

floes until July 20th, and just two days before the *Tigress* left New York in search of them, they sighted a vessel, which soon discovered them, and took them on board. She proved to be a Scottish whaler, the *Ravensraig*. Not having secured a full cargo, and wishing to do so before he returned home, the captain of the *Ravensraig* transferred the party to another steam-whaler, the *Arctic*, homeward bound, and on the afternoon of September 17th they landed at Dundee, Scotland. Their arrival was at once telegraphed to London, and the safety of the crew of the *Polaris* was announced the following morning in the American papers.

Thus ended one of the most wonderful voyages on record. Out of the forty men, women and children comprising the expedition, only one death, that of Captain Hall, occurred, a most marvellous preservation of life amid the greatest danger to which mariners were ever subjected. The unfortunate decease of Hall in the infancy of the enterprise prevented the accomplishment of such results as were desired and expected. With the commander died the hope and heart of the expedition, and no further attempt at discovery or original exploration was made. The loss of so brave and skillful a navigator may well be an occasion for the deepest sorrow and regret amongst all who reverence and admire American prowess and heroism.

CHAPTER XXI.

THE GERMAN EXPEDITION UNDER KOLDEWEY.

Departure from Bremerhaven—Separation from the *Hansa*—Wreck of the *Hansa*—Adrift on the Ice—Danger of Starvation—Return to Fredericksthal.

THE first German Arctic expedition, commanded by Captain Koldewey, and originated by the celebrated scientist, Dr. Peterman, of Leipzig, departed from Bremerhaven on the 15th of June, 1869. The ship *Germania* was especially built for this expedition, and nothing was overlooked to make the outfit as complete as possible. The ship *Hansa* was to accompany the *Germania* as a tender. The vessels sailed up through the North Sea together, and did not separate until January. Mayen Land was passed, and the Arctic Ocean actually entered. On the 15th of July the *Germania* entered the ice-circle of Greenland. The two vessels became separated, and met again on the 18th, but through some misunderstanding of signals they became once more separated, and never met again.

Meeting with impassable ice to the west, the *Hansa* steered to eastward out of the ice, and began afresh. Having reached open water a second attempt was made at penetrating to the coast in the latitude corresponding with the instructions. Until the 10th of August the *Hansa* experienced good weather, and with a favorable wind sailed along the edge of the ice in a northerly direction, until, reaching the desired latitude, it was once more thought best to attempt the desired coast. But disappointment again met the crew. After sailing westward one night, they found themselves on the morning of the 14th hemmed in again on all sides; fresh ice formed between the floes, besides filling up every passage, so that the *Hansa* was fast again; and from this time forward until the complete blocking up of his vessel, the captain's log-book unfolds a series of troubles, dangers, and reverses.

For a long time it was hoped that the floes would part and allow the unfortunate craft to make toward the coast. Land

could be seen at a distance of not more than thirty-five miles, and a boat journey over the ice, and through such channels as occasionally presented themselves, seemed to confirm for a time that slender expectation. In the meantime, measures were taken to abandon the ship if it should become necessary. The sailors' winter clothing was distributed; the boats were made ready, and their respective crews told off; and the plan of their winter house was discussed in view of the possibility of being obliged to resort to one.

Their worst fears were soon realized. On the 19th of October the pressure of the ice upon the *Hansa* began to be tremendous. Huge ice-blocks forced themselves under her bow, and though these were crushed by the iron sheeting, they raised the forward part of the ship seventeen feet out of water, or rather out of its former position in the ice. The conviction soon seized the minds of the crew that the *Hansa* must break up, and the clothing, nautical instruments, journals, and cards, were in all haste taken over the landing-bridge.

The ship soon began to leak, and it was plain that it must be abandoned. All the provisions that could be secured from the wreck, together with fuel, medicine, and whatever could be easily moved in their present position, were dragged over the ice to a safe distance from the sinking vessel. A house had already been constructed from pieces of coal, and to this, their only resort, they were obliged to repair.

