with the floes in constant movement, crushing and grinding against each other. But these two brave men pressed onward against increasing odds, on through blinding snow-storms, and frequently face to face with death. But the time came when human endurance could push no farther, and on the 7th of April the ice became so much worse that Nansen considered it unwise to continue their course polewards, and they therefore

decided to go south to Spitzbergen, *via* Franz Josef Land, where there was every possibility of a ship being met with. They were then at latitude 86° 14′ N., and before finally turning south the doctor made a long run on ski to see if there was any possibility of finding smoother ice, but, as far as eye could reach there stretched hummock beyond hummock "like a sea of breakers."

On the return journey, in a south-westerly direction, they travelled 430 miles in four months, and the only land they found on the way consisted of a few ice-capped islands, a little to the north-east of Franz Josef Land. On the 26th of August they reached land in latitude 81° 13′ N., longitude 56° E., well suited for wintering, and there they dwelt for 267 *days*, living on the blubber of the polar bear, seal, and walrus, and utterly unaware that less than one hundred miles away to the south-south-west there lay the headquarters of the Jackson-Harmsworth expedition, containing men who would have been delighted to welcome them to their comparatively comfortable home.

Dr. Nansen's winter hut was somewhat different from Jackson's. It was built of turf, covered with walrus skins. The roof was also of walrus skins, supported on logs of driftwood. A bear skin served for the door, and of another bear skin they made a sleeping-bag. Although they spent their time sleeping much and took little exercise, they were never at all unwell. The temperature in the hut was seldom below freezing point, and this was a comfortable temperature to our explorers.

Of that memorable journey much has been written.

Their escapes were almost miraculous, and danger constantly stared them in the face. On one occasion, while dragging their sledges along a narrow path, the travellers were suddenly confronted by a polar bear, but Johansen, who is a man of exceptional physical strength, caught the intruder by the throat and held him at arm's length while Dr. Nansen despatched him with his rifle. On another occasion, after an excursion inland, they returned to see their canoes drifting from land with all their necessaries on board. To reach the boats was a matter of life or death, but without a moment's hesitation Dr. Nansen sprang into the ice-cold water and swam after the drifting canoes. He was chilled to the bone, but he succeeded in his object, and brought the canoes safely to the spot where his anxious comrade stood watching the incident.

I cannot conceive a more daring act of courage than that of Nansen's and Johansen's in leaving the *Fram* with the certainty of remaining in the inhospitable regions for a year, perhaps two, and of never regaining the ship. They had no winter clothing, and provisions only for one hundred days. Yet they departed cheerfully, laden with an exhaustless stock of hope and charged with loving messages to wives and to friends if those on board the vessel should perish in the far north. The numerous messages which Dr. Nansen brought back to Norway from those on board the *Fram* were written on a single sheet of paper in a microscopic hand, so as to economise weight and space. Day after day, month after month passed, and still they toiled on. The little stock of food was almost exhausted and the

dogs were starving. And here a touching trait of Dr. Nansen's character shows itself. He dared not expend a cartridge in shooting one of the poor beasts to make food for the other dogs, and sometimes for his companion and himself, and as he could not bring himself to kill his own faithful dumb followers in cold blood, he killed Johansen's sledge dogs, whilst Johansen killed his. In this manner they struggled on until the dogs were all slaughtered. Fortunately open water was reached soon after, and bears, seals, walruses, and, at times, Arctic bears were found, which furnished food until Dr. Nansen and his comrade met the Jackson-Harmsworth party.

The story of how Nansen and his comrade met Mr. Jackson (17th June, 1896) is one of the most dramatic incidents recorded in the romance of history. It was a fortunate meeting, which Dr. Nansen declares he shall ever regard with feelings of gratitude; but had he not come across Mr. Jackson his original plan of proceeding to Spitzbergen would probably have been carried out with nothing more than a few more hardships and a little longer delay.

