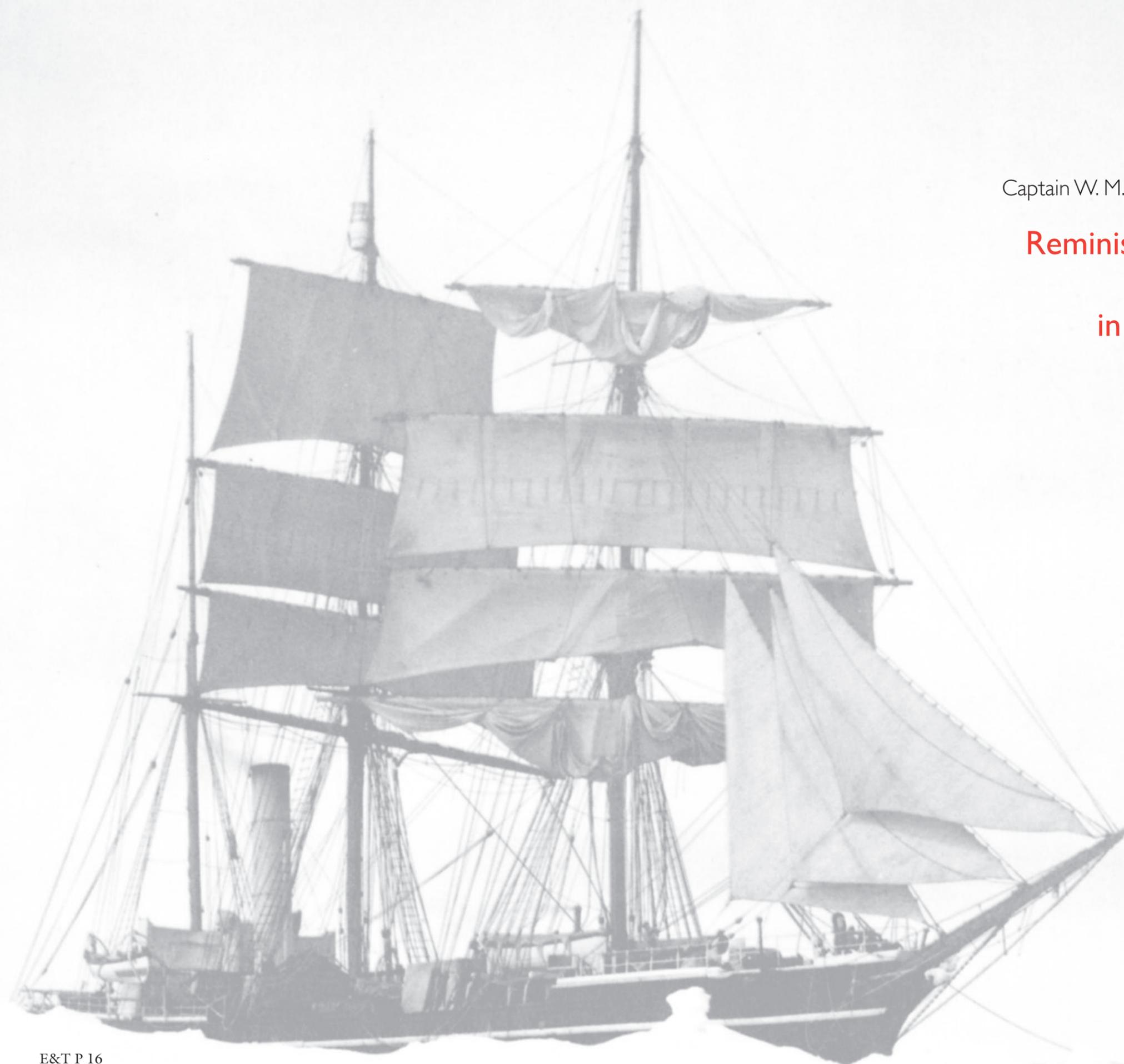




Captain W. M. Bruce, C.B.E., R.D., R.N.R.

Reminiscences of the  
*TERRA NOVA*  
in the Antarctic.



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“TERRA NOVA” in the Antarctic.  
*By* Captain W. M. Bruce, C.B.E., R.D., R.N.R.



Captain Wilfrid Montagu Bruce, R.N.R., was born on 26 October 1874 and died on 21 September 1953. He was educated at Edinburgh Academy and in H.M.S. *Worcester*, and later joined the Peninsular and Oriental Steam Navigation Company. Bruce, whose sister Kathleen had married Captain R. F. Scott, R.N. in 1908, served as a Lieutenant R.N.R. in the *Terra Nova* on her two southern voyages during the British Antarctic Expedition of 1910-13. During the First World War he was in charge of minesweepers at Lowestoft, and was promoted to the rank of Captain in 1917.

*Note:* Bruce's first name is given variously as both Wilfred and Wilfrid.

*Source:* <http://spri.live-icomprojects.com/ExpeditionPeople/PersonalProfiles/9.htm>

*Photo:* H. G. Ponting

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## JOINING UP.

**I**N 1908, when Captain R. F. Scott married my sister, I had no knowledge of Antarctic discovery, but I then began to read about his and other voyages.

I was serving in the Navy at the time, and the ship's library had most of the books which had been written on the subject. Towards the end of my twelve months' naval training, I was unfortunate enough to be laid up for six weeks, but during this time I studied all the books pretty thoroughly.

In 1909, when I heard that Scott was arranging another expedition, I was chief officer of a ship running the mails between China and Japan. The list of senior officers who would in the ordinary course of events get command before me, was still a very long one. I was a bachelor, and through a fortunate speculation in the early days of the rubber trade, fairly affluent, so I considered I was quite an eligible volunteer for an Antarctic voyage. I therefore wrote to Scott, and asked him to take me with him. He replied in a very friendly letter, telling me that he would have been glad to have taken me, but that he had had seven thousand volunteers, and could only take the fittest. As he knew that I had slight varicose veins in my legs, and as I was his brother-in-law, he was sorry that he could not see his way to accept me. I was bitterly disappointed, as by this time I had got quite excited with the prospect of the change.

I had entirely given up the idea, when, in the spring of 1910, I received in China a letter asking me if I would care to join the ship—more or less as a sailing-ship expert—but with no prospect of going with him to the South Pole.

The *Terra Nova*, I knew, was sailing in June, so I at once cabled to the P. & O. Company in London for leave, and cabled to Scott that I was coming home overland by the Siberian Railway at once, which was the only way I could get to England in time to join the ship.

The answer to my first wire was not received until a few hours before my ship was ready to sail, and I was on tenterhooks, thinking that I should miss the *Terra Nova*. However, it arrived in time, granting me leave to join the Antarctic Expedition, and, having already packed up all my gear in anticipation, I handed over to my successor, and watched the ship sail to Japan without me.

Captain Scott had not answered my cable, but I learnt later, as will be seen, that he cabled to Irkutsk in Siberia, to try to stop my return to England, as he had other plans for me. I never received this telegram.

After a festive farewell dinner given to me by my friends in Shanghai, I sailed on May 26th, 1910, for Dalny. The only recollection I now have of that voyage is that we had a fine view of a big comet, the only one that I remember having seen in my life.

Dalny was a rather deserted place, chiefly populated by Japanese. The train on the Manchurian Railway was kept scrupulously clean, the Japanese cleaning the windows, etc., all the time the train was in motion. An armed guard was also carried, though I did not quite understand why, as the country seemed perfectly peaceful.

The thirteen days' journey to England was very interesting to me, for, as I had spent practically the whole of my life at sea, long journeys across continents had not before come my way.

One amusing incident occurred, I think, at Cologne. The train was very full, but my fellow passenger from Kharbin left there. I was called away to attend to my luggage at the Customs, or something of that sort, and when I returned to my compartment, I found a young and handsome lady packing away her traps in the top bunk. I stood at the door for a minute, till she looked round and said: "Are you in here?" I answered "Yes," rather hesitatingly. She said: "Thank God you're an Englishman!" She then went on to explain that this was the only berth in the train, that she was an American, that she had booked a berth in an American liner, and this was the last train that would enable her to catch it.

I arrived in London on June 13th, and went at once to see Scott. He walked up and down his small garden with me, evidently a little worried. I soon found out what the trouble was. He was afraid that I—as a Naval Reserve Officer—would not care to sail in the *Terra Nova* under Naval officers who were many years younger than I was, and who had far less sea experience.

I willingly agreed to serve in any capacity he had open for me, which seemed to please him very much. He then went on to explain to me that he had tried to stop me on the way home, as Cecil Meares, who had been sent to Siberia to collect ponies and dogs for

the Expedition, had asked for another man to assist him to transport them from Vladivostok to New Zealand.

Captain Lawrence Oates was eventually to take charge of the ponies, and Scott had intended to send him out to Meares. But Oates very much wanted to sail all the way out in the *Terra Nova*, so Scott asked me if I would mind taking his place as the long sea voyage would probably be no attraction to me. I suggested that if I could have two or three weeks in England, the return journey by rail across the continent would be no great hardship, and the plan was settled at once.

The next day I went down with the Scotts to Cardiff, and made my first acquaintance with the *Terra Nova* and her crew.

On June 15th, 1910, the *Terra Nova* sailed. The Scotts and I boarded her for the run down the Bay, and left her on the last tug. It was my first experience of any voyage of discovery, and I was much impressed by the enthusiasm shown by the people, the whole harbour and the cliffs for a long way down the Bay being black with cheering crowds.

I spent the next few weeks saying goodbye to relatives in the country, and left London for Vladivostok on July 9th.

