THE POLAR TIMES

National Oceanic and Atmospheric Administration

The Polar Times

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Fliers Alight at North Pole And Establish Soviet Air Base

MOSCOW, Saturday, May 22.—A Soviet airplane made a successful landing at the North Pole yesterday. and established a permanent weather and scientific station as the first step in the long-cherished plan for regular air communication between Russia and America by way of the polar region.

After flying over Pole at 11:10 A. M. the plane went on fifteen miles further where it made a perfect landing on a smooth area of an ice floe at 11:35 A. M.

The plane was piloted by M. V. Vodopyanoff. With him was Professor Otto J. Schmidt, head of the Northern Sea route, who for two years has been planning a polar weather station.

These, with Pilots Babushkin and Spirin and Mechanic Bassein, have established the world's first permanent North Pole station. They have set up tents, installed radio sending and receiving apparatus and begun clearing a landing field for a fleet of planes which soon will follow. They will be relieved as soon as possible by Ivan Papanin, experienced chief of arctic stations; Ernest Krenkel, radio man of the Chelyuskin rescue expedition; Pyotr Shirshoff and Eugene Feodoroff, who will erect buildings and live on the polar ice cap for a year.

The total expedition consists of forty-two men, most of whom will stay at Rudolf Island, 558 miles from the Pole. Preparations for the polar expedition have been under way since Feb. 26.

The expedition is elaborately equipped for scientific study and for the health and comfort of the men.

The radio station weighs half a ton. The antenna will be strung on collapsible duralumin masts. Power will be provided for that and for the camp's electric lighting by a windmill but a gasoline motor will be sent as an auxiliary.

The four scientists will live the first Winter in a cleverly-designed portable hut weighing only eighty pounds. Over the duralumin frame wil be stretched a rubberized cloth. Then wil come a wall of air cushions and the whole will be covered by specially-treated canvas. The floor also will be insulated with air cushions. Should the ice floe on which the hut rests crack, the occupants can easily shift the hut to a safer location.

The scientists who will live in it rehearsed for a week near Moscow, living in it and eating the food and wearing the clothing they have at the Pole. The house is painted black to make it easily visible to aviators and to absorb the sun's heat.

Supplies for a year and a half have been assembled at Rudolf Island by icebreakers. They include aluminum dishes and utensils and a kerosene stove. Most of the food is in a light, concentrated form. There are 600 pounds of powdered chicken, for which 5,000 chickens were killed; large quantities of powdered milk and eggs, 350 pounds of special Ukrainian pork sausages and powdered flour and meat.

Breakfast menus had been worked out with almost the detail of the Five-Year-Plan. They include tea, caviar, eggs, cream and cheese.

Twenty-two liters of brandy are being taken but that, it is explained will be used only if somebody is badly frozen. Alcohol is being taken olny for rubbing after monthly baths. Of the four pioneer scientists only two, Papanin and Krenkel smoke. They are taking tobacco along, and cigars, for special holidays.

The expedition is even taking a small dog to warn of bears, and has canoes, sledges and guns for hunting and fishing.

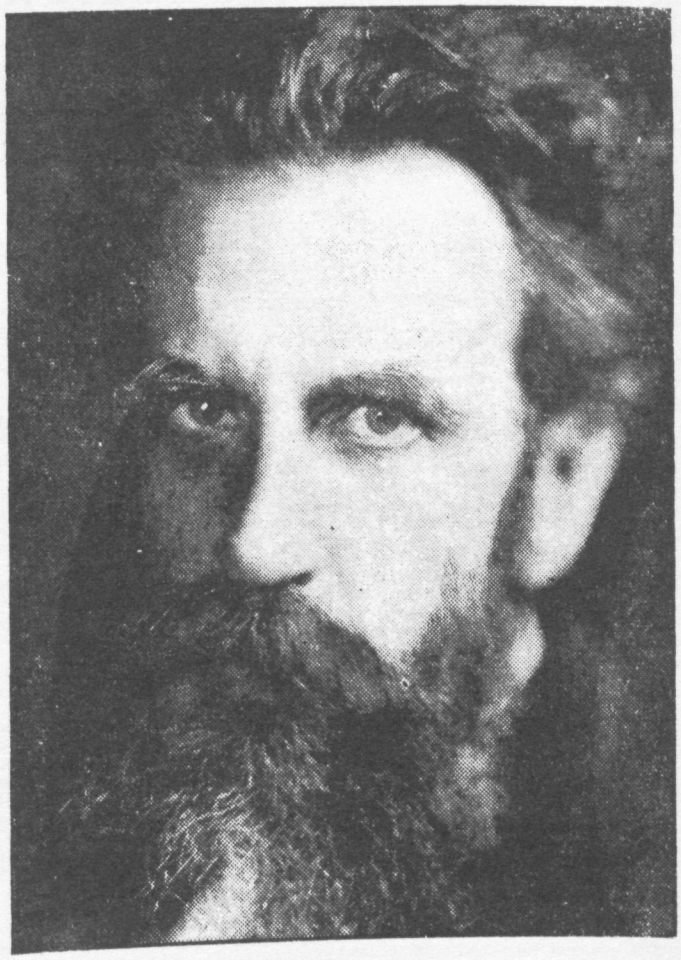
The equipment and supplies will not be left in one place, but will be divided among several small depots so cracking of the ice cannot destroy all.

The start of the expedition was originally planned for March 15, but was delayed by bad weather.

Professor Schmidt and many other important members of the expedition are veterans of the Chelyuskin adventure. Professor Schmidt, in an interview at Naryan-Mar, en route to Rudolf Island, which was published this morning, said the conquest of the pole completed years of Soviet work in studying Arctic conditions, in experimental flying and in establishing polar stations in which scientists, seamen and aviators had taken part. Records had been set, but these were merely incidental to the great accomplishment now under way, he said.

"We wish to get established at the North Pole to carry on various scientific works of enormous practical significance," he continued.

"The Soviet station in the vicinity of the North Pole will regularly observe the weather and report conditions to the central Weather Bureau, where it will be of great assistance in making weather forecasts, especially for long periods ahead. Work will be done also on magnetic observations, on the direction and speed of ice drifts, depths of the polar ocean, chemical and physical properties of different strata of water, finding what marine life exists at the pole.



Dr. Otto J. Schmidt, head of the expedition

Soviet Reveals Secret Flight To North Pole Made on May 5

Moscow, May 23 (AP).—The Soviet Union's expedition encamped at the North Pole disclosed today that Friday's flight which landed 11 men 13 miles from the top of the world actually was the expedition's second polar flight.

On May 5, Prof. Otto J. Schmidt, leader of the venture, disclosed, an airplane carrying four men made an exploratory flight over the pole, but owing to fog and poor visibility made no attempt to land. This flight was not reported until after the successful landing of Friday.

Pilot of the May 5 flight was the noted airman, Pavel Golovin. He took off from the Dudolf Island base, 560 miles from the pole, at 11:32 a. m. (2:32 a. m., E. S. T.), reached the pole five hours later and then returned to Rudolf Island.

That survey helped the May 21 flight by "giving assurance that heavier planes could land" at the Pole, Prof. Schmidt said in a report published today. That led to a decision to abandon earlier plans to use parachutes for landing the men who were to prepare the first camp and runways for airplanes.

Climax to Years of Effort

By The Associated Press.

MOSCOW, Saturday, May 22.—Daring Soviet aviators yesterday carried the first aerial landing party to the North Pole. The flight was made from Rudolf Island, about 82 degrees north and 60 east, about 560 miles from the Pole.

The successful landing brought to a successful climax years of preparation by Soviet scientists and airmen looking toward establishment

In White Letters on the Tent Is Inscribed (Above) the Initials S. S. S. R., for the Union of Socialist Soviet Republics. Below— The Russian Words for "Drifting Expedition of the Principal Northern Sea Route"

of an air base at the North Pole and an ambitious program of polar exploration by airplane.

M. V. Vodopyanoff took his heavily loaded four-motored craft off the new landing field at Rudolf Island at dawn. The landing was six hours ten minutes later. Before coming down the airplane circled the Pole many times looking for a landing field.

News of the exploit reached Moscow by radio messages relayed through Rudolf Island. It was delayed, however, because Vodopyanoff's radio apparatus was broken in the landing and repairs required several hours. The reports did not reach Moscow until early today.

The text of the radio message follows:

"We send you, through the Dickson Island radio station, greetings from the North Pole.

"Aboard the Soviet plane U.S.S.R. N-170 we crossed the Pole at 11:10 Friday morning. In order to obtain the best results we passed a little beyond the Pole seeking a landing field.

"We first crossed the Pole at 1,750 meters and then came down to 250 meters through the clouds, seeking a place to land. At 11:35 A. M. we landed.

"We are about twenty kilometers beyond the Pole and a little to the west of the Rudolf Island meridian.

Moscow, May 24.—

The presence of 13 men at the polar base came as a surprise in Moscow, as an earlier announcement said 11 men had landed there. Today, however, messages from the base indicated a movie operator and a mechanic were included in the party.

MOSCOW, May 26 (Wednesday).

Details of the landing of the thirteen explorers under Dr. Otto J. Schmidt on May 21 were sent back by radio today.

The pioneer plane dropped cannon balls to test the thickness of the ice by a formula based on the plane's altitude and the balls' weight.

Paper bags filled with colored powder were dropped; bursting, they released the powder into the air to become practical indicators of wind direction.

MOSCOW, May 22.—

The expedition has already drawn up daily schedules as follows: The men will rise at 8 A. M. and have a hot breakfast at 9 o'clock. They will work until 3 P. M., when they will sit down to a hot luncheon of three courses. They will have a hot dinner at 7 P. M.

They have numerous means of whiling away the long Polar evenings. They have their radio to bring them news, entertainment and political instruction from Moscow. They have also a phonograph with fifteen records, playing cards, chess sets, checkers and books.

All four scientists are camera enthusiasts. Each has taken his own still camera in addition to the party's portable motion picture machine with 3,000 feet of film.

Pytor Shirshoff will act as the station doctor besides taking hydrological observations. Before departing from Moscow he took a special medical course and performed several operations, including amputations of arms and legs.

The North Pole will be another station for enthusiastic radio amateurs. It will work on 20, 40, 66 and 100 meter wave lengths with the call letters UPOL, meaning Union Polaris, and RAEM, the former call of the steamer Chelyuskin, which became Radioman Ernest Krenkel's personal call after the Chelyuskin party had been rescued.

Vodopyanoff declared in a statement written before his departure but made public only today that he had conceived the idea of establishing a Soviet scientific base at the North Pole and had been greatly influenced by the experience of Rear Admiral Richard E. Byrd. The idea occurred to him in a flash soon after the rescue of the Chelyuskin expedition, in which he took a outstanding part. He outlined the idea to Professor Schmidt, who gave sympathetic attention and asked for a detailed plan.

Vodopyanoff spent all the Summer of 1935 studying the writings of polar explorers, particularly those of Admiral Byrd, whose flights over both the North and South Poles made his experience particularly valuable.

Because Vodopyanoff's Arctic flying experience, though extensive, had been limited to the Eastern Arctic, Professor Schmidt permitted him to fly to Franz Josef Land last year. The professor then laid the plan for the conquest of the North Pole before the government, which approved it and put every resource at the expedition's disposal.

Vodopyanoff, who is 37, is the son of a peasant. Until he was 19 he had never seen a motor car or airplane and was not able to read or write. He started as an automobile mechanic with the Red Army after the Bolshevist revolution and advanced rapidly to become a mail pilot on Siberian lines. He took part in saving the members of the Chelypskin expedition in 1934, for which he received the title Hero of the Soviet Union.

Only Light Foods Carried

Papanin explained in a recent interview that the men would have no canned food because of its weight.

"Light, dry concentrates of cabbage soup, pea soup, kissel [a jelly-like dish prepared of corn flour, fruit juice and sugar], compote and meat cutlets have been prepared," he said.

He said there was "no chance of contracting scurvy" because there would be forty-eight varieties of food, varied and tasty and of high calorific value.

"Our fur clothing is excellent," he continued, "our sleeping bags are made of the best wolf fur. Stockings, trousers and shirts are of choice reindeer fur. Our underwear is made of high quality wool. Felt boots with galoshes, footwear for skis and leather boots for the Summer have been made for us."

Work has been alloted in such a way that any individual can be replaced, Papanin declared. Krenkel can replace him, he said, and Federoff can replace Krenkel. Federoff will perform most of the astronomical research and work on magnetic phenomena; Shirshoff will act as physician.

"Our medicines have been prepared in the form of powders, since drops would freeze in the low temperature," Papanin said. "The powders will be dissolved in alcohol.

"We will organize day and night duty at the tent. In order to take timely measures in case of jamming of the ice."

Professor Schmidt became known as an explorer in 1928 when he was a member of the Soviet-German expedition which mapped a large glacier in Northwest Pamir, West Central Asia. In 1929 he was aboard the ice breaker Sedoff with the research party that built a permanent scientific station in Franz Josef Land in the Arctic and in 1930 he made a voyage to Novaya Zemlya in the same region in the Arctic Circle, discovering a number of islands, one of which was named in his honor.

He was head of the Bering Strait expedition aboard the ice breaker Chelyuskin in 1934 when his vessel was caught in the ice for five months before being crushed off Kamchatka. He supervised the abandonment of the ship and maintained discipline despite hardships until Soviet aviators picked more than 100 survivors off the ice.

The four members of the wintering expedition are Arctic veterans, although the youngest is but 27 years old.

Papanin, who was born in 1894, served in the World War with the Imperial Russian Fleet, and was the leader of the fleet mutiny in Leningrad. Later he became Military Commissar and helped organize the secret police. Afterward he turned to scientific work and was the first manager of the polar station in Franz Josef Land.

Krenkel, twelve of whose 33 years have been spent in the Far North, flew over the North Pole in a dirigible expedition and was chief radio operator aboard the Chelyuskin.

Shirshoff, who was born in 1905, began working in the Far North in 1931 and was also aboard the Chelyuskin.

Federoff is only 27 but has been working in the Northland since 1932 on magnetic waves and has spent several winters in the Arctic Circle.

Peary's Trip Compared

Matt Henson, Negro, who accompanied Admiral Robert E. Peary on his trek to the North Pole in 1909, praised the courage of the Soviet explorers here May 22 according to The United Press, but said: "It was a sight harder the way we did it." Henson, now seventy years old, retired last year from the United States Customs service.

"Those fellows," he said, referring to the Soviet airmen," flew over in just a few hours and they were sitting in a warm place all the time. All we had were dog-sleds and no wireless, and it took us thirty-seven days to walk across 600 miles of ice."

Polar Pilot's Play Opens As He Gains Arctic Goal

By The Associated Press.

MOSCOW, May 22.—While M. V. Vodopyanoff was piloting the Soviet Arctic explorers in a plane toward the North Pole yesterday, the première of his play, "The Dream," told a Moscow audience the seemingly fanciful story of Soviet fliers landing at the Pole.

Before leaving Moscow, Vodopyanoff had expressed the wish that his play open simultaneously with the completion of his flight. The curtain rose just before the news of his landing was received.

3 SUPPLY PLANES FLY TO POLAR BASE

Soviet Craft Go 558 Miles From Rudolf Island to Camp in 7 Hours

MOSCOW, Wednesday, May 26. The three remaining airplanes of the Soviet North Pole Expedition, which had been delayed at Rudolf Island by storms on the Polar ice cap, have now flown the 558 miles to the Pole.

They took off at 11:15 last night [2:15 P. M. New York time] and seven hours later, at 6:15 this morning [9:15 P. M. in New York] after an uneventful flight they were circling over the Pole. They landed a few minutes later. The weather was reported to be fine.

The planes took the remaining twenty-nine of the expedition's total of forty-two persons, together with most of the food, scientific equipment and other supplies sufficient for a year for the scientific party of four men who will remain there.

The pilots are three of the Soviet Union's greatest fliers, Vassily Molokoff, A. D. Alexieff and I. P. Mazuruk. At the Pole they join another Soviet hero, Mikhail Vodopyanoff, who arrived with Professor Otto J. Schmidt and eleven other members of the expedition at the Pole last Friday.

MOSCOW, May 27.--

Observations taken at 1 P. M. today at the Pole give an indication of the speed at which the polar ice pack is moving. Today's position was Lat. 89 degrees 20 minutes N. and Long. 50 degrees W. The position last Friday (May 21) when the first plane landed was Lat. 89 degrees 41 minutes N. and Long. 87 degrees W.

[This indicates that the base has drifted about thirty-five miles and is now about twenty-five miles further from the Pole than it was.]

FOUR PLANES FLY FROM POLAR CAMP

One Gives Up Fuel to Enable Others to Go to Rudolf Island and Halts Half Way

MOSCOW, June 6.—Four men and a dog were left alone on a drifting ice floe near the North Pole today to spend a year gathering scientific data to enrich the Soviet Union's knowledge of the top of the world.

The four airplanes of the Soviet's North Pole expedition took off at 3:30 A. M. [8:30 P. M., Saturday, New York time] from the base camp established by the pathfinder plane May 21 near the Pole. Five and a half hours later three arrived at the expedition's base at Rudolf Island, 560 miles from the Pole. The fourth plane was down about half way, but that was according to plan.

When the pilots decided they had not enough fuel to carry all back to Rudolf Island, the expedition leader, Professor Otto J. Schmidt, directed that three should borrow gasoline from the fourth, A. I. Alexieff. All—four planes flew together until they reached the 85th parallel, about 350 miles from the Pole.

Then Alexieff burrowed downward through the clouds and found a landing place on the ice where he will wait until fuel can be flown to him from Rudolf Island.

Schmidt's Report to Moscow

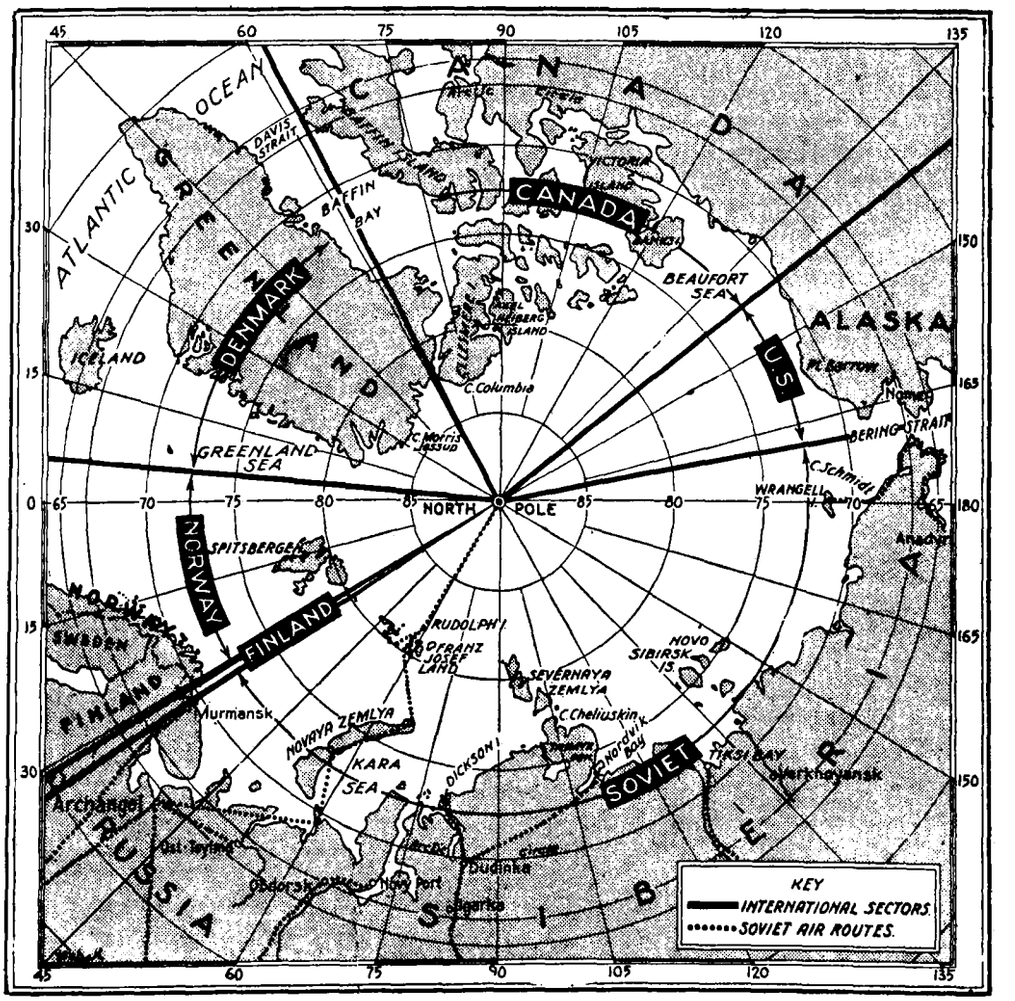
Professor Schmidt, after reaching Rudolf Island sent the following message to Moscow:

"All work of arranging our polar station having been finished, the official opening was held at 2 o'clock this morning under a bright polar sun. A short meeting was completed with the raising of the Red flag and cheers for Stalin.