In the meantime the floe on which their residence was built was drifting steadily to the south. The routine in the black house soon became established, and as it closely resembled that on board ship, the lonely sailors readily adapted themselves to it. Care was taken to make the little settlement as conspicuous as possible in order that it might be seen by any Esquimaux who should happen on the coast. The food was lengthened out by the shooting of an occasional walrus, and free use of this article of diet was effectual in preventing scurvy, from which the party continued remarkably exempt.

The first days of January were destined to bring sad changes for the exiles on the ice. On the 11th there were heavy storms from the northeast, with driving snow. At six in the morning Hildebrandt, who happened to have the watch, burst in with the alarm, "All hands turn out!" An

indescribable tumult was heard outside. With furs and knapsacks all rushed out. But the outer entrance was snowed up, so to gain the outside quickly we broke through the snow-roof of the front hall. The tumult of the elements which met us there was beyond anything we had already experienced. Scarcely able to leave the spot, we stood huddled together for protection from the bad weather. Suddenly we heard, "Water on the floe close by!" The floe surrounding us split up; a heavy sea arose. Our field began again to break up on all sides. On the spot between our house and the piled up store of wood, which was about twenty-five paces distant, there suddenly opened a large gap. Washed by the powerful waves, it seemed as if the piece just broken off was about to fall upon us.

The house was shattered in fragments, and a temporary bivouac in the boats had to be experienced. A new house had to be constructed for temporary use; the boats were drawn nearer the middle of the floe, and all exigencies, so far as possible, provided for. So for several months the drift to the south continued; the only hope of release being in the boats, when the influence of the now rising sun and the southern latitude should open a channel in the rugged pack.

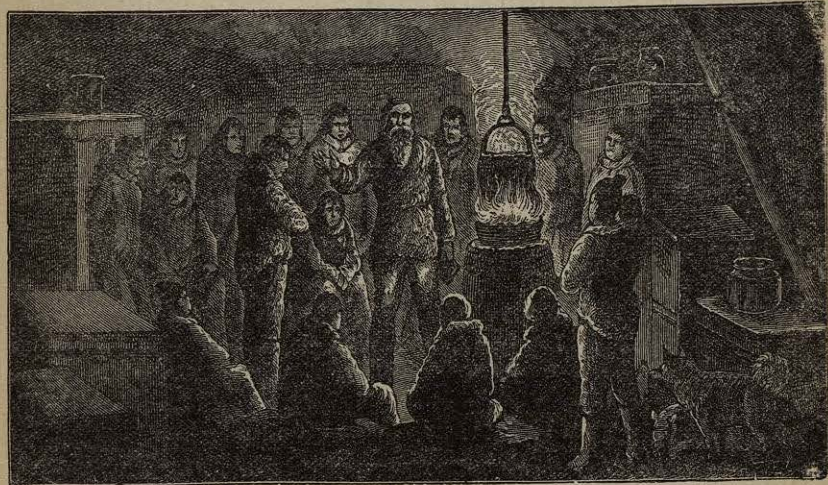
The month of May at last arrived, but to the weary watchers on the ice release seemed as far off as ever. From the spot where the *Hansa* had foundered, in 71° north latitude, they had moved to 61° —a distance of nearly 700 miles. They were startled to find that only six weeks of provisions remained, and that unless efforts were put forth to reach some inhabited spot, they must expect one by one to drop away from starvation.

A small island called Illuidlek lay about three miles away, and to this it was determined to remove, unless there should be some immediate and unlooked-for change in the ice. To this point, with much labor and many stoppages, they succeeded in dragging the boats and scanty stores. Here they spent some days looking in vain for traces of life, and the habitations of the Esquimaux whom the old voyager, Graah, had found here. Existence could not be sustained here for any protracted period. Even the animals, both on land and sea, seemed shy, and unwilling to minister to their necessities. Moreover, there was now open water sufficient to warrant embarking in the boats, and at any rate death upon

the sea was no more terrible than slow starvation upon a rocky, barren islet. Accordingly, on the 6th of June, the boats were launched, sails were extemporized, and the party were once more in motion, glad in the consciousness of at least making an effort to save their lives.

