

THE DISCOVERY OF THE SOUTH POLE¹

CAPTAIN ROALD AMUNDSEN'S OWN NARRATIVE



THE OUTLOOK HAS THE PLEASURE OF GIVING ITS READERS THE FULL STORY OF CAPTAIN AMUNDSEN'S GREAT ACHIEVEMENT TOLD IN HIS OWN WORDS. THIS PUBLICATION IS BY SPECIAL ARRANGEMENT WITH THE NEW YORK TIMES COMPANY THROUGH WHOSE ENTERPRISE THE STORY WAS CABLED FROM HOBART, TASMANIA, FOR READERS IN AMERICA

ON the 10th of February, 1911, we commenced to work our way toward the south, from that day to the 11th of April establishing three depots, which in all contained a quantity of provisions of about 3,000 kilos. One thousand six hundred kilos, including 1,100 kilos of seal meat, were cached in 80 degrees, 700 kilos in 81 degrees, and 800 kilos in 82 degrees south latitude.

As no landmarks were to be seen, these depots were marked with flags, seven kilometers on each side in the easterly and westerly directions.

The ground and the state of the Barrier were of the best, and specially well adapted to driving with dogs. On February 15 we had thus traveled about 100 kilometers. The weight of the sledges was 300 kilos, and the number of dogs was six for each sledge. The surface of the Barrier was smooth and fine, with no sastrugi. [Snow furrows thrown up by the wind.] The crevices were very local and were found dangerous in only two places. For the rest—long, smooth undulations.

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The weather was excellent—calm or a light breeze. The lowest temperature on these depot trips was minus 45 Celsius or centigrade (49 degrees below zero Fahrenheit). On the 4th of March, on our return from the first trip beginning on the 15th of February, we found out that the Fram had already left us. With pride and delight we heard that her smart captain had succeeded in sailing her farthest south and there hoisting the colors of his country—a glorious moment for him and his comrades—the farthest north and the farthest south—good old Fram! The highest south latitude attained was 78 degrees 41 minutes.

WINTER ON THE ICE BARRIER

Before the arrival of winter we had 6,000 kilos of seal meat in the depots, enough for ourselves and 110 dogs. Eight dog houses, a combination of tents and snow huts, were built.

Having cared for the dogs, the turn came to use our solid little hut. It was almost entirely covered with snow by the middle of April. First we had to get light and air. The Lux lamp, which had a power of 200

standard candles, gave us a brilliant light and kept the temperature up to 20 degrees Celsius (68 degrees Fahrenheit) throughout the winter, and our excellent ventilation system gave us all the air we wanted.

In direct communication with the hut and dug-out on the Barrier were workshops, packing-rooms, cellars for provisions, coal, wood, and oil, a plain bath, a steam bath, and observatories. Thus we had everything within doors if the weather should be too cold and stormy.

The sun left us on the 22d of April and did not return until four months later. The winter was spent in changing our whole outfit, which on the depot trips was found to be too clumsy and solid for the smooth surface of the Barrier. Besides this, as much scientific work as possible was done, and some astonishing meteorological observations were taken.

OPEN WATER ALL WINTER

There was very little snow, and there was open water close by throughout the winter. For the same reason higher temperature had been expected, but it remained very low.

In five months there were observed temperatures between minus 50 and 60 degrees Celsius (58 and 76 degrees below zero Fahrenheit), the lowest temperature on the 13th of August being minus 59 degrees Celsius. It was then calm. On the 1st of August the temperature was minus 58 degrees Celsius, and there were 6 meters of wind. The mean temperature for the year was minus 26 degrees Celsius (14.8 below zero Fahrenheit).

I had expected hurricane after hurricane, but I observed only two moderate storms and many excellent auroras-australis in all directions.

The sanitary conditions were of the best all the winter, and when the sun returned on the 24th of August he met the men sound in mind and body, ready to set about the task that had to be solved.

Already, the day before, we had brought our sledges to the starting-place for our march toward the south. Only in the beginning of September did the temperature rise to such an extent that there was any question of setting out.