Some think Nansen's work over-praised. May I point out that during a period of two hundred and eighty years previous to Nansen's departure the efforts of a vast host of Arctic explorers—the bravest of the brave—succeeded only in piercing 150 miles nearer the Pole. Dr. Nansen, in less than two years from the start, distanced *all these previous explorers' efforts by* 200 *miles* (*reaching his farthest north on the* 8*th of April*, 1895), *and covering the last* 150 *miles in six weeks.* Such a deed speaks for itself.

CHAPTER XII.

CONCLUSION.

"HOME safe, after a fortunate expedition," ran the first telegram announcing Dr. Nansen's return.

It is a popular fallacy that Dr. Nansen started out solely to reach the North Pole. If this had been so, no doubt the criticisms of those who say that the voyage was a failure would be justified; but that view is inaccurate and unjust to Nansen. What he went out to do was to explore the Arctic basin, and, if possible, settle certain problems connected with it. He said this in so many words in his address to the English Geographical Society in 1892. Here is a typical sentence, and the italics are Nansen's:—"It may be possible that the current will not carry us across the Pole, but *the principal thing is to explore the unknown polar regions*, not to reach exactly that mathematical point in which the axis of our globe has its northern termination." Bearing this

in mind, it is impossible to pronounce the expedition a failure, even if there were no other discovery than that of the *deep* sea in the polar regions.

Before leaving in 1893 Dr. Nansen made three predictions regarding his venture. The first was that 1896 would probably be the first year in which it would be heard of. The second was that if the *Fram* were deserted the party would come home by Franz Josef Land. The third was that if they stuck to the ship she would, by the aid of the drift, bring them out between Spitzbergen and East Greenland. This is precisely what has happened. Dr. Nansen has vindicated his theory of the polar drift, though disappointed somewhat as to its *northerly* limit, and discomfited those who maintained that in trusting to what they styled "supposed currents," he was throwing away the lives of himself and his party. All other performances pale in comparison with this feat of the Norwegian explorer. It is not merely that he has gone some 200 miles nearer the Pole than any of his predecessors, or that he has made one of the most daring journeys on record, but it is that he has established the truth of his theory of Arctic *currents*, and has brought back valuable scientific information. Its organiser passed over an enormous part of the girth of the eastern polar sea—covered almost the widest area of the earth's surface that can be covered in a like voyage, and they travelled at a pace which permitted them to mark upon the chart accurately all the districts traversed. *There was no line of retreat, no going back and covering the same ground twice*, as has been the case in nearly every previous Arctic voyage.

Nansen has made this unparalleled journey in consequence of his simple plan of not opposing, but siding with, the Arctic currents and floes. The result is a most magnificent victory of science, and a proof that scientific training, no less than courage, perseverance, and physical endurance, is necessary in an Arctic explorer. This splendid success was owing, as Professor Mohn stated, "to the fact that Nansen is a man of science, who, with his mastery of all that had been done and the penetration of his genius, could gain an insight into the unknown; and that, with unsurpassed practical sense, he knew how to make the arrangements necessary to secure that his journey, from beginning to end, should be a unique success."

Nansen depicts the experiences and sufferings met with in narratives which are notable both for their accuracy and modesty. He treats as ordinary incidents the freezing in of the *Fram;* her years of solitude in the grip of the ice; the fact that he and Johansen, on their ski journey, were without furs for several months in a temperature which sank, at times, to the inconceivable cold of 62° below zero (F.); and that for ten months they lived, like the Eskimo and the Samoyede, on blubber. As for the task of gaining land by clambering from one small ice-floe to another for thirteen continuous days, he merely mentions it; and of the severe winter spent at Franz Josef Land, he remarks that it "passed well, and we were both in perfect health." And when he was absolutely cut off from any hope except the desperate one of getting south, he points out the moral advantage of having "*no line*

of retreat." Of such stuff indeed are heroes made. For his immense courage and fortitude, for his incalculable patience and scientific gifts, Nansen deserves a place in the front rank of Arctic explorers. When I say this I do not forget the great services rendered to mankind by Hudson, Davis, Baffin, the Rosses, Franklin, Kane, McClintock, Nordenskiöld, Nares, Markham, Greeley, and the rest of the great Arctic explorers, whose doings aroused emulation in the mind of Fridtjof Nansen, and who showed him the way through the pack-ice to success and glory.

