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BIOGRAPHICAL MANUSCRIPT

PROBABLY WRITTEN BEFORE 1935

by

Lincoln Ellsworth

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By Lincoln Ellsworth, M.S.

Beyond the "last frontier", beyond even the uttermost edge of discovery, toward that huge tract in the Polar Sea marked "unexplored"--there came to lie my dreams.

For I had already done most of the things that a boy of a generation ago dreamed of doing. I had hunted buffalo, lived among the Indians, prospected for gold, and dragged a surveyor's chain across the unmarked prairies of the West.

A gaunt land it was, this region of my dreams, a waste of cold and storm. What was the attraction? It is difficult to know.

Perhaps the first awakening of my interest in these regions came from reading Nansen's "Farthest North". And then <sup>later</sup> there were the sledges that had reached the North and South Poles--goals that had inspired some of the most wonderful journeys, in the face of unspeakable hardships and dangers, in the history of our race.

In 1902 I left college to join the first survey party of the Grand Trunk Pacific, to explore a route across Canada for a railway. I like to remember that I started as an axeman at forty dollars a month, and in five years was an engineer in charge of construction.

Next, to Alaska on gold mining surveys; then to underground engineering in Pennsylvania coal mines. But I felt that I had seen too many western sunsets ever to be satisfied in the east.

It was a period of marking time while still dreaming of the Far North. So, I studied the life habits of mountain sheep for the U. S. Biological Survey from Mexico to the Yukon. After aviation experience in France during the last year of the World War, still seeing no opportunity to go North, I became co-leader of an expedition under the auspices of Johns Hopkins University to make a measured geologic cross-section of the Andes Mountains of Central Peru. Then came two seasons of work in the bottom of the Grand Canyon collecting fossil specimens of the earliest known life.

In the fall of 1924 I had bought my ticket to return to Peru, to go to the Arctic. We found that the interest of both of us by desirous of continuing geologic work there, when a chance acquaintance with <sup>00</sup>Raold Amundsen proved to be the turning point in my life--instead of returning to South America, I went to the North Pole!

This meeting in America was not my first contact with Amundsen. Finding myself at his hotel in Paris in 1918, I<sup>had</sup> asked without preliminaries if I might join his expedition in<sup>the</sup> Maud for the drift across the North Polar basin. Eyeing me quizzically, with that far away look in his blue eyes, he asked: "Isn't it a bit late?"

~~Later~~ he explained to me that his crew was already made up.

I have always had the suspicion that Amundsen never remembered this meeting, although he protested that he did.

The meeting in New York in 1924 came about through a small news item buried inside the New York Herald, telling of Amundsen's arrival in America on a lecture tour. I called him on the telephone and asked for a five minute interview. Instead of five minutes, ~~it lasted~~ <sup>we talked</sup> five hours.

I told him I had only a few thousand dollars but was determined to go to the Arctic. We found that the interest of both of us lay not in reaching the North Pole, Peary having already been there, but in the exploration of that great area of 1,000,000 unknown square miles lying between the Pole and Alaska. Both Amundsen

and I felt that we owed to the sympathetic intercession of my sister, Clare, the final acquiescence of my father and his generous contribution of two airplanes which made possible the great adventure that followed.

We had to recognize that aircraft has supplanted the dog in Polar exploration. Although Amundsen was one of the first to foresee the possibilities of the new way, he often said to me: "It isn't my game."

And neither is it mine; for certain it is that, with the passing of the dog and sledge, exploration has been robbed of much of its early romance and glamor, born of the age when out of the sheer urge for bodily effort, men traveled forth to explore the yet untrodden.

The crossing of the Polar Sea had been the life's dream of Amundsen, as it had likewise been mine; and I think it showed the greatness of the man that, although his dream antedated mine by a number of years, he was willing to share equally with me in the venture. The flight, it was agreed, should be called the Amundsen-Ellsworth Expedition.

marked  
by G.H.G.

Disappointed at being unable to obtain cooperation in America in the purchase of food and parachutes, we turned to the Norwegian Aero Club, which gave us the necessary supplies. In recognition of this aid, the expedition sailed under the flag of Norway.

Amundsen and I hoped, after flying from Spitsbergen, to land at the Pole, to refuel one plane from the other, and to continue on to Alaska. The Aero Club, however, would not sponsor this plan, and we found it necessary to accept its decision.

Amundsen and I sailed from Norway for Spitzbergen on April 9th.

There, at King's Bay, we waited for five weeks for spring to break,

meanwhile assembling our planes. These were two Dornier-Wals of

duraluminum, the N 24 and N25 with Rolls-Royce twin engines (Eagle IX)

arranged in tandem, each of 375 horse power. [Each plane weighed

about 7260 pounds and carried a load of about 6820 pounds, so close

to its maximum lift that it was deemed inadvisable to add the weight

of a radio set. In N 25 ~~Roald~~ Amundsen was navigator, Riiser-Larsen,

pilot, ~~Gert~~ Feucht, mechanic. In N 24, I was navigator, Dietrichson,

pilot, and Omdal, mechanic.

In the tails of the planes we carried provisions sufficient to

last one month, at the rate of two pounds per day per man. The

daily ration was:

Pemmican .....	400	grams
Milk Chocolate.....	250	"
Oatmeal Biscuits.....	125	"
Powdered Milk.....	100	"
Malted Milk Tablets.....	125	"

On May 21st conditions were just right for the start.

At 4:15 p.m. our ~~kind~~ zealous friends pushed us too rapidly

down the steep embankment to the frozen surface of King's Bay,

and although I heard the nails in the bottom of my plane tear loose,

we could not stop. Our chance had come, and we must take it.

Fortunately the ice was smooth, but because of our heavy load we ran a mile before taking off.

In thirty minutes we passed Amsterdam Island, base of Andre's ill-fated expedition of 189- where the remains of his hangar still stand.

We had severed all contact with the world. ~~As Amundsen said,~~ it was "just like jumping blindfolded into the Universe."

by  
G-H-G

Flying at an average height of 1600 feet, we looked down into the mist to see a double halo, evanescent and phantom-like, in the midst of which the shadow of our planes seemed to beckon us enticingly into the Unknown. I recalled the ancient legend that the rainbow is a token that man shall not perish by water.

For <sup>an</sup> ~~two~~ hours, through rifts in the fog, we caught glimpses of an open sea. After <sup>another</sup> ~~two~~ hours came the fringe of the polar pack, a heaving sea of rounded, heavy ice, which lasted about fifty miles.

Then, to quote Amundsen, "Suddenly the mist disappeared, and the entire panorama of polar ice stretched away before our eyes--the most spectacular sheet of snow and ice ever seen by man ~~from an~~

from an aerial perspective."