Meares met me in the train when I arrived at Vladivostok on the 22nd, and took me to a small hotel, which had nothing to recommend it except a quite luxurious bathroom, which, after thirteen days in a hot and dusty train, was very enjoyable.

We had all our meals together in restaurants. I found he was fairly well known there, and he introduced me to many of his friends, with some of whom, however, I had no language in common.

He took me at once to see the twenty ponies and thirty-one dogs he had collected up country, and with which he was quite pleased. He had managed to get the dogs down on a Russian Naval destroyer, by judicious handling of the commander.

The dogs at that time were exceedingly fierce and wild, which rather surprised me, as Meares told me they had nearly all been driven in mail sledges in the North, and were all well trained to harness. Before I arrived, two of them had managed to get loose, and had dragged down and killed a horse before they were secured.

On July 26th, we shipped our ponies and dogs on the small Japanese steamer *Tategami Maru*. The shipment was a dreadful experience, rain was falling in torrents, the streets and quays many inches deep in mud. The ponies were obstreperous, two of them

breaking away twice. We had three Russian grooms, two for the ponies and one for the dogs.

Anton, one of the grooms, recaptured the truant ponies on each occasion. When, for the second time, he had recaptured them, I had got a long rope led through the horsebox in which they were to be hoisted on board, and manned it at the ship end with three or four heavy men. Whilst trying to fasten the other end to a pony's head, with Anton sitting on its back, the pony reared right up on its hind legs, and before I could dodge clear, came down with one foreleg on each of my shoulders. I was much less hurt than I should have expected, as the ponies were not shod.

We had been treating them very gently and carefully till then, and I am afraid had wasted a good deal of time in consequence, but, after this incident, we used brute force.

One pony was left behind, under suspicion of glanders, though they had all been previously through the Mallein test. We had started the shipment about 7 a.m., thinking we should finish in about two hours, and then have breakfast. It was after 4 p.m. when we got our first meal, wet through to the skin, and absolutely covered in mud from head to foot.

The ship left next day, on a very leisurely voyage, calling at four ports in Corea, and arrived at Kobe on August 4th.

By this time, Meares had emptied his purse, but I was well known here, and had no difficulty in obtaining the necessary money to carry us on.

Here we had to tranship the ponies and dogs to another vessel. No British shipping company would carry us, so we left two days later in the German steamer *Prinz Waldemar*. She was a passenger ship, and we were far from popular on board. I must own, though we did our best to keep everything as clean as possible, the dogs were far from savoury, and quite frequently would howl in unison in the middle of the night, keeping it up for quite a long time. Our unpopularity can, therefore, be understood.

The ship was very slow, the voyage not very interesting, but the weather was fine, which was a great asset, and our fellow passengers cheerful company.

We called at Hong Kong, Manila, a little coral island called Yap, where there was a German wireless station, several ports in New Guinea, Raboul, Rockhampton and Brisbane and reached Sydney on September 9th.

The Governor of Queensland brought a party on board to see the ponies and dogs, and that was only the beginning, for afterwards—in every port—crowds

of people came to see them, although they were only very ordinary ponies, and rather exceptionally fierce dogs.

We transhipped all our ponies and dogs again to the New Zealand steamer *Moana*, the Sydney officials—very unnecessarily, we thought—insisting that the former should again all be tested for glanders, although they were not even landed in the port.

We left next day for Wellington, and again were lucky in our weather and arrived there on the 14th. Once more we had to change ships, and joined the *Maori*, for Lyttelton, sailing the same evening.

We had become experts at the business by this time, but the ponies appeared to get more and more frightened on each occasion. We had to blindfold them now before they were hoisted out of or into a ship, and as I was covering up the head of one in Wellington, he struggled so much, and threw his head about so quickly, that I arrived in Lyttelton next day with black eyes and a swollen nose.

The ponies had now been on their legs for fifty-two days, as we never allowed them to lie down. It seemed cruel, but all the experts were agreed that it was the right thing to do. Sometimes, if a pony seemed to be distressed by the slight movement of the ship, we passed a band under him, but it was never very successful.

We were very much surprised at the skittishness they showed when they were landed at the quarantine station on Quail Island in Lyttelton Harbour, for although they were quite uncertain on their legs, they fought and kicked each other on every possible occasion until we got them apart.

New Zealand proved to be rather dull at first, as we knew very few people. The few we did know were exceedingly kind, but rather inclined to lionize us.

We found, after a short time, that the ponies and dogs needed very little attention, so I joined a small surveying class from Christchurch University, to get an idea of the working of the theodolite, etc., of which I then knew nothing.

When the *Terra Nova* arrived on October 29th, Scott was not on board. He had joined her at Capetown, but left again in Sydney.

Everyone seemed to have enjoyed the voyage out. One or two of the crew were paid off and replaced by volunteers from New Zealand.

We were now all kept busy, as the whole cargo had to be taken out of the ship and restowed. There was also a great deal of other work.

The people of Lyttelton, Christchurch, and New Zealand generally, were uncommonly nice to us, not

only by showing us great hospitality, but helping us with our work.

The Christchurch people gave us a final dance, and, after the orchestra had finished, a girl went to the piano and played a last waltz, choosing Tosti's "Good-bye!"

## BOUND SOUTH.

We left Lyttelton at 3 p.m. on Saturday, November 26th, 1910, the people on board numbering fifty-nine.

There are only about a million people altogether in New Zealand, but the crowd that came to cheer and wave to us when the ship left Lyttelton was enormous.

I kept the first watch that evening, and Scott, coming on deck about 10 p.m., saw we had a fair wind, and instructed me to set all sail.

It was a dark night, and I had not been in a sailing ship since I had left the old Aberdeen clipper *Port Jackson*, sixteen years before, so I had to be exceptionally careful of my routine orders.

The ship had come out from England with almost an entire naval crew before the mast, but in Lyttelton some half a dozen merchant seamen who had volunteered had been taken on.

I soon found that the seamanship part had been carried out in the old-fashioned ultra-naval style, as it had been in the days when the watch of a small corvette numbered about a hundred men.

To alter the angle of the yards a point or two, the officer of the watch would blow his whistle, and wait aft until the watch had fallen in on the quarter-deck. He would then order the boatswain's mate to "Let the yards go forward two points!" and leave him to carry out his instructions.

When I introduced the Merchant Service style of running forward, blowing my whistle, and shouting "Lee fore brace," slacking off the weather braces myself, they could not at first understand the method. But both the officers and men soon got accustomed to it and, in dirty weather it saved many a wet shirt, and much time.

The Naval and Merchant Service terms were not quite the same, either. A "clewgarnet" seemed to be an unknown term in the ship on her voyage out from England, and of the old word "handsomely," which I found was frequently used, and which I remembered well in Captain Marryat's books, I did not then, and do not to this day, really know the meaning.

The Naval men knew no capstan or pulling chanties, which we men of the Merchant Service had known all our lives. They very soon picked them up, however, and very useful they were when we had to spend many long dreary hours on the handpumps in later days.

We arrived at Port Chalmers at 9 p.m. on Sunday, and took in two hundred tons of coal which was presented to us more or less as a bribe to bring the ship into that port, so that the people of Dunedin might also have a look at her. This coal practically filled up all our vacant deck space, and the ship was very deep in the water when it was all on board.

Some kind people had invited us all to a dance in Dunedin that evening, which Scott had rather demurred about, saying we should have no dress clothes. Our hostess, however, insisted that we should come in whatever clothes we could, and so we went in flannels. She said she was so glad that we had come like that, and said our partners were much pleased because "we looked different from the rest"! I know that we felt very comfortable and happy.

We left Port Chalmers at 3 p.m. on November 29th, and once again it was my lot to set all sail in the first watch.

On the evening of December 1st we encountered a heavy S.W. gale, and, the ship being very deep in the water, and her decks much congested with motors, ponies, dogs, coal and petrol, we had a very bad time indeed.

The heavy seas strained the ship severely, and she began to leak seriously. Loose coal was washed into the bilges, and clogged the main steam pumps. The water began to gain then very quickly, though the handpump was kept going continuously until it, too, became choked with coal. The water then reached the engine-room fires, and put them out.

We cut a hole in the engine-room bulkhead to get to and clear the well of the handpumps, Scott not thinking it safe to take off the hatch on deck which led to it, as the seas were now washing continuously right over the deck, as half the port bulwarks had been washed away.

All the afternoon and night of the 2nd, the afterguard, under Rennick and me, formed a line up and down the almost perpendicular engine-room ladders, passing up greasy black water in buckets.

The motion of the almost water-logged ship was very sickening. Most of this bucket crew were clever scientists, with but little experience of rough weather; and the smell of bilge-water resulted in extra unpleasantness below, where Rennick and I were

filling the buckets.

It was not only very wet, but very hot, and most of us stripped, some completely.

Whether the process of trying to bale a five-hundred-ton ship out by hand was really any use or not, I do not know, but it kept people busy, and it was all that could be attempted till the pumps were cleared.

I was called up on the bridge to relieve Campbell at the end of one of my spells below, and I was rather awed at the behaviour of this tiny ship in a big sea.

I saw her later in many much bigger, but on this occasion she was so deep, and her movements so sullen, that I sometimes wondered—when her decks were entirely full of water—whether she was just going to sink under us!

When Campbell returned, he told me to turn in. I was very tired, and gladly went below, but was not left very long, as Rennick was even more done up, and had no one else to relieve him.

I saw Scott for a few minutes then, and found him extremely anxious. He asked me what I thought of it, and I could only say that I thought she would pull through all right, but he shook his head, said, "I hope so," and left me abruptly.