"Then we left the Pole with a feeling of joy, but at the same time with regret, for the Pole has been hospitable to the Soviet expedition.

"Spirin [the navigator] directed the squadron directly to Rudolf Island. The weather was changeable and the landing field hidden by fog, but when a break in the clouds disclosed the Rudolf base, the three planes landed.

MOSCOW, June 9 (AP).—The four airplanes used by the Soviet Union to establish a North Pole wintering camp were reunited today at Rudolf Island, the expedition's base 560 miles from the Pole. They will be flown to the mainland soon.



The Soviet Union has served notice that the Arctic Ocean is to be divided into sectors. At the center is the pole and from it run imaginary lines to the stretches of coast belonging to different powers with Arctic possessions. Thus Russia pre-empts nearly half of the Arctic.

No Land at North Pole To Claim, U.S. Points Out

No Question of Sovereignty in Soviet Expedition

WASHINGTON, May 22 (AP).—State Department officials said today no question of sovereignty over the area about the North Pole ever has arisen because there is no land there.

Four hundred of miles in every direction from the pole, geographers said, there is nothing but sea, filled most of the time with large expanses of ice floes.

The fact that Admiral Robert E. Peary, of the United States Navy, is credited with having discovered the pole on April 6, 1909, and planted the American flag on that spot does not mean that the United States lays any claim to the territory, it was said.

SEA BED SPECIMEN TAKEN

MOSCOW, June 8.—Ivan Papanin, leader of the Soviet scientific expedition at the North Pole, wirelessed to Moscow today some interesting facts in regard to the Pole as a result of first researches aided by a winch that had been taken to the camp by I. P. Mazuruk's plane.

A sounding line struck bottom at 4,290 meters [14,070 feet] beneath the ten-foot-thick ice floe on which the polar party is encamped. The winch, hand-operated with an automatic brake, required two hours and forty minutes to lower the line to the bottom and six hours of uninterrupted work by all four scientists to raise the line.

Thermometers let down with the sounding line showed a temperature at a depth of about 1,300 feet of .77 of a degree above zero centigrade [33.38 degrees Fahrenheit]. From 2,290 feet and on down the temperature gradually fell below 32 degrees Fahrenheit, but the record is incomplete, as a pressure of 430 atmospheres at the bottom crushed the thermometers.

A bucket let down with the line dragged up the first specimen of the ocean bed under the North Pole ever seen by man. It consisted of greenish-gray silt.

POLAR CAMP SEEKS A KEY TO WEATHER

Russian Explorer Holds Time Has Now Come for Complete Knowledge of Arctic

By PROF. OTTO J. SCHMIDT

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NORTH POLE, June 3.—For many centuries the North Pole has attracted and awed humanity. Daring men who have sought to reach it either perished or returned without having attained it. Nevertheless, they have enriched humanity with new knowledge.

The American, Admiral Peary, was the first to reach the Pole. His glory will never fade.

But present times are different. Science cannot be satisfied with rare glances behind the curtain of mystery. It demands continued, unceasing observations and the collection of enormous factual material in order to make sound conclusions and apply them in practice.

Seeks Study Conquest of North

Soviet science, broadly supported by its government and the enthusiasm of the whole country, has entered upon that road of a thorough study conquest of the North. Numerous expeditions on ice-breakers in the establishment of the Great Northern Sea Route and the creation of dozens of polar stations prepared us for the work at the Pole itself.

We confirmed Nansen's theory of drift across the polar basin with our experience of permanent polar stations and with modern technique in the form of radio and airplanes. Through generous support from the Soviet Government, the expedition has been carried out on an unprecedented scale.

Four large airplanes flew over the Pole and, only after passing it, hunted for fairly flat fields. They landed on them, and it is interesting from the technical and sport side that large four-engined airplanes, piloted by experienced Arctic pilots, such as Mikhail Vodopyanoff and Vassily Molokoff could land on unprepared ice fields in the heart of the polar ocean.

From the scientific side, the most interesting observations have been made. Meteorological data already are being sent four times daily to the Weather Bureau at Moscow, from where it is being distributed over the whole world, thus permitting more assured forecasts of weather, which, to a considerable degree, is made in the polar regions.

Drift Is Toward Europe

Observations of the drift are especially interesting. It is evident that it is physically impossible to stay a long time at the actual North Pole because it is in constant motion. And its speed—up to a half-mile hourly—exceeds all expectations. So far the drift has been toward Europe, but it is possible it will turn toward America or possibly go back from where it started.

The answer to that question, in which are concealed the laws of the movement of ice and water in the polar ocean, as well as many other scientific questions, will be supplied by the work of the four men we will leave at the excellently equipped scientific station on the ice floe—Papanin, Krenkel, Shirshoff and Feodoroff. These brave people will spend about a year there.

Besides the scientific observations that they will make, their radio station will pace distant future flights toward the Arctic, including perfectly possible communication between the U. S. S. R. and the United States across the polar ocean.

We who came with the first plane have been living for more than a week on an ice floe and have been drifting with it from the Pole proper.

Life on our ice floe is so well organized and goes on under such comparatively comfortable conditions that it is hard to believe this is that very Pole which has cost so many lives.

On the brilliantly white snow of our ice floe, which is surrounded by piles of broken ice, stand our beautiful orange and red planes, our windmill, radio antenna and a dozen tents. People rush back and forth, busy with their work, or just walk and enjoy the shimmering of the ice under the rays of the sun.

We have come to feel that after a struggle with nature, we will sign a firm and honorable peace with her. However, it is still a long time until the expedition is ended, and we know not what difficulties we may yet have to face.

Polar Outpost Finds Sea Is 2½ Miles Deep

Russians' Discovery Is Surprising to Scientists.

By the Associated Press.

MOSCOW, May 29.—Soviet Russia's North Pole weather outpost measured the Polar Sea today and found it far deeper than scientists had estimated.

The first measurement reported by Dr. Otto J Schmidt's party, camped on an ice floe, showed the ocean was 2½ miles deep. P. P. Lazareff, Academy of Science geophysicist at Moscow, said the information "surprised" scientists.

"Exact knowledge of depths is of great importance in the study of currents which originate in the Arctic Ocean, and consequently to proper organization of navigation along the North Sea route." Lazareff said.

AMPHIBIAN TANKS HELD ARCTIC KEYS

Prof. Schmidt, Soviet Explorer, Believes They Could Form Base Chain for Air Line

MOSCOW, June 24 (AP).—Professor Otto J. Schmidt, leader of the Soviet North Pole Expedition, disclosed tonight a proposal for a chain of "amphibian tank' bases for Moscow-United States flights across the polar wastelands.

Professor Schmidt said the polar expedition had shown that planes could land freely on polar ice and carry out unlimited scientific work.

"Automotive amphibian tanks are a means of transport on polar ice," he said. "They could break through or travel across solid ice floes that ice-breakers cannot penetrate because they would waste too much fuel. Instead of crushing the ice floes the amphibians could crawl up on them, glide across the ice and return to water when crevices occurred.

"There is nothing difficult in this plan for designers. It is M. I. Sheveleff's [assistant head of the expedition] idea that such a chain could be established along the route at 500-kilometer [about 310 miles] intervals. The duty of such bases would be to prepare landing fields and furnish weather and radio reports and directional beams.

"If the amphibians drifted they could easily crawl back into position. They could supply fuel for transpolar planes and would in turn be supplied from special fuel planes traveling from the mainland.

"Both tanks and fuel planes would provide a first line of observation for ice floes and weather, the second line of observation being the permanent continental and island bases already established. Thus we would have exact knowledge of conditions all along the route all the time."

Professor Otto J. Schmidt, noted Russian explorer, is seen here with one of his planes that landed the Soviet expedition at the North Pole. Four of the courageous crews that flew to the North Pole remained there, and, will stay for a year to collect weather and other scientific data.

Living on a Cake of Ice at Pole: Weather Station's Radio Diary Gives Moscow All the Details

By Joseph Barnes

MOSCOW, Oct. 5.—The world's first North Pole weather station is no longer at the North Pole. For the last four months it has been moving southward at an average rate of 2.28 miles a day. As the five-month polar night closes down on it, the Soviet ice-floe's steady drift has appreciably quickened, but regardless of their distance from the North Pole, Ivan Papanin, his three comrades and their dog, Happy, are still the most popular heroes of the Soviet Union.

When the wind dies down, their windmill stops, and the mainland receives only the four scheduled weather observations every day. During the trans-Arctic flights of Chkalov, Gromov and Levanevsky, the camp was forced to use its emergency gasoline engine for power to send reports. But most of the time the Arctic wind blows great rips in their tents, the windmill generates as much power as they can use, and the Soviet Union gets a running-fire diary of four men and a dog living on a cake of ice at the top of the world.

Their radio messages have the flavor of authentic diary. They include, it is true, resolutions of protest against "enemies of the people," and the reported tabletalk at the North Pole contains frequent discussions of Spain, China and the approaching Soviet elections. It also contains considerable good-natured banter, and enough detail of daily living to make the tiny black tent in which they live an entirely credible spot in an incredible Arctic wilderness.

No Sun Since Sept. 25

The tent is black to extract a maximum of heat from the sun, but the sun left them on September 25, and on October 11 even the twilight disappeared. They have installed a fur lining between the canvas and rubber walls of their living tent; two kerosene lamps, hanging from the tent pole, give both light and warmth. The plywood floor is covered with rubber cloth, on top of which are the reindeer skins on which they sit, and eat, and live.

The place is warm enough, Papanin has reported, and comfortable, but crowded. The tent's inner walls are lined with pockets, to conserve space, and as much equipment as possible has been moved into the little houses of ice which have been built around the tents. Their headquarters still holds four cots, a complete radio transmitting and receiving apparatus, with batteries and a transformer; a hydrochemical laboratory of jars and bottles, connected by rubber and glass tubing; the more delicate meteorological apparatus, including barometers and chronometers; a buffet holding food and—as Fedorov recently pointed out with a true homemaker's pride—a creditable collection of bits of string and odds and ends they hate to throw away.

They sit only on the floor, since there are no chairs. The tent can be entered only on hands and knees, and it is to full that each man has learned the particular slide and twist which will get him to his accustomed place. Changing places is impossible without going out of the tent and re-entering.

The estimated weight of a year's supplies for four men at an Arctic weather station, according to the considerable experience of the Northern Sea Route Administration, is 200 tons. Airplane transport to the North Pole cut this figure to nine tons, including the sixty pounds allotted to Happy, the dog. For four months the camp has tested the economy of weight with which supplies were pared last spring.

Chicken Proved Too Synthetic

There have been some tragedies. Specially prepared chicken powder, which cost the lives of 5,000 hens near Moscow, turned out to be too synthetic to be eaten. Some fresh meat which was taken spoiled, but Happy was the gainer by it. Most of the compressed food has apparently proved to be palatable, and a daily menu of soups, puddings, cutlets, caviar, butter and sausages has much to be said for it, according to Papanin, over the traditional Arctic fare of pemmican and chocolate.

The four men see each other only for dinner, at 3 o'clock in the afternoon, according to their watches at a latitude where there is neither day nor night. They take shifts sleeping in order to keep a twenty-four-hour watch. At breakfast three of the men eat together, "dunking" their "sukhari," or hard biscuits, in their tea to keep from waking Papanin, whose turn it is to sleep. Shirshov, the expedition's marine biologist, can apparently sleep through any disturbance. To get him out of bed at all, a piece of his ration of chocolate is suspended over his head by the man who wakens him. If his feet fail to touch the floor in five minutes, the chocolate changes owners.

Eating is done entirely inside the living tent; anywhere else it freezes too hard for chewing. Each man has his own glass and bowl, to eliminate dishwashing, with its consequent waste of time and fuel. Shirshov, whose job requires considerable work with chemicals, washes his face regularly once a fortnight, apparently a lingering and foolish habit which gives the others an inexhaustible theme for quips.

Solitude has not yet become a problem. They can hear nearly every radio station in Europe, they report, and a few weeks ago their radio communication with their base at Rudolf Island was disturbed for several days by a program of music from Budapest. The radio is silenced by common consent at only one fixed time, 5:30 o'clock in the morning, when a cheery-voiced health expert in Moscow monopolizes the ether with instructions to all his listeners to open their windows and start breathing deeply.

They're Too Busy to Hunt

They have been too busy to hunt, so that they have yet to make good Papanin's boast that he can bring fresh meat to their larder. He asserted that he shot a water hare, which fell under the ice, but even the dispatches of his comrades indicate their skepticism.

Besides the gulls, guillemots and other birds which have visited them, they have seen several water hares, some seals, and on the eighty-eighth parallel a polar bear with two cubs less than a year old wandered almost into the camp. Shirshov has bottles filled with small crayfish and plankton, organic life from the ocean's depths. Neighboring ice-floes have turned red and yellow with microscopic unicellular plantlife which is found in Arctic ice.

Arctic scholars have repeatedly wirelessed to the camp their hope that a seal or naval hare may be shot, thinking not of the fresh meat, but of the analysis of the stomach. Birds, it is agreed, could live during a migratory flight across the North Pole on its small plantlife, but the presence of larger animals is believed to indicate that fish of some size are brought to the North Pole itself by the warm currents of water under it.

It is these warm currents which have produced most of the scientific interest in the expedition's results to date. From 250 meters to 600 meters, Shirshov has found a steady stream of water above freezing temperatures. Analysis of its plankton has shown it to come directly from the Atlantic, contrary to earlier accepted belief. According to Professor Bogorov, one of the Soviet Arctic Institute's experts, the volume of this water indicated by the measurements would be enough, if it were on the surface, to melt all the ice in the Arctic Ocean.

This is a possibility which is likely to leave even the Soviet Union's planners a little baffled, but the observations have immediate value. Shirshov has apparently already proved to the satisfaction of the Arctic Institute the correlation between plankton and the age, or thickness, of ice. The warmth of the sun causes a kind of biological spring to take place among these minute organisms, and careful study of its cycle is expected to provide Arctic navigators with another index as to the location and size of ice packs blocking navigation.

The warm Atlantic currents are deep at the North Pole because of their relatively heavier salt content than Arctic waters. At a depth of 750 meters, Shirshov has found that the water's temperature again falls to the freezing point.

The drift of the ice floe to the south is apparently gaining speed. In its first month it traveled eighty-one miles, in the second, forty-five; in the third, sixty-one, and in the fourth month ninety-one. The speed of this drift is appreciably higher than was expected. So far the basic drift has proved to be south along the Greenwich meridian, with deviations to the east or west.

Prohibition by Accident Endured at North Pole

MOSCOW, July 22.—Prohibition has been established at the North Pole, although inadvertently and much against the will of the four Soviet explorers who are floating around on an ice floe making scientific observations.

A report by Papanin Krenkel to the Great Northern Searoute today disclosed that the supply of alcohol for preserving living organisms dredged up from the depths of the Polar Ocean had been left behind at Rudolf Island.

The party, however, had taken along a limited supply of brandy for medicinal use and alcohol has been extracted from it.

The polar scientists are working hard and still are wading knee deep in water caused by the North Pole's heat wave, moving their supplies from one inundated place to another. Often they work the whole clock around without sleep.

WRITER DESCRIBES FAREWELL TO POLE

By EZRA VILENSKY

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RUDOLF ISLAND, June 7.—A meeting preceding the departure of our four airplanes, which left four scientists alone at the North Pole for a year, was held at 2 A. M., Sunday in "Red Square" on the drifting ice floe in the midst of the Winterers' house, the airplanes and storage tents.

Professor Otto J. Schmidt, leader of the expedition, in speaking to the thirty-four members, lauded the talents and endurance of the Soviet people and the members of the expedition.

Ivan Papanin, leader of the party which is to remain at the Pole for a year, responded, thanking Stalin and the whole Soviet Union for the backing which he said they would feel throughout their polar vigil.

At the close of the meeting, Professor Schmidt ordered the flags to be hoisted and two bright banners went up the tall aluminum masts—the State flags of the U. S. S. R. and one carrying a picture of Stalin. A rifle salute and cheers for Stalin blended with the singing of the Internationale.

At 3 A. M. all preparations for the take-off were completed and the departing members embraced the four scientists. At 3:30 A. M. the flagship of the expedition rose into the air to be followed by the three other planes—the entire group taking off within seven minutes. The airplanes circled over the empty airdrome in a last farewell to the four tiny human figures who gazed after the disappearing planes.

How One Tells He's at the Pole: It's All Done With Mirrors and Is Anywhere in Half-Mile Circle

June 26

The North Pole, at which the Russian government has established a base for scientific investigations, is, at least theoretically, a sharply defined pin point which could be marked as the intersection of two lines inscribed on a granite monument. As a practical matter no such precise determination is possible, and even if the point were accurately determined for any given time it is not at all likely that a second determination of equal accuracy would give the same location.

Lieutenant Commander C. A Egner, of the United States Coast and Geodetic Survey, at his office in the Custom House last week referred to the interesting and difficult navigational problem encountered by the Russian flyers in their epochal flight across the polar area. This achievement brings up the location of the pole and the peculiarities of the geographic determination of its position, as well as the strange reactions a navigator must have in this point at the top of the world.

Position Told by Sun

Position at the North Pole, Commander Egner pointed out, is determined in the same way that the position of a ship is determined at sea—by "shooting the sun," that is by taking observations on the sun's position and noting its angular relationships to the point of observation. In fixing position at sea it is important to know the exact time at Greenwich (England) if longitude is to be determined. The navigator can determine the instant of noon in local time for his position by his observation of the sun because the image of the sun which he sees in his navigating instrument, the sextant, makes sharp and rapid contact with the image of the horizon at the moment of its greatest elevation in the sky, which takes place at exact noon.

At the North Pole there is just one determination to be made, that of latitude. All the meridians of longitude meet at the pole. A difference of 180 degrees in longitude at the equator would be the difference between positions in the Atlantic Ocean and the China Sea, a separating distance of about 12,000 miles. At the North Pole, however, this angular distance could be spanned with the fingers. Longitude, therefore, has little meaning at the pole, and would merely describe the direction in which one were looking

Time Changes Quickly

Time also becomes confused at the pole. The sun is continuously above the horizon several successive months of the year. If a person with his heels to the North Pole stands facing the sun, it is noon to him just as it is noon to every person living along that meridian at any point between the two poles. But if the person at the pole makes a quarter turn to the right, it is then 6 o'clock in the morning to him, and if he made the quarter turn to the left, it would be 6 o'clock in the evening. If he made a full half turn from his original position, he would change his time from noon to midnight. Time and longitude therefore have little practical meaning at the North Pole, but the latitude determination is important.

The latitude of the pole is ninety degrees north. This angular distance north of the equator is determined by observing with a sextant the angular altitude of the sun above the horizon. The sextant is an instrument through which the sun and the horizon can be observed simultaneously. This is accomplished by means of a movable radius arm carrying a mirror which reflects the image of the sun on a fixed mirror on the instrument. The fixed mirror is on a disk of glass immediately in front of the sighting telescope. Half of this glass disk is silvered as a mirror, and the other half, or hemisphere, is clear and transparent.

Angle Is Found

The observer points his telescope at the horizon immediately under the sun and gets the line of the horizon as close to the center of the disk as possible. He then changes the position of the moveable arm carrying the full-size mirror until the image of the sun reflected from that mirror is seen in the half-mirrored disk. It is then brought into sharp contact with the line of the horizon seen in the clear part of the disk. The position of the movable arm then gives the observed angular elevation of the sun. At the bottom of the instrument is an accurate scale of angles engraved on silver which a pointer on the movable arm traverses. The pointer is provided with a vernier which permits accurate reading of small angles.

The observed angle of the sun, said Commander Egner, is only the beginning of the process of calculating one's position. The sun isn't always where it appears to be; as a matter of fact, it seldom is. This is due to the refraction of the atmosphere. The rays of the sun are bent as they pass downward through the air, the denser the air the greater the bending, and the greater the distance the rays pass through the air the greater is the amount by which the ray is bent and the greater is the difference between the real and apparent position of the sun.

Light Bends Near Horizon

When the sun is directly overhead its rays pass through the least thickness of atmosphere, and when it is down on the horizon it passes the greatest thickness. So great is the bending of the light rays near the horizon that when the sun is setting we actually see it after it has dropped below the horizon. As a result of this bending of the line of sight corrections must be applied to the observed angle of the sun's elevation.