From our altitude we could see for 60 or 70 miles in every direction. The far-flung expanse was strikingly beautiful in its simplicity. Its monotony was broken only by a black network of cracks and wider leads, the only indication of the ceaseless motion of the polar pack by wind, tide, and current. We had crossed the threshold into the Unknown. The silence of ages was now being broken for the first time by the roar of our motors; and all alone I sat in the navigator's cockpit looking into a new world bathed in a golden glow by the low-hung sun. For at this latitude, so close to the Pole, the sun neither rises nor sets, but merely passes around the heavens at <sup>a</sup> seemingly constant altitude above the horizon.

We were but gnats in an immense void. Time and distance seemed to count for nothing. What lay ahead was all that mattered now.

Our plan had been to fly directly northward along the 12th meridian of east longitude. But after leaving Amsterdam Island we had encountered a strong northeast wind which drifted us heavily

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to the westward. Still on we sped for eight hours. By all rights we should now have been at the North Pole, for our dead reckoning showed that we had traveled just 1000 kilometers (<sup>621</sup>~~600~~ miles) the distance between Spitsbergen and our goal. Our fuel supply was now about half gone, and our whereabouts uncertain. At this point, strangely, just ahead lay the first lead that we had encountered during the entire journey large enough to land an airplane. <sup>in</sup> Like all the leads we crossed during the flight, it ran east and west.

The region was piled high with a chaotic mass of upturned ice blocks, hummocks and pressure ridges. Why there had been such a local movement there, we never found out. It was an awful looking <sup>appeared</sup> hole and ~~looked~~ as though some giant had dynamited the Polar pack. Attempting to get into it reminded me of <sup>what it would be like to try</sup> ~~trying~~ to land in the Grand Canyon. But there was nothing left to do but to come down.

As Amundsen's plane circled, his rear motor backfired and stopped, and he disappeared among a jumble of hummocks. This was at 1 A.M. on May 22nd.

off from King's Bay, looked so badly that it was necessary to abandon. After Amundsen disappeared, the N 24 circled for about ten minutes

her. We then concentrated all efforts on saving the N 25.

looking for enough open water to land in. At last we found a little For twenty-five days we toiled incessantly trying to get out of open lagoon in all the chaos and came down on it. After eight hours this frozen hell. We prepared runways and ice bridges connecting behind the roar of the engines, the silence seemed terrible.

the flocks only to have them destroyed by the "screaming" ice pack.

During this time Amundsen estimated that we were more than 100

tons of ice with only three cumbersome wooden shovels, five

sheath-knives bound to the ends of our ski-sticks, one ice-anchor,

and a two-pound pocket safety pin. After endless failures we at

last last got into the air June 13.

The planes landed three miles apart and it was six hours before

It took us five days to prepare the last runways. On the we located each other among the rough, hummocky ice, and five days evening of the 14th it was finished, 500 meters in length. Beyond before our parties were able to join forces. We had found, on taking was an open lead.

an observation, that we were in Latitude 87 degrees 44 minutes North

That evening we had an extra slug of chocolate, and loading the and Longitude 10 degrees 20 minutes West. The westerly drift had cost plane safe another try to take off. But the plane only bumped along us nearly a degree in latitude and enough fuel to have gotten us to the

and would not rise. It required a second try to take off, but we could only reach 50. Pole.

*tell of 2 lives saved by Ellsworth*

*449*

While we were attempting to get together, the ever shifting ice

We spent the remainder of the night on our hands and knees, had closed in on the planes and had locked them as in a lobster's

whittling away at every obstacle with our sheath-knives. Then we claw. My plane, the N 24, whose bottom had been damaged in taking

off from King's Bay, leaked so badly that it was necessary to abandon her. We then concentrated all efforts on saving the N 25.

For twenty-five days we toiled incessantly trying to get out of this frozen hell. We prepared runways and ice bridges connecting the floes only to have them destroyed by the "screwing" ice pack. During this time ~~Amundsen estimated that~~ we moved more than 100 tons of ice with only three cumbersome wooden shovels, five sheath-knives bound to the ends of our ski-sticks, one ice-anchor, and a two-pound pocket safety axe. After endless failures we at least last got into the air June 15.

It took us five days to prepare the last runways. On the evening of the 14th it was finished, 500 meters in length. Beyond was an open lead.

That evening we had an extra mug of chocolate, and loading the plane made another try to take off. But the plane only bumped along and would not rise. It required a speed of 100 kilometers per hour to take off, but we could only reach 60.

We spent the remainder of the night on our hands and knees, whittling away at every obstacle with our sheath-knives. Then we

shuffled back and forth on our skis to smooth out every little irregularity. The temperature during the night dropped to minus 1.5 Centigrade so that by <sup>morning</sup> moving the surface was crisp and hard. We then dumped everything that we could spare. Into one of our canvas canoes we piled rifles, cameras, field glasses, even our seal parkas and ski boots, replacing the latter with moccasins. We even left our skis. All we dared retain was one canvas canoe, our film, a shotgun, one hundred rounds of ammunition, and a cracker tin of chocolate.

Then the six men climbed into the plane and Riiser-Larsen started up. After bumping along for 400 meters, the plane actually lifted in the last 100 meters.

When I felt the plane lift beneath me I was happy, but after so many cruel disappointments during the past twenty-five days, our minds were in a state in which we could feel neither great elation nor great suffering.

After a flight of eight hours and thirty-five minutes the N 25 was forced down in the open sea by a failing aileron. This was just after we passed safely over the ice pack, a mile off North Cape,

Northeast Land, Spitsbergen, with only 90 litres of gasoline ( a half hour's fuel supply) left in the tanks.

We sighted a sealing vessel which failed to see us, so with our last gasoline we taxied after her. We overtook her and she carried us 100 miles back to King's Bay.

A freighter transported plane and men to the Norwegian naval base at Horton, and from there, on July 5th, we flew into the harbor of Oslo amid the acclaim of the nation.

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dropped into the harbor of Oslo amid the acclaim of the nation.

The scientific results, from an expedition that cost \$150,000, consisted in the exploration of 120,000 square miles of hitherto unknown regions and the taking of two soundings which showed the depth of the Polar Basin at that latitude to be 12,000 feet, thus precluding the likelihood of any land on the European side of the North Pole. But we had other compensations. We had blazed a trail and paved the way for all the flights that were to follow over the unseen wastes that rim the Poles. Specifically, we had shown that the meteorological conditions prevailing over the Polar Basin offered no hindrance to its further successful exploration by the proper kind of aircraft.

There were two things that greatly impressed me during this long sojourn near the pole. The first was the stability of the meteorological conditions in that isolated area--the winds blowing from the same direction day after day, with a velocity just sufficient to keep our Norwegian flag fully extended. The mean average temperature during the first two weeks of our stay was 10 degrees below freezing, but on June 2, with the breaking of Arctic ~~Summer~~<sup>5</sup>, the fogs descended on us, <sup>and</sup> the thermometer rose to freezing and did not vary more than 4 degrees during all the rest of our stay. Although the sun at that latitude--so close to the pole--maintained practically the same altitude above the horizon during the entire 24 hours, there was always a drop of a few degrees <sup>of Temperature</sup> during the night period.