By 3 p.m. on the 3rd, the weather had moderated; we got steam on the engines and main pumps, and quickly got the water out of her.

The decks, engine-room and living quarters looked an appalling wreck. Half the port bulwarks, two ponies, one dog, and much of the gear stowed on deck, had gone. The huge motor sledges, which Campbell and I had taken very great trouble to lash securely, had held fast, luckily, for, if one had got loose, it would have done enormous damage.

Everything we had—bedding, clothes, books and instruments—was sopping wet and filthy. Feet of water had surged about with every roll down below.

For days after, there was absolutely no comfort in our little ship, but we were all so tired, that as long as we could get some sleep we cared for nothing else.

During two or three days we got along fairly well under steam and sail, averaging about five knots an hour to the southward.

Scott told me one evening that I was carrying too much sail, and I had to furl the topgallant sails and mainsail at once, as the ponies were getting restless in the rising sea.

It was amusing to see the afterguard turn up on deck before breakfast to get under the hose, with the temperature 38°F. Many of them had evidently not been accustomed to daily cold baths.

As we approached the pack, we saw very many different sorts of birds, nearly all being new to me.

When Wilson found I was interested in them, he spent many hours on the bridge with me, pointing out and naming the different sorts, and telling me many tales of the former expedition. He also pointed out to me all the different sorts of whales and dolphins, and after a time, used to get quite excited if I called down for him to come up and look at something which was strange to me.

I am afraid they were only seldom new to him, but if they were, he knew all about them.

He was the most interesting teacher one could possibly have had, always good-tempered, and no amount of trouble was too much as long as one showed intelligent interest.

## THE PACK.

We got into pack-ice on December 9th, and, immediately, all the sub-Antarctic birds we had been seeing disappeared, and were replaced by penguins, skuas, and a few giant petrels.

Seals and whales were common sights in the pack. The seals were crab-eaters, sea-leopards, and—very occasionally—Weddell's. I do not think we ever saw a Ross's seal, though we were always looking for them.

The whales were principally "humpbacks" (*B. rostrata*), but sometimes we saw many "blue" whales (*B. sibbaldii*), which were very big indeed. Of course, we never had an opportunity of measuring one, but the general opinion was that some of the biggest were well over a hundred feet in length.

Very common were the "killer" whales, which are not really whales at all, but large dolphins (*orca gladiator*). They were fierce creatures, and we sometimes saw them hunting seals. A tale which I will tell later will illustrate their ferocity and cunning.

The pack-ice was intensely interesting, seen for the first time. All sorts of floes, of all sizes and thicknesses, were seen. Anything from small pieces a yard or two in circumference and a few inches thick, to sheets of ice a mile or more in diameter and thirty feet thick. Some hard and crisp, others yellow and soft, some quite flat, and others crumpled up and covered with hummocks. We shot four crab-eater seals, and hoisted them on board for fresh food. We had seal's liver for dinner—very ordinary sort of liver, quite nice.

It was a wonderful sight to see the ship's bows

going through and crumpling up the ice.

Sometimes a big thin floe would extend right across and far out on each bow. If it looked thin enough, we put the engines at full speed, and went straight at it. A dull thud, and a quiver through the ship as she was checked by the impact, and then, quite slowly, a long crack began to open out ahead of the ship, and as she moved forward it slowly parted, leaving room for her to surge through.

Sometimes the floe was rather heavier than was thought. Then the thud and quiver were alarmingly heavier, and often brought all hands up on deck with a rush. Then we would, perhaps, back out with difficulty, and endeavour to find a way round the obstructing floe.

We put the dogs out on a big floe on one or two occasions, and got very hot running them about.

We also tried our own skill with skis. With two sticks, there seemed to me to be very little difficulty about it, though we all had nasty falls now and then. But so did Gran, who was supposed to be very proficient, so it did not worry us.

We had no big slopes to experiment on—we wished we had, so that we could learn to do the "Telemarken" turn that the cracks talk about.

We were twenty-nine days in the pack this first year, during which we covered four hundred miles of latitude, trying to head due South all the time.

Much of this time might have been saved but for the fact that we were being extremely careful not to waste coal.

Whenever the pack closed up tightly, and the ship was held up without any immediate prospect of getting free, the fires were allowed to die out, and when a change of wind or tide came and loosened up the pack, we were still under sail, and took several hours to raise steam.

I could not help admiring the wonderful patience of Scott, though I always fancied it was very superficial, in that he had made up his mind to follow this course, and refused to change it, or allow his impatience to be seen by the rest of us. I hinted as much one day, but it was not a welcome remark!

Christmas Day was wintry. We were stuck fast, in a very heavy snowstorm, but we had a good dinner, and sang many songs, and everyone was very good-tempered and happy.

We cleared the pack at midnight on the 29th, with a moderate fair wind, which soon died away.

A stormy S.E. wind and a choppy sea then worried us, and we stopped for a whole day to leeward of a small belt of pack, to save the ponies from being

knocked about more than could be helped.

At 10 p.m. on New Year's Eve we sighted our first Antarctic land—a high range of mountains with Mount Sabine in the centre, showing pink and purple in the sunlight high up over a thick bank of clouds.

I was on the bridge, and looking for land, but searching the horizon.

Scott came up and stood beside me, passed a remark or two, and then said suddenly: "Why didn't you report the land?" He pointed to what seemed to me to be right up in the sky on our starboard beam.

I was much surprised, for the peaks were very clear and distinct, but I had not been looking for them in that position at all, or at that height. I was rather annoyed, but Scott only laughed, and murmuring something about my not being used to this clear atmosphere, went down and called up everyone to look.

There was much excitement, and we welcomed the New Year in with a lot of noise.

Next day, with Coulman Island abeam, it fell dead calm, so we stopped to sound.

Lilley put a net over to catch plankton, but the engines were put ahead again before he had quite got it in, and I hurt my shoulder in assisting to rescue it.

Nearly everyone was writing home that evening, some nearly all night; I could not quite understand why, as there was ample time before the ship could possibly leave.

We ran in to Cape Crozier next day, and lowered a whaler to investigate at the point where the Great Ice Barrier joins and passes Ross Island. Scott had thought of landing here, but, owing to the swell on the open coast, it was not feasible. The whaler's crew saw a quite young Emperor penguin, and would have liked to capture it, but the swell saved it.

Some pack-ice drifting in at this point nearly trapped the ship, which would have put her on shore, but we managed to clear it all right.

We then decided to see what McMurdo Sound looked like, though it was not expected that the ice had broken out far enough up the bay at this date to allow the ship to get up any distance. We surveyed the north coast of Ross Island as far as Cape Bird, when pack-ice was met, which we had to go round, some miles off the coast. The ice of the Sound had gone out much farther than was expected. We passed close to Cape Royds, and saw Shackleton's hut. We then hoped we might get right up to Scott's old headquarters at Hut Point, but were stopped by a solid sheet of sea-ice off Inaccessible Island, and tied the ship up to it.

## THE LANDING.

Scott, Wilson, and Evans went about a mile over the ice to the nearest point on Ross Island, which was then and there named Cape Evans.

They found a site for the hut which highly delighted them, close to a big nesting-place of Skua gulls, which the *Discovery* expedition had named the "Skuary."

As soon as Scott returned to the ship, he instructed us to start landing things. The dogs and their sledges were put out immediately, and two motor sledges and all the ponies were on shore before dinner. That cleared the deck pretty well, and gave us room to handle the hold cargo.

It was curious how big the ship looked when her deck was cleared, for we had grown accustomed to the cramped space in which we had to move when everything was on board.

Nearly everyone was sledging in the afternoon, but I and two or three others were slinging cargo on board, and I did not get on shore to look at the position chosen until nearly midnight.

We had breakfast at 5 next morning, and started work again immediately after. Again I was told off to work the cargo out of the ship, and expected to have a dull time, but I was lucky, and had the advantage of seeing a most exciting incident.

I had discharged a great deal of petrol, and piled the cases up in exact sledge loads on the ice. I saw that I had enough on the ice to keep all the sledges going for some hours, so stopped the work on board, and went on to the ice to load up the empty sledges as they came.

While I was loading one, I was surprised by a sudden rush of Adelie penguins from under the stern of the ship on to the ice. Looking up, I saw about six large killer whales thrusting their heads over the edge. They had evidently been chasing the penguins, and were now taking in the scene thoroughly.

Our ice-anchors at the bow and stern were sunk into the ice some fifty yards in, and Meares had tethered two dogs which had belonged to Peary, and would not work well with the others, to the after wire some thirty yards from the ship. These the Killers evidently saw, for they still continued to poke their heads over the ice in much excitement. Scott was standing on deck by the gangway, and I called to him and pointed them out, and suggested that he should call Ponting up to photograph them. He came very quickly, and ran close up to them on the ice, focusing his camera as he went. Before he got

to them, they all suddenly disappeared, and he stood rather disappointed near the edge. I was about ten yards from him, when there were some tremendous thumps under the ice, more especially round about the two dogs. The ice was about a foot thick, and so elastic that it began to heave in waves, and then broke up into small pieces. The Killers, who were ramming it from below with their heads, continued to do so, trying to turn the ice over to get at the dogs.

Ponting was now isolated on a small piece which was gradually working out to sea. When it was separated from the rest about two feet, a big Killer put his head up in the crack, right in front of his face, and about four feet high. I was quite close, but farther in, and shall not forget the look of horror on Ponting's face. However, the Killer was only showing for a few seconds, and as soon as it disappeared, Ponting jumped the crack, and made off as hard as he could to firmer ice.