Their aim was Frederichstahl, the nearest colony on the southwest coast of Greenland, but they hoped soon to meet one or the other of the Esquimaux seal-boats searching the Fiord. No such fortune, however, awaited them, though the increasing warmth and signs of vegetation along the coast as they sailed by gave promise of comfort and plenty in the near future.

Rounding Cape Farewell, they came in sight of the long-



MISSIONARIES IN GREENLAND.

wished-for bay of Frederichstahl on the 13th of June. The little settlement situated on this bay was the seat of the most southerly of the Moravian missions of Greenland. In this far-away place, self-sacrificing men from the Fatherland had settled for a life of isolation and toil among the ignorant and almost savage natives of this frozen continent. How the sight of their homely red houses cheered our band of weary voyagers, and how sweet to them sounded their own mother-tongue, spoken by warm-hearted countrymen!

From this point the troubles of our voyagers ceased. They were soon able to procure passage in a Danish vessel to Copenhagen. From this city they sped homeward by rail, and once more trod German soil on the 3d of September.

Let us now retrace our steps to the northward, where we left the *Germania* struggling with the ice of East Greenland, and compare her experience with that of her unhappy consort.

To be separated for a short time from the sister-ship under existing circumstances, caused no uneasiness; so that at noon of the day that the *Hansa* disappeared in the fog, the *Germania* set all sail, but soon striking upon ice, was obliged to turn. The horizon was eagerly scanned for the *Hansa*, but without success. A whaling vessel, however, was discovered, and this last opportunity of sending letters home was eagerly embraced. The ship was found to be the *Bienenkorb* of Bremerhaven.

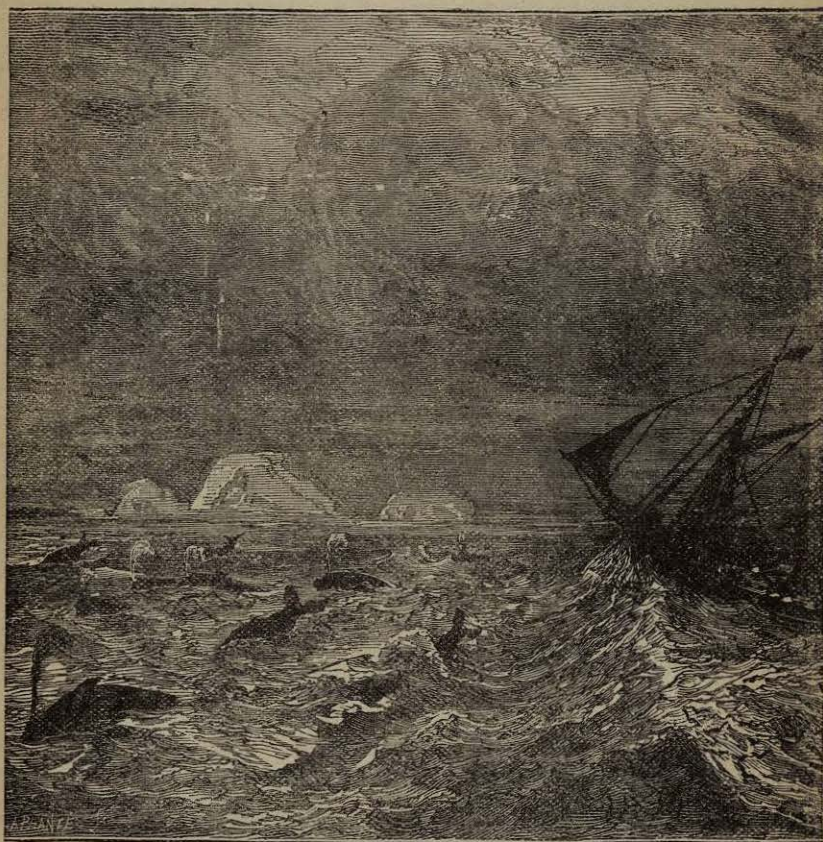
“On her deck, confined in a large cage, was a bear and her two cubs; fortunately for them, on board a whaler they were not likely to want for food. One would think that a creature so powerful and active could never be taken alive, but on its hunting expeditions among the drift-ice, it frequently trusts itself to the water, and here, in spite of its endurance, man is more active and clever, and with a well-managed boat, a lucky cast of the noose generally falls on the neck of the swimming bear, when, half-dragged and half-swimming, he is hoisted on deck like any other animal, the noose round its neck being a guarantee for its good behavior. On their return they are generally sold to some menagerie or zoological garden, the price of a full-grown bear being 100 thalers (75 American dollars).”