During this last week the sun attained its greatest elevation above the horizon at the North Pole, and the Russian party had its best opportunity for making the most accurate observations. It attained an angle of 23 degrees 30 minutes, and circled around the sky at that altitude during the whole day on June 21. Its angle will become less each day by about a quarter degree. The corrections which must be applied for each degree of elevation have been accurately calculated, and are in the tables which the navigator carries.

There are other corrections, the principal one being for height above sea level This is particularly important when observations are made using the natural horizon. It is probable, however, that the Russian observers are using an artificial horizon, a pool of mercury in a dish, in which case they make observations by bringing two images of the sun into juxtaposition, the one seen by direct observation and the one reflected from the mercury. The angles in this case must be divided by two.

The shape of the earth also brings in a correction factor. The earth is not a perfect sphere. It bulges at the equator and is flattened at the poles. The shape factor correction can be applied from available tables, but there is still a question as to how high they are above sea level. The North Pole is in an arm of the Arctic Ocean, but the ocean is covered with ice. It may be ice all the way down to a fairly shallow bed of the ocean, and may extend to a great height, a couple of miles, perhaps, as in the case of the Greenland ice cap.

The problem of accurately locating the North Pole is still further complicated if the oceanic sheet of ice at that point is relatively thin.

As a result of all these factors, it becomes a difficult task to locate the North Pole accurately. According to information as to their exact position given by the Russian party, they are located at latitude 89 degrees 59 minutes 37 seconds. This is very close to the pole, but not exactly at it. The angular distance from the pole is 23 seconds.

Minute Equals a Mile

One minute of latitude, said Commander Egner, is equal to approximately one mile of distance on the surface of the earth. At the equator this also is true of one minute of longitude. One second of latitude would correspond roughly to 100 feet. Since the most recent determination shows a deviation of 23 seconds from what was undoubtedly first determined as the true North Pole, then their present camp is approximately 2,300 feet from the pole.

This would indicate that a circle with a half-mile radius is for all practical purposes the North Pole, and that the pin point on the surface which is actually the pole is somewhere within that circle.

WELL, LOOK WHO IS HERE!

Thomas © Associated Newspapers.

Soviet To Establish More North Pole Camps

Dr. Schmidt Announces Scientific Work Will Be Put On Permanent Basis

Moscow, June 29 (AP)—A Government plan to establish several North Polar camps in 1938 at even more remote spots than the present Soviet base was announced tonight by Dr. Otto J. Schmidt, leader of the Polar expedition.

He declared in an interview that the Government intends to continue scientific work in the Polar region as a permanent project. Dr. Schmidt returned only Friday to Moscow from the North Polar base, where four men and a dog are to spend the winter.

Russians End Polar Flight; Land at Vancouver, Wash.

Pass Pole and Cross Arctic Wastes in Dense Mists With Ice Forming on the Wings—63-Hour Trip of 5,288 Miles

PORTLAND, Ore., June 20.—Soviet Russia's three transpolar fliers brought their huge monoplane to earth at 8:22 A. M., Pacific time, today [12:22 P. M. Eastern daylight-saving time] at the army airport at Vancouver, Wash.

Having flown from Moscow, the airmen were forced down by rainy, leaden skies that reduced visibility virtually to zero, and by physical weariness caused by sixty-three hours of grueling flight.

The crew of the plane, composed of Valeri Chkaloff as pilot, Georgi Baidukoff as co-pilot and Alexander Beliakoff as navigator, claimed the honor of being the first to fly from the European Continent to the North American Continent by way of the North Pole.

They fell approximately 600 air miles short of their goal, which was Oakland, Calif. The three left Moscow for their journey over the top of the world Thursday at 5:05 P. M. Pacific time [9:05 P. M. in New York] Thursday. Their flying time was 63 hours 17 minutes, during which time they covered about 5,288 miles.

The Soviet fliers, their faces covered with stubble of whiskers but showing few signs of their weariness, were taken immediately upon their arrival to the quarters of Brig. Gen. George C. Marshall, Vancouver barracks commandant.

Later they breakfasted on orange juice, bacon and eggs, toast and coffee. Sleep followed for two of the crew, but Pilot Chkaloff remained behind to answer a few questions. He said that the breakfast was the first food he had eaten since leaving Moscow, adding that Beliakoff and Baidukoff had drunk only a little tea with lemon en route.

Only once did any of the air heroes sleep. That was just after the Pole had been crossed. Baidukoff, co-pilot, sprawled out in the cabin for a brief nap. His companions remained awake.

The pilot insisted that the single motor had functioned perfectly throughout the flight.

Over the Pole the drinking water the men had with them froze and they sucked ice for refreshment.

Emerging from the polar wastes, the fliers ran into sleet and fog over Prince Patrick Island and in the District of Mackenzie. As they advanced south they faced head winds and intermittent rains. Near Eugene, Ore., they decided they could not safely continue and turned back for Swan Island Airport at Portland. The plane overshot its mark and landed at Vancouver.

Chkaloff declared that the fliers had been on their course at all times. He said they had flown up the Kola Peninsula after having left Moscow, proceeded on between Franz Josef Land and Northeast Land, and then had swung out over the Arctic and across the Pole. From there the monoplane traveled southward over Prince Patrick Island and Great Bear Lake, east of the Yukon in the District of Mackenzie and then veered directly west past Fort Simpson and on to Chichagof Island, near Sitka, Alaska.

They roared on south inside Queen Charlotte Island, over Vancouver Island and the Olympic Peninsula through fog and rain and on south through Washington and Oregon to near Eugene, where they swerved back toward Portland.

The airmen wore turtle-necked sweaters, silk stockings, pliable light-leather puttees, leather trousers and mukluks, spotted seal-skin boots greatly resembling cowboy's chaps.

Chekaloff, who flew the same plane 5,000 miles across Siberia last year as a "training gesture," said he considered the trans-polar flight the "most interesting, most difficult and most useful of any of our hops."

"First," he related, "we foresaw almost all the things we might encounter at the pole, and were prepared for them.

Clouds at High Altitude.

"Scientists told us we would encounter no clouds over the top of the earth at 3,000 meters, but we went as high as 6,000 meters (about four miles) over the geographical pole and saw many clouds.

"Many miles of ice fields, crevices and glaciers greeted our eyes. There was no open water.

"Fitted with heavy, warm clothes, we never suffered from the 22 degrees below zero temperature. Our drinking water froze and we had to suck on ice.

"Lack of oxygen in the higher altitudes was our chief hardship. We had to bear the condition, however, because we were afraid to fly lower.

"The sphere of the magnetic pole caused certain deviations in our instruments. We foresaw this and figured our calculations accordingly.

"We used the sun compass virtually all the way and it worked very well."

Valeri Pavlovitch Chkaloff, the 33-year-old pilot, is the son of a fireman on a Volga boat. He joined the Red Army when he was 15 years old. After the revolution he entered a pilots' school and became an army flier.

For heroism and quick thinking as a test pilot he was decorated in 1935 with the highest Soviet award, the Order of Lenin. For a long-distance flight last year he received the title of "Hero of the Soviet Union."

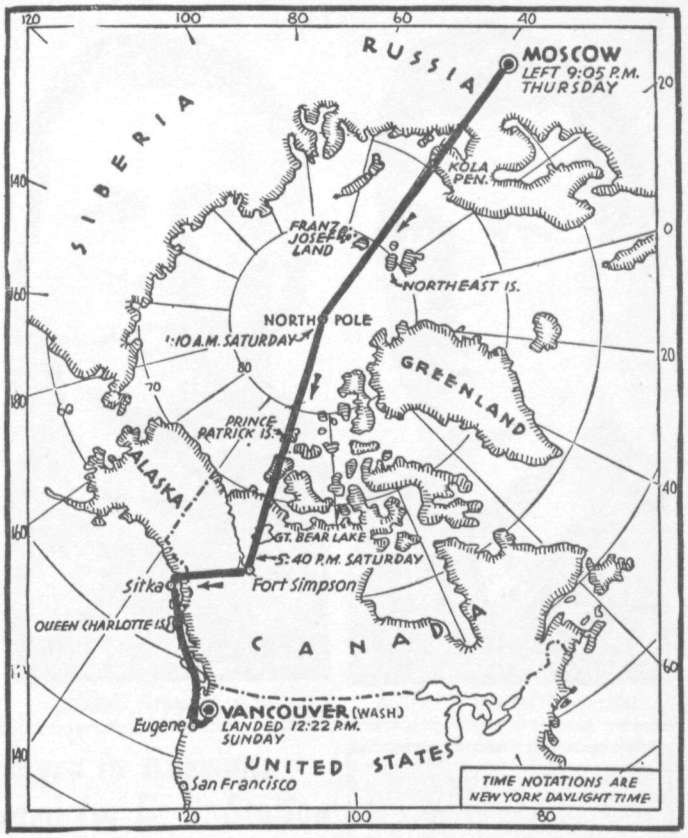
Georgi Phillipovitch Baidukoff, the co-pilot, is the 30-year-old son of a repair worker on the Omsk railway in Siberia.

He first saw a plane when he was 18, went to Leningrad and became an expert flier. He is a close friend of Chkaloff and, like him, has received the Order of Lenin and the title of "Hero."

Alexander Vassilievitch Beliakoff, the navigator, is the oldest member of the party—40. His father teaches on a collective farm in the Moscow area.

Alexander was graduated from high school in 1915, attended military school and served in the World War.

Now he is Professor of Air Navigation in the Military Air Academy, and a "hero of the Soviet Union."



After reaching Midwest Canada the airmen veered sharply to the Pacific and flew down the coast. They passed Portland, going southward, but found visibility so low on account of rain, that they turned back to Vancouver, opposite Portland, and landed at the army post.

Georgi Baidukoff, Valery Chkaloff and Alexander Beliakoff, from left to right, as they sailed for their homeland from New York

3 RUSSIAN AVIATORS LAND IN CALIFORNIA; EASILY TOP RECORD

Trans-Polar Crew Come Down in Cow Pasture in Thick Fog After Covering 6,262 Miles

RIVERSIDE, Calif., July 14.—The second crew of Soviet aviators to fly non-stop from Moscow to the United States by way of the North Pole landed in a cow pasture near March Field today with a world distance record.

The three fliers—Mikhail Gromoff, pilot; Andrey Yumasheff, co-pilot, and Sergei Danilin, navigator—came down near the army airfield, near San Jacinto, after having been in the air 62 hours 2 minutes. Their distance was 6,262 miles—608.5 miles greater than the previous non-stop record—although actually they had flown as far as San Diego, seventy miles south of here, and then had turned back because of inability to find an opening in a thick fog that blanketed the coastline. They landed at 10:25 A. M. New York time.

Shortly thereafter Gromoff called by telephone Constantine Oumansky, Chargé d'Affaires of the Soviet Embassy in Washington, and told him that the fliers had landed where they did so as to end their flight on United States soil.

"We had an extremely good trip and ran into our worst weather over San Diego," Gromoff said in Russian. "The weather was so overcast there that we could not find a spot to land and so turned inland to San Jacinto. We spent two hours over San Diego trying to find a landing field."

Mr. Oumansky was assured that the plane had functioned perfectly and that it had been in perfect shape when it was set down on California soil.

"The only reason we landed where we did was because if we had gone farther we would have left the limits of the United States and landed in Mexico," Gromoff declared. "We wanted to rest our ship on United States soil."

Flight to U. S. Recognized as World Distance Mark

PARIS, Oct. 16.—The International Aeronautical Federation today formally recognized the Soviet claim to the world's long-distance air record, set last July 13 when the Soviet flyers Mikhail M. Gromov, Andrei Yumashev and Sergei Danilin flew from Moscow to San Jacinto, Calif., a distance of 6,305.7 miles, in 62 hours 7 minutes.

The previous record was held by the French flyers Maurice Rossi and Paul Codos, who flew 5,657 miles from New York to Syria in 1935.

Sergei Danilin, navigator

Mikhail Gromoff, pilot

Andrey Yumasheff, co-pilot

Fliers Wirelessed Messages in Russian; Soviet Aide Translated for U. S. Station

WASHINGTON, July 14.—How the record-breaking Soviet fliers, with little or no knowledge of the English language, communicated regularly with English-speaking Americans en route was explained today.

By prearrangement, according to officials here, the fliers sent all their wireless messages in Russian, but in international dot-and-dash code. An expert of the Soviet Embassy was posted at the Army Signal Corps station at Seattle, Wash., and as the radioed messages came in they were taken down and referred to him for translation into English.

In addition a brief arbitrary code of letters was arranged to specify roughly the altitude at which the aviators were flying and a few other routine conditions as to weather and the like. This system was said to have worked well.

Announcements of latitude and longitude, indicating the current position of the fliers en route, were made, also by prearrangement, in figures only, and were understood as received. Many of these were picked up by stations other than that of the Signal Corps.

Dispatches from Moscow revealed that the fliers had been coached in the most necessary conversational English words and phrases by Sigismund Levanevsky, one of the leading Soviet aviators, and other friends who had visited the United States. However, the fact that the fliers, on landing in California, presented cards with the words "bath," "eat" and "sleep" indicated that they had been unwilling to trust to their memories.

Fliers Talk About Flight

By The Associated Press.

MARCH FIELD, Calif., July 14.—After they had rested here today at the end of their record-breaking transpolar flight, Mikhail Gromoff and his two aides discussed their feat. But first Gromoff sent greetings to the Soviet people and a message to Moscow that said:

"Proved feasibility of trans-Pole crossings, found magnetic disturbances. Radio communications O. K. with Russian stations. We reached Canada, then faded out. Plane performed excellently."

It was revealed that the fliers had circled four hours in Southern California, including two in the San Diego vicinity, before landing. Asked why they had not radioed their position during this time, Gromoff said:

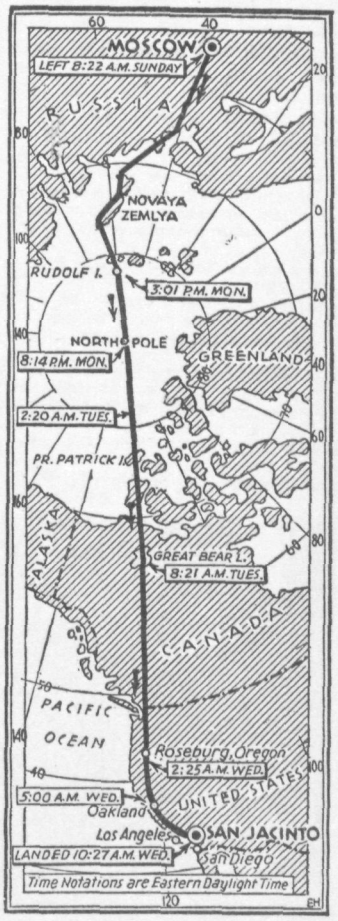
"It was of no interest to tell where we were. We knew where we were going."

In deviations from a straight line between Moscow and Southern California, it was believed, the fliers possibly achieved a non-stop distance of close to 7,000 miles.

"The hardest part of the flight was the take-off," Gromoff said. "We had to taxi 1,900 meters to get into the air. The second hardest part was an hour and a half later. We passed through two cyclones. The first was between Rudolf Island and the North Pole. The wings started icing. But we had a de-icer and got through all right."

MOSCOW, July 13.—The precision and foresight that went into the preparations for the flight to the United States of Mikhail Gromoff and his two associates were shown strikingly today in an announcement that their plane had reached the North Pole from Moscow in thirteen minutes less time than had been estimated.

The fliers completed this section of the flight in just under twenty-four hours. They had calculated to reach the Pole at 3:27 o'clock this morning. They crossed it at 3:14.



THE RECORD FLIGHT

The map shows how Russians flew from Moscow to a landing near San Jacinto, Calif.

LEVANEVSKY DOWN IN ARCTIC WASTES

Soviet Aviator and Five Aides Report One Engine Dead and Trouble With Their Radio

By The Associated Press.

FAIRBANKS, Alaska, Aug. 14.—Faint radio messages indicated today that six missing Soviet fliers were safe somewhere in the Arctic between Alaska and the North Pole. Three planes bearing Russian agents left Fairbanks to search for the fliers.

"No bearings * * * having trouble with * * * wave band," said the translated version of a message intercepted from the plane by the United States Army Signal Corps station in Anchorage at 6:44 A. M. [12:44 P M. New York time]. Part of the message was unreadable and the portion received did not give a clue as to whether the big Moscow-to-Fairbanks plane was aloft or down in the icy Arctic.

Government officials expressed belief that the powerful craft long since had descended. After having passed over the Pole early yesterday on its projected 4,000-mile flight from the Soviet capital to Fairbanks, it reported that one of its four engines was dead because of a damaged oil line.

The message was the first to be picked up by the army listeners in nearly twenty-eight hours. The last previous one was when the plane reported having passed the polar cap in 35-degree sub-zero weather

On an Ice Floe, Moscow Believes

MOSCOW, Aug. 14.—With Sigismund Levanevsky and his five flying companions apparently forced down on an ice floe somewhere on the American side of the North Pole, the Soviet Government threw all of its enormous Arctic organization into action today in an effort to rescue them.

After receipt of the last complete message from the plane yesterday afternoon, which said the rightmost engine was out of order as a result of a clogged oil feed, forcing the plane to descend to 4,600 meters, within a cloud belt, authorities of the Great Northern Sea Route Administration gradually became convinced that the plane had been forced to land on an ice floe because of ice forming on the wings and fuselage.

The plane continued for some time after that, but messages from it were fragmentary. The situation caused alarm here. Professor Otto J. Schmidt and other polar experts conferred all day and far into tonight on the best means to cope with such an unprecedented problem.

The most reassuring factor was that all polar stations could hear Levanevsky's radio transmitter even after the plane almost certainly was down on the ice. They heard his signals weakly and received no concrete information, but knew at any rate that the plane had not crashed and that its radio was intact.

At the headquarters of the Great Northern Sea Route Administration it was explained that the condition of the ice in the region of the North Pole was relatively favorable for a forced landing. It was said also that the crew of six had taken rations sufficient for a month and a half, with tents, sleeping bags, warm clothing, firearms and ammunition.

As soon as the authorities here realized that the gigantic plane was in trouble they began mobilizing all their forces. This they did simply by broadcasting an order over the vast Soviet Arctic network. Nine airplanes and two icebreakers were already in motion tonight.

The heavy line shows the route believed to have been flown by the Russian airmen before being forced down on their hop from Moscow to Fairbanks.

Bucked 60-Mile Wind

MOSCOW, Saturday, Aug. 14.—Fighting headwinds that at times exceeded sixty miles an hour, the huge Soviet plane H-209, piloted by Sigismund Levanevsky, crossed the North Pole at 1:40 yesterday afternoon, Moscow time [5:40 A. M. Friday, Eastern daylight time] on a flight to Alaska and the United States.

So great were the difficulties that the plane required more than three hours longer to complete the flight from Moscow to the North Pole than the sixteen hours calculated. The H-209 was flying above the clouds, which reached a height of almost four miles.

The latest message from the H-209 follows:

"13:40 o'clock; flying over North Pole. Had very hard time reaching it, beginning at the middle of Barents Sea. Dense clouds all the time. Altitude 6,000 meters. Temperature minus thirty-five Centigrade. Head winds at times 100 kilometers an hour.

"Give us weather on other side of Pole.

"Everything in order."

The plane's cargo, it was learned today, consists of furs, caviar and mail.

MOSCOW, Friday, Aug. 13.—Blond Sigismund Levanevsky, whose appearance and accomplishments have won for him the sobriquet "the Soviet Lindbergh," took off last evening at 6:13 o'clock [10:13 A.M., Thursday, Eastern daylight time] in a gigantic four-motored airplane for the United States via the North Pole.

The plane, the H-209, is simply stupendous. It gave an impression of extraordinary power and ruggedness as it stood poised last evening at the elevated end of a mile-long concrete runway at Sholkovo military airdrome, twenty-five miles from Moscow. Its four 34-RN motors deliver more than 4,000 horsepower to its four metal propellers.

Loaded for its transpolar flight, the plane weighed thirty-four tons. It has a wingspread of 125 feet. Its huge cabin could accommodate twenty-five passengers, with abundant space remaining for freight.

The pilot's seat is in the glass-enclosed nose of the plane, giving extraordinary visibility. The wings are bright red and the fuselage is dark blue. This latter color was designed to absorb the sun's rays, there being no other heating system. An oxygen supply was taken for many hours of flying in rarefied atmosphere.