The dogs and petrol were now all on small rocking floes, and we had an exciting time getting both transhipped to the solid ice farther in.

After this exhibition of malevolence on the part of the Killers, we always kept loaded rifles ready, and fired at any that showed up near the ship. I do not think we ever hit one, but generally frightened them sufficiently.

We worked till midnight again, and turned out to breakfast at 5 a.m., starting work immediately after.

I led a pony with a sledge all day till 7 p.m. It was a dull day, with no sun. My pony was rather fretful, and I got very hot in the afternoon. The floe was rapidly thawing, and there were some dangerously weak places. The perspiration was fogging my tinted goggles so that I could not see very well.

About 2 p.m., I found the pony would not keep the line I wanted him to follow, but kept shoving against my shoulder, and going much faster. Looking back, I saw the ice just at the rear of my sledge give way entirely, and found that we had just skirted a very weak and dangerous place, which the pony had seen and realized. Our position would have been serious but for the pony's intelligence, for there was no one near us.

As there was no sun, I took my glasses off. I learnt afterwards that a dull, sunless day was the very worst for one's eyes, but I did not know it then. Sledging parties have told me that it is possible without glasses to run right into a wall of snow five feet high, built to shelter ponies from the wind, without seeing it. That everything is dead white, with an entire absence of shadow, accounts for this.

I went down to the ward-room for tea at 7 p.m. My eyes were rather sore. Levick noticed it, and inspected them. He then sent me straight to bed, although I protested that there was nothing much wrong. They rapidly became worse, with extreme pain, as if needles were being driven into the eyeballs, and I got no sleep at all. For two days I was quite blind, and could do no work.

I missed an exciting scene on Sunday morning in consequence. Seeing that the ice was getting generally weak, Scott, before going on shore to the hut, instructed Campbell to land the third motor sledge at once. They got it on the ice, and tried to start the engine, but had some difficulty. Campbell had a rope put on it, got about forty men together, and began to tow it on to firmer ice. It had not gone far, when one of the men in front went through the ice. The sledge was stopped for a minute to get him out, and before they could get it going again, the back end of it had begun to break through. The most strenuous efforts were made to save it, but it was hopeless. It crashed through and went to the bottom in about forty fathoms. It was a great loss, and Scott was much perturbed.

Next day, my eyes were recovering, but I could not yet stand any glare, so I worked in the ship's hold, getting the cargo out, and keeping away from the hatchways as much as possible.

I was sledging again on the fourth day, but for many months after I felt the effects of this snow-blindness. Curiously enough, the effect seemed to be reversed, for I could hardly see at all in the dark.

After the first few days, Scott found that labouring from 5 a.m. till midnight was too strenuous for everybody, and as the bulk of the work was completed, we now worked regularly from 8 till 6 p.m., though weather and ice conditions often compelled us to be up and about for many extra hours, and sometimes all night.

After we had discharged all the shore party's stores, we had to take in ballast, in the shape of big lumps of Kenyte rock. It was ugly stuff to handle, made our hands very sore, and knocked the ship about a good deal when it was dumped below, although we made slides and put up all sorts of protections. It was chiefly brought alongside in pony sledges.

One day, Saturday, January 14th, 1911, there did not seem to be any great urgency for my services in any special party, so I took on a job of my own, and, single-handed, renewed all the port bulwarks that had been washed away. I used wood from the ponies' stalls, which was not very popular, but was all that was

available. I worked very hard, and finished the job in one day, feeling quite proud of the result.

Possibly a professional carpenter might have laughed at the work, which proved quite efficient, though part of it, which was a big portable gangway, was later washed away again in a heavy gale; the rest stood, and saved us much trouble in the future.

On Sunday we all went on shore in the morning, and Scott read service standing out in the open, all of us clustered round him. We sang one or two hymns, too.

Afterwards, many of us put on skis, to try to run some of the slopes. Two of the scientists started off across the Barne Glacier to visit Shackleton's hut, but when Scott heard of it, he was rather nervous, as they knew nothing of crevasses, and he sent Campbell, Gran and Nelson to catch them up and bring them back, but they were going so well, that they were not caught. They found everything just as it had been left, evidently in some hurry.

Levick and I went on skis up the Southern slopes of Mount Erebus. We had little difficulty in negotiating the gentle slopes up to about two thousand feet, but we got extremely hot. We then sat down, lit our pipes, and tried to pick out and name all the peaks we could see in the mountain ranges of Victoria Land from memory, for both of us had studied the maps pretty thoroughly. It was a very clear day, and the view in all directions was magnificent.

We were out of sight of the ship and the hut at Cape Evans, for between us and them were almost precipitous slopes.

When we attempted to go down again, we remarked that we might have a few falls, but we did not expect to have as bad a time as we got. The snow slopes were lightly frozen on the surface, and coming up slowly on a slant, our skis had broken through the upper crust sufficiently to give a safe grip. Going down, however, as soon as ever we began to gather speed, our skis did not break through the glassy surface. Beneath us, straight down the hill, was a precipice, and to get back safely we had to retrace our steps on the slant across the slope. Without any grip at all, we found that, whatever we did, the skis turned straight down the hill. Our only course was to fall at once, which we had to do on so many occasions, so that we were both pretty well knocked about by the time we got on to negotiable snow. I had started with a pipe in my mouth, and had several loose teeth for a long time after.

On January 17th, we lit a fire in the ship's ward-room for the first time, after much argument. The

temperature was 15°F. Cold enough, most people would think, but I was altogether against the fire, as I thought it would make us feel the cold far more outside. Though at first the smoke and sulphur fumes were bad, I must own that it materially added to our comfort, and was most useful for drying gloves, etc.

We had a bad night on this date, and I spent from 11 p.m. till 10 a.m. on the floe in a blizzard, and all hands were out till 5 a.m. The ship had broken away from her ice-anchors, and we spent the whole time trying to get her to hold to them again. Either the ice-anchors drew out, or the tug of the ship on them broke away the floe.

After we had got her fast, I took a party on shore to water ship.

While I was away, Scott, who was now living in the hut, went on board, saw the state of the ice, and had the ship brought round the floe, almost up to the hut, which was a splendid place if she could be made to stay there.

We continued watering ship till 5 p.m., by which time I think everyone was dead tired. I know I was very glad to get to bed.

Getting the pianola on shore was quite a big business, and eventually, Rennick, who took the job on, had to take the whole thing to pieces. I took down all ladders and hand-rails for him to get the parts out, and put them up behind him again, for by this time I was constituted ship's carpenter, the real one being on shore with the huts all the time. I never thought the pianola would play again, but Rennick was very clever with it, and soon got it going in the hut.

On Saturday, 21st, we broke away from the floe again in the early morning and a huge iceberg took up our exact position.

We steamed about for a bit, and then came back close to Cape Evans. As we came in close and rather fast between two small bergs, we suddenly grounded quite heavily. I was on the bridge with Pennell, who was in charge there. He turned very pale and was much agitated. However, by shifting right aft a lot of fodder that we had on deck, and rolling the ship by running all hands from one side to the other, and with the engines kept going full speed astern, she slid off in an hour and a quarter.

We discovered in dry-dock in Lyttelton, later, that her keel had been badly broken, and a good deal of other damage had been done. The rocks must have been very rough and sharp. Scott was very anxious, no doubt remembering the narrow escape of the *Discovery*; but on this occasion the sea was quite smooth.

On Monday the whole of the ice in the Bay broke away and went out to sea, taking one of our hawsers with it. The ship got under weigh, but I went on shore in the whaler at 6 a.m. to ask for instructions, and got orders to ship a lot of fodder and sledges by boat preparatory to a run to Hut Point next day. I stayed in the whaler till 7 p.m., stopping only for ten minutes for a big tea.

The ship was under weigh all day, dodging about just outside a big stranded berg, which calved a lump of about a hundred tons just after I had passed close to it. I had noticed that there was an "underfoot" about ten feet below the surface, over which I had taken the whaler, but after it had frightened me by calving, I kept farther off, on the chance that it might capsize.

Scott came on board early on Tuesday, and we left for the Glacier Tongue, the ponies leaving at the same time to cross by the sea-ice. We kept them in sight all the way. The Glacier Tongue struck me as a curious phenomenon, as it is afloat, and yet rises gradually towards the outer end.

We had two teams of dogs on board, and when we landed them, harnessed to sledges, they were very wild. One team, driven by Meares, dashed away suddenly, broke both his brake-poles, and overturned the sledge.

There was a big tide crack just south of the Tongue, on the way to Hut Point. We unharnessed the ponies here, hauled the sledges over by hand, and then jumped the ponies across. One of them went in, but was got out with ropes, undamaged.

Shackleton had left a small depot of fodder, and fifty gallons marked "Paraffin," which we were glad to find, as we were short of the latter commodity. But it turned out to be motor spirit, which was disappointing.

I was sledging all next day, covering sixteen miles, chiefly with a heavily-laden sledge, which we took to a point on the sea-ice where the ponies picked it up to take to Hut Point. The following day we took in fresh water for our tanks, a job to which we were by now quite accustomed, and we were to have a great deal more of it. The blue fresh water ice was packed into two small tanks on the engine-room fiddley, steam from the engines was driven in to thaw it, and it was then taken away in buckets and emptied into the fresh water tanks, which were forward in the hold.

All the Southern party came on board at noon to bid us good-bye, and Scott said nice things of the way we of the ship's party had worked.

Atkinson's eyes were bad when they left. He had had more trouble with them than anyone else.