Dr. Nansen's work is admirably summarised in the preface which Mr. William Archer contributes to his own translation of the biography of Nansen:— "What Nansen has done, in the teeth of scepticism and discouragement harder to face, perhaps, than the Arctic pack-ice and the month-long night, is to lead the way into the very heart of the polar fastnesses, and to show how, with forethought, skill, and resolution, they can be traversed as safely as the Straits of Dover. While other explorers have crept, as it were, towards the Pole, each penetrating, with incredible toil, a degree or two farther than the last, Nansen has at one stride enormously reduced the unconquered distance, and has demonstrated the justice of his theory as to the right way of attacking the problem. Nor is this the crown of his achievement. As the Duke of Wellington 'gained a hundred fights, and never lost an English gun,' so Nansen has now come forth victorious from two campaigns, each including many a hard-fought fray, and has never lost a Norwegian life. We have

only to read the tragic record of Arctic exploration in the past to realise the magnitude of this exploit. It is in no way lessened by the fact that Nansen has profited by the hard-earned experience of his predecessors. On the contrary, it is the chief glory of this expedition that absolute intrepidity went hand in hand with consummate intelligence." *

A very charming glimpse into the home of Nansen, such as it represented on the day (13th August) when the telegram arrived which told of Nansen's safety, is given by a friend and neighbour of Dr. and Fru Nansen :—"Yesterday evening, about seven, my wife and I were walking along the private path leading to our own and the Nansen's houses, and which belongs to them and us together. Little four-year-old Liv Nansen met us, and chattered, 'Mamma has gone to town. Papa is coming home.' On inquiries I learnt that Fru Nansen had just had a telegram from her husband, telling her of his arrival at Vardo. She started at once for Christiania to tell her mother, and to hear more. I jumped on my bicycle and went after her. The Karl-Johannes Gade swarmed with people. The greatest enthusiasm prevailed. All the cafés were crowded, and in front of the newspaper offices, where the telegrams were shown against the walls as they arrived, the masses were fighting for a place whence they could read them. Groups were parading the streets singing national songs and shouting 'Hurrah.' I was not in time to find Fru Nansen, but on returning to my cottage near the fjord I noticed a procession

* "Life of Nansen" (Longmans, Green & Co.).

of fishing boats sail close to the shore. The fishermen bared their heads, and shouted 'Hurrah' three times three.

"Below the balcony of my studio two children are playing. It is little Liv and my five-year-old Hjalmar. The two are inseparable. They are in love with each other as in the days of old were Fridtjof and Ingebord. I can hear their discussion. 'My papa is as strong as a bear,' says Hjalmar. 'My. papa is as strong as'—the little girl hesitates —'he is the strongest man in the world,' she says with strong conviction. Little Liv's words contain more truth than she is aware of.

"My wife has just been telling me that she has had a talk with Fru Nansen. She had gone across to congratulate the hero's wife. Fru Nansen said, 'I was sitting at home yesterday afternoon, and thought things very dull. A telegram was brought to me. At first I hardly cared to open it.' 'Why? Were you afraid of bad news?' 'Oh, no; but I have had so many telegrams, and again and again they contained nothing. One gets indifferent.' 'Well?' 'Well, finally I opened it, of course, and before I had realised what it contained I recognised his style. To-morrow I start on my journey to meet him.' 'What a wonderful thing it is for you, after three anxious years!' 'Well, to tell the truth, I never doubted that he would return; and then there is always so much to make life here interesting.' Her eyes wandered to the golden head of little Liv, who clung affectionately to her mother."

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