Levanevsky Honored by Soviet

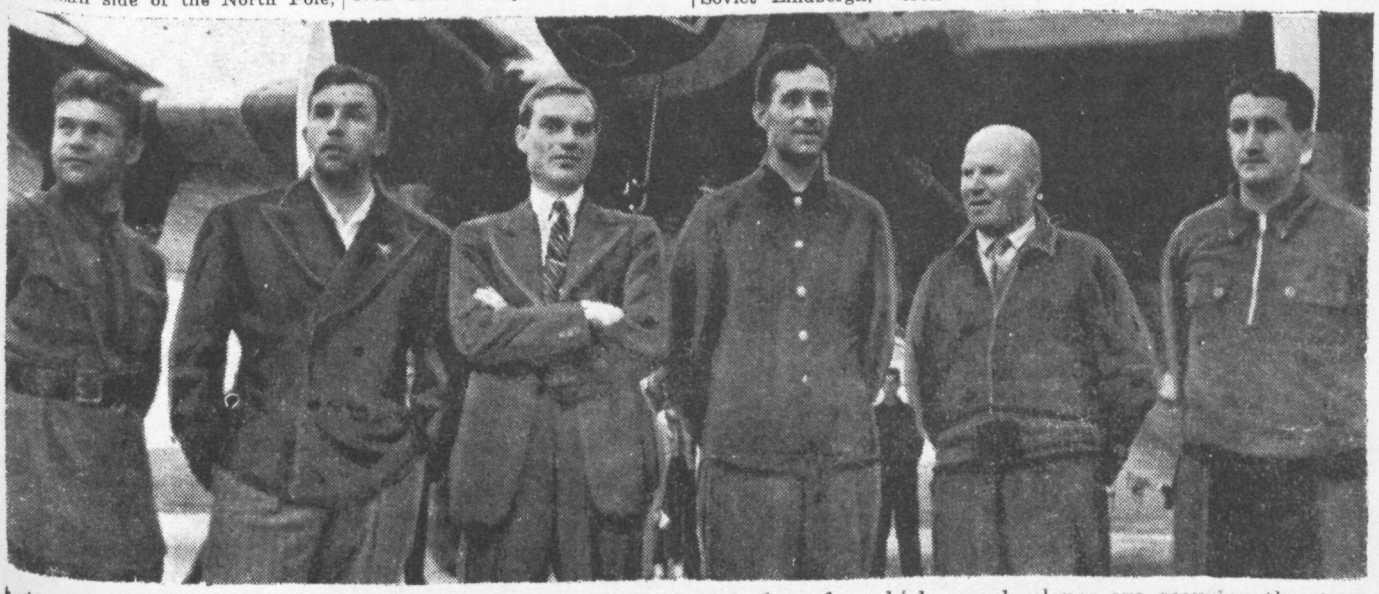
Sigismund Levanevsky rescued James Mattern, round-the-world flier, in 1933. Mattern had hopped from Khabarovsk, Siberia, on June 14 and was lost for several days. Engine trouble had forced him down near Anadyr, and his plane was damaged. He could not proceed.

Levanevsky went to the rescue in a seaplane and flew Mattern to Nome, Alaska, where he continued his flight in another plane.

He participated also in the rescue of 101 Russians stranded on an ice floe off Kamchatka in 1934. For this he received the title Hero of the Soviet Union and the Order of Lenin at the recommendation of Joseph Stalin.

He took off with two companions in 1935 for a flight across the North Pole to San Francisco. Oil trouble forced them to turn back.

In 1936 he led a trail-blazing plane on a flight from San Pedro, Calif., to Moscow in short flights via Alaska



MISSING Here's the personnel of missing N-209, Soviet plane for which search planes are scouring the Arctic and Alaska. L. to r.: Galdovsky, Kastanaov, Commander Levanevsky, Poboshinoff, Godivikov, Levchenko

WILKINS BELIEVES SOVIET FLIERS LIVE

Plans to Put Skis on Plane—Stefansson Holds Russians Can Last for Months

POUGHKEEPSIE, N. Y., Sept. 26.—Sir Hubert Wilkins, who returned to this country recently from the Arctic, where he searched for Sigmund Levanevsky, missing Russian flying ace, said tonight at Pawling that he believed the fliers were still alive.

"I am willing to offer my services as long as they are needed," Sir Hubert said. "I have every reason to believe that the Russian fliers are still alive, if they have not died of injuries in the event of a possible crash.

"We flew 19,000 miles, 12,000 over Arctic wastes in the hunt. The amount of space covered is more evident when it is known that in three previous expeditions which I made in the Arctic I flew less than 9,000.

"The search was ended due to two facts—that open water was no longer available for seaplane use and due to the fact that 70 per cent of all flights were done in foggy weather. It is possible that a new expedition will be equipped and sent up there in October, when it will be possible to conduct the search by moonlight."

"The new plane will have skis," he added.

Sir Hubert pointed out that international cooperation had made the search and others to come possible and he predicted that they would bring results. He said American equipment used was the best available and stood up under all sorts of bad conditions.

"We didn't go any further than 87 degrees north," he continued. "When the missing plane passed over the Soviet camp at the pole, the radio beam indicated it went 200 miles beyond. Therefore the search was confined to that area."

Sir Hubert and his wife are guests of Lowell Thomas, who also is host to Vilhjalmur Stefansson, polar explorer, and Herbert Hollick-Kenyon, pilot.

Mr. Stefansson said that "if the Russian fliers did not die of injuries, they are still alive."

"The search should be kept up all Winter," he declared. "Their food has given out but they have guns."

Conditions Will Improve

The search for the missing Russian polar fliers stands a three-to-one chance of success up to next Summer, it was pointed out Sept. 19 by the spokesman for the Explorers Club, which is serving in an advisory capacity for the Soviet Embassy in Washington.

The spokesman pointed out that the search began during the worst month of the year, August, when an average of twenty days of fog are encountered. There are fifteen days of fog in September, five to six in October, two and a half in November and then none until March.

He added that although daylight fails during four months in the Far North the moonlight will be even more effective for searching than daylight. He said that because of the clear atmosphere, snow reflection, light from the Aurora Borealis and other causes, moonlight in the Arctic Winter is nearly twice as effective as it is elsewhere.

With ski-equipped aircraft, to be used after Oct. 15, the search can be carried on indefinitely until next Summer, he added. There will be at some good moonlight searches possible in October, six in November and ten each for the next four months.

He said the fliers probably came down between Lat. 88 and 80 degrees N. and Long. 130 and 150 degress W It was held that the area could be quickly and effectively covered by searching aircraft as soon as clearing weather permits.

The explorers in the club who have had Arctic experience said that one polar bear a month would be sufficient to keep the missing Russians alive. They said that the men had been trained to do standing guard duty in case of mishap and that a bear, smelling the camp would approach friendly and cautious until within thirty yards of the sentry.

A few seal might also be bagged to vary the fare, they added, and melted Arctic ice would provide drinking and cooking water.

Andree Balloon Message Of 1897 Found in North

OSLO, Norway, Sept. 1.—Ottar Davidson, master of the Norwegian sealing ship Gudrun, which arrived at Tromsoe yesterday from Spitsbergen, brought here today a relic of the ill-fated Andree balloon expedition.

Three weeks ago, while in Hinlopen Straits off Northeast Land, the Gudrun's men found on Bastian Island a buoy with a closed copper tube containing a message of about fifty words in the handwriting of Major Salomon-Auguste Andree, the Swedish explorer, who was lost with two companions on an attempted flight to the North Pole in 1897.

The message is similar to those revealed in the finding of five others of the twelve buoys that Major Andree carried and dropped at intervals to inform the world of his flight.

Andree's last camp and the bodies of the men were found in August, 1930, on the island of Hvidoe [also known as Hirtvoen, or Files Land, between Spitsbergen and Fridtjof Nansen Land]. The explorer's diary, then discovered, gives the time and point where the buoy now found was thrown from the balloon.

Sir George Hubert Wilkins looking at Arctic area on globe

Build Polar Landing Fields

SOVIET NORTH POLE CAMP (By Wireless to Moscow) Aug. 31 (AP).—Soviet Russia's four polar campers have built two landing fields as a base for searchers for the six missing Russian fliers. It took them ten days of diligent hacking and shoveling of packed ice to level off hummocks left on their ice floe by melting snow.

Russians in First Winter Flight Over Pole Search in Vain for a Trace of Levanevsky

MOSCOW, Oct. 7 (AP).—A Soviet searching party flew over the North Pole in the Arctic twilight today in a fruitless quest for Sigismund Levanesky and his five Russian companions, who disappeared last August on a trans-polar flight to the United States.

Mihkail Vodopyanoff, noted Russian Arctic flier, piloted the light, four-engined searching plane that left Rudolf Island, 560 miles from the Pole, at 3:21 A. M. [7:21 P. M., Wednesday, New York time.] He swung the plane over the sixty-eighth meridian, which was followed to the Pole, and then traveled down the 122d meridian on the American side to Lat. 88 degrees 33 minutes. Dense fog there forced the party to return and the landing was made at Rudolf Island at 1:10 P. M.

The flight marked the first made by the searchers in the polar twilight. They flew in thick fog, they reported, until they neared the pole, where the weather cleared. Fog was encountered again, however, after the Pole was crossed, and Vodopyanoff turned back with the declaration that further flying was useless. Three flares were dropped in the hope that they would be seen by the missing airmen and an answering fire would be lighted.

Planes to Hunt Russians In North Pole Darkness

4 Are Specially Equipped to Fly in Unending Night

MOSCOW, Oct. 28 (AP).—Four large planes equipped for flying in the polar night were intrusted today with the Arctic search for Sigismund Levanevsky, missing transpolar flyer, and his five companions. Ivan Chukhnovsky, experienced Soviet aviator, will be in charge of the new expedition, which will relieve that headed by Shevelev, a pilot who has been searching since September 10.

In Ottawa, Sir Hubert Wilkins speeded preparation for a second search expedition. He said he was convinced that the Russian flyers, who disappeared August 13 on a flight over the pole from Moscow to the United States, were still alive. The Soviet government is financing his expedition also.

Four planes commanded by Shevelev have been recalled, but he will remain at Rudolf Island to cooperate with Chukhnovsky's searching expedition. Chukhnovsky's planes have been tested and are believed fit for the hard winter flying in bad weather they were certain to encounter.

Russians Discover 4 Islands

MOSCOW, May 10 (AP).—The hydrographic ship Toros reported to Archangel today the discovery of four new islands and five straits northeast of Dickson Island in the archipelago Nordenskiold, in far northern Siberia. The vessel also reported it had found that Taimys Island, in the same area, really consisted of six different islands.

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THE POLAR TIMES highly recommends "The Polar Record," published January and July by the Scott Polar Research Institute, Cambridge, England.

The American Polar Society was founded Nov. 29, 1934, to band together all persons interested in polar exploration. Membership dues are one dollar a year, which entitles members to receive THE POLAR TIMES twice a year.

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BARTLETT'S PARTY PUSHES FAR NORTH

The Morrissey Reaches 675 Miles From Pole Through Ice of Kane Basin

By CAPTAIN BOB BARTLETT

ABOARD THE SCHOONER EFFIE M. MORRISSEY, Davis Straits, Aug. 25.—The Morrissey reached her farthest point north yesterday at Lat. 78.45 degrees N. Here, David Munsell of Maryland hoisted his State flag only 675 miles from the North Pole. The flag had been presented to the expedition by a charming girl. The Calvert colors, black and yellow, showed up beautifully against the Arctic midnight sky.

Kane Basin is chock full of ice from Cape Sabine to Cairn Point. The prevailing South winds this Summer have kept the polar pack stationary.

My intention had been to visit Rensselaer Harbor, Winter quarters of Dr. Elisha Kent Kane in 1853, 1854 and 1855. Also, we had planned to use the otter trawl presented to the expedition by Bassett Jones and get fish specimens for the Smithsonian Institution in Washington.

Biological Specimens Gathered

We used the trawl in the walrus grounds from Cape Alexander to Hakluyt Island. We got no fish, but some bone specimens came up in the bunt of the bag. Also, we picked up two cute little walrus pups for the Brookfield Zoo in Chicago. In Smith Sound we used a dredge and plankton nets successfully.

David Nutt, volunteer collector for the Cleveland Museum, has gathered many bird specimens. Erling Porsild, a botanist, came with us from Ottawa and is visiting his father, Dr. Mortin Porsild, director of the Danish biological station at Godhaven, Greenland. Two of our lads, Rupert Bartlett and Stuart Miller, have made a collection of flowers.

At Crimson Cliffs, Cape York, we got some red snow for George de Ghika, Hungarian Consul General in New York City. While at Cape York, we visited the Peary Monument and found it solid and majestic. Ootah, last of the four Eskimos who went to the Pole with Peary, was there, hale and hearty.

Skirting the shores of Melville Bay, we saw thousands of bergs launched to go south next Spring and give plenty of work for the ice patrol.

Meets Greenland Administrator

I met Daugaard Jensen, administrator of Greenland, on our annual visit. He is doing splendid work as Greenland's administrator and is opening up coal mines and the marble, shark, halibut and codfish industry.

Sailing through Vaigat was a trip that none of us will forget for its sheer beauty. In the north, there was beautiful weather all the day, while the weather to the south reflected the disturbed conditions there.

Crossing Davis Straits, we picked up a bear cub for Grover Whalen, president of the New York World's Fair 1939.

It has been a grand Summer. All of us are well and we have been busy doing worth while things.

Kane Basin, to which Captain Bartlett has pushed the Morrissey on his eleventh Summer trip to the Arctic, is a widening of the straits between northwestern Greenland and Ellesmere Land.

Dr. Elisha Kent, in June, 1854, penetrated beyond the basin into Kennedy Channel to about 81 North Latitude. Two degrees further, the straits open upon the frozen North Polar Seas.

Finds Relics of Search For Franklin Expedition

By the Associated Press.

BARROW, Alaska, Feb. 25.—Charles Brower, a trader, studied faded papers today pertaining to the voyage of the British ship Enterprise in search of the Sir John Franklin expedition eighty-seven years ago. An Eskimo said he found the can on a beach 300 miles east of Point Barrow.

Mr. Brower intends to forward the papers to the British Admiralty for historical purposes.

H. M. S. Enterprise, commanded by Captain Richard Collinson, was one of many ships which searched for the lost Franklin expedition, last seen in 1845. The Enterprise was at Point Barrow in 1854.

It was not until 1879-1880 that the bodies of some members of the Franklin expedition were found, though proof of their deaths was established in 1859 by possessions returned on H. M. S. Fox.

RESOLUTION 'ISLAND' FOUND GROUP OF 500

MacMillan Ship, in Hudson Straits, Radioes Discovery to Chicago Yacht

CHICAGO, July 30 (AP).—Discovery that Resolution "Island," Arctic formation north of Labrador, is not one large island but 500 small ones was reported today by wireless from the expedition of Commander Donald B. MacMillan.

E. F. McDonald, MacMillan associate in previous Arctic explorations, said his yacht Mizpah in Lake Michigan received word of the discovery in a message from the commander.

The latter's schooner, Gertrude Thebaud, sailed June 24 from Gloucester, Mass., with a group of scientists aboard.

Mr. McDonald said the MacMillan discovery "undoubtedly will necessitate a change in maps, navigation charts and atlases," which now show Resolution to be a single island about 175 miles long and 50 miles wide.

He reported that the MacMillan message said in part:

"We worked through the ice in Hudson Straits to Resolution Island and found it to be a mass of islands instead of one. A conservative estimate makes it a group consisting of at least 500 islands.

"We found the group to be very interesting scientifically, botanically and geologically."

BAFFIN LAND FOUND RISING OUT OF SEA

MacMillan Party Scientist Reports Discovery There of Iron and Copper Deposits

BOSTON, Sept. 3 (AP).—Discovery of iron, sulphur and copper deposits on Baffin Land and the eastern shore of Northern Labrador, hitherto considered barren Arctic waste, is reported by Professor Martin J. Buerger.

Professor Buerger said that he considered the discovery of scientific importance, but that it would be of no aid to industry because "the deposits are not rich enough and are too far away."

An associate professor of geology and petrography at Massachusetts Institute of Technology, Mr. Buerger spent ten weeks exploring the Arctic region with the expedition headed by Commander Donald B. MacMillan.

Professor Buerger said that Baffin Land, next to Australia and Greenland the largest island in the world, "was slowly rising out of the sea."

"An ice cap which weightened the land down is melting," he explained, "causing the land to bow up because of its new lightness."

Gravel and boulder beaches, he said, were found 200 feet above the sea.

Assertion that he had found evidence that the "Continental Glacier originated in Baffin Land, farther north than is generally supposed," Professor Buerger said that he believed America and Baffin Land were "once part of the same land unit."

"Rocks we found in the region," he explained, "were the same age as rocks found in this country."

The glacier, he explained, "plucked Hudson Strait, separating Baffin Land from Labrador, and convinces me that once they were the same land mass."

Skiing Followed by Swimming

GLOUCESTER, Mass., Sept. 4 (AP).—Her log inscribed with details of a successful scientific quest and adventures which brought members of her crew close to death, the Gloucester schooner Gertrude L. Thebaud late today nosed into port at the end of a ten-week Arctic expedition.

Lieut. Comdr. Donald B. MacMillan, veteran of sixteen expeditions in Northern waters, told of the trip which took his crew of college boys and scientists to Baffin Land and Labrador and which three times nearly ended in disaster.

"But," he declared, "it was the most successful I've ever been on. It gave the scientists and students opportunities galore to make their studies and to collect specimens."

The Arctic explorer declared weather conditions during the expedition were "excellent," with little fog, and the lowest temperature reaching 36 degrees off Resolution Island.

"On almost every day," he said, "members of the party went swimming, and while we were in Baffin Land, went skiing and then cooled off with a dip."

Those pleasures, he said, were counteracted by swarms of mosquitoes and black flies on the Labrador coast, and dangers to the ship and crew.

Her tall masts bare of canvas and her only power supplied by the auxiliary engine, the Thebaud was lashed by a seventy-mile gale that put the deck rail under water.

"It was the toughest experience in my career," Commander MacMillan declared. "And at the height of the gale one of the college boys asked Frank Ellis (one of the Gloucester fishermen in the crew) if he called this a 'hard breeze.'"

Four of the college boys nearly didn't return. Commander MacMillan said. They were Russell Welch of New York, John Endicott of Worcester, Amos Shielder of Brussels, Belgium, and Walter Staples of Kittery, Me.

Commander MacMillan related that the four youths went out in a dory in polar bear-frequented, ice-jammed water, looking for seals, were caught in a heavy tide and were being pulled out of sight when their plight was noticed. Crushing through the ice, the Thebaud reached the dory's side.

On another occasion a rapidly falling tide at Frobisher Bay stranded the schooner, which careened, and engine room and cabins filled with water. A radio call for help was sent but because of weakened batteries was not heard, he said, and with the rising tide the vessel righted herself. A leak was plugged with canvas and tape.

Packed in the Thebaud's hold was the real object of the expedition—a collection of 20,000 plants, 215 birdskins and specimens of iron, sulphur and copper gathered on Baffin Land and the Northern Labrador shore.

M'MILLAN REPORTS CONQUEST OF PEAK

Expedition, Reaching Portland, Me., Tells of Climbing Mt. Brave on Baffin Land

PORTLAND, Me., Sept. 3 (AP).—Lieut. Comdr. Donald B. MacMillan said tonight that his scientific expedition into the Arctic regions had scaled Mount Brave, 4,390-foot peak on Baffin Land, named by a Harvard expedition in 1900.

This he thought one of the noteworthy accomplishments of his sixteenth invasion of the northern lands, since there is no previously known record of its ascent.

Recordings of the ascent and markings were made at the mountain's summit to give the climb authenticity, he said.

The expedition arrived here from Boothbay Harbor, marking completion of another leg of its return to Gloucester in the 130-foot fishing schooner Gertrude L. Thebaud.

Commander MacMillan also reported his bewhiskered party of exploring college students, most of them with facial growths of two months, had caught and banded fifty Arctic terns, Polar birds which fly distances as great as 23,000 miles each Spring.

"We are hopeful," said the explorer, "that we will hear of those terns bearing our identification tags from as far as Cape Horn."

Happy parents and friends of the crew gathered at the Maine State pier to welcome the bronzed young seamen, among whom was 15-year-old Ivan Spear of Cape Elizabeth.

Included in the Thebaud's cargo were 20,000 flora specimens, the largest collection ever brought back by a MacMillan expedition.

"Another noteworthy feature of our expedition this year," Commander MacMillan said, "was our correcting the longitude and latitude by Frobisher Bay. Previous locations of the bay were in error."