## CRUISING IN NEW WATERS.

We left the Glacier Tongue next day, and went across the Sound to Butter Point to land a party of four—Griffith Taylor, Debenham, Gran and Petty Officer Evans. They were to geologize in the Western Mountains till the Sound froze over again, probably in April, when they would return over the ice to Cape Evans. This trip would have been more interesting if it had not been partially done before. However, the scientists were very keen.

We then went back to the Glacier Tongue to see if anything was required, found the ice just the same, and no sign of the depot party, so turned and ran out of the Sound, calling at Cape Evans and Cape Royds on the way, leaving the latter at 8 a.m. on January 28th.

We surveyed the coast from here to Cape Bird, and then turned East along the Great Barrier. We were now making for King Edward the Seventh Land, to land the Eastern party under Campbell. We kept in quite close, except when we met fog—which was pretty often.

On one occasion, when a dense fog lifted suddenly, I saw a big berg right astern in our wake. I had not seen it in passing, and could not tell which side of it we had passed, but it must have been uncomfortably close.

On the afternoon of Tuesday 31st, we ran twenty miles up a narrow inlet in the Barrier, which all ships from the time of Ross seem to have seen, but had never taken the trouble to name, so we called it Discovery Bay. The first few miles were full of enormous whales (*B. sibbaldii*). The banks varied in height up to about a hundred feet, much weathered, heavily overhung, and with many big deep caves. To the Southward—over the Barrier—were waves and waves of unbroken ice.

When we got out of the inlet, we headed slightly away from the Barrier for Cape Colbeck, arriving off it on Thursday, February 2nd.

King Edward Seventh Land was a most inhospitable sight. No sign of rock or earth, but just high cliffs of ice, with unbroken mounds of ice and snow four hundred feet high behind. We went on to the North and East of Cape Colbeck, but very soon we were stopped by solid sea-ice. We strained our eyes for the Alexandra Mountains which had been reported here,

but could make out nothing definite. This area was thick with Antarctic petrels, who most probably breed in the vicinity, but the breeding-place is not known.

As it was impossible to land a party on hundred-foot cliffs, we turned South and West again, searching for an accessible spot. We thought we might land Campbell at Balloon Inlet, but could not find it, and concluded that a fairly large breakaway of the Barrier in this vicinity had merged it into the Bay of Whales.

At midnight on February 3rd, I went on to the bridge with Lilley. We were just opening up the Bay of Whales, and I altered course to keep close in to the Barrier all round it. As we got into the bay, we saw a tiny little black craft tucked away into a corner. For a few moments I thought we had discovered some wonderful mystery of the sea, perhaps of a ship that had been caught by the ice very many years before, as she looked so small and old-fashioned. But I very soon recognized her as Amundsen's *Fram*, from photographs I had seen of her.

I then recalled his laconic telegram to Scott from Madeira—"Am proceeding Antarctic," which had caused much discussion amongst us. None of us had dreamt that he would think of landing in "our" quarter, and it was a great shock to us to discover *Fram* where she was. I turned out everyone, and we steamed close past her, and moored the *Terra Nova* to the ice just ahead. There was no sign of life on board, so some of us landed and hailed her. A sleepy head appeared, and looked thunderstruck at the sight of—to him—the big ship close to him. Campbell spoke Norwegian fluently. We learnt that they had nine men in their shore party, and ten in the ship. They had a hundred and twenty dogs. I have seen a hundred and thirty-five quoted, but the former was the number given to us that morning. Amundsen, Neilsen and Tremlin lunched on board with us that day, and were very friendly, but the conversation on Antarctic affairs was guarded on both sides.

I went all over the *Fram*, which seemed very comfortable, but very much overcrowded on deck, as the dogs were all loose, and apparently had been all the voyage. They had come from Madeira without calling anywhere, and had got through the pack in four days, arriving in the Bay of Whales on January 14th. The time in the pack, compared with our twenty-nine days, was wonderful, but partly accounted for by their engines, which, they told us, would give them steam in two minutes, and the smallness of the ship.

We heard from the crew that Amundsen had called them all together just before they left Madeira, and had told them that they had shipped with him to

go to the North Pole, adding, "Well, we are going to the North Pole, but we are going to the South Pole first."

Campbell suggested landing here to explore the Eastern land, but we dissuaded him, as the relations between the two expeditions must be strained.

We left in the afternoon, and there were many arguments as to the rights and wrongs of the Norwegian party, and the chances they had of beating us to the Pole. The consensus of opinion was that, with their experience and such a number of dogs, they had the better chance.

Amundsen drove a team of dogs alongside just before we left, and we noticed with much interest that their system was totally different from ours. He was driving five dogs, each on his own leash attached to the sledge, spread fan-shape all the same distance from it, whilst we drove eight dogs harnessed in *échelon* to one long line leading straight in front, with the leading dog at the end of it.

One of the points of argument was that Amundsen could not have intended when he left Norway to go to the North Pole, for he would never have arranged to take Arctic dogs round Cape Horn to San Francisco, which would have necessitated taking them twice through the tropics. We could not help thinking that the whole Antarctic scheme had been planned by him and his supporters a long time before, and that it was kept a secret only from the British.

We now returned as fast as possible to headquarters, in McMurdo Sound, to let Scott know of our discovery of Amundsen. We arrived on Wednesday, February 8th. We landed the two ponies belonging to the Eastern party at Cape Evans, as Campbell would have no use for them, having found no landing-place on K.E. Land.

We swam the ponies ashore. I was in charge of the boat, and had my hand twisted into each pony's mane in turn. Neither of them did much, and one made absolutely no attempt to swim. The distance was not great, but my arm was stiff for days after. They did not appear to suffer much from their immersion, but we dosed them with a bottle of whisky afterwards.

We then went on to Glacier Tongue, and Campbell and Priestley went to Hut Point to leave the news. They found no one there, but a note from Scott asking for ponies' snow-shoes sent us back at once to Cape Evans. We returned with the shoes next day to the Glacier Tongue, where we filled up again with fresh water.

A large block of ice, about thirty yards square, collapsed into fragments alongside the ship, with

Abbott in the middle of it. We soon got him out, but the blocks were surging about quite nastily, and he was lucky not to get smashed.

We left McMurdo Sound this year on February 9th, passing Cape Royds at midnight, and heading for Cape Adare. We had a strong fair wind, and muggy warm weather (26° F.) with a good deal of snow. We met a little pack off Coulman Island, but skirted it without entering.

We arrived off Cape Adare 7 p.m. on the 12th, but as it was thick with snow and we could see nothing of the land, we hove-to to wait for it to clear. It then began to blow hard from the S.W. The ship was very light, and fairly dry, but her movements were very quick and intensely uncomfortable. For three days we lay hove-to in this gale, drifting to the Northward, and very helpless. The port gangway which I had constructed to replace the one lost on the way out, was washed away, but we suffered no further damage.

On the 15th, the weather moderated, and we raised steam again to get back to the land. We had drifted about a hundred and twenty miles, but saw the land again next day. By this time we were all very tired of tossing about; any decent sleep had been impossible, for it was all we could do to keep in our bunks.

We found much pack collected off the coast as we closed the land near Lyall Islands, keeping well to the Westward of Cape Adare. We then stood close in, heading to the Eastward, looking for a possible landing-place for Campbell's party, and surveying the coast as we went.

The coast was interesting, the numerous glaciers being very steep, tremendously crevassed, and turning very acute angles when dipping into the sea.

All along the coast, and in Robertson's Bay, we discovered no feasible landing-place, Duke of York's Island, which had been visited before when the bay was frozen, being now quite inaccessible, so we turned out again and ran to Cape Adare.

We started landing Campbell's party here at 5 a.m. on the 18th. He was much disappointed at having to choose this spot, but there was no other place. We found the roofless hut of Borchgrevink, who led the first expedition which ever wintered in the Antarctic. This hut, built on totally different lines from our own, was made of solid logs about six inches in diameter, while ours was of very thin layers of wood, placed some inches apart, the space being filled with a sort of seaweed, felt, etc., altogether in seven layers. I picked up and brought home as a souvenir, a heavy brass dog chain, which had lain out in the open there since 1896.

Our landing was not easy, as there was heavy pack, a strong tide, and a big swell in the bay, which made heavy work for the cutter and whaler, but there were no serious accidents. The whaler was capsized once, but her stores had been landed, and only broken oars and wet clothes resulted. We worked till 11 p.m., and managed to get a lot of gear on shore.

I worked all next day with Campbell on shore, chiefly securing anchors and leading wires from them over the newly-erected hut. He had been rather despondent about his position, but was cheerier to-day.

The ship had had a bad time all day, with heavy pack drifting down on her bows, and about 11 p.m. Pennell had to get under weigh—no easy matter with the few hands he had left on board—and put to sea, leaving us on shore. I slept in a reindeer sleeping-bag for two or three hours in the open, for the first time, and disliked its stuffy warmth very much.

The ship came in again early next morning, and took us off. Campbell's party had still a great deal of work to do before they could be in any way comfortable, but the pack and tide worried Pennell, and he thought it safer to get away at once. We left at 5 a.m. on February 20th, to try to get to the Westward in new regions.

Next day, we had a narrow shave! It was blowing hard, and very thick with snow, but a fair wind, and we were going fast under three topsails, when a huge tabular berg loomed up out of the wrack right ahead, and very close. Half the watch put the helm over, and we cleared it, thanking our stars that it did not happen to have been a little bigger.

We made new land on the 22nd. I chanced to be on the bridge at the time, and saw it first, somewhat thrilled to realize that I was looking at mountains that no human being had ever seen before. The highest was given my name on our surveying charts, but may have been altered later by the Geographical Society.