The second thing that strongly impressed me was the manner in which we maintained our strength to do hard manual labor on a diet consisting of only liquid food--the equivalent of one half-pound a day per man of <sup>Solid food</sup> ~~nourishment~~--a mug of weak chocolate morning and night and a mug of pemmican soup at noon. I could never count the three oat wafers which accompanied our mug of chocolate, for, although nourishing, they were of the size and consistency of the wafers that

accompany a dish of ice cream in more civilized regions.

The polar pack showed no signs of life north of 83 1/2 degrees.

Despite our experiences of 1925, we had not had enough. Our

Up to this latitude polar bear and white whale were observed. Upon work was not yet finished. Beyond <sup>to</sup> the northward, still stretched

reaching the North Pole, <sup>toward?</sup> (8 miles from Halbergen) at the Unknown. Between the pole and Alaska lay what? Mystery--a mystery

1:30 A.M. May 12th, the airship was slow and from an altitude as luminous and yet as impenetrable as its own mirage--enveloped an

of 300 feet, the Norwegian, American and Italian flags were dropped area, on the Alaska side of the pole, twice that of the United States

in the order named, and the first and only hot air balloon east of the Mississippi River.

*tell of Ellsworth part in financing this* *YHG*

For our next venture we decided to try an airship. It was a

the center of the great Polar pack at 80 degrees of latitude, was semi-rigid ship 347 feet over all in length, with three 250 horse-

reached about 5:30 A.M. on the 12th. There we saw our first sign of power Maybach dirigible engines, capable of making 62 miles an hour,

life beyond the 75-40's long polar bear track.

a gas capacity of 640,000 cubic feet, built by Italy as the N 1 and

Between 8 and 9 A.M. on May 12th, south of latitude 84 degrees, rechristened the "Norge", At the time of its purchase from the Italian

intermittent fogs were encountered, and the expedition's troubles Government, Colonel Umberto Nobile, designer and builder of the N 1,

began. Fog and ice were extremely dangerous handicaps from this time became identified with the expedition as pilot. The line of flight

on, hindering navigation and making wireless transmission and reception from Rome was over France, England, Norway, Sweden and Russia, to

impossible. After the North Pole was passed, in fact, wireless communication ceased. The ship, after a distance of about 5000 miles, and the ship

arrived May 7th. *should refer to Byrd* *YHG*

would shatter the propellers and cut holes in the hull, thus causing At 8:55 A.M. (G.M.T.) on May 11th, the start over the Polar

a forced landing. This perilous condition continued to the end of the Sea was made. The personnel of the airship was made up of 16 men.

The polar pack showed no signs of life north of  $83\frac{1}{2}$  degrees.

Up to this latitude polar bear and white whale were observed. Upon reaching the North Pole, (600 nautical miles from Spitsbergen) at 1:30 A.M. May 12th, the airship was slowed down and from an altitude of 300 feet, the Norwegian, American and Italian flags were dropped in the order named, and the first and only hot meal of the entire 71 hour flight was eaten. The "Ice Pole" or "Pole of Inaccessibility" the center of the great Polar "pack" at 86 degrees of latitude, was reached about 6:30 A.M. on the 12th. There we saw our first sign of life beyond the Pole--one lone polar bear track.

Between 8 and 9 A.M. on May 12th, south of latitude 86 degrees, intermittent fogs were encountered, and the expedition's troubles began. Fog and ice were extremely dangerous handicaps from this time on, hindering navigation and making wireless transmission and reception impossible. After the North Pole was passed, in fact, wireless communication ceased. There was increasing danger that flying bits of ice would shatter the propellers and cut holes in the gas bag, thus causing a forced landing. This perilous condition continued to the end of the

voyage, and several times the motors were stopped to clean the ice from the blades.

It was a surprise to find from observation at 4 A.M., May 13th that the "Norge" was on a line striking the Alaska coast and passing only 21 nautical miles west of Point Barrow. We sighted the settlement at 6:50 P.M. (G.M.T.) on May 13th, 46 hours and 45 minutes after leaving King's Bay. (see 15-A) During that time we looked down upon approximately 100,000 square miles of hitherto unknown region.

A safe landing was effected at Teller, Alaska, a few minutes before 8 A.M., May 14th, after a flight of 71 hours.

The average mean temperature during the flight was 10 degrees Centigrade (above freezing). The expedition proved that between the North Pole and Alaska lies only a deep Polar Sea; compiled valuable meteorological and wireless data; bisected the 1,000,000 square miles of unknown region by a trail of approximately 100 miles in width.

After learning our definite location we were able to set a course for Cape Prince of Wales, where we arrived at 3:30 on the morning of May 14th. Tired but happy, we brought our airplane, coated

During the 30 hours from the time we crossed the Pole until we reached the Coast of Alaska we looked down upon approximately 100,000 square miles of hitherto unknown region. We had demonstrated that the mythical continent of the tidal experts was non-existent.

As we neared the coast we ran into the only storm of the entire voyage--fog, wind and sleet--and for 31 hours we battled a 70 mile gale. This drove us across Bering Strait over the Siberian coast. We learned this from an observation taken above the fog, but we never saw Asiatic land. This trip into the sunlight nearly meant disaster, for owing to the rapid expansion of the gas bag we could not nose the airship down until we had shifted the full tanks and all the men forward.

After learning our definite location we were able to set a course for Cape Prince of Wales, where we arrived at 3:30 on the morning of May 14th. Tired but happy, we brought our airship, coated

with a ton of ice, safely to rest at the little trading post of Teller, 91 miles northwest of Nome. Our journey had covered 3393 miles and had lasted 72 hours. We had made the first crossing of the Polar sea from Europe to America.

On the coast during a cruise in the North Atlantic

morning of July 20th, just 10 days after leaving New York, I gazed down from the air upon the hitherto unseen peaks of Greenland land.

This seemed magical; but indeed our whole voyage was magical--this eight thousand mile Arctic flight in one hundred and thirty-six hours.

It was a unique piece of aerial exploration--a round trip dash over remote areas that by surface travel could have taken months or even years. Yet it made outstanding scientific contributions to our knowledge of the Polar regions. These consisted of meteorological observations with free balloon ascents to ascertain temperature and pressure of the upper atmosphere by means of radio signals; magnetic observations for variation of the compass

In the next few years I gave little thought to polar exploration by airship; but out of a clear sky, in the first week in July, 1931, came a request by cable from Dr. Hugo Eckener that I accompany him on the Graf Zeppelin during a cruise to the North as "Arctic expert for navigation", ~~to represent the American Geographical Society.~~ out by  
GAG A week later I was on my way to Germany; and on the

morning of July 28th, just 18 days after leaving New York, I gazed down from the air upon the hitherto unseen peaks of Nicholas II Land. ~~We passed over Archangel and flew on northward. Across the~~

~~White~~ This seemed magical; but indeed our whole voyage was magical-- this eight thousand mile Arctic flight in one hundred and thirty-six hours. ~~Flies over it for 120 miles to Hooker Island, one of the~~

~~Frank~~ It was a unique piece of aerial exploration--a round trip dash over remote areas that by surface travel would have taken months or even years. Yet it made outstanding scientific contributions to our knowledge of the Polar regions. These consisted of meteorological observations with free balloon ascents to ascertain temperature and pressure of the upper atmosphere by means of radio signals; magnetic observations for variation of the compass;

island group. We found that existing maps were inaccurate, and I and aerial camera mapping of new lands.

