

GEOGRAPHY

Antarctic Ho!

First Federally Sponsored Expedition to Antarctic Is Planning Special Clothing and Ways of Life

By LEONARD H. ENGEL

THE WORLD'S Greatest Unknown, a thousand-mile strip of coast Lincoln Ellsworth thinks he sighted from an airplane three and a half years ago and claimed for the United States of America, will be the goal of the first Federally-sponsored Antarctic expedition.

Two of the three expedition ships, which sail this fall from Boston with Admiral Richard E. Byrd in command, will try to penetrate forbidding ice that masks a shore stretching from Palmer Land nearly to Little America. Dense pack ice has prevented anyone from reaching it before.

The existence of a great "earthquake ring" rimming the Pacific Ocean may also be proved by the expedition by studies behind this unknown coast. Mountains Ellsworth sighted in November and December of 1935 are believed to connect the Rockies-Andes chain running down the west coast of the Americas, and the volcanic islands which rise out of the Asiatic shore of the Pacific. The Pacific's shores have long been noted for frequent and violent earthquakes.

The expedition will seek to establish two bases in the mysterious land Ellsworth named James S. Ellsworth Land for his father. A third will be at or near Little America, to the west of Ellsworth Land.

To Explore Interior

Its shore will be mapped and its interior explored once camp has been pitched and the Antarctic night has passed. Field parties will be sent out from each of the bases. The Armour Institute of Technology's giant "snow cruiser," entirely self-contained and with supplies for four men for a year, will be a fourth "Perambulating" base, if the "bus" proves satisfactory. Ellsworth Land is nearly a million square miles in area.

The belief in the existence of James S. Ellsworth Land rests chiefly on the fact that a coast must be where it is shown on the maps of the Antarctic. Lincoln Ellsworth flew over a high plateau as

he cruised westward from an island off Palmer Land just below the tip of Cape Horn to a point 15 miles from Little America. He also sighted mountains. Between the land below him and the limit of explorations by ship to the north must lie a coast. His pilot thinks he saw dark-reflecting clouds on the horizon, indicating open water beneath.

Detailed weather observations, studies of meteors which are especially frequent and bright during the Antarctic night, geological and mineralogical studies, studies of the earth's atmosphere and magnetism, cosmic ray measurements and other major scientific activities will also occupy the time of the men at the three bases. Twenty-two men will be left at each of two base camps, and 10 at a third, which is to be established if there is time to outfit the necessary ship. Scientists will be prominent members of the expedition.

Basis For Claims

The base camps, which may be maintained from year to year, will establish American claims to James S. Ellsworth Land and Marie Byrd Land even though the expedition's purpose, literally speaking, is not to claim land. That can be done only by the State Department in Washington. But the State Department believes that land claims are valid only if some degree of colonization and settlement has been carried out.

That is the crux of the present "dispute" among several powers over who owns what in the Antarctic, to which Australia and Germany are also to send expeditions this year.

Other nations, chiefly Great Britain, make a practice of basing claims solely on visits by explorers and do not consider attempts at settlement to be necessary. Great Britain claims pie slices of land from the coast all the way into the Pole.

Because her whalers and sea-faring explorers were active during the last century along Antarctic coasts and because of her method of making claims, Great Britain is apparently the biggest landlord "down under." An entire quarter-of-the-pie slice of Antarctica is the "Australian Dependency." The next quarter,

lying at the Pacific Ocean's southern edge, is also British. It is the "Ross Dependency," named for Sir James Ross, discoverer of the Ross Sea and the Ross Ice Barrier, on which Little America is perched. Little America is actually inside British territory and its use by two previous Byrd expeditions and by Ellsworth was a matter of courtesy which will probably be repeated this time. A thin slice within the "Australian quadrant" belongs to France. A small square within it is also claimed by Ellsworth.

The one-sixth-of-a-continent slice next to the Ross Dependency is Marie Byrd Land and Ellsworth Land, both claimed by the United States, though not yet formally. An adjoining one-sixth is British—the "Falkland Dependency," lying below the Falkland Islands and the tip of South America. The remaining sector is Norwegian. German whalers have also claimed a piece of that, but the Norwegians still say them nay. The German claim extends into the western hemisphere and is said to be a violation of the Monroe Doctrine.

The dispute will not become too heated, however, for interest in the Antarctic, except for whaling rights, is still a matter of science and the future. Low-grade coal is to be found there. But by the time it could become economical to mine it, mankind may not be using coal as a fuel. Some rare and valuable product may some day be found there, however. Who knows? Uncle Sam's expedition, at least, will have a crack at finding out. And it will give the United States the basis for some real claims and add to man's knowledge and conquest of the unknown at the same time.