FIRST START FOR THE POLE

On the 8th of September eight men, with seven sledges, ninety dogs, and provisions for four months, started. The ground was perfect. The temperature was not bad. The

next day it appeared that we had started too early, as the temperature of the following days fell and was kept steady between minus 50 and 60 Celsius (58 degrees and 76 degrees below Fahrenheit zero). Personally we did not suffer at all from this cold. Our good furs protected us. But with our dogs it was a different matter. It could easily be seen that they shrunk from day to day, and we understood pretty soon that they could not stand the long run to our depot at 80 degrees south.

We agreed on returning and to wait for the arrival of spring. The provisions were cached, and off we went for the hut. With the exception of the loss of a few dogs and a couple of frozen heels everything was all right.

Only in the middle of October spring came in earnest. Seals and birds appeared. The temperature was steady between minus 20 and 30 Celsius (4 degrees and 22 degrees below zero Fahrenheit).

The original plan that all of us should go toward the south had been changed. Five men had to do this work, while the other three were to start for the east and visit King Edward VII Land.

This last-mentioned trip was not included in our programme, but, owing to the fact that the English had not reached it, at least this summer, as was their intention, we agreed that the best thing to do was also to make this trip.

On October 20 the southern party started—five men, four sledges, fifty-two dogs, and provisions for four months—everything in excellent order.

THE JOURNEY TO THE POLE

We had made up our minds to take the first part of the trip as easily as possible, in order to give ourselves and the dogs a rational training, and on the 23d we made our depot in 80 degrees south. We went right ahead.

In spite of the dense fog an error of two to three kilometers happened only once in a while, but we were caught by the flag-marks, and found these on our way without difficulty.

Having rested and fed the dogs on all the seal meat they were able to eat, we started again on the 26th, with the temperature steadily between minus 20 and 30 Celsius (4 degrees and 22 degrees below zero Fahrenheit).

From the start it was the intention not to



THE RACE FOR THE SOUTH POLE: ROUTES OF AMUNDSEN AND SCOTT
From the London "Sphere"

drive more than 30 kilometers a day, but it appeared that this was too little for our strong, willing animals. At 80 degrees south we began to build snow cairns of a man's height, in order to have marks on our return trip. On the 31st we reached the depot at 81 degrees, and stopped there one day, and fed the dogs on as much pemmican as they wanted.

We reached the depot at 82 degrees on the 5th of November, where the dogs for the last time got all they wanted to eat. On the

8th, southward again, with a daily march of 50 kilometers.

In order to lighten our heavy sledges we established depots at each degree of south latitude.

LIKE A PLEASURE TRIP

The trip from 82 degrees to 83 degrees became a pleasure trip—excellent ground, fine sledging, and an even temperature. Everything went like a dance.

On the 9th we sighted South Victoria

Land and the continuation of the mountain range which Sir Ernest Shackleton mentioned in his chart as running toward the southeast from the Beardmore Glacier, and on the same day we reached 83 degrees and established here Depot No. 4. On the 11th we made the interesting discovery that the Ross Barrier terminated in a bight toward the southeast at 86 degrees south latitude, and 163 degrees west longitude, formed between the southeast mountain range running from South Victoria Land and a range on the opposite side running in a southwesterly direction—probably a continuation of King Edward VII Land.

On the 13th we reached 84 degrees, where we established a depot; on the 16th we were at 85 degrees, where also we made a depot.

From our winter quarters, "Framheim," 78 degrees 38 minutes south latitude, we had been marching due south. On November 17, at 85 degrees, we arrived at a place where the land and Barrier were connected. This was done without any great difficulty. The Barrier here rises in undulations to about 300 feet. Some few big crevices indicated the limited boundary.

Here we made our head depot, taking provisions for sixty days on sledges, and leaving thirty days' provisions on the spot.

A DIFFICULT CLIMB

The land under which we lay and which we now had to attack looked quite imposing. The nearest summits along the Barrier had a height from 2,000 to 10,000 feet, but several others farther south were 15,000 feet or more.

The next day we began the climb. The first part of it was an easy task—light slopes and well-filled mountain sides. It did not take a long time, for our willing dogs worked their way up. Farther up, we met with some small but very steep glaciers. Here we had to harness twenty dogs to each sledge and take the four sledges in two turns. In some places it was so steep that it was difficult enough to use our skis.