When the *Hansa* disappeared in the fog, the *Germania* set all sail, but soon struck ice and could not proceed any farther. Strong northwesterly winds prevailed, which delayed the vessel's progress toward the coast. The easterly winds, on the other hand, drove the ice toward the shore, which thus became so packed that it was impossible to reach the mainland. Several weeks were spent in meeting these obstacles, but the efforts of the ship's company were at last rewarded, and on the 5th of August they planted their flag on Greenland soil.

The group of islands which they had now reached, known as the Pendulum Islands, were first discovered by Clavering, in 1823. Far to the north was seen Shannon Island, the largest of the coast islands of Greenland, while southward lay Sabine Island, only a few miles from the mainland. Along

these islands the expedition hoped to make its way northward, after having, according to their instructions, sought for and marked the position of Sabine's observatory.

The straits between Sabine Island and the mainland, and also between the several islands, were completely blocked with what appeared to be all land ice. Farther on, between Shannon Island and the mainland, as far as the eye could reach, the land was firm, and the conclusion was soon reached that there



HUNTING THE WHALE.

would be no breaking up that year. Along the coast, then, advance was impossible, and the only practicable way remaining was along the eastern side of Shannon Island.

"The question," says Koldewey, "has been raised several times, especially among inland people, as to why, being unable to advance along the land-ice, I did not re-enter the pack and work my way through it northward, and, in a higher latitude, again try to reach the coast. This is opposed to all expe-

rience; it has long been known that in a stream of heavy ice, in fact, in the so-called pack, never, nor at any place, with the strongest and best steamer, has any considerable progress been made without the support of the coast, or the coast islands. Had I wished to have reached the coast at a more northerly point, I should have had to penetrate the ice-barrier, again to steer along the northern border, and force my way into the pack once more in 78° . Such a proceeding would certainly never have been followed by the desired result, and it would have been unjustifiable to give up a basis reached with so much trouble, to follow a phantom."

After some fruitless attempts to make their way along the coast in the *Germania*, the party returned and found winter-quarters on Sabine Island, a few miles to the south and west of Pendulum Island, the land which they had at first reached. It was now planned to devote the winter to sledge-journeys. The first of these was organized at once, and was ready to start on the 14th of September. As on the departure from home the general expectation was that the greatest and most substantial discoveries must be made with the ship, their instructions spoke only of probable glacier excursions to the interior of the country, and not of extensive sledge-journeys along the coast and the banks of the Fiord. For the particular necessities of these journeys, therefore, no provision was made at the outfitting in Bremen, and the sledge apparatus (tents, coverings, and so on) was not quite what was needed.

They had learned from experience during the summer that the round tent with a pole in the centre, which they had brought from Bremen, was not practically useful; it was, therefore, changed into a four-cornered one, and provided with a roof. At each corner a pole was placed perpendicularly, and fastened by ropes held and propped up with stones. Their further apparatus consisted of necessary woollen coverings (for they had not yet taken to furs), provisions for eight days, of instruments, notably the theodolite, that essential in all coast surveys, and the customary barometer and thermometer.