Life Near Pole

Have you ever wondered what life at the bottom of the world would be like? According to the plans of the expedition, it will run something like this:

A sponge bath once a week and a quick duck into a sleeping bag to warm up. No outside assignments for a couple of days afterward. The shock to the body would be too great right after sponging. Once a week a change of clothes—garments take three or four days to dry and washing them is not too easy, so you don't change too often. Retirement when weary into a little semi-private cubicle in which is a

double-deck bed for you and your "room mate."

Three months of darkness outside, punctuated now and then by moonlight brighter than at home. The not-quite-white light of kerosene or electricity inside. Days when no man goes outside for fear of being lost in the blizzard. A continual round of scientific observations, keeping records and doing chores, inside and outside.

That's what it will be like at the base camps which will be established next December or January—during Antarctica's "warm" daylight summer.

Hundreds of thousands of dollars worth of equipment will be taken to make it possible for men to live and work on the most inhospitable shore "down under."

A giant "snow cruiser"—with four ten-foot wheels to grip the snow, an airplane carried atop and space and equipment enough to be a perambulating base for four men for a year—will be their most spectacular tool. With it, expedition members hope to penetrate hundreds of miles into territory never seen.

Dogs, Too

Six Army tanks, stripped of guns and armor plate, will serve in place of tractors that might otherwise cost a cash outlay the \$350,000 expedition cannot afford. At least one Navy plane will be at each base. Dogs to the number of 170 will be down on the ice too.

Food costing a dollar a day per man for two years will be provided. The extra year's supply will be on hand in case an expedition ship cannot make her scheduled return to a base at the end of the first year.

The men will live in wooden bunkhouses whose seams will be made as airtight as possible to keep out Antarctic drafts. Floors will be raised for warmth. On the last two Byrd expeditions, except for one special case, floors were not raised and the men could never take off their fur boots, it was so cold.

Each man will have \$250 worth of special Polar clothing—mukluks (fur boots), parkas or fur hoods, an eiderdown sleeping bag and other garments now being made by Alaskan Eskimos working under the Division of Arts and Crafts of the Office of Indian Affairs. Special tight-woven cotton airplane fabric clothing will also be used to keep out the penetrating wind.

Caribou and reindeer sleeping bags and other special garments for field parties are also being prepared to the tune of \$7,000. Eiderdown sleeping bags, for



BIGGEST TIRE

It is for the snow cruiser to be used on the U. S. Antarctic expedition. Examining it are Dr. Henry T. Heald, president of Armour Institute of Technology, Dr. Thomas C. Poulter, designer of the cruiser, and Paul W. Litchfield, president of Goodyear, makers of the tire.

example, cannot be used on the trail because it is so much colder: moisture from the sleeper's body would freeze. If the fur bags freeze, they can be turned inside out and the ice brushed out.

While at the base, the men will be served almost every kind of food eaten at home—provided it comes in cans. Seal meat provides the vitamins and other essential features of scurvy-preventing fresh foods. On the trail, however, their fare is limited by what can be carried: their rations then will be heavy in pemmican, chocolate, sugar, tea, dried milk and dried fruits.

Photographic Equipment

A supply of specialized photographic equipment for mapping and for making a record of the expedition and of the data it gathers will be among the scientific equipment to be carried. Tools and spare parts will be taken also, for each base must be self-sustaining. The base camps will communicate with each other and their field parties by radio; Naval communications will keep the parties in touch with the outside world, via the Arlington naval radio station. A news bulletin of events at home may also be provided; a limited number of personal messages will be the expedition members' way of "writing" to the folks back home.

A full year will be lost if the expedition does not leave Boston in October. If it leaves later, there will not be time enough to build its bases, which require two to two and a half months to set up, before the Antarctic night begins, in mid-March. The ships would then have to wait until the following daylight period, more than three months later. And by the time they then got the bases erected, there would be little opportunity for exploration before winter night once more overtook the Antarctic continent.

The U. S. Antarctic Expedition de luxe will be safe, comfortable and efficient. Polar argosies were not always so.

Explorers to learn what equipment and methods are really needed, and a Machine Age to provide them both had to precede the well-fitted expeditions of today. A century and a half of suffering and heartbreak had to come first.

Far North Friendlier

The Far North has taken more lives than the Far South. But the Far North is nearer and friendlier. Many more have turned their steps northward to the Arctic. The Far South is not less dangerous. No North Polar adventure, for example, can match the saga of

Robert F. Scott of His Majesty's Royal Navy 27 years ago.

Forward, always forward, the stubborn-44-year-old officer-explorer urged his four companions in December of 1911. Lt. E. R. G. R. Evans, with the last supporting party, had been sent back from south latitude 86 degrees 56 minutes.