Some big crevices forced us from time to time to make detours. The first day we climbed 2,000 feet, the next day mostly up some small glaciers, camping at a height of 4,500 feet. The third day we were obliged to go down on a mighty glacier, "Axel Heiberg's Glacier," which divided the coast mountains and the mountains farther south.

The next day began the longest part of

our climb. Many detours had to be made in order to avoid broad cracks and open crevices. These were apparently mostly filled up, as the glaciers in all probability had long ago stopped moving, but we had to be very careful, never knowing for certain how thick was the layer that covered them.

Our camp that night lay in very picturesque surroundings at a height of 5,000 feet. The glacier here was narrowed in between the two 15,000 feet high mountains, the "Fridtjof Nansen" and the "Don Pedro Christophersen." From the bottom of the glacier rose Mount "Ole Engstad"—a big snow cone 13,500 feet high.

DOGS' SPLENDID WORK

The glacier was very much broken in this comparatively narrow pass. The mighty crevices seemed to stop us from going further, but it was not so serious as it appeared. Our dogs, which up to this time had covered a distance of about 700 kilometers, the last days very hard work, ran this day 35 kilometers, the ascent being 5,600 feet, an almost incredible record.

It took us only four days from the Barrier to get up on the vast inland plateau.

We camped that night at a height of 10,600 feet. Here we had to kill thirty-four of our brave companions and keep eighteen—six for each of our three sledges.

We stopped here four days on account of bad weather. Tired of this, we set out on the 25th of November. On the 26th, in a furious blizzard and in a dense snowdrift, absolutely nothing was to be seen, but we felt that, contrary to expectations, we were going fast down hill. The hypsometer gave us that day a descent of 600 feet.

We continued our march the next day in a gale, and a dense snowdrift got our faces badly frozen. We could see nothing. We reached that day 86 degrees, dead reckoning. The hypsometer indicated a fall of 800 feet.

The next day was similar. The weather cleared a little at dinner time and exposed to our view a mighty mountain range to the east and not far off—only for a moment—and then it disappeared in the dense snowdrift.

On the 29th it calmed down and the sun shone, though it was not the only pleasant surprise he gave. In our course stretched a big glacier running toward the south. At its eastern end was the mountain range going

in a southeasterly direction. Of the western part of it no view was to be had, it being hidden in the dense fog. At the foot of this glacier, the "Devil's Glacier," a depot for six days was established, at 86.21 degrees south latitude. The hypsometer indicated 8,000 feet above sea level.

A FINE MOUNTAIN VIEW

On November 30 we began to climb the glacier. The lower part of it was very much broken and dangerous. Moreover, the snow bridges very often burst. From our camp that night we had a splendid view over the mountain to the east. There was "Helmer Hansen's Summit," the most remarkable of them all. It was 12,000 feet high, and covered with such broken glaciers that in all probability no foothold was to be found. "Oscar Wisting's," "Sverre Hassel's," and "Olav Hjanland's" Mountains also lay here, beautifully illuminated in the rays of the bright sun.

In the distance, and only occasionally to be viewed in the fog, "Mount Nielsen," with its summits and peaks about 15,000 feet high. We only saw the nearest surroundings.

It took us three days to surmount the Devil's Glacier, always in misty weather.

On the 1st of December we left this broken glacier, with holes and crevices without number, with its height of 9,100 feet. Before us, looking, in the mist and snowdrift, like a frozen sea, appeared a light, sloping ice plateau filled with small hummocks.

The walk over this frozen sea was not pleasant. The ground under us was quite hollow, and it sounded as though we were walking on the bottoms of empty barrels. As it was, a man fell through, then a couple of dogs. We could not use our skis on this polished ice. Sledges had the best of it.

The place got the name the "Devil's Dancing Room." This part of our march was the most unpleasant. On December 6 we got our greatest height, according to the hypsometer and aneroid, 10,750 feet, at 87 degrees 40 minutes south.

On December 8 we came out of the bad weather. Once again the sun smiled down on us. Once again we could get an observation. Dead reckoning and observation were exactly alike—88 degrees 16 minutes 16 seconds south.

Before us lay an absolutely plain plateau, only here and there marked with a tiny sastrugi.

In the afternoon we passed 88 degrees 23 minutes (Shackleton's farthest south was 88 degrees 25 minutes). We camped and established our last depot, Depot No. 10. From 88 degrees 25 minutes the plateau began to slope down very gently and smoothly toward the other side.