The sledges, which carried about six hundred-weight, were drawn by six men, the captain, First Lieutenant Payer, Trauwitz, Krauschner, Kleutzner, and Ellinger, travelling with comparative ease over the almost snowless ice.

Fligely Fiord was explored and surveyed up to where its

inland boundary becomes a part of the rugged mainland beyond. On Kuhn Island Lieutenant Payer noticed a stone of exceedingly light color, which on the south side of the island formed solid overhanging crystals, to at least 2,000 feet high. Leaving the sledge, to his great astonishment he stumbled upon a layer of coal, its strata alternating with sandstone. Further investigations proved the existence of the carboniferous deposit in large quantities—possibly a useful factor in the future development or subjugation of East Greenland. The party soon returned to the ship, having walked a distance of 133 miles.

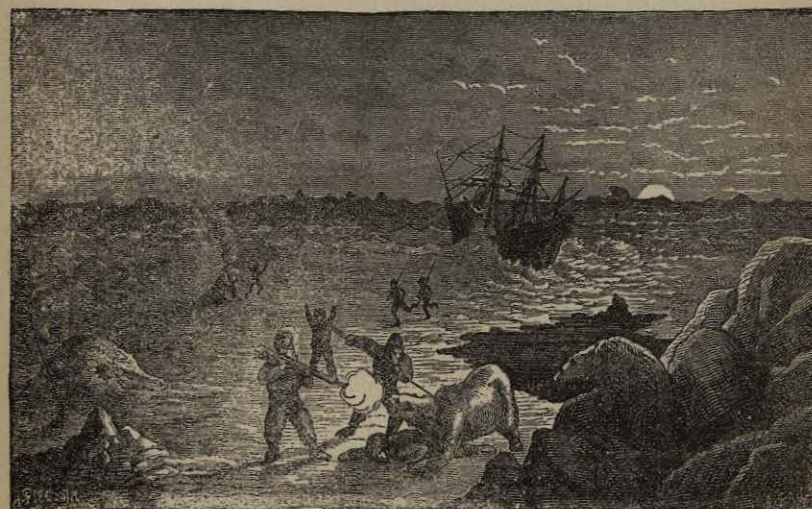
The months of September and October were spent in making preparations for the coming winter. The *Germania* was released from the icy bands which the early fall had cast about her, and was drawn closer to the body of Sabine Island, where, moored in a convenient bay, she could fearlessly withstand the shocks common to vessels wintering within the Arctic circle. On the 11th of October the ship was surrounded with a wall made of blocks of ice frozen together, and a sort of breakwater or boundary to the little harbor was constructed of the same material.

The winters spent by most American and British explorers in Arctic regions have been somewhat ameliorated by companionship with natives. The consciousness that other human beings can and do live in these desolated regions is a great source of comfort to sojourners in the north, especially when this knowledge is gained by actual contact with the denizens of the ice. Up to this point, however, our explorers had seen no trace of natives, nor indeed any signs of their having formerly occupied this portion of Greenland. The conclusion, therefore, was that the Esquimaux had either deserted their former abodes, or had become extinct. Clavering, in 1823, had found an Esquimaux settlement on the island bearing his name, but both natives and their habitations had now disappeared. A few skeletons and rude implements alone remained to tell the story of the decayed community.

Fall, winter, and spring found the voyagers usefully employed in exploring and surveying the fiords and gulfs of East Greenland, in taking magnetic readings, and in compiling tabulated statements of their scientific discoveries. The absence of dogs and reindeer made their labors very severe. Supplies, tents, instruments, all the paraphernalia of an Arctic

sledge-journey had to be dragged through the snow by the men themselves, the officers participating in this labor with appropriate enthusiasm. In this way several degrees of the eastern wall of the continent of Greenland were accurately explored and laid down.