After leaving Friedrichshafen, home port of the Graf, we cruised at first over territory in which the great ship was well known. But

Our next objective was Nicholas II Land, 300 miles almost due once past Leningrad we found ourselves over country never before east. We traversed the interior and landed with a large ice traversed by an airship. Farm animals stampeded as the great bird peck, in 11 hours. with its droning motors hove in sight above. A still stranger

Before our trip, all that was known of this land was Schmalz spectacle was the fleeing inhabitants of a small hamlet, who sought Island, its northernmost extremity at latitude 80 degrees 18 minutes refuge in their log houses.

North and longitude 38 degrees 38 minutes East.

We passed over Archangel and flew on northward. Across the

It is in truth an ice-locked land, which is no doubt the White Sea we cruised, and then out over Barents Sea, keeping only reason it had remained - a vast ice pack ice, showing practically 500 feet above the water. [We encountered the ice pack at 78 degrees

no movement, with no fracture ridges or open leads, surrounds this north, and flew over it for 120 miles to Hooker Island, one of the elusive land which rises abruptly out of the polar ice to produce Franz Joseph Land group. There we alighted for only thirty minutes

a scene of amazing beauty. It is far more rugged than Franz Josef to deliver mail to a meteorological station which the Soviet Union

land, having received heavier glaciation maintains. Nobile, a passenger on the Russian ice-breaker, "Malignin,"

One of the bearing things about Nicholas II Land was the which was anchored there, came over in a row-boat to greet us. This existence of far more, and free from ice, showed with colors was our first meeting since the Norge expedition in 1926.

that suggested success and triumph. And we were all at it

We cruised about over Franz Joseph Land for two hours, making the first aerial photographs ever obtained of this seldom visited island

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island group. We found that existing maps were inaccurate, and I radioed to the American Geographical Society: "Present chart not correct. Albert Edward Island and Harmsworth Island do not exist."

Our next objective was Nicholas II Land, 300 miles almost due east. We traversed the intervening sea, covered with a loose ice pack, in 11 hours.

Before our trip, all that was known of this land was Schmidt Land, we surveyed its southeast coast and found that Kommandorski Island, its northernmost extremity at Latitude 80 degrees 16 minutes North and Longitude 95 degrees 38 minutes East.

It is in truth an ice-locked land, which is no doubt the reason it had remained unknown. Real pack ice, showing practically no movement, with no pressure ridges or open leads, surrounds this elusive land which rises abruptly out of the polar ice to produce a scene of amazing beauty. It is far more rugged than Franz Josef Land, having received heavier glaciation.

One of the amazing things about Nicholas II Land <sup>is</sup> was the existence of far flung, snow-free plains, patched with colors that suggested mosses and lichens. And we saw the glint of crystal clear waters deep in gorges that cut deep into the plains.

The scene changed as we sped on, and we gazed upon scenes more wintry--snow peaks and great glaciers. One in particular, I remember, was about at an end. If I was to continue, I must turn a typical Swiss "Hanging Glacier".

Finally the fog closed in below us, putting an end to our photographic work.

Although we were unable to ascertain the size of Nicholas II Land, we surveyed its southwest coast and found that Schokalski Channel divides this ice-locked land into two huge islands.

Crossing the 75 mile strait to the Southeast, we flew over the Taimyr Peninsula which juts out from the Siberian mainland. Upon this immense, treeless, wind-swept tundra roamed thousands of caribou, startled probably for the first time in their lives by man or his machines. There is but a single record of a man crossing this vast waste..

Who was it?

Turning back over the Kara Sea, we cruised the length of Nova Zembla (Novaya Zemlya), mapping as we proceeded. After leaving the island we crossed to the mainland and headed back to Leningrad. From there we retraced our route to Berlin and shortly afterward reached our starting point at Friedrichshofen.

(? by G.H.G.)

With the flight of the "Norge" and that of Wilkins bisecting the North Polar Basin, it seemed that pioneering exploration in that area was about at an end. So naturally, if I was to continue, I must turn south to Antarctica.

To me exploration carries a definite sequence. First there is the blazing of the trail by <sup>The</sup> pioneer; then the patient mapping by the geographer; and finally the more intensive work of studying the resources of the new land. My interest has always been in the first.

Of the interior of the Antarctic continent, with an area equal to that of Europe and Australia combined, little was known until Shackleton's expedition of <sup>190?</sup> 1898, which revealed the South Pole area to be a gigantic, highly elevated plateau 10,000 feet above sea level. Later Peary's soundings to a depth of 2000 fathoms near the North Pole demonstrated the existence there of a deep Arctic Ocean.

Thus the two polar extremities are seen to be the opposite of each other. Antarctica is a circumpolar continent surrounded by oceans, while the Arctic is a circumpolar ocean surrounded by continents; and the height of one about equals the depth of the other. But the Arctic unknown ~~Arctic~~ is not one half that of Antarctica, 90 per cent of whose <sup>area</sup> <sup>^</sup>

remains unexplored.

Eight years had elapsed since my flight with Amundsen across the North Pole in the "Norge", and I was still actuated by a desire to cross both of earth's great polar caps. I hoped to span the 1450 miles of continental ice that separates the Ross Sea on one side from the Weddell Sea on the other, because two great geographic problems remain unsolved there.

Do the highlands of Graham Land on the Weddell Sea side, which appear to be a continuation of the Andes of South America, join the mountains of Victoria Land, on the Ross Sea side, of which the Queen Maude Range may be a part?

Or does this southern continent consist of at least two great land masses, cut by a channel?

In planning a trans-Antarctic flight from Ross Sea across the entire land mass of the continent to Weddell Sea and back, I was moved by the hope of dispelling some of the mystery that ~~shrouds~~ shrouds these two major problems.

I bought my ship in Norway. A staunch little single-deck, motor-driven vessel of 400 tons, she was fore-and-aft rigged.

Built in 1919 of Norwegian pine and oak, she had been a herring boat. She was 135 feet long, with a beam of 29 feet, and had been specially reinforced from the bow to the widest sections with a stout oak sheathing and armor-plate  $5/8$ ths of an inch thick; this to withstand the shock of ramming the pack ice. With her Bolinder engine of semi-Deisel type, she was capable of doing 7 to 8 knots an hour and had a cruising radius of 11,000 miles. She carried a crew of nine men and the expedition party of eight. On board was 20 tons of food, sufficient to last 18 months. We installed a special mast and boom for loading and unloading the plane.