We forced our way through the pack to within four miles of this coast. There was a fairly level, high cliff showing bare rock in many places. An enormous glacier tongue running far out into the sea was very conspicuous. We were having very thick weather, snow and haze, and there was much pack, making a continuous survey of the coast-line for any distance impossible. We could only cut through the lanes of pack from the outside where it looked weak, see what we could, and force our way out again.

One day, the 25th, we thought we had found a great opportunity. There was a belt of pack only about half a mile wide between us and open water, which

appeared to run right up to the land, so Pennell put her at it. It was much too heavy, but it looked such a little distance, and he was very persistent.

Rennick and I were on deck, Pennell was up in the crow's-nest, conning the ship. We both got very anxious indeed, and at last came to the conclusion that he must be misjudging the weight of the stuff he was trying to force the ship through, as sometimes it was deceptive from aloft. Eventually, we got desperately frightened, and I went up. He said at once, "Do you think we can do it?" I said, "Not a chance!" and as the ship was held absolutely fast for the moment, I persuaded him to go down to have some tea. He came up again immediately, and said, "It's heavier than I thought. We'll get out!" But it was fourteen hours before we managed to retrace that two hundred yards, and I think the ship rarely got a worse gruelling.

It must be realized that the summer was over. We were many miles to the Southward and Westward of any position that any ship had ever reached before, and there was no guarantee that the next summer or many summers would have let the ship free if she had been caught there.

That very night, after we got clear, all the sea was frozen, and we were forcing our way between the pack through a film of ice about two inches thick.

For several days we were always in danger of being frozen in. It was very cold, and to man the crow's-nest for four hours was trying work. When we had the whole expedition on board, it was seldom that one was left the whole four hours without some little spell, and the journey, down on deck and up again, in itself was warming. Now, we had no one to relieve the crow's-nest, and it was much colder than we had known it before. Sometimes, a good Samaritan on deck would put a big mug of cocoa into a bucket, tie the bucket to the signal halliards, give a hail, and hoist it up to us. We had a sack full of straw to put our feet in, and always had as much clothing on as we thought it possible to get through the trap-door at the bottom of the big barrel! I got only my cheeks frost-bitten, nothing serious.

There was heavy pack now in every direction, and we tried all points of the compass except to the Southward, to get clear. It was thick with snow nearly all the time, which prevented us seeing any open water the extent of which might have led us to freedom.

On March 2nd the weather cleared a little, and we saw the Balleny Islands N.E. of us, but it was three days before we could get past them.

On one of the three days, the whales gave us an

interesting time. The pack was very tight, and not a speck of water could be seen from the masthead, except within some forty yards of the ship, where there were about twenty holes, three or four feet in diameter, apparently caused by the movement of the ship in a slight swell. Everyone of these holes had a whale's nose in it! They were small ones (*B. rostrata*), probably all under forty feet long. Every two or three minutes, they would shoot slowly out of the water about four feet, blow softly, and drop quietly back to their former position with their noses just resting on the edge of the floe. Lilley, who was now our whale expert, was very excited, and I should imagine few people have had such a sustained and close view of living whales.

## BACK TO NEW ZEALAND.

We got clear of the main pack just after we had passed the Balleny Islands. There was a big swell, and the heavy floes at the outside edge were tumbling about in an alarming manner. But we got through with some jarring crashes, and ran out into open water. We still had some coal left, and Pennell—who was the most indefatigable worker I have ever met—much wanted to see if we could get back to land even farther to the Westward. We therefore steered S.W. again, but after going through a few loose belts of pack, it began to get really thick once more, so on March 7th (1911) we gave it up and turned for New Zealand. We had a few more belts to go through, but were not held up again, and on the 9th we put our fires out, having seventeen tons of coal left.

The nights were very dark now; there were many bergs about, and the night watches were extremely anxious times. We experienced very bad weather indeed for the next fortnight, and our little five-hundred-ton ship, absolutely empty, was thrown about in a fearsome manner. Continuous head gales tired us out, and the fierce fights we had to get sails furled at times were as bad as any Cape Horn fights I have ever read of, and far worse than any I had seen. Our hands were sometimes bleeding from torn finger-nails, and it was not at all an uncommon thing for a man to be physically sick when he got back on deck, notwithstanding the fact that we were all as fit as men could possibly be.

The ship was now leaking badly, necessitating an hour each watch at the pumps. On the 21st our troubles culminated in a terrific squall, which caught

the ship a-back, and we had to be very smart to save our masts.

Things improved a little after this, and it was time, for we were running very short of fresh water, to say nothing of kerosene and matches. Probably our most urgent trouble now, though, was the want of sleep, from which we were all suffering. Indeed, I think that men suffered more from this than from anything else throughout the whole expedition.

We finished the last part of our run home with a strong fair gale, and anchored in Paterson Inlet, Stewart's Island, at 5 p.m. on March 27th. Pennell and Drake went on shore to telegraph, and returned with apples—perhaps not much to record, but they were uncommonly welcome.

The harbour looked very pretty, and the green trees down to the water's edge were very comforting to eyes tired of the Arctic glare.

We left here on the 29th, and arrived at Lyttelton two days later, where we were given a great reception. Many of our best friends came out in launches to meet us, and every ship in the harbour blew her whistle.

We stayed in Lyttelton till July 7th, when we left to survey the Three Kings Islands and their vicinity, the New Zealand Government supplying the coal and stores necessary, in exchange for the work which they wanted us to do, and which was needed to give the ship's company some useful employment until such time as the season would permit us to return to the Antarctic. Our time in New Zealand was made delightful by the hospitality shown to us, and I am afraid we were rather badly spoilt.

I was now in entire charge of the rigging and it was my principal work. We almost stripped the ship and re-rigged her, and I learnt again many things about a sailing ship that I had known as a boy, but had forgotten in many years of steamer life.

We had rather a dreary time during our surveying trip, for the Three Kings and the adjacent north coast of the North Island are uninhabited, but there were compensations in lovely scenery and excellent sea fishing.

We had a few exciting incidents, such as landing and taking off surveying parties on open beaches with a heavy swell running. On one occasion our coal in the hold caught fire, which was alarming in a small wooden ship, but was soon dealt with.

The coasting passenger ships were very kind, and used to come close and throw newspapers on board, which we were very glad to get.

We put in twice to Mangonui, a tiny settlement on the East coast, when we were very tired of the

constant roll and movement of the ship, and wanted to stretch our legs and get our mails. The virgin bush in the vicinity was wonderful, sub-tropical almost.

Lilley and I wandered about and got lost frequently. He was a most congenial companion, knew something about every plant and insect, though in many cases he had only read of them and had never seen them before.

We also put into the Bay of Islands, and anchored off Russell, the first British settlement, and once the seat of government. On our way back to Lyttelton, before we went in, we spent two days sounding off Kaikoura, where a shoal was supposed to exist, but we found nothing of any importance.

We entered Lyttelton again on October 7th. For two months we worked to get the ship tuned up for the Antarctic again, and spent a most enjoyable time when we were not working.

Seven mules had been sent from Northern India for us, and some more dogs. Scott had arranged for this further transport to enable the expedition to explore the mountain range South of the Great Barrier and East of the Beardmore Glacier. We got them all on board from the quarantine station the day before we sailed.

## SOUTH AGAIN.

On December 15th, 1911, we left again for the South. We were lucky this year, and had unexpectedly fine weather.

On Christmas Eve, the ship's kitten, known as "Nigger," went overboard. The dogs all hated it, for it was very daring, and knew exactly the length of each dog's chain, just beyond which it used to swear and spit at them. On this occasion, it was teasing one dog, while the next was pretending to be asleep.

Rennick, who was on the bridge, saw the kitten get within range of the second dog, who made a bound for it. "Nigger" was extremely "nippy," but on this occasion was so nearly caught that he lost his head, and jumped straight overboard. Rennick promptly threw the ship aback and put the engines astern; the whaler was in the water before the ship had stopped, and was hoisted again with the kitten in it and the engines going ahead in twelve minutes. We flattered ourselves this could not have been beaten by a smart battleship.

As the whaler reached the rail on being hoisted, a very wet and exhausted "Nigger" was put into my hands. I put him on the deck for a second, and the

nearest dog jumped and growled. Immediately, up went the kitten's back again, and he made a feeble effort to swear in return!

We met our first ice on Christmas Day, and entered the pack on the 28th, in 66° S. We put the dogs out on the floes for exercise, and found them very fat and shortwinded, yet we all managed to get very hot keeping up with them.

The mules used to be turned out on deck, which was strewn with cinders for them to roll on, and also to prevent them slipping, while their stalls were being cleaned out. Several of them were extremely skittish and very cunning. I was rather good with them, and there was one, Lal Khan, that no one else could handle at all at this time.

I caught a Tartar on one occasion, though. Lilley was leading one mule round the deck with a long halter, when he was skilfully kicked over, and had to let the mule go. I caught the brute, and held him close to his head, so that he could not kick me. He jerked and jumped about a lot, and then suddenly calmed down, seeing that he could not get away from me. He then pretended a wish to roll, by stretching his head down to the deck. As we liked them to do this, I gradually gave him more rope, until he had just sufficient to get his head down. He seemed quite contented and quiet, but as soon as he found he had enough rope, he whipped round and let go with both heels right in my chest. I was knocked clean off my feet, but could not help laughing at the cunning of the beast.

There was a curious dearth of life in the pack compared with the preceding year. We saw few penguins and seals.

We got clear of the main belt of pack at 4 a.m. on January 1st, having been less than four days coming through, as compared with twenty-nine last year.