It is probable that no expedition has had so varied and thrilling an experience with the animal life of the north as the party of our present narration. Almost no journey was undertaken without more or less danger from the immense bears which inhabit these regions, and sometimes the creatures approached the vessel itself with great boldness. An incident occurred on the 6th of March, in which a valued mem-



ATTACKED BY BEARS.

ber of the expedition nearly lost his life from the boldness of one of these beasts.

"We were sitting," writes Lieutenant Payer, "fortunately silent in the cabin, when Koldewey suddenly heard a faint cry for help. We all hurriedly tumbled up the companion-ladder to the deck, when an exclamation from Børgen, 'A bear is carrying me off,' struck painfully on our ears.

"It was quite dark; we could scarcely see anything, but we made directly for the quarter whence the cry proceeded, armed with poles, weapons, etc., over hummocks and drifts, when an alarm shot which we fired into the air seemed to make some impression, as the bear dropped his prey, and ran forward a few paces. He turned again, however, dragging

his victim over the broken shore-ice, close to a field which stretched in a southerly direction. All depended upon our coming up with him before he should reach this field, as he would carry his prey over the open plain with the speed of a horse, and thus escape. We succeeded. The bear turned upon us for a moment, and then, scared by our continuous fire, let fall his prey.

"We lifted our poor comrade upon the ice to bear him to his cabin, a task which was rendered difficult by the slippery and uneven surface of the ice. But after we had gone a little way, Børgen implored us to make as much haste as possible. On procuring a light, the coldest nature would have been shocked by the spectacle which poor Børgen presented. The bear had torn his scalp in several places, and he had received several injuries in other parts of his body."

As spring advanced, the crew of the *Germania* made preparations for their homeward journey. The vessel, so long a prisoner in icy chains, became free about the first of July, and the engine being repaired as well as circumstances would permit, some cruising was done as a finishing touch to the work of the season. After examining Shannon Island and vicinity they departed for Germany, where they arrived on the 11th of September, after an uneventful voyage of three weeks.

CHAPTER XXII.

EXPEDITION OF CAPTAIN GEORGE NARES.

The ships Alert and Discovery—Death from Exposure—Markham's Sledge Journey—He reaches the Highest Point attained thus far—Lieutenant Schwatka's Expedition—In King William's Land—Relics of Sir John Franklin Discovered—The Records of McClintock Found—Safe Return.

ANOTHER Arctic expedition, consisting of the ships *Alert* and *Discovery*, under Captain Sir George Nares, Commander A. H. Markham and Captain H. F. Stephenson, was sent out by the British Geographical Society in the year 1875. The officers and men of both vessels numbered 120, many of whom had seen Arctic service as whalers or explorers. The *Valorous* accompanied them to Disco Island as store-ship, and having there transferred her surplus stores to the other two, she left for home July 16th, 1875.

On the voyage to Disco they had encountered much loose ice off Cape Farewell, and many heavy gales, in which they lost two of their whale-boats. Leaving Disco on the 22d, the *Alert* and *Discovery* steamed across Baffin Bay to the northwest instead of hugging the Greenland shore through Melville Bay, and struck the great central ice-pack July 24th. In thirty-four hours they succeeded in boring through the pack into open water—a feat never before performed, and which the Greenland masters declared "would ne'er be credited at Peterhead." It helped to prove the superiority of steam-power for Arctic navigation. Reaching the vicinity of Cape York many icebergs were seen aground and closely crowded, indicating that they would perhaps not have fared so well had they taken the old route through Melville Bay, and around that cape. Pushing north they soon arrived at Carey Islands, where they landed and established a depot of supplies, depositing the usual record under a cairn. Passing Littleton Island, where they left a record, and Port Foulke, which Nares styles "the Elysium of the Arctic regions," they made for Cape Sa-