U. S. Woman Is Heading Sixth Arctic Expedition

Louise Boyd Leaves Norway in Command of 23 Men

OSLO, Norway, June 26 (AP).—Miss Louise Boyd, Arctic explorer and hunter, of San Francisco, has left Aalesund in the iceship Veslekari as chief of her sixth expedition.

The only American woman on whom King Haakon has bestowed the honor of the Knighthood of St. Olav for conspicuous work in the Arctic will lead twenty-three men.

May 5

The only woman polar explorer, Miss Louise Boyd, whose Arctic explorations in the last ten years have rivaled those conducted by men, will sail for Norway today aboard the Norwegian American liner Bergensfjord to start another expedition to Greenland waters. An attempt will be made to locate the undersea shelf believed to connect northeast Greenland and Spitsbergen.

Miss Boyd, who leads and finances her own expeditions, contributes her findings to the American Geographical Society, of which she is a fellow and honorary member. On this expedition she will be accompanied by a group of American scientists, including Dr. Richard F. Flint of the Department of Geology of Yale University, Albert L. Wasnburn, his assistant; Dr. Henry Oosting, Professor of Botany at Duke University; James M. LeRoy, hydrographer, and Fred Buhler, surveyor.

From Norway the party will go to Aalesund, where the Norwegian sealing ship used by Miss Boyd on several of her previous expeditions awaits them. They will said for the waters between northeast Greenland and Spitzbergen at the end of the month and will remain in Arctic waters until mid-September.

Miss Boyd, daughter of the late Mr. and Mrs. John F. Boyd of San Rafael, Calif., began to take an interest in polar exploration after a trip to Greenland in 1924. In 1926 she organized and led her own expedition to Franz Josef Land.

She had planned another for 1928, but instead organized a searching expedition to attempt to find Roald Amundsen, lost in the Arctic in June of that year. In 1931 and 1933 she led expeditions to Northeast Greenland. She is the author of two books, both published by the American Geographical Society, "The Fjord Region of Eastern Greenland," and "Polish Countryside."

Miss Boyd has penetrated further into the Arctic regions than any other white woman, but contends that she is "not a scientist." An expert photographer, she devotes herself to leading the expeditions and making complete photographic records of all findings. She discovered the DeGeer Glacier in 1931. Part of Franz Josef Land is named for her. The Danes call the region "Miss Boyd Land."

Arctic Radio Stations Will Guide Shipping

Three additional radio stations are to be built in the Arctic this season on Kotel Island, the De Long Archipelago, and Cape Chaplin, on Providence Bay. The stations will signal ships on weather and ice conditions so as to discover any short cuts that may be made. The new stations probably will be completed in a year.

Clifford J. MacGregor

WEATHER IN ARCTIC SENT TWICE DAILY

MacGregor Party Starts Service to Washington From Greenland Base

By CLIFFORD J. MacGREGOR

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REINDEER POINT, Greenland, Oct. 16.—The MacGregor Arctic Expedition is entering the second month of operation at the base camp located at Reindeer Point, near Etah, Greenland. Great activity has been going on in ferrying freight and supplies ashore to establish the camp.

The buildings have been completed. They consist of the main house for the living quarters, 14 by 20, with sleeping rooms above. On the front is a lean-to, 8 by 14, divided into a storeroom and astronomical observatory. At the rear of the main building is the radio and weather bureau office. In front of the main building is the engine and storehouse.

The expedition is one of the finest equipped ever to enter the North Polar regions. It is provided with electric lights, the power for which is furnished by a large windmill driving a 32-volt generator. We have hot and cold water and a modern bath. For washing clothes, an up-to-date washing machine is used. The power is furnished by a small gasoline motor. An electric vacuum cleaner is used for cleaning the floors and then is converted into a blower for changing the air in the living room, thereby assuring a supply of fresh air.

The day starts at 6 A. M. by two scientists making an upper air sounding with a small pilot balloon that is filled with hydrogen and rises about 600 feet a minute. These observations give the velocity and direction of the wind aloft of the polar air masses that move down into the lower latitudes.

A summary of the weather conditions is made up and forwarded to Washington twice daily. This information is then placed on the forecast maps, thus filling in a large space that has been blank.

This is the first time that an expedition has ever attempted to make weather observations daily and transmit them direct to Washington so that the information is available at once. When more of this work is carried on, greater results will be accomplished and forecasts will be increased to cover a much longer period, thereby benefitting the whole world.

About 300 yards from the main building are located the magnetic buildings. These are constructed of non-magnetic materials so that they will not affect the delicate instruments. It has been found that by measuring the intensity of the "H" instrument there is a direct correlation between it and radio reception. Therefore, a very close observation is being maintained between the magnetic instruments and the radio reception. It is hoped that these observations will assist the short wave engineer in solving many of his difficulties in reception and transmission of high frequency signals.

The radio has made many contacts with amateurs, using phone and code, throughout the Eastern part of the United States, a feat that has never before been accomplished from this far north, as this has always been considered a dead space in radio due to the geographical position with relation to the North Magnetic Pole. This is being accomplished with a rhombic antenna and much improved radio equipment.

Several members of the expedition have talked with their families and friends back home, thus making the Polar regions appear much closer than they really are. With the advance of modern science, exploring in the far North has undergone a great change in the last few years, especially since the advent of radio.

As one leaves the main building and heads for the engine house, it will be noticed that the building has been constructed over an old Eskimo igloo, making it appear very small, but upon entering the observer will see a large room and great activity. Sewing machines are running, making dog harnesses and small boots for dogs' feet. These boots are used to keep the dogs from cutting their feet on the sharp ice. Parkas, trail tents and sledges are being put together and equipment is being assembled. The place is a regular beehive of activity.

Out in the bay you will notice the three-masted schooner frozen in, with a couple of dog teams hauling in supplies. The thing that will probably strike you most is that they make a very crooked trail rounding an iceberg here and going around another some distance away. All these manoeuvres are to train the dogs so that they will know which way you want them to go when you get out on the trail.

As soon as one of the boys feels that he can drive a team of dogs he will make a trip down the coast about ten or fifteen miles and return. All these manoeuvres are necessary to harden up the fellows and dogs so they will be in condition to freight supplies across Smith Sound into Ellesmere Land, Canada, in the near future. These supplies will be moved north and a base established in order to make a survey of an area northwest of Ellesmere Land and the only unknown remaining area in the North Polar region.

There is never a dull moment on the expedition, with plenty of work to do. The fellows are all busy, happy and well.

Arctic Schooner Named After General Greely

Daughter and Son of Explorer Take Part in Ceremony

NEWARK, N. J., May 2.—The three-masted schooner General Adolphus W. Greely, base ship of the MacGregor Arctic expedition, which will sail from here on June 25, was named at the Port of Newark today when Mrs. Gertrude Greely Shedd, daughter of General Greely, broke a bottle of champagne across the bow of the refitted whaler. Also participating in the ceremony was Major Adolphus W. Greely jr., son of the general who led the first International Polar Year expedition in 1882.

NEWARK, N. J., July 1. — The three-masted auxiliary schooner General A. W. Greely sailed from Port Newark this evening for the Arctic amid a great tooting from tugs in the harbor and motorcars ashore in which friends had come to see off members of the expedition.

Clifford J. MacGregor, meteorologist at Newark Airport, who is on leave of absence, is leader of the expedition, and Commander Isaac Schlossbach, U. S. N., retired, is second in command.

The purpose of Mr. MacGregor is to obtain data which he believes will be of assistance in long-range weather forecasting in these latitudes. He is of the opinion that the aurora borealis influences the weather, and he is going to take color photographs of it. The vessel carried fourteen phonographs and cartons of records and toys for distribution among Eskimos. It also carried 200 pounds of Brazil nuts for consumption at Thanksgiving, Christmas and other holidays.

It is his intention to make exploratory flights in an autogiro and to claim for the United States any land he discovers.

PEARY MONUMENT DEDICATED AT HOME

Daughter Unveils Life-Size Statue of Pole Discoverer at Cresson, Pa.

CRESSON, Pa., Oct. 15.—Rear Admiral Robert Edwin Peary, explorer and discoverer of the North Pole, was honored here this afternoon when a life-sized statue was unveiled at the site of his birthplace just on the outskirts of the town. It is in a newly made park on the William Penn Highway and in plain view of those traversing Pennsylvania.

The day was a holiday and thousands of people assembled to pay tribute to Cresson's famous son. A clear sky formed a canopy overhead while a balmy atmosphere prevailed for the ceremonies. Two of Admiral Peary's companions on the famous trip to the North Pole were present. They were Captain Robert A. Bartlett, an explorer himself, and Matt W. Henson, the Negro servitor who made the trek to the pole with the explorer and is now a retired employe of the New York Custom House. Both received honor in the exercises.

Dr. William Herbert Hobbs, Professor-Emeritus of the University of Michigan and author of the book "Peary," was the chief speaker. He was a personal friend of Admiral Peary. In his talk he pictured the boy Peary, the son of a shookmaker, at his native home on the mountain top, told of his love for athletics and taxidermy, and then his educational career.

He pictured him as a brilliant student and as becoming an engineer. He spoke of his work as an engineer on the Nicaragua Canal project in the late Eighties, of his entrance into the navy, and facts leading up to his polar explorations.

He reviewed each attempt of Peary to reach the Pole, described the harrowing experiences and the glory that was his when he became the first man, with Henson, to reach the goal.

Mrs. Marie Peary Stafford of Washington and her son, Peary Stafford, 15 years old, daughter and grandson of Admiral Peary, pulled the ribbons that unveiled the statue. It is the work of Joseph P. Pollia of New York City.

The ceremonies were preceded by a parade in which school children of Cresson and vicinity, Legion posts, bands, drum corps and civic organizations marched.

The Cambria County Historical Club and the Cresson Rotary sponsored the Peary memorial, arranged for the dedication and likewise sponsored the Peary park.

Peary's Vessel Now Hauls Logs

WASHINGTON (AP).—One of America's proudest exploration vessels, the Smithsonian Institution has disclosed, is hauling log rafts between San Francisco and Seattle. It is the Roosevelt, used as a base by Admiral Peary's expedition which discovered the North Pole in 1909, and later used as the rescue ship of Captain Amundsen in aiding his icebound vessel, the Maude. Naval architects and designers tarcing the history of the merchant marine discovered the present activity of the Roosevelt.

PERPETUATING THE MEMORY OF NORTH POLE DISCOVERER

Times Wide World

Explorers and scientists at the ceremony at Cresson, Pa., when a statue of Admiral Robert E. Peary was unveiled at his birthplace. Left to right are J. E. B. Buckingham of Philadelphia Graphic Society, Dr. William Hobbs, Professor of History at the University of Michigan; Captain Robert A. Bartlett, Mrs. Marie Stafford, daughter of Admiral Peary; Matt A. Henson, who accompanied Peary to the Pole, and Edward Stafford, son-in-law of the explorer.

FINDS ARCTIC CAMP OF 5 LOST IN 1912

Norwegian Captain Discovers Equipment of Germans Led by Schroeder-Stranz

OSLO, Norway, Sept. 14.—The last camp of five members of the German Polar Expedition headed by Lieutenant Schroeder-Stranz, who perished in 1912 in an attempt to measure the speed of a drifting ice flow, has been found on the shores of Dove Bay.

The discovery was made July 25 by Captain Amandus Wilhelmsen, master of the motor cutter Maud, who while on a fishing trip in the Svalbard district rowed ashore to look for a Summer harbor.

The German authorities today notified the Norwegian Government that there was no doubt the equipment Captain Wilhelmsen had brought back belonged to the Schroeder-Stranz expedition.

This included two binoculars, one long marine telescope, five oilskins with woolen lining, a pair of oars from a fishing boat, one paddle, remnants of a canvas boat, a sleeping bag with a German trade-mark, rifle cartridges, a revolver and cartridges, parts of a medicine chest and three letters, now illegible, carved on the root of a tree. The cloth crumbled away at the touch and the leather on the binoculars had been destroyed by age.

The expedition, which left Tromsoe in a Norwegian ship recrhistseend the Herz und Ernst to study meteorological, zoological and other conditions, consisted of fourteen Germans and five Norwegians.

After its arrival at Sorge Bay, Northeast Spitsbergen, Schroederstranz, despite Norwegian experts' protests, forced the four Germans to join him in crossing a moving ice floe. It was intended that they be picked up by the expedition ship, but the five were never found.

The relics of the camp will be sent to Germany soon. The German Government is reported considering sending an expedition in search of the bodies next year.

Says 'Hell' Lures Eskimos Because of Its Warmth

By The Associated Press.

ANCHORAGE, Alaska, July 14.—A Spanish priest said today that Alaskan missionaries never should mention hell to Eskimos because the natives might decide they would want to go there to keep warm.

"The first preachers told the Eskimos about hell, but the natives expressed a desire to go there to keep warm and to keep from hauling wood," Father Segundo Llorento said.

Eskimos at his mission have to haul firewood 150 miles.

Negro Explorer Feted by Club

Matthew Henson, Who Accompanied Peary To Pole, Honored

NEW YORK, Oct. 15 (C.T.P.S.) "A man who would go to the Arctic for a pleasure trip would go to Hell for pastime," Matthew A. Henson, 71 years old, a Negro and the only living man who got to the North Pole on foot, said last night.

Henson made the statement to a company of distinguished Arctic veterans at the Explorers Club, into which he was inducted as a life member. He is the only Negro member of the club. The honor was in recognition of his feat in accompanying Rear Admiral Robert E. Peary in the historic dash to the Pole in 1909.

NEW ARCTIC ROUTE OPENED BY 2 SHIPS

Second Northwest Passage Becomes Reality as Vessels Meet in Bellot Strait

ON BOARD S. S. NASCOPIE, Prince Regent Inlet, Canada, Sept. 3 (Canadian Press).—Second Northwest Passage across the top of the world was charted today when two ships met in the waters of Bellot Strait.

The meeting of the vessels, fulfilling the 400-year-old dream of Elizabethan explorers, marked the discovery of a new and shorter water route between Eastern and Western Canada.

Cautiously feeling its way through the unknown waters of Bellot Strait, the Hudson Bay Company's ship Nascopie sighted the schooner Aklavik, faintly silhouetted in a light snowstorm.

The encounter took place at a rocky headland on the most northerly tip of the Canadian mainland, where the narrow strait separates Boothia Peninsula from Somerset Island.

The Nascopie had come from Montreal, the Aklavik from Cambridge Bay in the Mackenzie region of the Western Arctic.

It was the first time a ship had traversed unsounded Bellot Strait.

When the Aklavik and the Nascopie made their contact Eskimos from the Eastern Arctic and the Western Mackenzie River district aboard the ships made the ice-bound wilderness echo with cheers.

Major D. L. McKeand, commander of the Eastern Arctic patrol, greeted Patsy Klingenberg, famous trader and interpreter of the Western Arctic.

Offers a Safer Ship Route

When it becomes fully charted, the Bellot Strait passage will offer not only a shorter route, but a safer one, than the Lancaster Sound-Barrows Strait pasage from Eastern to Western Canada, it was said. The original route, ice-bound most of the year, has been traversed only three or four times since Roald Amundsen's three-year voyage (1903-1906) over the treacherous route.

During a broadcast from the Nascopie, Major McKeand suggested that a bay or headland on this rocky, narrow fiord be named after Captain T. F. Smellie, the ship's veteran skipper, to commemorate the first crossing of Bellot Strait.

The Bellot route has been under consideration by Arctic explorers since 1858, when Captain Thomas McClintock, searching for the lost Franklin expedition, tried to run it. He failed and others have failed since until the success of the Nascopie.

Ship Broadcast Heard Here

In a broadcast originating from the Nascopie and the Aklavik in Bellot Strait, Sept. 3 officers of the two ships described to an audience in the United States the charting of the new route. The broadcast was picked up by the Canadian Broadcasting Company, which relayed it to the National Broadcasting Company. NBC re-broadcast it over a wide network from 11:05 until 11:15.

The captains of both ships and Major McKeand spoke. The broadcast was surprisingly clear, NBC officials said, although the ships were anchored at a point about 150 miles north of the magnetic pole.

For many centuries, and especially since Elizabethan times, explorers sought a northeast or northwest passage that would connect the Atlantic and Pacific Oceans through the Arctic regions. Passages have been found, but most of them require travel far into the Arctic Circle.

Since the Hudson Bay Company was formed in 1670 explorations have originated from the vicinity of its trading posts hoping to find shorter and more navigable passages.

Until this latest discovery (the passage through the Bellot Strait) it has been necessary for ships traveling across the top of North America to use Barrow Strait and Lancaster Sound for journeys between the east and the west in the Arctic region.

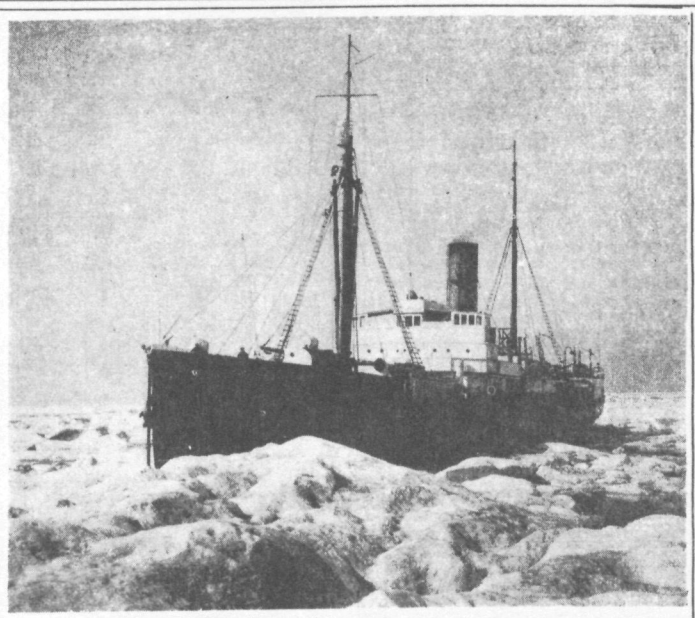
Lancaster Sound is the direct route into Baffin Bay. Ships seeking to enter Hudson Bay from the north use Barrrow Strait and then head southward through Prince Regent Inlet and the Gulf of Boothia.

It is where these two waters meet that Bellot Strait extends east and west, separating Boothia and Somerset Island. The fact that there was such a strait was discovered in 1852 by Lieutenant J. Bellot of the French Navy, but until now it was never believed to be navigable or even open for navigation.

Much Travel Is Saved Ships

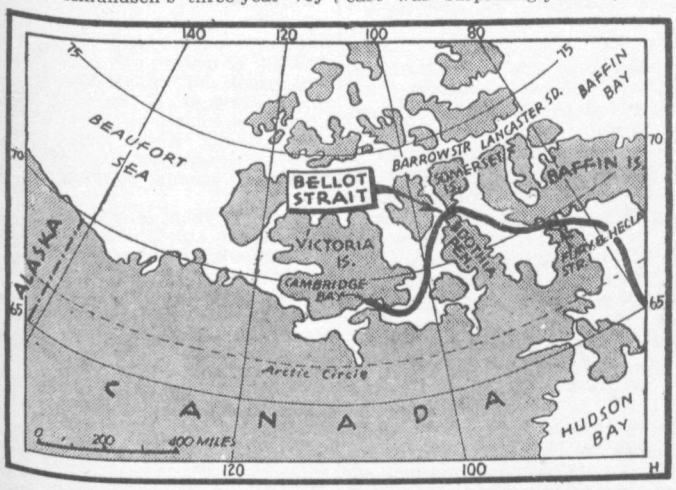
The strait is more than 100 miles south of Barrow Strait, the present route, and is in a more favorable latitude. It is now possible for ships to save several hundred miles by avoiding the northward loop around Somerset Island on their way to the Beaufort Sea and Bering Strait to the west or to other parts of Canada to the east.

Captain J. Ross, who, in 1831, a covered the position of the North Magnetic Pole on the western side of Boothia while he was seeking a northwest passage, passed by Bellot Strait, but either did not see it or considered it unnavigable. For several years he and his party were in the vicinity of the strait, but abandoned their explorations after discovering King William Land, and were picked up by whalers in Barrow Strait, where they were stranded.



(Photo courtesy Hudson's Bay Company)

R.M.S. Nascopie in Ice



LINE OF NEW NORTHWEST PASSAGE

Dreams of many years are fulfilled by the discovery of this new route in arctic seas.

DOUBTS IF ARCTIC HAS NEW PASSAGE

Bumstead Says Bellot Strait Is Too Beset With Perils to Provide a Ship Route

WASHINGTON, Sept. 4.—Albert H. Bumstead, chief cartographer of the National Geographic Society, expressed doubt today that a new Northwest Passage from the Atlantic to the Pacific had been established by the Canadian vessels, meeting in Bellot Strait.