I named this staunch little ship the Wyatt Earp, after the famous frontier marshal of Dodge City and Tombstone--that legendary hero and unbelievably courageous figure, "Who", more than any other man of record in his time, perhaps, represented the exact combination of breeding and human experience which laid the foundation of Western empire." It is a strange coincidence, which I learned after naming my ship, that Wyatt Earp's fame as a frontier marshal was

established in the town of Ellsworth, Kansas in 1873.

On November 9, 1933 the "Wyatt Earp", with my plane, Polar Star, in her hold, arrived in the harbor of Dunedin, New Zealand.

[ Eighteen thousand miles she had covered, with 2,000 miles to go to our base in the Ross Sea. Out of the Far North, down across the Equator, and into the ice again! Half way around the world--a long trek indeed, and all for a flight of 20 hours.

A week after we left Dunedin we entered the pack ice, and consumed 22 days in crossing its 454 miles, before emerging into the strangely ever-open Ross Sea, in latitude 70 degrees 11 minutes and longitude 177 degrees 10 minutes east. Twelve days and fifteen hours of our time in the pack was spent at a standstill in heavy ice. We estimated the drift of the pack, which was easterly to northerly to northwesterly, at about six to seven miles per day.

~~Quickly~~ crossing Ross Sea, we tied up to the bay-ice in the Bay of Whales on January 9th and unloaded the plane onto the ice.

[ Framheim, Amundsen's old base had been fifteen miles to the south of us, and Little America was twelve miles in the same direction.

Three days after our arrival, Bernt Balchen, my pilot, and I made a trial flight out over Amundsen's old South Pole trail for thirty minutes and found that everything worked perfectly.

On the morning of the thirteenth came disaster. Because <sup>the night before</sup> ~~before~~, the ice-front, lashed by heavy seas, was breaking off, the plane had been moved inland a mile. But this proved no protection, for at 4 A.M., with a booming like that of heavy cannon, the bay ice in fifteen minutes was rent asunder for a distance of 5 miles inland from the ship. In a few minutes, what had been a solid plain of ice had been shot through by cracks into a crazy-quilt pattern. The large sections were bumped roughly together and quickly broke into small fragments. [The reason for this sudden disturbance was not apparent. No heavy swells came in from the Ross Sea. I have thought that this breaking of the ice may have been a by-product of the earthquake that occurred in India about the same time, or perhaps the result of an unknown eruption of Mt. Erebus, Antarctica's only known active volcano. At any rate, the heavy swell came from underneath the great ice cliffs of the Barrier.

When the ice first broke the Polar Star was left stranded on a small floe of ice. Because of bumping by other floes, this cake cracked, and the plane's skis slipped through. The wings held the plane from sinking, but the skis were fractured and one wing was bent. It was a pitiful sight to see this beautiful machine so mishandled by the ice.

After six hours of strenuous toil, <sup>we managed to have</sup> the plane ~~was hauled~~ safely onto a large nearby floe. When it was possible to maneuver the Wyatt Earp to the neighborhood of the plane, it was hoisted on board and examined. [We found that it had been strained out of alignment to such an extent that flying it would be unsafe. There was nothing to do but to take the Polar Star back to the factory in America. So we turned the Wyatt Earp northward. As we sailed away, huge pieces of the Barrier were toppling into the sea with a booming like distant claps of thunder.

It is rather sad to have one's hopes so blasted, but one must take things as they come in these regions. So with as much philosophy as I could bring to bear, I sailed for America to prepare to try again.

1934

By the middle of September, the Polar Star was back in Dunedin, in even better condition than before her accident, for improvements had been added. The 19th found us southward bound again. This time we were headed for a new base, Deception Island, of the South Shetland group.

This choice was made because it is impossible to get into the Ross Sea until January due to the pack ice, which gives too short a period <sup>in which</sup> to accomplish such a flight as I contemplated. Whalers had long ago found that Deception Island is ice-free for the greater part of the year; and undoubtedly October and November are the best flying months in the Antarctic. Before October it is too cold, and after November the fogs set in.

After an uneventful voyage of 5,000 miles across the storm-swept South Pacific--probably the most lonesome stretch of ocean in the world--we arrived in Deception Harbor on October 14th. We found winter conditions, with gales and snow squalls, still existent there.

Deception Harbor is a sea-breached crater, and one of the best harbors in the Antarctic regions. We were to find it something of a disappointment, however, as a base for airplane flights, because of the prevailing fogs there due to the heating of the land by subterranean volcanic conditions.

It was a week before the plane could be unloaded at the abandoned Norwegian whaling station in Deception Harbor, and another before it was assembled. Again luck was against us, for no sooner had the motor been started than a connecting rod <sup>a</sup> between the piston and the crankshaft broke. An extra one was not to be found, and proved to be the sole item not included among the spare parts we had with us. This necessitated a voyage of 1800 miles to the nearest port in South America, Magallanes, Chile, and back in order to replace the part.

Deception Island and the northern end of Graham Land lies only 600 miles from the southern tip of South America; but it is 600 miles of the stormiest ocean in the world. Fortunately, the Wyatt Earp had favorable winds and made a record journey accomplishing the round trip in 16 days. This is by far the shortest route that

can be followed from any of the other continents to Antarctica.

Day by day the snow vanished and with miserable weather began to improve. After a week of the open water southwest prevailing--anything but flying weather--all hope of a take-off from the island was abandoned. So with the assembled plane loaded on deck we lifted anchor on November 28th and headed south for regions more favorable--so we thought.

Headed for Adelaide Island, 150 miles south, in search of landfast ice or a level sea area from which the plane might take off on skis, we passed Trinity Island in thick snowy weather. No ice was encountered until we reached De Gerlache Strait where

scattered pack filled the channel for about twenty miles, then cleared until we reached the entrance of Neumeyer Channel where it began to increase. Almost within sight of the open water southwest of Bismarck Strait we were forced by the heavy ice to retreat.

Because of the thick weather we decided to turn north, pass through Antarctic Straits, and ~~we~~ find out if there was a chance to reach the shelf-ice in the Weddell Sea. Proceeding through Bransfield Strait, we rounded Trinity Peninsula, and in high wind and choppy seas tried to seek shelter in Hope Bay, where I hoped to land and search for the ~~Fossil~~ Penguins and various flora of the Jurassic Age supposed to have been left there by the Nordenskjold Expedition in 1893, during their hasty retreat from the advancing pack.

The Swedish Expedition of Baron Nordenskjold was one of the most adventurous and successful that ever went into the Antarctic, for it was the geological work of Nordenskjold and Gunnar Andersen which showed why the highlands of Graham Land must be considered a continuation of the South American Andes.