On the 9th of December we reached 88 degrees 39 minutes; on December 10, 88 degrees 56 minutes; December 11, 89 degrees 15 minutes; December 12, 89 degrees 30 minutes; December 13, 89 degrees 45 minutes.

Up to this time the observations and dead reckoning agreed remarkably well, and we made out that we ought to be at the Pole on December 14 in the afternoon.

THE POLE ATTAINED

That day was a beautiful one—a light breeze from southeast, the temperature minus 23 Celsius (9.4 degrees below zero Fahrenheit), and the ground and sledging were perfect. The day went along as usual, and at 3 P.M. we made a halt.

According to our reckoning we had reached our destination. All of us gathered around the colors—a beautiful silk flag—all hands taking hold of it and planting it.

The vast plateau on which the Pole is standing got the name of the "King Haakon VII Plateau." It is a vast plain, alike in all directions; mile after mile during the night we circled around the camp.

In the fine weather we spent the following day taking a series of observations from 6 A.M. to 7 P.M. The result gave us 89 degrees 55 minutes.

In order to observe the Pole as close as possible, we traveled, as near south as possible, the remaining 9 kilometers.

On December 16 there we camped. It was an excellent opportunity. There was a brilliant sun. Four of us took observations every hour of the day's twenty-four hours. The exact result will be the matter of a professional private report.

This much is certain—that we observed the Pole as close as it is in human power to do it with the instruments we had—a sextant and an artificial horizon.

On December 17 everything was in order on the spot. We fastened to the ground a little tent we had brought along, a Norwegian flag, and the Fram pennant on the top of it.

The Norwegian home at the South Pole was called "Polheim."

The distance from our winter quarters to the Pole was about 1,400 kilometers. The average march a day was 25 kilometers.

THE RETURN JOURNEY

We started on the return trip on the 17th of December. Unusually favorable weather made our way home considerably easier than the journey to the Pole. We arrived at our winter quarters, Framheim, on the 25th of January, 1912, with two sledges and eleven dogs, all well.

The daily average speed on the return trip was 36 kilometers; the lowest temperature was minus 31 Celsius (23.8 degrees below zero Fahrenheit), the highest minus 5 Celsius (23 degrees above zero Fahrenheit).

Among the results are the determination of the extent and character of the Ross Barrier, and the discovery of the connection of South Victoria Land and probably King Edward VII Land, with their continuation in the mighty mountains running toward the southeast, which were observed as far as 88

degrees south, but which in all probability continue across the Antarctic continent.

The entire length of the newly discovered mountains is about 850 kilometers. They have been named "Queen Maud's Range."

The expedition to King Edward VII Land under the command of Lieutenant Prestud has given excellent results. Scott's discoveries have been confirmed, and the survey of the Bay of Whales and of the Barrier dome by the Prestud party are of great interest.

A good geological collection from King Edward VII and South Victoria Land is being brought home.

The Fram arrived at the Bay of Whales on the 9th of January. She had been delayed by the "Roaring Forties" on account of the easterly winds.

On January 16 the Japanese expedition arrived at the Bay of Whales and landed on the Barrier near our winter quarters. We left the Bay of Whales on January 30. It was a long voyage, with contrary winds. All are well.

ROALD AMUNDSEN.

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SPRING FLOODING

BY MARGARET DOANE GARDINER

White hills gleaming cold in the starlight,
High, clear, unapproachable, still;
No sound of the waters, imprisoned
Where the ice binds the brook to its will;
No stain on the breast of the snow-field;
No stir in the slumbering pine.
Is it sleep, is it death or Nirvana?
Is there life, without sound, without sign?

A breath from the south, and a whisper
Where the snowdrift shrinks from the sun;
The purity gone, and the whiteness,
Where the gray snow-rivulets run;
A sigh through the pines, while sobbing
Through ice lips the brook breaks free;
Then a thunder of flooding waters,
As the rivers rush to the sea.

Still hearts in your peace unawakened,
Without doubt, without fear, without thrill;
Cold hills of unvarying whiteness,
Where Self binds the Soul to its will;
Break free from the ice! Let the sunlight
Of spring bring you stain, bring you strife,
Till the flood of self-giving rush seaward!
For, O sons of men, this is Life.