Praising the skill and courage that drove the Canadian vessels through the strait, he nevertheless was skeptical that this route would be feasible except under most favorable conditions and that it would prove a desirable alternative to the original Northwest Passage along Lancaster Sound and Barrow Strait.

The narowness of Bellot Strait, the almost ever-present ice, and the nearness to the magnetic pole would all militate against the use of the passage, he concluded, after studying Canadian dispatches telling of the meeting of the two ships.

Mr. Bunstead's argument concerning the proximity of the strait to the magnetic pole was regarded as particularly interesting because it was he who invented the sun-compass used by Admiral Byrd in all his Arctic and Antarctic flights. The Admiral had been concerned over the uselessness of an ordinary magnetic compass in regions close to the magnetic pole.

"Bellot Strait shortens the Northwest Pasage by about 400 miles only when Fury and Hecla Strait has also been navigated," Mr. Bumstead said.

"This latter strait, some ninety miles in length, separates Baffin Island from the Canadian mainland.

"The Fury and Hecla Strait was surveyed on foot nearly a century ago. I am not aware that any one has succeeded in taking a ship through it.

Declared Beset by Fog

"Bellot Strait was known as long ago as 1849 when Leopold McClintock failed to get through in spite of long sustained effort. It is about thirty miles long and only a mile or so in width. It is almost continuously blocked by heavy ice, and beset by storm and fog.

"To add to the difficulty of its passage it is so near the magnetic pole that the magnetic compass for steering is utterly useless.

"The navigation of Bellot Strait can be regarded as a splendid feat of seamanship, but I cannot see how it has added anything to geographical knowledge nor proved the feasibility of a route that can be used except in the most favorable Summers.

Evoking Mr. Bumstead's comments were wireless dispatches from the Hudson's Bay Company steamship Nascopie, at Prince Regent Island, saying she had met the schooner Aklavik in Bellot Strait. The Aklavik came from Cambridge Bay, the Nascopie from Montreal into the strait which separates Boothia Peninsula, the most northerly tip of the Canadian mainland, from Somerset Island.

TWEEDSMUIR VISIONS GREAT NORTH CANADA

Air Transportation Is Key to Development of Rich Frontier, He Holds

OTTAWA, Sept. 25 (Canadian Press).—Development of air transportation holds the key to the opening of the Canadian northland, in the opinion of Lord Tweedsmuir, the Governor General.

Two weeks after completing a trip down the Mackenzie River to the Arctic Ocean and surveying the western part of Canada's Northern Empire, Lord Tweedsmuir tonight broadcast his thanks to the people of the North for their hospitality.

"Canada," Lord Tweedsmuir said in part, "has one enormous advantage in that she still possesses a physical frontier, which the United States no longer possess. That frontier is in the north. There is a line beyond which her possessions are imperfectly known. I believe these possessions to be very great, and that in the north will lie the main area of her future development.

"There is in the north a land which can be developed for the uses of civilization, and which offers a magnificent field for the energies of the Canadian people.

"Russia, as you know, is doing wonders with Northern Siberia; perhaps the task is easier for her than for us, for her government can order its people about as it pleases. As a free democracy we cannot do that. But Canada has already a fine record in her northern development, a record which is only beginning, and she has in the north, I think, far greater assets than Russia possesses in Arctic Siberia.

"As I see it the key to the north is the air. Rapid development depends upon cheap and easy transport. The north can never be a country of roads and railways. It has wonderful waterways which will always be valuable, but the air, I think, will be the chief medium."

Dr. Crile Believes Arctic Enlarges Animal Brains

Plans to Compare Growth With Those in Warm Lands

CLEVELAND, Sept. 29 (UP).—Dr. George W. Crile, of the Cleveland Clinic, back from a trip to the Arctic, is confident he has found further evidence in support of his theory that cold-climate animals have larger brains, thyroids and adrenals in proportion to their bodies than do animals in warmer climes.

He believes a study of the 400 specimens of wild life gathered on his expedition to the Hudson Bay region will bear out his belief.

Dr. Crile said the party collected while whales, walruses, ring seal, square flippers, caribou, Arctic hares and lemmings. They also made observations of the blood pressures, metabolism and cranial measurements of the Indians and Eskimos.

Joint expeditions by the Cleveland Clinic and the Museum of Natural History have collected a total of 8,000 specimens from all parts of the world, ranging from a 20,000-pound whale to a shrew weighing only a fraction of an ounce.

HEADS EXPLORERS CLUB

Vilhjalmur Stefansson

Vilhjalmur Stefansson, Arctic explorer, was elected president of the Explorers Club at a directors' meeting held Feb. 3 in the club headquarters at 10 West Seventy-second Street.

Dr. Stefansson was born in Manitoba fifty-seven years ago and first visited the Arctic in 1904 for Harvard's Peabody Museum. In 1906 he returned to the Arctic for Harvard and Toronto Universities on a fifty-three-month expedition beginning in 1908 he again conducted field researches in the North, and in 1913 he led a Canadian government expedition comprehensively to explore the land and sea areas of the Canadian and Alaskan Arctic. The Explorers Club's medal and its honorary membership have already been bestowed upon Dr. Stefansson.

Arctic Growing Warmer With Aid of Tropic Air

MOSCOW, Aug. 28 (UP).—Professor V. Vize, Arctic scientist and explorer, has completed a study dealing with the change of climate in the Arctic. According to his studies, the mean annual temperature in the Arctic in the regions adjoining the Atlantic Ocean has risen by 2 degrees during the last seventeen years. During the winter the rise of temperature as compared with seventeen years ago is up to 5 degrees. On Franz Josef Land the temperature rise reaches 7 degrees.

A noticeable recession of the glaciers covering the Arctic islands and a decrease in the quantities of ice floating in the Arctic seas is observed together with the warmer temperature. Considerable thawing of ice is taking place in Spitzbergen.

The change of climate has had an effect on animal life in the Arctic. The high latitudes are becoming inhabited with relatively warmth-loving animals which were never to be found there hitherto. Fish, particularly codfish, now go far to the north.

The change in climate occurring not only in the Arctic, but also in the temperate climate zone of the U. S. S. R., is explained by more intensive interchange of air between the Polar and Equatorial regions.

World's Greatest Icebox Is Found In North Atlantic

WASHINGTON, April 29 (AP)—A permanent ocean refrigerator which helps to keep the North Atlantic cold and to carry icebergs into the steamer lanes has been discovered between Labrador and Greenland.

Commander E. H. Smith of the coast guard ice patrol told the American Geophysical Union that this gigantic refrigerator is a mass of quiet water between the West Greenland current, which flows northward, and the Labrador current flowing southward along the North American coast.

About 2,600,000 cubic yards of water flows every second into the quiet refrigerator area and disappears, Commander Smith said.

Temperature measurements and soundings showed part of the water sinks slowly, becoming heavier and colder, until it reaches the ocean floor. There it was found to flow out again because of the great pressure.

Another part of the water also exhibited strange behavior, Commander Smith said. This portion, moving northward from the tropics, becomes gradually saltier because of evaporation. When it reaches the refrigerator area it makes an abrupt "dive" toward the ocean floor.

The ocean area in which this phenomenon occurs is known as Davis Straits.

BAFFIN FINDS ARE LISTED

Cosmic Ray Expedition Found Six Uncharted Fjords

LEITH, Scotland, Oct. 1 (Canadian Press).—New discoveries in Baffin Land were reported today by the British University polar expedition, which arrived here in the Norwegian sealing vessel Isbjorn.

The expedition found six uncharted fjords and several islands and bays on the northeast coast of Baffin Land, between Cape Bowen and Cape Antrobus, and surveyed about 600 miles of previously unexplored coast line.

The main purpose of the expedition, which left Leith more than two months ago, was to study cosmic rays near the north magnetic pole.

FINDS ARCTIC ISLAND

Soviet Flier Says Sandspit May Make Air Base

BARROW, Alaska (AP).—Discovery of land about 400 miles north and east of here in the Arctic Ocean has been reported by a Soviet pilot, Alexsei Gratciansky, who returned from a third northern flight in search of the missing Russian transpolar fliers.

Gratciansky said he saw a long, low sandspit which might have been an island about the seventy-sixth parallel along the 153d meridian.

He said he believed shallow water surrounds the spit and that it might make a good air base for polar flights, should the island prove large enough.

YOUNG EXPLORERS ADD NEW AREA TO CANADA

Baffin Island Map Is Found to Lack 2,000 Square Miles of Its Full Extent

OTTAWA, Oct. 15 (Canadian Press).—Two thousand square miles have been added to the map of the Canadian Arctic through explorations this year of two young Englishmen, R. J. O. Bray and P. D. Baird.

They have just come out on the Hudson's Bay Company ship Nascopie after a year in the Arctic, but intend returning "down north" again as soon as possible.

Messrs. Bray and Baird, who are classifying bird and rock specimens at the Canadian Archives, were members of the Manning expedition from Cambridge University. Last December Mr. Bray, accompanied by G. W. Rowley, set out from Repulse Bay at the southern end of Melville Peninsula. They traveled north to Igloolik Island, exploring the length of the peninsula by dog team.

From Igloolik they struck across Fox Basin to Jens Munk Island and explored the last section of Baffin Island never visited before by white men. Later Mr. Bray returned to Igloolik, where he spent the Summer collecting ornithological data.

It was found that many inaccuracies existed on maps of the western coast line of Baffin Island and at least 2,000 square miles of territory were added. Baffin Island was found to be a huge deposit of limestone.

Mr. Baird, a student of geology, doubts if mineral deposits will be found in commercial quantities on Baffin Island. Running like an alpine chain southward through the island was a range of mountains, some of them towering 6,000 feet, which Mr. Baird intends to explore later.

'KeepCool'SaysExplorer To Be Safe in Blizzard

Stefansson Suggests Sleep Is Best Way to Save Energy

DEVILS LAKE, N. D., March 18 (UP).—The best advice for one caught in a blizzard is to "keep cool," Vilhjalmur Stefansson, explorer, wrote to Judge G. Grimson, of Rugby, after Grimson had written of several victims of this winter's storms.

Stefansson believes many deaths from freezing result from the mistaken belief that the victim under no circumstances must go to sleep when in danger of freezing.

"The blizzard's victim will keep himself in violent motion so as not to fall asleep," Stefansson said. "In this manner he uses up the 'fuel' reserve in his digestive tract and tissues which might otherwise keep him warm for many hours. Furthermore, he perspires, getting his clothes wet, so that they no longer protect him from the cold."

The sensible thing to do, Stefansson suggested, is to sleep as much as possible and thereby save energy.

"A chill," he said, "will awaken one as quickly outdoors as in one's home. If one moves around just enough to get the blood in circulation before dozing off, one can sit out any blizzard."

THE GRAHAMLAND EXPEDITION

We publish below extracts from a series of articles on the British Grahamland Expedition, led by John Rymill, which has now completed its two-and-a-half years' work in the Antarctic. The articles are reprinted from The Times (London) and form part of the official account of the Expedition to be published shortly by Messrs. Chatto and Windus under the title, "Southern Lights."

The British Grahamland Expedition has been working for nearly three years in Western Antarctica, a distant and little known part of the Empire, and has brought home results important for geographer and scientist.

The most significant geographical discoveries are that Grahamland, previously thought to consist of a number of large islands, is a peninsula of the Antarctic continent, and that Alexander I Land, formerly mapped as a small island west of South Grahamland, is a large land mass extending some 250 miles from north to south. The Expedition has surveyed 1,000 miles of coast line, and throughout this region has carried out geological and biological researches. For over two years meteorological observations have been made; and a number of anchorages have been discovered and charted.

This Expedition, numbering only 16 men, is the first British national enterprise to have wintered in the Antarctic during the past 20 years. Its departure fulfilled a hope long cherished by those interested in Polar work that a British expedition should again go south with a scientific programme of exploration. It was necessary for Rymill, the leader, to organize the expedition on a much less costly scale than, say, the great ventures of Shackleton or Scott.

THE PERSONNEL

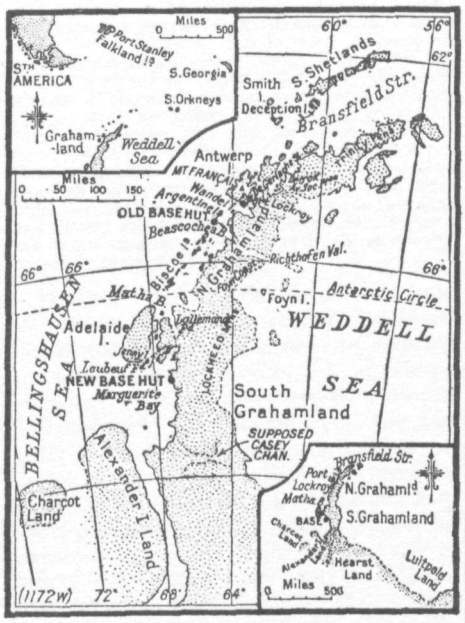
The personnel of the Expedition numbered 16 men, seven of whom were to remain permanently attached to the ship, leaving only nine to form a shore party. This meant that almost every member had to be qualified in one or more of the scientific or technical sides of the work, and that in addition each would be required to take a share in the innumerable tasks more normally undertaken by paid hands.

The following were finally selected:—

G. C. L. Bertram (biologist), Surgeon Lieutenant-Commander E. W. Bingham (doctor and in charge of dogs), V. D. Carse, the Rev. W. L. S. Fleming (chaplain, geologist, and glaciologist), N. A. Gurney, W. E. Hampton (second in command and air pilot), J. H. Martin (first mate), Lieutenant I. F. Meiklejohn (wireless officer), Lieutenant (E) E. M. Millett (engineer), J. I. Moore (engineer, surveyor), Q. Riley (commissariat officer, in charge of motor-boat, and meteorologist), B. B. Roberts (ornithologist), Lieutenant L. C. D. Ryder (second mate), Lieutenant R. E. D. Ryder (Captain of Penola, hydrographer), J. R. Rymill (leader, reserve air pilot, surveyor), and A. Stephenson (surveyor and meteorologist).

Rymill had as his object the exploration of the unknown coast line east of Grahamland towards Luitpold Land and west towards Charcot Land.

The chief means of travel in the Antarctic was to be by dog-sledge. Mechanical travel was limited to a three-four-seater de Havilland Fox Moth for aerial survey and reconnaissance, a 19ft. motor-boat, and a small Bristol tractor. The choice of a ship was limited by the funds available; finally, a three-masted schooner



with auxiliary engines and a net carrying capacity of 140 tons was purchased. The ship, which started life as one of the Breton Grand Bank fishing fleet, was reconditioned and strengthened to withstand more rigorous service.

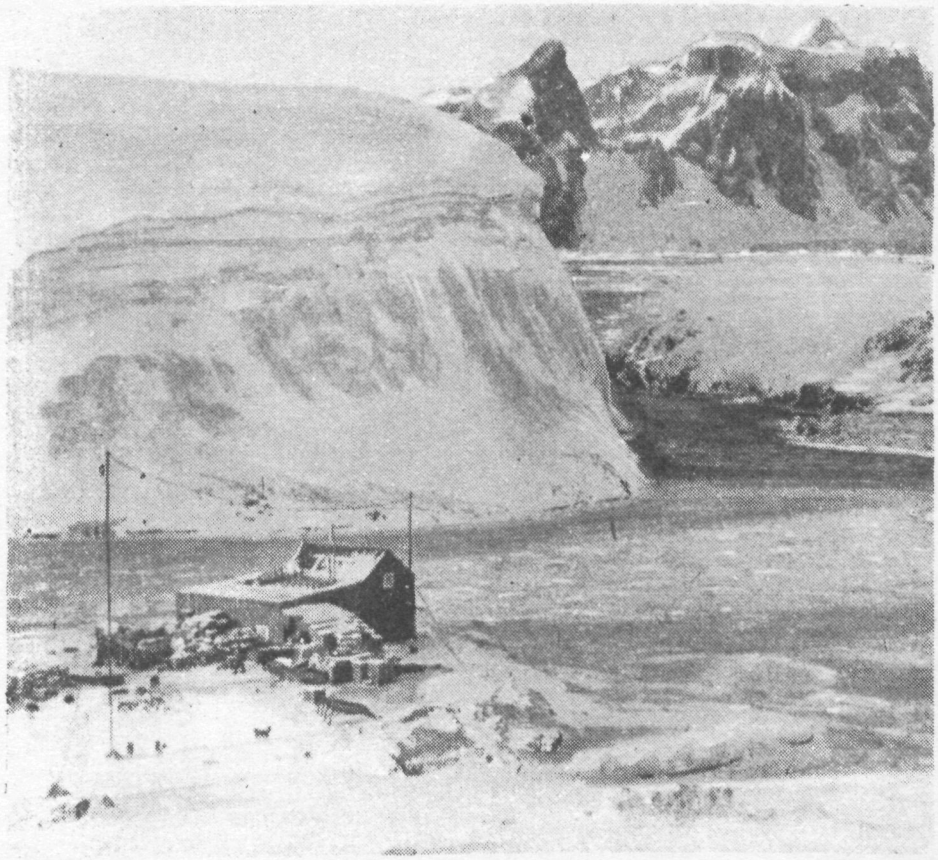
On September 10, 1934, Penola sailed from St. Katharine's Dock. She was typical of polar ships in that her hold was filled to overflowing and a large amount of cargo had to be stowed on deck. Every one on board took his share in manning the ship, and under the guidance of the officers, who alone were experienced in sail, the remainder were initiated in the art of seamanship. Penola proved to be a good sea boat, but as she was slow under sail and it was important to reach the Antarctic at the time of year when there was least ice on the west Grahamland coast it was necessary to use the engines more than had been expected.

Thirty miles out of Port Stanley the engines began to run out of alignment. The ship immediately put back to the Falkland Islands, where it was found that play was developing between the hull and engine beds, thus endangering the transmission, and that it would take a long time to make necessary repairs. Rymill decided to continue south under sail alone and reserve the engines for emergency or for motoring short distances in calm water.

FIRST YEAR'S BASE

The expedition's first year's base was established on one of the Argentine islands five miles from the Grahamland coast, not far north of the Antarctic circle. An ideal situation was found beside a creek between two of the Argentine islands, 40 miles south of Port Lockroy. Within 300 yards was a sheltered cove which would afford Penola an excellent anchorage, secure from the dangers of ice pressure.

The situation of this base was over 200 miles farther north than had been hoped and it was a problem as to how the longer sledge journeys to explore the unknown Antarctic coastline could be accomplished. A flight was made to find out whether it would be possible first to sledge across Grahamland to the east and then continue south towards the unknown territory on the shelf ice bordering the Weddell Sea. From the air this scheme was found to be wholly impracticable.



THE FIRST BASE.—The first year base of the British Grahamland Expedition on one of the Argentine Islands, five miles from the Grahamland Coast.

The plateau of Grahamland, 8,000ft. to 9,000ft. in height, is abruptly cut off on its western side, at no great distance from the coast, by a rock scarp falling several thousand feet as a sheer wall to the glaciers below. There was no route by which depôt-laying sledge journeys could cross the interior.

On August 18 an advance party with two dog teams left the base for the south. Eight days later the aeroplane flew south to establish contact with this party and found them only 70 miles south. The sledgers had been held up by an impassable stretch of rotting ice and many pools of open water. Three weeks later both parties were again back at the base and the ice in the straits, which had been bearing for no more than six weeks, began to break up. From then until the New Year the expedition was virtually marooned at its island home by ice too broken for sledging and yet too plentiful for boat work.

SEEKING A NEW CAMP

The first season's work had come and gone with little accomplished. Therefore, every effort must be made to push the base farther south. On February 17 Penola, laden with all the equipment for the new base, sailed south. It was an open year, and she was able to motor farther than had been expected. On February 29 she lay at anchor beside a group of small islands close to the shores of Marguerite Bay in latitude 68° .09″ South. She was 200 miles south of the old base, and, as the plane had sighted heavy pack ice ahead which would prevent further progress, a site was chosen for the new base. After unloading the equipment for the shore party Penola, manned by a crew of seven, sailed north for the Falkland Islands, where she was to winter before proceeding to South Georgia to refit.

The new base was smaller and simpler than the old one, but was much more favourably placed for exploring the unknown coastline to the south. By the middle of June five teams and the tractor were on their way to lay a depôt 50 miles south.

Soon after the depôt party left the base they were caught in a violent blizzard with a wind estimated at over 100 m.p.h. The tents withstood the strain, but soon after the wind died down jars were felt and cracks began to appear in the sea ice, which showed signs of breaking up. There were some islands only five miles distant, and, although the depôt and tractor had to be left where they were, the party with their five dog teams and lightly laden sledges contrived to reach *terra firma*.