Snow Hill Island, which at last provided a suitable take-off field, after a search lasting forty-four days, is one of the three adjacent islands facing the Weddell Sea in Latitude 64 degrees south, of which the others are Seymour and Cockburn. With a total area of one hundred and seventy seven square miles, these three barren islands comprise the most snow-free region known in the Antarctic. [ It was upon Snow Hill Island, rich in fossils of the Cretaceous Age, that Nordenskjold established his headquarters and built a cabin where he spent the winter of 1902 and 1903. The cabin is still intact and the human warmth that once made its interior hospitable is today replaced by a huge block of sea-blue ice.

*Let's transport to*  
~~After tying the Wyatt Earp to the front of the glacier which forms the "snow" of Snow Hill Island, the Polar Star was unloaded and taxied up to the plateau above, a mile and a half inland and 600 feet above sea-level, where the snow lies firm and is suitable for a take-off. Then all hands manning three sleds, we hauled two tons of gasoline and oil up the steep slopes.~~

~~An interval of bad weather accompanied by snow-squalls~~

~~terri~~ We were undoubtedly the first humans to visit it since he left it so hurriedly. The four corners were guyed with steel cables to withstand the 90 mile gales which he recorded there.

The ground round about showed the helter-skelter scene enacted there 33 years ago, after Nordenskjold's ship had been crushed, when the men rushed to catch the rescue ship before the ice should close in upon them for the third season.

~~For~~ The mummified bodies of three white sledge dogs lay in front of the cabin just where they had been shot. A pair of ice skates lay near the door; and a pair of boot trees. Against the cabin were several boxes of cans of sardines, pepper and mustard and cakes of chocolate.

The chocolate tasted all right, but the thought of fishes of a vintage of 33 years ago was too much for us.

~~THE~~ Inside in front of one of the windows <sup>was</sup> a table upon which <sup>lay</sup> ~~was~~ an old-fashioned phonograph and a dozen or so cylindrical wax records, ~~but even in Antarctica the tunes were terrible.~~

We took the machine and records on board the Wyatt Earp and tried ~~it~~ <sup>them</sup> out; but even in the Antarctic, the tunes were

terrible.

A large timepiece hung on one of the cabin walls, the hands pointing to 3 o'clock.

After tying the Wyatt Earp to the front of the glacier which forms the "snow" of Snow Hill Island, the Polar Star was unloaded and taxied up to the plateau above, a mile and a half inland and 600 feet above sea-level, where the snow lies firm and is suitable for a take-off. Then all hands manning three sleds, we hauled two tons of gasoline and oil up the steep slopes.

An interval of bad weather accompanied by snow-squalls set in and prevented any possibility of a test flight. The ice front began to break off, so the Wyatt Earp was forced to move out to safe anchorage. From December 9th to the 18th a gale of from 25 to 50 miles raged incessantly, accompanied by snow, so that all we could do was to stay aboard and gaze longingly southward upon the ice-studded expanse of the Weddell Sea hoping for just one break to get into the air.

On the eighteenth the weather was suitable for a trial flight. *left the ground*  
We ~~got into the air~~ at 10:30 P.M., an even 60 days after we had landed at Deception Island. During these whole two months, there was not a period of six hours of cloudless sky within our vision until that day.

Good weather continued on the 19th, so we loaded our plane and "stood by". There she was, poised on the top of Snow Hill Island ready for the trans-Antarctic flight. She was a Northrop, all-metal, low-wing, cantilever plane, with a length of 31 feet and a span of 48 feet, built in Inglewood, California. She was designed especially for this flight, and was fitted with

a 525 horsepower Wasp Motor. Loaded to capacity with gasoline (750 Gallons) this plane <sup>would have</sup> ~~has~~ a cruising radius of 7,000 miles.

The three essentials for flying in the Antarctic are stressed in this plane; large cruising radius; high top speed (230 miles per hour); and low wings. A unique feature of the plane <sup>is</sup> ~~are~~ the flaps which permit it to land at a speed of less than 50 miles per hour. <sup>This</sup> ~~which~~ is of great importance in landing or taking off from a crevassed ice-terrain such as that of Antarctica.

The weight of the plane empty is 3614 pounds. Loaded for our take-off from Snow Hill Island it weighed 7464 pounds. The difference, 3,850 pounds, was made up of 2,796 pounds of gasoline (466 gallons); 160 pounds of oil; two men, pilot and navigator, and their equipment, 420 pounds; 186 pounds of food; sledge with cover and lashings, 98 pounds; tent, food box, Primus stove, snow shovel, snow-knife, ~~skis~~, skis, etc., 80 pounds; Nansen-Chezcka cooker and radio trail set, 50 pounds; caribou hide sleeping bags with wooden slats for protection against wet snow, 32 pounds; Primus fuel, 18 pounds; and photographic equipment, 10 pounds.

Our food consisted of Pemmican, sunwheat biscuits, bouillon

cubes, bacon, oatmeal, butter, powdered milk, dried apricots, tea, salt, pepper, and synthetic vitamin C. The full daily ration was set at 34 ounces per man and contains fourteen and three quarter percent protein, 29 percent fat and  $56\frac{1}{2}$  percent carbohydrate, and gives a total of 4857 calories. ~~In~~ <sup>There were</sup> emergency <sup>rations</sup> ~~the food carried~~ <sup>for</sup> would last five weeks or more

The transmitter of our radio equipment is so constructed that it can transmit on any wave between 20 and 80 meters, and also on the 600 meter intermediate ship waves. Built by Heintz and Kaufman of San Francisco, the transmitter is mounted in the rear of the fuselage compartment and operated from the forward cockpit. The power output is 100 Watts, and it was intended that the Wyatt Earp should receive news throughout the progress of our flight, ~~of our flight,~~ which in turn could be relayed to New York.

The transmitter is designed to receive its power from a generator coupled directly to the engine of the plane, thus keeping wind resistance to a minimum. The output of this generator is 400 Watts, and it has no moving electrical parts to get out of order. The Antennae of the plane is of the trailing wire type. The receiver

may be run from the batteries or from the output of the engine

One can picture the summits of these islands 40,000,000  
generator.

to 100,000,000 years ago, now a thousand feet above sea-level.

In addition to the above equipment, the plane is equipped with  
being washed in the lap of a tidal sea. Upon the surface of which  
an emergency transmitter and receiver which could be carried on the  
ammonites, bivalves and other crustaceans flourished and others  
trail if a mishap should force us to travel on foot. This trans-

Further inland, trees of the Sequoia type grew. They fell during a  
mitter, which receives power from a generator which can be treadled by  
period of subsidence when the lands were buried beneath the sea.  
the feet or worked by hand, has an output of 15 watts and can be tuned to  
and with the accumulation of sediment upon them, life was preserved  
any wave length from 30 to 100 meters.

as fossils.