We made the land about Cape Adare next day, and pushed through a lot of pack towards the position of Campbell's party, anchoring the following day about a mile off the land. We lowered three boats, but found a big swell on the ice-foot. I was going to put my boat, a whaler, in somehow, and called to Campbell to be ready to run her up out of the surf, but he shouted to me to wait a bit, and he would come out to me. I then saw them launch a little Norwegian "pram"; Campbell and Abbott jumped into it, and got a few yards off, when it capsized.

Campbell swam back to shore, but Abbott scrambled on to the bottom of the overturned boat, and coolly asked me to pick up the sculls! I then beached the whaler, without accident, but Rennick,

in a heavier cutter, did not risk it.

We only had time to get a few of their cases on board, when the pack set right into the shore, and we had to launch the boat again at once, and struggle through it back to the ship. We then weighed anchor and steamed about outside the pack till next day, when it cleared a little, and we pushed through it again.

Rennick and I got our boats in all right, and in two hours got all the party and their gear off. Everyone was very happy and contented, but Campbell had not been able to do as much surveying and exploration as he had hoped, as Robertson's Bay had never kept solidly frozen all through the winter, and thus had prevented them sledging over to the land on the western side of the Bay, as they had intended to do.

We now left for the vicinity of Wood Bay, going through a great deal of pack on the way. On January 8th we landed Campbell's party in Terra Nova Bay, at a little spot called Evans Cove, to explore the surrounding country for about a month, in accordance with previous arrangements.

They had two months' stores, but were quite lightly fitted out, as it was a good sea ice to the land, and unluckily they determined to leave part of their gear behind.

We left next day, bound for Granite Harbour, to pick up a party of four—Griffith Taylor, Debenham, Gran, and Forde—who had sledged across the Sound before the ice began to break up.

We had much difficulty in getting through the pack to get round the Drygalski Barrier, and—having at last accomplished it—found it impossible to get anywhere near Granite Harbour, and it was four weeks before we approached land again. It was an irritating time, but the weather was fairly fine.

We now understood why we had managed to get through the main pack belt on the way out in four days. This main belt is simply the ice breaking away from the bays of the Antarctic continent each summer, which drifts to the Northward in bulk. As the season was very late, and the bay ice had not broken up, there was very little pack to drift.

At one time during this four weeks, we thought all the ice in McMurdo Sound was going out together, and that the ship was stuck fast in the middle of it, but when we got free, we found it was only the ice we could see at the time, and by no means all the ice covering the Sound.

We had to work very hard nearly all these long weeks, trying to force our way through pack in almost any direction, for we wanted to get back to Campbell, pick up Griffith Taylor, or get to Cape Evans, all of

which seemed impossible.

Here is a typical day. Got under way at 9 a.m. All hands on the ice pulling floes away from the bows, engines going full speed, running out hawsers and anchors and heaving on them; then everyone on board to roll ship, the process continuing till 8 p.m. when we found we had done three-quarters of a mile in eleven hours!

My eyes were troubling me again at this time, and I could not go on the ice at all without goggles.

On February 3rd we managed to get two miles S.W. of Cape Royds, and tie up to fast sea-ice. Atkinson and Dimitri, and then Meares and Simpson, came out to us from Cape Evans with dog-sledges. The news was generally cheerful. All well, and the Pole sure!

We were relieved to hear that the Granite Harbour party had plenty of provisions, though there was no news of their movements.

We learnt that the Southern party had not left until November 3rd—fourteen men to the foot of Beardmore Glacier, twelve to the top. No animals were taken up.

Three ponies had been lost on the sea-ice, Bowers very nearly going with them.

No trace of Amundsen was seen on the Beardmore Glacier, so we thought then that our party must have been ahead of him. (Of course, it transpired later that they did not go that way at all, but by sheer good luck found a much shorter and easier way much farther to the Eastward.)

An expedition to Cape Crozier, to study the habits of Emperor penguins, had a very bad time. Wilson, Bowers, and Cherry-Garrard returned almost crazed with cold.

The ice—assisted by some bad weather—was now going out of the Sound, and enabled us to bring the ship in to within three miles of Cape Evans. We landed the mules on February 7th, and did a lot of sledging during the next few days, the dogs working very well. We daily got closer in as the ice gradually broke away.

On the 14th, the ice close inshore all broke up, but we had sent Campbell's pram on shore on a sledge, and Keohane and I worked her all day in a small lake which divided the ice from the shore near the hut. She leaked very badly, so we turned her over, and nailed greased felt over her bottom, which improved matters.

A hut team coming in, told me it was impossible owing to big cracks to get out to the ship again. I thought I ought to try to get back, so took an empty

sledge to bridge the cracks, and started alone. It was rather jumpy work—one of the cracks was eight feet wide, and my sledge was nine feet long, but I got out to the ship all right.

Next day, the ice was so broken up that any work over it was impossible, so we steamed over to Butter Point to land a small depot, on the spot where Shackleton had left one some years before.

Here we found a note from the Granite Harbour party, written only the day before, saying that they had passed going south, sledging right round the Sound to Cape Evans, as the ship had not been able to pick them up. We coasted along looking for them, saw them at 2 p.m., tied the ship up to the ice, and went to meet them. They were so excited at the sight of the ship that they tried to come down a twenty-foot cliff with their sledge, and were considerably shaken up when we got to them. They were wild-looking, heavily-bearded persons, but seemed to have had a quiet time. I had always heard that it was a wonderful sight to see men eat at the end of a long sledging trip, and these men certainly did surprise me, although they had never been short of food, and had not really done a great deal of sledging.

We all used to have uncommonly good appetites, even on the ship. I had always considered that I ate more than the average man before I joined Scott's Expedition, but I found there that I was one of the smallest feeders.

We now tried to get back again to Terra Nova Bay, to pick up Campbell's party. They had already been there longer than was intended, but we found it was impossible to get near the coast.

A very heavy blizzard on February 20th gave us an anxious time—hemmed in as we were by pack and at very close quarters with a big iceberg.

The rudder was giving a lot of trouble at this time, the rudder-well in which it worked being frozen up constantly, and only by the continual use of ice-picks could we keep it working at all.

The temperature in the ward-room, with a stove going, was 18°F.

We tried till the 25th to work through the pack into Terra Nova Bay, but never got within twenty miles of it, so gave up for the time, and went back to Cape Evans.

There we got news that Evans, Crean and Lashly had returned to Hut Point, Evans very bad with scurvy. He was brought in by a dog team, Crean and Lashly having dragged him on a sledge as far as they could, and Crean then came in alone thirty miles to get help.

They had left the Polar party a hundred and sixty miles from their goal, with seven weeks' full rations, and all well.

On the 28th we managed to get near Hut Point, and got Evans off to the ship. He was better, but his legs were still very bad.

After everyone had returned on board, I went back alone to the hut with some rockets. Well out of sight of the ship, after I had shut the hut up securely, I sat down for a few minutes, quite awed by the wonderful silence and loveliness of it all; the vast expanse of the Great Barrier, flanked by the tremendous range of clean-cut mountains seen clearly for many miles, and looking really grand. I remember straining my eyes to the Southward, wondering if it would be my luck to sight the returning Polar party, although, of course, we did not expect them for some time.

Next day we left Hut Point for Cape Evans, and landed stores and everything that was necessary, in case we could not get back again, which seemed not at all unlikely, as going out of the Sound the wind dropped, and the surface froze over three inches thick at once.

We now went to try to pick up Campbell's party again, and as all the ice was out of the Sound, we had high hopes of doing so. But when we approached the coast near Terra Nova Bay, we found the pack even heavier than it had been before, and as the summer was now well over, we saw that Campbell's chance of relief this year was a very poor one. They would have plenty of seals, we thought, and only about two hundred miles to sledge to Cape Evans, if they could get along the coast to where the ice was firm, but that no one knew. There were three small depots left by Taylor's party, two at least of which they ought to find, it was thought. We talked like this of their chances, but we were all terribly anxious about their position.

On March 4th we ran back to Cape Evans, and landed all Campbell's party's gear, thence going on to Hut Point to land more coal, and then went to Glacier Tongue, and filled up with fresh water for the run home. We then left McMurdo Sound for the year, though Pennell still had hopes of returning.

The ice was quite heavy all over the surface as we ploughed out, but we headed again for Terra Nova Bay, though we knew it was hopeless. Campbell's position was such a serious matter, though, that we could not afford to miss the very faintest chance. We could not get nearer than eighteen miles to the Drygalski Barrier, and on March 6th we had definitely to give up the attempt.

We had forced our way there through some very

heavy ice, and now had to force our way out again, the propeller hitting the ice so hard and so frequently that it seemed impossible that it could escape serious damage.

## THE SECOND RETURN TO NEW ZEALAND.

We had very bad weather on the way home, culminating in a terrific gale on March 25th.

We were running with the wind on the quarter, under a reefed foresail, main lower topsail, and foretopmast-staysail. The helm was lashed hard up, and remained so throughout, the seas breaking over, rendering it impossible to keep anyone standing by the wheel.

We were in 54° S., out of any likelihood of bergs, but if we had been unlucky enough to meet one, we could have done nothing, as the ship was entirely out of control.

In the height of the squalls, which were generally thick with hail, it was quite impossible to see the funnel, which was just in front of the bridge.

I have seen typhoons in China, cyclones in the Indian Ocean, and a "pampero" off the River Plate, but no one of them ever appeared to me to attain the weight and proportion of this gale, or of the sea which was running. The latter, of course, looked still more tremendous from the deck of the little five hundred tonner.