Of far greater consequence than the failure of this depôt party to reach their objective was the fact that the blizzard had ruined the only route south from the base. But in other respects the outlook was not so discouraging. Two flights had already achieved important results. In the south a range of mountains was found east of and continuous with Alexander I Land, which was therefore much larger than had previously been supposed, and Casey Channel, one of the straits which Wilkins believed to extend across Grahamland from sea to sea, was found not to exist. The other flight had been to the north, and for the first time had clearly defined the distribution of land and sea in the complex fjord region in the north-east corner of Marguerite Bay.

The British Grahamland Expedition realized that they would have to learn the local conditions for themselves and must be prepared for setbacks on that account, but, as existing maps indicated practicable routes both towards Luitpold Land and Charcot Land, they had grounds for believing that it would be far easier to attain their object than actually proved to be the case, for they found that both their prospective routes were blocked by mountains rising six to eight thousand feet in height. The accurate maps which the expedition has now brought home clearly show practicable ways of entering the region beyond that which they themselves explored, and this will enable future work in the dependency to be based on more secure foundations.

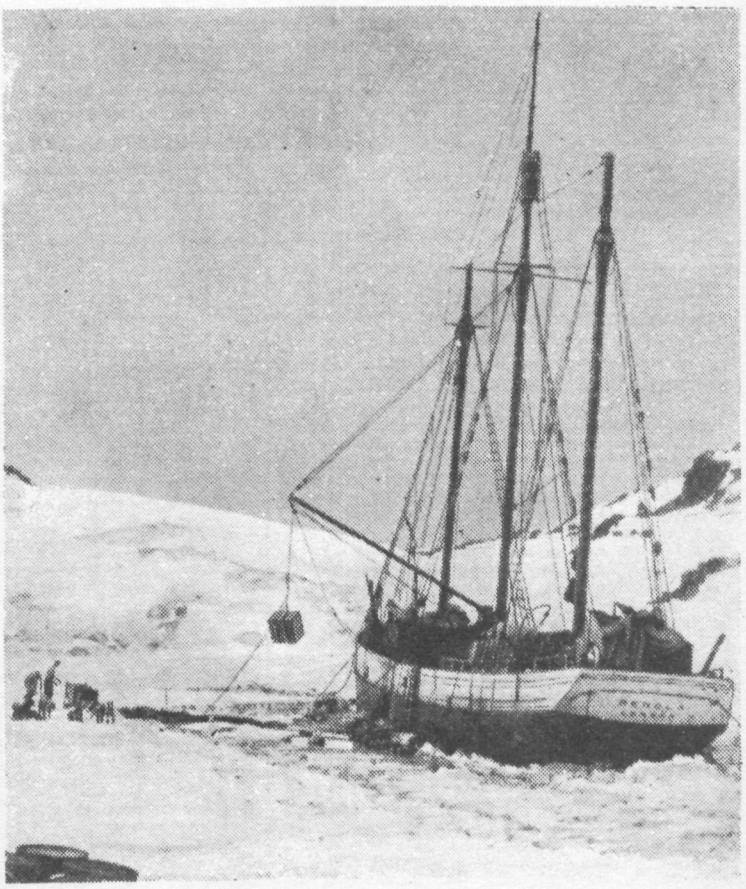
A new territory has been opened up, and since the region still seems to be the only gateway to the immense tracts of unexplored territory lying behind the Weddell and Bellinghausen seas, this is not the least important feature of the expedition's results.

The actual additions and changes to the map have been considerable, for a thousand miles of coastline and much of the interior have been mapped by a trigonometrical ground survey supplemented by aerial photographs. But the geographical and scientific results are more significant than such additions alone might suggest.

Three outstanding geographical discoveries have been made. In the first place, Grahamland is not formed of a number of islands, but is a peninsula of the Antarctic Continent with which it merges just south of latitude 72° S. In the south this peninsula is wider than was previously supposed, and the interior of the country is everywhere high. Second is the discovery that what had previously been known of Alexander I Land is but the northern part of a much more extensive land mass, which is probably an immense island.

The third, and in some respects the most remarkable discovery, is the narrow strait which separates Grahamland from Alexander I Land. Two-thirds as long as the English Channel, this strait averages only 15 miles in width, and is bordered on either hand by steeply rising mountains of wholly dissimilar appearance and geological structure. The strait is filled by the only large sheet of constricted shelf ice known to man. The ice structures formed by the flow of this shelf ice and by the thrust of large glaciers entering on either side have produced a unique display of ice forms, such as deep rifts, collapsed ice

BACK FROM THE ANTARCTIC.— In the picture are Mr. J. R. Rymill (extreme left), the leader of the expedition, and Lieutenant R. E. D. Ryder (centre), the captain of the Penola.



The schooner Penola, the ship of the British Grahamland Expedition, being loaded with provisions for the advanced Southern Base. The cases were taken by sledge from the hut to the ship before the sea ice had broken out of the creek.

domes, and crescentic pressure ridges like frozen waves of ice.

The scientific results are too technical to be described in detail, and much work remains to be done on the material which has been collected, but several points are of some general interest.

A CHANGING CLIMATE

The geological work covers a wide area, but of all the specimens which have been brought back a few Mesozoic fossils found in Alexander I Land, fragmentary though they may be, come first in importance. In South Grahamland the rocks are of the same general nature as those farther north, and the name Antarctic Andes which had previously been suggested for North Grahamland is appropriate for the southern part of the peninsula as well.

In more recent times there is positive evidence of a former more widespread extension of the glaciers, and perhaps as little as 400 years ago shelf ice filled the bays and surrounded the islands off the West Grahamland coast. A few relics of this old shelf ice have persisted to the present day, but are now fast breaking away. The climate thus seems to be becoming rapidly milder. At the Argentine Islands, where the expedition had its first year's base, there were never long periods of cold weather and the sea remained frozen for only about six weeks. The second year's base was over 200 miles farther south and here the climate was more severe. The sea ice remained firm for nearly eight months of the year, and often for a week at a time there would be intense cold with scarcely a breath of wind from cloudless skies.

Bird and plant life was naturally more plentiful at the Argentine Islands, where the weather was so much milder. A number of birds nest on the islands and in winter migrate to the north. The Wilsons petrels, no larger than sparrows, fly to the North Atlantic for the northern summer. For months on end they never approach land, and yet year after year they find their way back again to the same mates and the same burrows on these remote Antarctic islands.

The different species of penguins—inquisitive, foolhardy, and quaintly dignified—are the most fascinating birds of the south, and there were opportunities to study their social life in many different rookeries. For this purpose individual birds were distinguished by being marked with coloured dyes. Fortunately there was one small colony of Adélie penguins nesting only 10 miles south of the southern base. The birds had to walk at least 50 miles over the ice at the end of November to reach their rookery, and they supplied the shore party with over 1,200 large and delicious eggs.

The necessity for killing some 550 seals during the course of the expedition for man and dog food provided plenty of material for biological research. An intensive study was made of the life histories, rates of reproduction, and population problems of the Weddell and Crabeater seals, and some information was also obtained on the large and fierce sea leopards, of which only a few were killed. The seals begin to breed at the early age of two years, and reach their maximum size in their sixth year. The skins of the adults are of little commercial value, but a few skins of Weddell pups, which are born on the sea ice in spring, have been brought home for examination.

Plant life on the west Grahamland coast is confined to a few species of mosses and lichens and one small flowering rock plant, but in places these form a quite extensive carpet of vegetation, and in the summer the vivid patches of yellow, red, and green lichens are an unforgettable delight.

The accomplishments of any expedition depend, of course, on the cooperation of the entire party, but this is especially necessary when the personnel is small. The work of the ship's party, no less than that of those on shore, was essential for the attainment of the results.

ALEXANDER THE FIRST LAND.—A view of part of the east coast of Alexander I Land, which was found by the British Grahamland Expedition to be of a much greater extent than previously realized. Some Mesozoic fossils of much importance were found by the geological members of the Expedition.

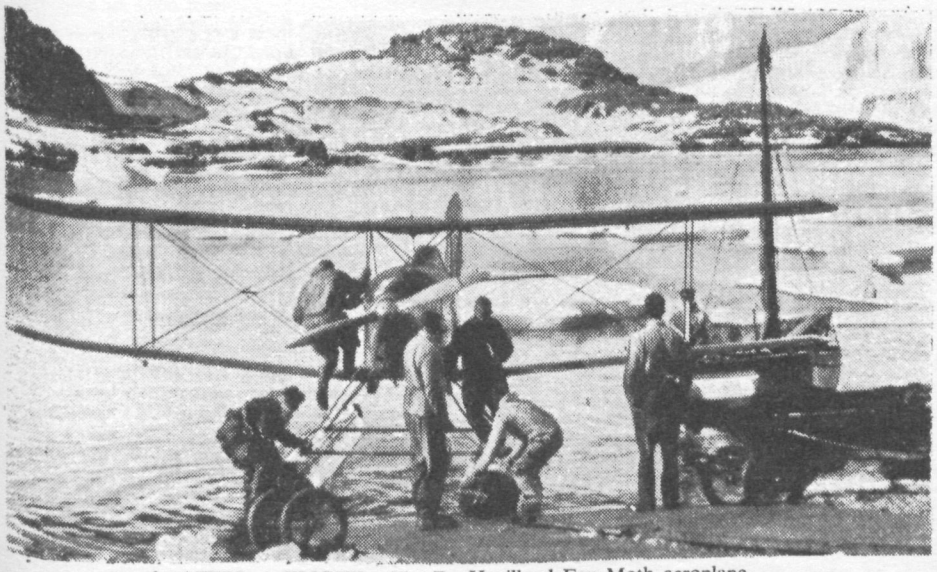
TRIBUTE TO THE DOGS

During the first year Penola wintered close to the base, and despite the continual and heavy claims of maintenance some of the ship's party were able to take an active part in the field work. In the second summer, after Penola had successfully landed the shore party at the southern base, she sailed north for Port Stanley and South Georgia for her refit, and came south again the following summer to relieve the shore party. Thus by the time she reaches England the ship will have sailed nearly 30,000 miles, and twice sailed the Atlantic in circumstances like those in the days of Drake.

Four times has Penola crossed the stormy seas of the southern ocean, but perhaps the greatest achievement made by her small and hardy crew was their voyage from the Falkland Islands to South Georgia in winter.

No account of the expedition would be complete without mention of the part played by the dogs. They were indispensable not only for the longer sledge journeys but for countless other jobs. Perhaps on the same day one driver took his team from the base to look for seals, another drove 10 miles south to collect penguins' eggs, a third travelled to a survey station, and a fourth sledged to the back of the fjord to study the rocks. Strong, hardy, intelligent, and lovable, the dogs lived a vigorous and useful life in which they themselves took evident delight.

Many of the most vivid impressions of a strangely fascinating land which the members of the party bring back with them are of the dogs whose companionship they constantly enjoyed, and in many instances those memories would lead one to suspect that huskies share with human beings the blessing of a sense of humour.



AFTER A FLIGHT.—The De Havilland Fox Moth aeroplane, used by the British Grahamland Expedition for survey and reconnaissance work, being hauled into the hangar after a flight from the South Base.

New Antarctic Land Is Found By Christensen

Explorer Flies Over Range of Mountains and Lays Claim for Norwegians

By The Associated Press

OSLO, Feb. 9.—Discovery of new land in the Antarctic which has been claimed for Norway was reported today by a Norwegian South Polar expedition.

Lars Christensen, exploring from his South Atlantic base aboard the whaling ship Thorshaven, reported by radio that he had flown over an uncharted range of mountains and had dropped the Norwegian flag.

His message said the land lay between 35 and 40 degrees east longitude and at about 70 degrees south latitude.

West of Queen Maud Land

The area indicated is in the African quadrant of the Antarctic Circle and lies between two explored regions —Queen Maud Land on the east and Princess Ragnhild Land on the west, which were discovered and mapped by the famous Norwegian explorer and flyer, Captain Hjalmar Riiser-Larsen, in 1928 and 1931, respectively. Sir Douglas Mawson, British explorer, flew slightly north of the newly discovered mountain range in 1930.

The discovery by Christensen apparently supplies a link in the uncharted Antarctic coastal line between previously mapped regions in the African quadrant. This coast is about 1,400 miles from the South Pole. Little America, in the Pacific quadrant, is only 800 miles from the pole, and all successful attempts to reach the pole have been made from this direction.

Lars Christensen, leading figure in Norway's whaling industry, has dispatched many voyages to the Antarctic in the last ten years and has mapped much territory. In 1931 he completed in a whaling ship the first continuous circumnavigation of the Antarctic continent.

A Norwegian aviator, Vigo Wideroff, who accompanied the ship, flew over a new range of mountains, the highest peak being estimated at 4,500 feet.

The new discovery is a strip lying between Queen Maud Land and Princess Ragnhild Land, and extends its coastline for about 125 miles. Wideroff dropped a Norwegian flag over a point 38 degrees east longitude and 69.30 degrees south latitude, and entire sector was mapped. This is not the first of Mr. Christensen's discoveries. The section west of Queen Maud Land is called Lars Christensen Land, and in 1934 he discovered another section of territory which he named Princess Astrid Land.

According to W. L. G. Joerg of the American Geographical Society, the closing of this gap is one more step toward the complete peripheral exploration of the Antarctic continent. The two largest unknown sections remaining are the stretches between Edsel Ford range and the coast of West Antarctica and the stretch along the west coast of the Weddell Sea.

The development of whaling technic from shore station whaling to pelagic whaling has made extensive discoveries possible. Heretofore, the whalers did not venture far outside their shore stations—among the most prominent being the South Orkney and South Georgia Islands. In those days it was necessary to tow the whale after harpooning him to land, where the work of flensing and cleaning was done. With the development of the factory ship, which drew the whale aboard the vessel through a large aperture in the stern, the shore station no longer became necessary. The work could be done aboard and the remains discarded. Thus the modern whaling fleet consists of the large factory ship, surrounded by a group of "catchers" about the size of a tugboat, which carry the electrically projected harpoon on the bow and go out after the whale.

A MEMORIAL TO A FAMOUS EXPLORER

The statue of Roald Amundsen which was unveiled at Tromsoe, Norway, recently. Carl E. Paulsen was the sculptor.

In Presenting the Medal.

In November, 1935, Roland M. Redmond, president of the American Geographical Society, presented the David Livingston Centenary medal to Mr. Christensen. In reading the citation President Redmond declared:

"The name of Consul Lars Christensen of Sandefjord is written large over two spheres of endeavor—the organization of whaling as a modern industry and the unrolling of the map of the Antarctic.

"From its earliest days whaling has inevitably been associated with exploration, but too seldom have whalers been able or willing to make known their discoveries to the world of science. There have, however, been some notable exceptions to this rule. In the early 1800's an English whaler and his son, the Scoresbys of Whitby, made scientific observations of such importance that their work has been described as the 'foundation stone of Arctic science.' About the same time the Enderby brothers, merchants of London, were dispatching whalers and sealers to the south polar regions, where Enderby Land commemorates the famous voyage under Biscoe in the 1830's. To these names of shining examples of the honorable association of the whaling industry and science must be added that of Consul Lars Christensen.

"Since early youth Consul Christensen has been familiar with the whaling industry. He was brought up in a home where the discussion of whaling and polar matters was an every day occurrence. In 1892, when he was still a boy, his father, Christen Christensen, sent out the Jason to the whaling banks of the Antarctic. That year and the next the Jason brought back a harvest of scientific results and also laid the foundation for the modern whaling industry in the Antarctic, which began in 1905 when Christen Christensen sent thither the first pelagic whaler.

"Consul Lars Christensen has followed in his father's footsteps. He has maintained a continuous program, not only for scientific studies of the whaling grounds in the Antarctic but also for the collection of data on the life and habits of whales as the basis for an intelligent exploitation of a natural resource of international concern.

He has, likewise, established the Commodore Christen Christensen Whaling Museum at Sandefjord, which is engaged in active scientific work relating to whaling. One of the most important aspects of the work of this institution is the collection and compilation of maps based on new data reported by whalers, and, we may add, the Museum has been generous in its donations of such maps and data to our Society.

SOUTH POLE AREAS SOUGHT BY BRITISH

Imperial Conference Adopts Report on Expanding Rights to Territory in Region

LONDON, June 10 (AP).—Great Britain took the first step today toward expanding her claims to territories of the South Pole, a step that might involve dispute with American explorers' claims to vast territories in the icy region.

The Imperial Conference in a surprise move adopted a polar committee report to expand British sovereignty in the Antarctic, rich in raw materials, especially coal.

The report included recommendations for dealing with any territorial problems of the future. It was described by British sources as a "highly important document dealing with territorial rights." Sessions of the conference are closed.

Confusion Over Claims

Some confusion exists over Antarctic claims by both British and American explorers. At least one other country—Norway—is involved. The polar committee report was said to have dealt fully with the last voyage of the royal research ship Discovery II, back in England after some two years in the Antarctic.

Lars Christenson claimed a section of the Antarctic for Norway when he dropped his nation's flag on flights last February.

The American explorer, Lincoln Ellsworth, in 1935 claimed 350,000 square miles of the region for the United States. The Australian Legislature in 1933 laid claims to large areas about the Pole, enacting them into law.

The British move toward expansion at the South Pole was pressed by Australia and New Zealand, empire members whose geographical position enhances their interests in the "bottom of the world."

Byrd Sees No Controversy

BOSTON, June 10 (AP).—Rear Admiral Richard E. Byrd, informed of the advancement in London of British claims in the Antarctic, today said there was no reason for "controversy" over that territory and its riches in coal.

Admiral Byrd, who spent four years in the South Polar regions on two separate expeditions, has asserted in his books and in public statements that no Briton ever has set foot upon the nearly 1,000 miles of territory he claimed—a huge, pie-shaped segment reaching to the pole.

He reiterated today that the principal British work had been done in territory to the west of the land that "we claimed in the name of the President of the United States and on which we hoisted the American flag." He added:

"With all the irritations and controversies now troubling the world, we have no reason for controversy about the Antarctic. We discovered enough coal there to supply the world, coal that no one else has ever seen, but the British have enough in territory they have covered.

BYRD GETS MEDAL GIVEN BY CONGRESS

Swanson Presents Special Polar Award as Admiral Honors Two Aides

WASHINGTON, Oct. 15.—In the presence of high-ranking naval officers and two members of his recent expedition to the South Polar regions, Rear Admiral Byrd received today from Secretary Swanson, on behalf of Congress, a medal commemorating the second Antarctic expedition.

The medals were authorized by the Seventy-fourth Congress, which left to Mr. Swanson's discretion the selection of the design and choice of the expedition members to receive them.

Admiral Byrd presented similar medals to William O. Haines, meteorologist of the expedition, and Dr. Alton A. Lindsay, biologist, both now on duty in Washington.

Medals for the other fifty-four expedition members named by Secretary Swanson were given to Admiral Byrd, who will present them to the individuals in person in the near future. The admiral explained that it would have worked a hardship for all these men, now scattered throughout the United States, to come to Washington.

Medals Depict Their Work

The medal was inscribed "Byrd Antarctic Expedition, 1933-1934." On one side is a man in polar outfit with a dog; on the reverse, figures of an airplane, radio towers, a ship and a man with a dog sled. The inscription reads: "Presented to the officers and men of the Second Byrd Antarctic Expedition to express the very high admiration in which the Congress and the American people hold their heroic and undaunted accomplishments for science unequaled in the history of polar exploration."

In paying tribute to Admiral Byrd and the expedition members Secretary Swanson "nominated" the Admiral to a "niche in history even above the one he has received as an explorer."

That determination, the Secretary said, was the result of Admiral Byrd's reticence after his daring period of isolation far in advance of the Little America camp, when the admiral, alone, kept vigil for months to obtain data he declined to assign other men to obtain.

Swanson Praises Results

Sending his congratulations to the absent member of the expedition, Secretary Swanson said:

"I understand that the splendid work of Admiral Byrd's second expedition, with the efficient backing and cooperation of the National Geographic Society, has made valuable contributions to twenty-two branches of science. That work needs no comment, for it has been discussed by Admiral Byrd and scientific members of the expedition.

"Dick Byrd also has told us a great deal about his men, but he himself is the principal of an episode almost unknown because of his reticence, and for his actions I nominate him to a niche in history even above the one he has earned as an explorer. This is the deed:

"On his last expedition science required the maintenance for the six months' Antarctic night of a meteorological station which was completely isolated in the shadow of the South Pole.