After our plane was poised for the flight, the weather turned

Another point of elevation was reached, followed by the weather  
bad and we spent the time while waiting collecting fossils on the  
agencies of wind and weather, so that today we may pick up these  
Island. The whole surface is a sea of mud resulting from the  
fossils and learn something regarding the evolution of life upon  
disintegration of the Cretaceous sandstone of which the Island

our earth. As one looks upon this well nourished life of Cretaceous  
is composed. [Lying on the surface are numerous rounded nodules,  
line and compares it to the paucity of life in these regions today, with  
of hard sandstone, some of which contained fossils. It was

only an occasional seal and penguin, he wonders what sudden  
necessary to break these concretions open to find whether the  
catastrophe overwhelmed it, and there is no evidence of antarctic  
specimens we sought lay at their cores. These were for the most

glaciation prior to the end of the Cretaceous period.  
part the fossilized remains of creatures that had lived in warm

I have presented the specimens which I collected on Green Hill  
waters.

Island to the American Museum of Natural History, in New York City,

One can picture the summits of these islands 60,000,000 to 100,000,000 years ago, now a thousand feet above sea-level, being washed in the lap of a tidal sea, upon the beaches of which ammonites, bivalves and other Crustaceans flourished, and where further inland, trees of the Sequoia type grew. Then followed a period of subsidence when the lands were buried beneath the sea, and with the accumulation of sediment upon them, life was preserved as fossils.

Another period of elevation succeeded, followed by the erosive agencies of wind and weather, so that today we may pick up these fossils and learn something regarding the evolution of life upon our earth. As one looks upon this well nourished life of Cretaceous time and compares it to the paucity of life in these regions today, with only an occasional seal and penguin, he wonders what sudden catastrophe overwhelmed it, <sup>for</sup> ~~eff~~ there is no evidence of antarctic glaciation prior to the end of the Cretaceous period.

I have presented the specimens which I collected on Snow Hill Island to the American Museum of Natural History, in New York City,

and it has been found on examination of them, that all ~~of~~ are of

Cretaceous Age. They represent various kinds of ancient life, such

as fossil wood, corals, sea urchins, pelecypods, gastropods, cephal-

opods, and crustacea. Altogether there are 150 specimens representing

28 species. [Of the fourteen specimens of fossil wood, ten of them

show that the fiber was pierced by the boring mollusc Teredo, before

they were entombed in the sand. The wood has been identified as

related to the living Araucaria imbricata, the lofty evergreen

conifers, native of South America and Australia.

While the wood came from the land, all of the other fossils

in the collection indicate a marine habitat. The corals are

represented by two species, and the sea urchins by one species.

There are eight species of pelecypods. There is also the cast of

the interior of a large clamlike shell which has not yet been

identified. [The gastropods are present in considerable numbers.

The ammonites are well represented. There are ten specimens

of the large partly uncoiled Anisoceras notabile. There is one

form of a marine crayfish which present with chela and abdominal

section embedded in a concretion.

loaded Polar Star into the air. We taxied southward down the

Even the worst of hard luck sometimes has its breaks;

slope, but found that the new snow that had fallen on January 1st, and ours came on January 3rd. The morning was cloudy and

had drifted into low easterly (snow waves) in patches on the glazed seemed to usher in just another day of bad weather. So in

surface. As we struck each one, it slowed up the speed of the the early afternoon we went up the hill to dig the plane out

of the snow drift which had risen as high as its wings during

I braced myself and felt my safety belt to see that it was the blizzard of the last ten days. It was our plan to take

it down to the ship, for it was apparent that our time was up. to

The weather had been clearing and when we arrived at the

plane, the sky was cloudless and there was no wind. So I

said to Balchen: "Let's make a try". most advantageous angle,

the He felt as I did, and began immediately to warm up the

motor. When we had reached 3000 feet of altitude the entire southern

Sir Hubert Wilkins, whose knowledge of Antarctic conditions

had been invaluable to me during all my efforts in the far south,

agreed that a start should be made, and insisted that I come into

the little emergency tent that we had erected beside the plane

and have a hot meal of pemmican, oat wafers, and coffee. we

Balchen had the motor tuned up and ready for the start in an

hour. But it was with some difficulty that we got the heavily

loaded Polar Star into the air. We taxied southward down the slope, but found that the new snow that had fallen on January 1st. had drifted into low <sup>to</sup> ~~sasturgi~~ (snow waves) in patches on the glazed surface. As we struck each one, it slowed up the speed of the plane with a marked tendency to turn it over on its nose.

I braced myself and felt my safety belt to see that it was tight. After almost an hour of taxiing Balchen boldly turned to a dangerous down-hill slope on the southern side of the island, and in a side wind opened up the motor to 1780 revolutions. With our movable pitch propeller set at the most advantageous angle, the plane lifted itself from the sticky surface.

When we had reached 3000 feet of altitude the entire southern sky was a golden glow; but we noticed that to the southeast a snow squall was developing.

After circling the Wyatt Earp, we crossed Snow Hill Island, Lockyer Island, and over the Glacier-fringed southern end of Ross Island to Cape Longing then skirting Sobral Island, we passed over Lindenberg Island and between Robertson Island and Seal Nunataks. Here the clouds closed in above us and

light conditions were extremely bad. In a few minutes we could see heavy snow squalls descending and we had to turn southwestward along the edge of the storm.

The air conditions were extremely bumpy and visibility was reduced at times to two miles. ~~But~~ as we neared the coast of King Oscar II <sup>Land,</sup> and we turned due west, we had been flying over the Larsen shelf-ice, which extended from Robertson Island slightly toward Cape Disappointment. ~~Then~~ we swung southwestward and reached the high coastal area a few miles south of Evans inlet, then turning north we came to Hektor Fjords. ~~There~~ we turned easterly over Tilberg Island and saw a long Fjord ending in two steep glaciers, extending from Cape Longing and Sjogren Fjord is very rugged and that several Ruth for about fifteen miles to the north.

Following closely along the Nordenskjold Coast, we observed an inlet about 10 miles from Cape Ruth. Next, we saw a deep wide fjord, the most conspicuous feature of our discoveries, directly behind what is marked on the charts as Cape Sobral, but which we found was, in fact, an island.

The fjords, walled with glaciation and floored with gaping crevasses,

indents Nordenskjold Coast and runs for about 30 miles northwest into Detroit Aviation Plateau together with another deep fjord extending from Larsen Bay. It changes conspicuously the general configuration of Trinity Peninsula as marked at present on the charts. Following a precedent established by other explorers, I have named it James W. Ellsworth Fjord after my father, a pioneer himself in the field of industry, through whose generosity I have made this and other flights in the interest of geography.

Ten miles to the northeast and in the bottom of Larsen Bay another deep fjord was seen. We crossed over this to Sjogren Fjord and noticed that the land between Sobral Island, Cape Longing, and Sjogren Fjord is very rugged and that several mountain peaks reached up to nearly our altitude, which was 5500 feet.

At the entrance to Sjogren Fjord there is an uncharted island remarkable for its sharp topped peak; and three other islands of considerable size, also uncharted, were observed in Prince Gustav Channel.