Pennell and I were lashed in the weather corner of the bridge, and a dog, "Tzigane"—which had hurt its back, and could no longer pull a sledge, so was being taken home—had crawled up and jambed himself between my legs. During one squall, this dog's nerves gave way completely, and he started screaming—not howling—in a paroxysm of fear. He was a big beast, and I was not sure that he had not gone quite mad, but nothing I could do would stop him screaming, so I cast off my lashing, and—watching my chance—picked him up in my arms, and carried him down to the ward-room. It was quite an adventurous journey. The dog next day seemed completely to have recovered.

We lost our starboard whaler that night, but nobody knew when it went, which is not curious, as we could see nothing, and to speak had to shout in each other's ears. I thought afterwards what an appalling noise the dog must have been making, as we could both hear him screaming quite loudly.

We had been getting no sleep for days, for the

motion of the ship was so quick, and on the 27th I was such a wreck that I made Pennell give me some chloral, and so slept for nearly eight hours. I had a bad headache next day, but it soon passed off, and I felt quite fit again.

The weather improved now, and there is little of incident to record. We saw a large school of sperm-whales—the first I had ever seen at close quarters—off Dunedin, which we tried to photograph, but they were much shyer than the whales we were accustomed to, and we never got really close enough but they were ugly-shaped brutes, compared with the big blue and the humpbacked varieties.

We arrived at Akaroa on April 1st, and heard here of Amundsen's success in reaching the Pole.

We reached Lyttelton two days later, at 6 a.m., when most people were still asleep. However, once more friends were out to meet us, which we appreciated very much, and H.M.S. *Pioneer* gave us a cheer as we passed her.

The *Terra Nova* was now left in Lyttelton for many months, during three of which she was in charge of two of the crew as ship-keepers, who looked after her very well, while nearly all the rest of us went for another surveying trip, our headquarters being a small house at French Pass in Cook's Strait. We had many exciting adventures there, for it was a wild spot, but they hardly fit into the Antarctic tale.

We did most of our work in motor launches, and as I have always been a bad sailor, especially in small boats, I did not enjoy it.

We were unfortunate enough to lose one of the crew—Brissenden—who was drowned; how, we never discovered. We buried him on a little hill behind the house. He was a fine fellow, and we were all very sorry to lose him.

I left the French Pass on August 30th, as the bulk of the surveying was completed. Pennell, Rennick and most of the men stayed on a little longer, and we all joined forces again in Lyttelton. By this time we were well known at Christchurch and the South Island generally, and had even a better time than before, if that were possible. The kindness shown to us all could not have been surpassed, and has left me with a great longing to return some day to New Zealand.

## THE LAST RUN SOUTH.

We left for the Antarctic again on December 14th, 1912, just after daylight, and yet nearly all Lyttelton

and many Christchurch people turned out to see us off. We found a stowaway on board that evening, a little ferrety, brown-faced youth, who seemed half crazed, for he appeared not to have any idea why he had hidden away in one of our boats. We put him on board a Norwegian barque we happened to meet at midnight, and never heard any more about him.

Evans, who had been home to England (where he was promoted to Commander and decorated with a C.B.) had returned, and was now in command of the ship.

We had various sorts of weather down to the pack, with no very outstanding incidents. Our decks were clear, as we had no livestock on board, and the ship was not nearly so deep in the water as she had been on the previous voyages. This added greatly to our comfort and the ship's handiness.

I see I noted once that with a strong following gale, and engines going full speed, we did over thirty-six knots in four hours, which—with her bluff bows and general tubbiness—was probably about as much as the little ship could ever accomplish.

We found no pack this year until we reached 69° S. on the 29th, though we had passed icebergs three days before. The pack we met was heavy but loose, and we were stopped very little at first.

From the crow's-nest one afternoon, I was very interested to see a whale (*B. rostrata*) several times swimming beneath the surface on its back. There seems to be no reason why it should not, but it was the only time I ever noticed it, and I always studied these whales very closely when opportunity offered.

We got no really clear water from the time we entered the pack until we were right up to Cape Evans, though we were never held up altogether for very long, and sometimes ran for a few hours in open water.

We arrived off the headquarters hut at 1 p.m. on January 18th, 1913. I was on the bridge with Evans, eagerly scanning the group of people on the beach watching and cheering us as we came in. I recognized Campbell, Levick, and Priestley very quickly, which was a great relief, for they were of the party we were specially anxious about.

Much shouting was going on from the ship and the shore, but nothing intelligible. I could not see Scott or Wilson, and saying so to Evans, handed him a megaphone, and asked him to ask if all was well, which he immediately did.

We were answered by silence. Then Campbell stepped forward with a megaphone, and shouted: "The Southern Party got to the Pole on January 18th,

1912, but were all lost on the return journey. We have all their records." All in the ship heard it, and were stunned! We could not understand how those on shore could have greeted us with cheery shouts and waving, forgetting that the disaster was an old story to them.

They quickly came on board, and told us all the details of that terrible last journey, which are too well known to call for repetition here.

For the use of any future exploring parties, we landed all the stores we had brought out, erected a cross on Observation Hill, and sailed on the 22nd to pick up a geological depot left at Granite Harbour.

From there, we struggled through a lot of pack, and managed to get into Evans Cove in Terra Nova Bay on the 26th. It was fine clear weather, and the surrounding mountains looked very grand. I walked to Campbell's "igloo" with him, and only then realized what this party of six men had suffered through our inability to relieve them.

The "igloo" was a burrow in a snow slope, six feet straight down, then a horizontal passage twenty-five feet long and about four feet square, leading to a square room, fourteen feet by twelve, and five feet high. There was a stove in one corner, with a chimney which projected about four feet above the roof. Everything was jetblack, horribly greasy, and smelling strongly of blubber.

They had killed about fourteen seals during the winter, and eaten them practically from nose to tail, and if the seal had recently had a good meal so much the better. The keenness of really hungry men was evidenced by the fact that they only saw one more seal on the ice all the time, whereas when we wanted a seal on the ship, we were lucky if we could get one out of many in sight before they made off.

These, a very few penguins, and a month's provisions, enabled them to struggle miserably through seven weary months of extreme privation. One of them, Browning, nearly died, but was pulled through by careful treatment and attention. Another, months later, temporarily lost his reason, but he also recovered.

I do not know any tale of a party of men who suffered so long and so much, and who all lived to tell the tale, and I think much credit must be due to the leader who brought them safely through it.

I looked through the "igloo" for some little souvenir, and brought away a small bamboo stick which they had always used to stir their "hoosh" with, and which I have with me now.

One amusing tale they told us. The place was

always very dark, of course, there being no windows or ventilation except the stove funnel. The "hoosh-pot" was always cleaned out after use with a penguin's foot, as there was nothing else to do it with, and this had done duty for several months. One day they all thought the "hoosh" tasted a little funny, and when the bottom of the pot was reached, there was the penguin's ancient foot, left in by accident, and not seen in the dark.

## THE LAST HOMEWARD RUN.

We now started back to New Zealand, through pack, not sufficient to hold the ship up much.

Our last sight of ice was dramatic. On February 1st, in 64° S., we passed close alongside the biggest iceberg that any of us had seen or heard of. We measured its length, which was twenty-one miles. We did not know its breadth. Flat-topped, and over two hundred feet high.

Next day, the weather was very thick. We could only see a few ship's lengths, and there were many bergs and much small ice about. We made a big berg ahead, and we were passing quite close to it, when we discovered another berg on the other bow. We were then running in between them, and the distance was rapidly narrowing. The fog was getting thick, and soon it was evident from the brash ice between them that the two bergs had been in collision. There was now no room for the ship to turn round, so we went ahead very slowly, the bergs high up above us on either side. The fog was now so dense that we could hardly see them. Suddenly we realized that they were no longer there, and that we were through the brash ice, and out in open water. The fog cleared entirely a few hours later, and there was no ice in sight anywhere, and we saw no more!

We made a quick run back to New Zealand from here, sighting the land on February 9th. We stopped off Oamaru, at 3 a.m. on the 10th, and landed Pennell and Atkinson to tell our dreary news to the world. Two days later we arrived at Lyttelton. The ship was met in silence, all flags at half-mast, and many people greeted us in tears.

Our bad news had made a far greater sensation in the world than we had ever dreamed of. People were surprised at our cheerfulness, not realizing that we too had got over the shock.

Our friends were kinder than ever, Mr.—now Sir Joseph—Kinsey, who has more or less "fathered" all Antarctic expeditions, was wonderfully good, and

helped us in every possible way.

We went to a Memorial Service at Christchurch Cathedral next day. The music was very impressive, and upset us all completely.

I then got away into the country for a few days, and left for Wellington on the 25th, to meet my sister, who was on her way out. She arrived two days later, having heard the news by wireless.

We left together next day for Sydney, in the *Aorangi*, neither of us caring to face the ordeal of meeting the many friends we had known so well in happier circumstances.

At Sydney, where we arrived on March 5th, the Governor, Lord Chelmsford, had us met, and very kindly put us up until we left for Melbourne three days later. There we stayed with the Governor-General until we left for England in the P. & O. s.s. *Medina*.

Months later, my sister, her little boy Peter, and I, went down to Cardiff to meet the *Terra Nova* when she came in. It was a stirring scene, and the enormous crowd roared a welcome when Evans held Scott's little son up on the ship's rail. I have never seen the *Terra Nova* since.

Quite a number of my Antarctic comrades during these three years gave their lives for their country in the Great War, but those of us who are left will all our lives remember what we went through together, hard times and good times, foul weather or fair, and though we live our lives apart, will remember what good friends we all were, with a maximum of good-fellowship and a minimum of bickering.

October, 1919.