Tells of Byrd's Illness

"Upheavals in the polar ice cap prevented the equipping of this station for supplies for more than one man. Refusing to order one of his men on this solitary mission. he took up the duties at the advanced base, alone.

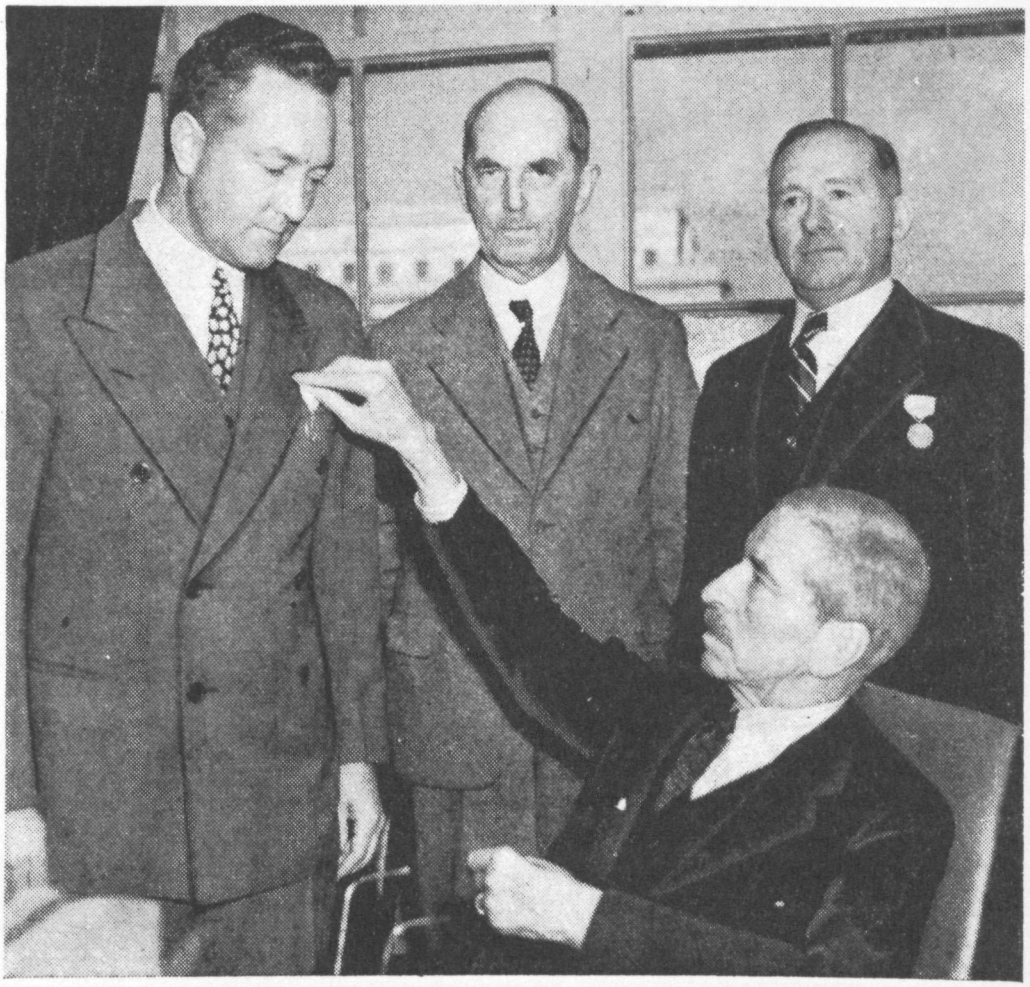
"Before the middle of the long Antarctic night he was stricken desperately ill by poisonous fumes from a faulty oil stove. Survival seemed impossible. Deliberately he chose to die rather than to tap out an S O S on his radio.

"In fact, he further expended his strength and lessened his chances for survival by crawling to his hand-cranked radio in order to keep his schedule and report 'All's Well' to Little America, lest his silence cause his comrades to risk their lives by attempting to rescue him.

"For months of the bitterest average cold ever endured in the darkness, he hung precariously on the edge of life but untold suffering did not compel him to alter his decision. By a miracle he was spared.

"I am so thankful that he was spared and that he may stand here and receive the thanks of Congress and the American people for his extraordinary work and that of his expedition. Admiral Byrd, you have my heartiest personal and official congratulations."

BYRD GETS CONGRESSIONAL MEDAL FOR TRIP INTO ANTARCTIC



Times Wide World

Secretary of the Navy Claude A. Swanson in his office presenting silver medals to Rear Admiral Richard E. Byrd (left) and William C. Haines (right) as Admiral William E. Leahy, Chief of Naval Operations, looks on.

Byrd Lauds Aides As He Gets Medal For Explorations

NEW YORK, April 21—Rear Admiral Richard E. Byrd, U. S. N., retired, is today the thirteenth person to hold the Explorers' Club medal, an award bestowed only upon a preeminent company of adventurers whose accomplishments have won undisputed recognition.

The medal, recognizing Admiral Byrd's polar explorations, was presented to him here last night by Vilhjalmur Stefansson, president of the club, at the organization's headquarters. The citation mentioned that while the award was given in appreciation of the explorer's past achievements, it also was intended to voice confidence, and hope for his future.

Praises His Aides

Admiral Byrd, however, declined to accept the praise bestowed upon him by the speakers and insisted that credit should be given to the personnel of the organization which participated in the successful trip to the Antarctic regions.

"It took 133 men to serve 22 branches of natural science and at least two years to prepare the expedition," he said. "After that it went on to conclusion. It is still going on. Just recently we finished paying the last $3000 due on our furs, and we will have to maintain an expedition office in Boston for three more years, as well as stand the overhead costs of keeping up two ships.

Cost $1,500,000

The total cost of the last antarctic expedition was $1,500,000, Admiral Byrd reported.

"Thirty research students still pore over the findings we brought back. It will take years before they complete their work, and eventually it may fill a dozen volumes."

ELLSWORTH PLANS ANTARCTIC FLIGHT

TO LEAVE IN FALL OF '38

Start to Be From Enderby Land, With Bay of Whales, 2,500 Miles Away, as Goal

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Lincoln Ellsworth, who flew across the Antarctic Continent from the Wedell Sea to the Bay of Whales in the Ross Sea in December, 1935, has set himself a new goal—a flight as long and perilous across the opposite side of Antarctica, where the last great unexplored area of the earth lies.

Mr. Ellsworth said he began planning this new flight on the way back from his last expedition. He has been working on it ever since, and "though a thousand things remain to be settled between now and the end of the chapter, I have gone this far in my plans as of today:

"Taking no unpredictables into account, the expedition will approach the barrier at Enderby Land in November, 1938, take off during the lull in the winds that blow almost ceaselessly there, draw a bead on the Bay of Whales, 2,500 miles away, and shoot for it. Except for the first mile of the flight and the last few, we will be over completely unknown areas and the land ought to be rich in geographic, geologic and economic surprises."

First Touched in 1831

The continent of Antarctica, he pointed out, was first touched at Enderby Land in 1831 by Captain John Biscoe, R. N., who was sent to that region by the London whaling and sealing firm of Enderby Brothers.

"Since that time," he said, "the whole line has been explored, but no one has ever been more than a mile inland. There might be mountains there, a high plateau—well, anything at all.

"It is a much worse region than the Wedell Sea, climatically, and therefore the present flight will be even more speculative than the last one. The pack ice there is denser, more tenacious, the winds more savage. But I think a flight can be made."

The practical accomplishments of the new expedition will not be as great as those of the last one, when Mr. Ellsworth added 350,000 square miles to United States territory. "All we will be doing now is filling in a blank and theoretical space on the map with facts. The land, though never explored, has been claimed by Australia by virtue of coastal discoveries."

Mr. Ellsworth was asked if he regarded a blank space on the map as such a major irritant that it was worth risking his life to remove.

"Now," he replied, "you have opened up the whole subject of the 'why' of Antarctic exploration. Fundamentally, I suppose, I go down there because that's the way I am, the way I live and want to live, because that's my career.

Land Is Valuable

"But the Antarctic is land, and land, wherever it is, is valuable. People seem to think that, because it's ice-capped, it's worth nothing and besides there are troubles enough to occupy us on the habitable part of the globe. But isn't that exactly the way people felt when the Western Hemisphere was being opened by explorers?

"I don't know that Antarctica will ever become earth's next 'new world.' But I know that it's land and worth having, rich land and thus doubly worth having. Only pin-pricks have been made at its surface and already huge, thick coal deposits have been discovered, lead, tin, copper. Who knows what isn't there and who knows what the next 50 or 100 or 200 years will bring in the way of inventions to make Antarctica's resources easily accessible, and in the case of a shortage of our own resources to make Antarctica's desirable?

"Once, and not so long ago as geologists reckon time, Antarctica was a tropical land, a sunlit storehouse of the earth's treasure."

Times Wide World Photo.

BYRD AIDE GETS HIGH NAVAL AWARD

Lieutenant Carl O. Petersen receiving the Distinguished Flying Cross from Rear Admiral Harris Laning.

The Distinguished Flying Cross of the United States Navy was presented June 9 to Lieutenant Carl O. Petersen, U. S. N. R., for his work in the second Byrd Antarctic Expedition. Rear Admiral Harris Laning, commandant of the Third Naval District, who made the presentaton at the district headquarters, Washington and Christopher Streets, said he was "proud to have men like Petersen in the navy."

Lieutenant Petersen, now a photographer for Paramount News, took part in both Byrd Antarctic Expeditions, working as radio operator, photographer and airplane pilot. He is thirty-nine years old. His participation in a flight over unknown Antarctic waters on January 3, 1934, won him the citation and award. The cittaion, signed by Claude A. Swanson, Secretary of the Navy, says that during the return part of the flight the plane encountered rough and stormy weather while over water strewn with hundreds of high icebergs. Petersen, with inadequate equipment, was able to get radio bearings which enabled the commanding officer of the plane to navigate it successfully back to the base ship.

Ellsworth Receives Explorer's Medal

LONDON, Oct. 18 (AP).—Professor Henry Balfour, president of the Royal Geographical Society, today presented the patron's gold medal of the society to Lincoln Ellsworth.

The award is made each year to an explorer of other than British nationality. Mr. Ellsworth is being honored for his work "in developing the technique of aerial navigation in the polar regions, culminating in his successful flight across the antarctic in 1935-36."

The Ellsworths will return to this country after the presentation, and in Washington Mr. Ellsworth will receive the Congressional Medal for the second time in recognition of his claiming a large tract of land in the antarctic for the American flag.

Medalist

Dr. Thomas C. Poulter

Second in Command of the Byrd Antarctic Expedition of 1933-35, Who Was Honored by the National Geographic Society With a Special Gold Medal

Poulter Honored For His Work On Byrd Expedition

WASHINGTON, April 28—A special gold medal of the National Geographic Society was awarded here yestrday to Dr. Thomas C. Poulter, senior natural scientist and second in command of the Byrd Antarctic expedition of 1933-35.

The presentation was made by Dr. Gilbert Grosvenor, president of the National Geographic Society, in the presence of Admiral Richard E. Byrd, distinguished scientists, officers of the society and ranking officers of the army, navy and marine corps.

On the Byrd expedition, Dr. Poulter's work included geophysical investigations, studies of ice conditions and movement, the making of magnetic soundings, and observations of meteors and auroral phenomena.

"The most dramatic and most revealing demonstration of the unusual ability of Dr. Poulter was the extraordinary journey he led to the advance base where Admiral Byrd had decided to pass the winter alone to make important meteorological observations that he was unwilling to ask anyone else to risk making," Dr. Grosvenor said. He paid tribute to Dr. Poulter's "dogged persistence and final success in traversing the ice in the blackness of polar night and storm, for the first time in polar exploration to save his leader and our beloved associate."

Dr. Poulter is now director of the Armour Institute of Technology, Chicago.

ADMIRAL HANSEN, ARCTIC EXPLORER

Former Colleague of Roald Amundsen Is Stricken in Copenhagen at 61

COPENHAGEN, Denmark, May 27 (AP).—Gottfried Hansen, Arctic explorer and one-time colleague of Roald Amundsen, died at his home today. His age was 61. He had carried out extensive explorations in Greenland and recently had been appointed an Admiral.

Admiral Hansen, famous for his Arctic exploits, also had a distinguished career in the Danish Navy. In 1902 he was a Danish naval lieutenant when he joined the Gjoa expedition led by Mr. Amundsen. Mr. Hansen became second in command of that famous expedition which, in 1903-06, aboard the small sloop Gjoa, became the first to complete in one direction the Northwest Passage and fixed the position of the magnetic North Pole.

Stoical in the face of danger and hardship, loving his work, Admiral Hansen served as the Gjoa's navigating officer on the three-and-one-half-year trip. He had a great deal to do with the success of the expedition and the only mapping of new territory done on the expedition was by a sledge party he led on the east coast of Victoria Island.

In 1919-20 he again aided Mr. Amundsen on an Arctic expedition. The Norwegian Government asked the Danish explorer, Knud Rasmussen, to establish food depots which might facilitate Mr. Amundsen's return. Mr. Hansen offered to lead Eskimos to lay a depot at Cape Columbia, Grant Land.

He started from Thule, Greenland, in March, 1920, with a party on dog sledges. The party crossed glaciers with considerable difficulty. He left most of the Eskimos at Robertson Bay. Later he crossed Kennedy Channel over sea ice. Finally, with two Eskimos, the others having been left at points on the way, he reached Cape Columbia in April, 1920, and laid the depot. The arduous journey proved unnecessary, as Mr. Amundsen did not go to Cape Columbia.

In 1922 Admiral Hansen planned to head a relief expedition to aid Amundsen, who was attempting to reach the North Pole. The plan was abandoned, however. The reason given was the withdrawal of American financial backing.

Admiral Hansen did much exploring in Greenland and was the head of the East Greenland Hunting Company. He served as the director of the Danish Aviation Company, a partly governmental and partly private company, which controls Danish passenger aviation. He also was chief of the Danish Naval Academy.

In 1918-19 and 1929-30 he served as adjutant to King Christian X of Denmark and Iceland. As an aide to the monarch he was a familiar figure at the Danish court.

Born in Copenhagen, Denmark, Feb. 23, 1876, Admiral Hansen became a naval lieutenant in 1897, a captain in 1914, a marine captain in 1923 and a commander-captain in 1927. A few months ago he became an admiral.

COL. CECIL H. MEARES, A BRITISH EXPLORER

World Traveler and Member of Scott Antarctic Expedition in 1910 Dies in Victoria, B. C.

VICTORIA, B. C., May 13 (Canadian Press). — Colonel Cecil H. Meares, world traveler and explorer, died in a hospital here last night after a brief illness.

He was a member of the British Antarctic Expedition which explored the South Polar regions in 1910 under command of Captain R. F. Scott. Colonel Meares had charge of sled dogs and ski equipment for the expedition, which included Captain L. E. G. Oates, who died in the Antarctic in 1911 with his commander.

Captain E. G. R. Evans, now Rear Admiral Sir Edward Evans of the royal navy, was also with the expedition.

Scott's expedition to the South Pole, backed by the British and Canadian Governments, set sail in June, 1910, on the "Nova Terra," and in November, 1911, began its southern sledge journey. Scott and four companions, making the final dash, reached the Pole on Jan. 28, 1912, but found Amundsen had been there before them. On the return journey all five perished. A rescue party found three of the bodies and Scott's diaries on Nov. 12, 1912.

Carl J. Evansen Dies; Veteran Of Polar Dash

Captain Carl Julius Evansen, master of the oldsteam brigantine Stella Polare in 1899 and 1900, when the ship was used by the late Prince Luigi of Savoy, Duke of the Abruzzi and nephew of the late King Humbert of Italy, in an attempt to reach the North Pole, died Oct. 3 at his home, 742 Fifty-sixth Street, Brooklyn. He was eighty-five years old.

Captain Evansen, as master of the ship, received much of the credit for the results of the expedition, which, although it failed to reach the Pole, was the most successful of all those which have attempted to reach high latitudes by way of Franz Josef Land. Sailing in 1889, the expedition wintered in Teplitz Bay, Rudolf Island, and in the spring of the next year attempted to reach the Pole by sledging over the sea ice.

The Duke of the Abruzzi suffered frostbite but a party under one of hs men reached longitude 86 degrees 34 minutes north in 65 degrees 20 minutes east. The North Pole was discovered by Admiral Robert Edwin Peary on April 6, 1909.

Captain Evansen, who was born in Oslo, Norway, went to sea as a boy and before joining the Duke's expedition was captain of several ships, including whalers. After the Arctic expedition he retruned to whaling, retiring about twenty years ago.

Victim of Oslo Plane Crash

Christopher Braathen

George Comer, Once Whaling Captain, Dead

EAST HADDAM, Conn., April 29. —George Comer, former whaling shipmaster, who accompanied Captain Donald B. MacMillan on several of his expeditions to the Arctic, died Tuesday night in a veterans' hospital in Northampton, Mass., it was reported at his home here today. He was seventy-nine years old.

Captain Comer started his whaling career when he was seventeen years old, shipping from New London. For the first year's work he received a wage of $5, returning only to serve on coastal trading vessels for a time. Later he made trip after trip to Cape Horn, Capetown and the Hudson Bay region, always hunting whales.

His home port soon became New Bedford, Mass., and after sailing out of that port for some time he was able to get backers for the topsail schooner, Era, on which he was installed as master. He sailed for the Hudson Bay region, returning in a year with three whales which netted $80,000, of which the captain received 10 per cent.

Later trips were even more profitable, and Captain Comer became known as one of the most successful whaling captains of New Bedford. In the mean time, however, he had become greatly interested in the Arctic and in 1915 he was chosen as captain of the schooner George B. Cluett to relieve the marooned party of MacMillan in western Greenland. When the United States entered the World War, Captain Comer joined the Navy and was assigned to the U. S. S. Elinor. He made several vogages to South America for nitrates.

Captain Comer was regarded as an authority on Eskimo life, his home here being a museum of relics of the whaling era. More than ten years ago, he retired to his home. Surviving are his wife, Mrs. Julia Chipman Comer; a daughter, Mrs. William A. Gelston, and a grandson, George C. Comer, all of East Haddam.

BYRD AIDE KILLED IN OSLO AIR CRASH

Christopher Braathen, Mechanic and Dog Driver at Little America, Dies With Wife

OSLO, Norway, Aug. 1.—One of Rear Admiral Richard Byrd's assistants on his Antarctic flights, Christopher Braathen, crashed to his death, together with his wife and three other persons while flying over Oslo Harbor today.

At a height of 1,300 feet a wing broke from the plane in which they had been traveling and the craft dived into the water. The pilot was Arild Wideroe, who had been taking his uncle, a prominent Oslo physician, Dr. Sofus Wideroe, and the latter's wife, together with Braathen and Mme. Braathen on a short sight-seeing trip. Two of the bodies have been recovered.

In Dr. Wideroe's home a score of distinguished dinner guests were awaiting the return of their host and hostess.

Christoffer Braathen, expert ski man, dog driver, seaman and airplane mechanic, was born in Oslo June 29, 1895. He was a member of the Norwegian Naval Flying Corps, Reserve Division, and served three years during the World War. He took an active part in the Byrd Antarctic expedition, starting in 1928, and in the Ellsworth transarctic flight expedition in 1934.

He was engineer on the Ellsworth flight and also served as chief mechanic under Bernt Balchen, pilot. He was taken along on the Byrd expedition as ski-man, but because of his expert handling of the dogs of the expedition he was assigned to this job during most of the time spent at Little America. During the Winter months he was in charge of the oil hut and was known to other members of the expedition as the "Oil King."

Braathen was a master craftsman and was adept at building miniature ship models. He constructed a model of the City of New York, the Byrd flagship, after 1,500 hours' labor during the tedious Winter season at Little America. It was widely displayed when the expedition returned to New York.

CAPT. PAUL H. SCHAEFER

Retired Arctic Explorer Was an Artist and Lecturer

WHITE PLAINS, N. Y., May 12.—Captain Paul H. Schaefer, retired Arctic explorer, who had also been an artist and lecturer, died today at St. Agnes Hospital here. Captain Schaefer, of 141 Colden Avenue, suffered a heart attack last Summer and had since been in poor health. His age was 59.

His widow, Mrs. Arline Benton Pearsall Schaefer of White Plains, and a brother in Germany survive.

Born in Germany, Captain Schaefer came to the United States while a boy. He was a newspaper writer and illustrator in Indianapolis during his twenties and was sent to make sketches of a then recently opened territory in the Far West. From that time his interests lay in exploration. He visited Alaska, Greenland and Siberia and once lived with a colony of Eskimos for three years.