The northwestern coast of Ross Island is much indented with bays and fjords, and lying between Ross and Vega Islands is another one, conspicuous, and hitherto uncharted. Following the coast of Prince Gustav Channel to opposite Sydney Herbert Sound, we came to a remarkable low passage across Trinity Peninsula. The width of the peninsula at this place is about fifteen miles, and through the pass we could see the peaks of Livingstone Island, between Tower and Astrolabe Islands, but fifty miles farther north.

We had apparently exhausted the possibilities of conspicuous geographical discoveries in this area, so we turned back having to winter in the air, for day by day the loosening over Ross Island to a landing at our base. We had been two hours and twenty-five minutes in the air, averaging 160 miles per hour.

Naturally I felt bitterly disappointed at being unable to accomplish the trans-Antarctic flight.

He who expects to wrest secrets from the Polar Regions must be willing to take risks.

I am convinced that it is unlikely that the trans-Antarctic

flight can ever be made if one waits for perfect weather conditions that will last during the entire flight. My belief is that it is best to start off in good weather, and to be prepared to come down and await favorable conditions in which to continue on. Therefore, I cannot agree with my pilot that we did not have opportunities to make the crossing.

Had the crossing of the Antarctic been easy it would have been accomplished long ago. Since 1914 six expeditions have set out with the hope of covering the area between the Ross Sea and the Weddell Sea, but none has yet succeeded.

Our single flight over Graham Land was won at the risk of having to winter in the Antarctic, for day by day the loosening ice of the Weddell Sea was closing in about us.

I was forcibly impressed regarding this as I gazed down upon Nordenskjold's little hut below the cliffs during my fossil excursions around Snow Hill Island, for I had some conception of what it must mean to be locked up in these regions for two winters with temperatures often below minus sixty and recorded winds with a velocity of ninety miles an hour. Even after suffering these,

Nordenskjold had to make a mad rush for the rescue ship before the ice closed upon him for a third season. His own ship was crushed by the ice.

On January 13th after three months in the Antarctic, an unsuccessful attempt was made to push our way with the Wyatt Earp through the heavy pack ice and leave the Weddell Sea; but we were forced back sixty miles to Snow Hill Island again. I well remember after our first night in the ice, going to the galley for my usual morning cup of coffee. As I was about to drink it, Wilkins stuck his head out of his cabin door and in the most nonchalant manner asked: "Do you know we are on our way back to Snow Hill?"

And could I drink that cup of coffee? I guess not!

But on the 18th, with trust in the guiding hand of Providence, we took grave risks with the solid ice floes, measuring many miles in each direction, which bore down upon us, and reached Vega Island. There, against the steep red sandstone cliffs, in a pool of open water, we tied to the edge of a floe.

But the wind changed, the pool was seen to be closing, and

and disaster seemed <sup>imminent</sup>. With the probability of having to abandon ship, men worked furiously in the hold checking emergency rations and preparing packs with which to struggle over the ice or drift on a floe to open water where we could take to the life boats. But at four the following morning the wind changed again and the ice began to slacken. We knew that to venture north was to risk the chance of being caught in tremendous pressure, but we took the risk, for to lie idle there where we were helpless served nothing. Butting into the floes and fragments of steel-blue ice, the Wyatt Earp <sup>slowly</sup> forced her way mile by mile northward. After six hours of battle we came close beside the frowning barrier of North Graham Land. ~~Fridtjof sound was ice-choked~~ More troubles ensued, but we wriggled through and came to the ice-free waters of Bransfield Strait and thence returned to Deception Island without further adventure.

As we departed from the Antarctic enroute to South America I could not but feel that into the immensity of that world of endless white he of faint heart had best not venture. Its scale is tremendous and life <sup>is</sup> but an incident amidst the

mighty forces which find play there. Nature primeval it is, with all the awe-inspiring fierceness and sudden subtlety of change from storm to quiet for which the Polar regions are noted; for nature in the Weddell Sea can be as beautiful as she is harsh. Her moods are as variable as the winds that blow.

Great pressure ridges and dying bergs of enormous size half toppled over lie imprisoned amidst a chaos of storm-swept ice-fields, mute evidence of their battle with the "screwing" ice pack; for the elements in this region are ever at war. Wind, ice, and tide from the battle fronts with the wind generally the aggressor, for ninety-mile gales are not uncommon.

Antarctica is the windiest country in the world. At Adelie Land Mawson found the average force of the wind for a year to be fifty miles an hour, and on several occasions it reached 220 miles, the world's record for wind velocity.

Yet what a contrast are these self-same ice-fields when the sunlight meets the distant horizon in a blinding glare and midnight shadows clothe them in delicate purple and rose; for then they are

at peace, "serene in their solitude, though no human eye sees nor human tongue speaks their beauty". [ Ah yes, then--but when sudden storms from the south come sweeping down, God help the man who does not know how to help himself.

But whether in ~~xxxxxxxx~~ sunshine or in storm they are never to be trusted. Landmarks there are none, distance is always deceptive, and time itself, a problem in this world of topsy-turvy where the sun neither rises nor sets.

At the South Pole direction is always north and the local hour always noon, so without navigational instruments and the data such as mariners use to find their way across the trackless ocean, travel would indeed become a hopeless task. [ The far horizon, how infinitely distant it really proves to be, and its apparent "fixity"--Ah yes! What a lure to lead the traveler on into regions unknown in quest of that reward for which he is ever searching, not the proverbial pot of gold sought after by the child who seeks the rainbow's end, but new knowledge concerning the planet upon which we dwell. [ It is well perhaps, for out of man's yearning for light and still more light has come this

civilization we live in. And the call of the wild, thank God,  
is still in the blood, for so long as the human ear loves to  
hear the pound of the deep sea surf upon a lonely coastline,  
and the human eye to watch the play of auroral lights across  
desolate snow fields, so long then will the great unknown lure  
him on till the whole of it is vanquished.

Sir Douglas Mawson has given a convincing reply to the  
question, "Of what use is Antarctic exploration?" He says  
that the data of natural sciences are like the pieces of a  
gigantic jigsaw puzzle. We cannot construct the picture  
while many pieces are missing. If we ignore the facts  
contained in one part of the world, surely we are hampering  
scientific advance. Not until we have studied nature in  
every land and on every sea, shall we have the data for  
understanding her,

Financial gain is not for those who seek the Polar regions.  
But the returns are of more permanent value, perhaps, than those of  
mere dollars and cents; for the moral and physical benefit derived  
~~therefrom~~ <sup>it</sup> is the first calculable gain from all exploration.

# [Great adventure has its lure. Will it call me again? I have  
taken part in five Polar expeditions, Perhaps I should be content,  
yet:

"Who has known heights and depths, shall not again  
Know peace - not as the calm heart knows  
Low ivied walls, a garden close,  
The old enchantment of a rose.  
And tho' he tread the humble ways of men  
He shall not speak the common tongue again.

.....  
Who has trodden stars seeks peace no more."

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