Sixty-nine days of bitterly cold toil. Then, a sight with a sextant, a moment of calculation. Ninety degrees south—the Pole at last! Where others had failed, he, Capt. Scott, and Wilson, Bowers, Edgar Evans and Oates, had succeeded!

But the cries of joy congealed in their throats. They saw a flag, a tent and notes. Amundsen of Norway had been there first—a month before.

Capt. Scott and his loyal four could not conceal their disappointment. To have risked so much and won so little. He erected a cairn marking the date. The five turned back.

The weather on their return from the lofty plateau on which the bottom of the world is situated was the worst anyone had known.

Evans, huskiest of the five, fell accidentally, sickened and died. Capt. Oates grew weak as the food grew short. He became a burden to the remaining three, and brooded over it.

"Going Outside"

"I am just going outside, and I may be some time," he said one night. Oates never came back from the blizzard. He knew he would not.

Scott, Bowers and Wilson struggled on. Eleven miles from a food cache, they pitched camp to wait out a storm. They waited in vain. Death by starvation overtook them first. Their tent and their bodies were found by a group from their base camp a year later.

The Antarctic has been a tougher nut for explorers than the Arctic for several reasons. It is possible, as Vilhjalmur Stefansson showed a generation ago, to live off the country in many sections in the North. It is not possible in the Antarctic. All food must be carried. It is colder in the Antarctic and the Polar Ice Cap is larger than that in the North. Because no large continents are nearby, Antarctica is also more inaccessible. The history of South Polar exploration is briefer than that of the North.

Roald Amundsen, Norwegian explorer who later flew over the North Pole in the dirigible Norge, was the first to reach the South Pole. A dash by dog sled brought him to Ninety Degrees South on Dec. 14, 1911.

Only 138 years before Capt. James Cook, who sailed around the continent without ever sighting it, and who explored the South Sea Islands and the Australian coast, crossed the Antarctic Circle for the first time.

British and American geographers are currently disputing the first discovery of the Antarctic Continent itself. Led by Prof. William H. Hobbs of the University of Michigan, who has found a map he contends supports American claims, the Americans credit a whaling boat captain from Stonington, Conn., hardly out of his 'teens, Nathaniel Brown Palmer, with sighting Palmer Land in 1820. The British attribute the continent's discovery to John Biscoe, a whaler sent out by the Enderby firm of

London, in 1830. Two years later Biscoe also sighted Palmer Land and renamed it Graham Land. Enderby whalers made many discoveries in the Antarctic.

English explorers were particularly active in the Antarctic, contributing many names to the roll of honor: Sir James Ross, who found the Ross Sea and the great ice barrier that also bears his name; Sir Ernest Shackleton; Prof. T. W. E. David, who found the South Magnetic Pole in 1912; and Sir Douglas Mawson are among them. Though American whalers were active in the South through the middle of the nineteenth century, it is not until the modern era of Byrd and Lincoln Ellsworth that the headlines and the accomplishments came the American way.

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Development Corporations Proposed for Alaska

Like the Famous "Hudson's Bay Company" They Would Turn It Into Prosperous "Scandinavia of the West"

FORMATION of one or more private development corporations like the world-famous "Hudson's Bay Company" to people Alaska with American citizens and refugees and turn it into a prosperous "Scandinavia of the West" is suggested in a Department of Interior report just published.

A population of five million or more, the report maintains, can easily be supported in the territory which, one-fifth the size of the United States, now has less than 60,000 inhabitants, including Eskimos and Indians.

Opening up the territory to large-scale colonization would provide a market for American capital goods equivalent to a heavy increase in the U. S. foreign market, it is urged. At least half the settlers will be American citizens. Among the others would be carefully selected refugees from foreign lands. The plan would thus also be an American answer to European persecution of minorities.

Private development corporations like the Hudson's Bay Company, which settled Canada, and the Plymouth Company, which sent the Pilgrims to the then unknown wilderness of the Atlantic coast, have been the most successful type of colonizing agency. One or more of them is therefore recommended for Alas-

ka. Their dividends would be limited and their activities carefully delineated by law. Financing would be entirely private.

Providing the plan secures support of Alaskans and others concerned, necessary legislation is expected to be introduced into the next session of Congress.

Present immigration laws would be modified so as to permit aliens selected by the companies to settle in Alaska. Immigration quotas of the United States would not be altered. If the Alaskan settlers wished to become citizens or to enter the United States, they would have to apply for immigration quota numbers like any other aliens. At least one large refugee-aid group is definitely interested.

Sponsors of the plan favor the establishment of more than one corporation. "Competition will be good for them," one declared. Besides, where diverse national and cultural groups are involved, they are likely to work better if each is allowed to work out its own problems instead of all being forced together into one company.

The society the colonists would build would be based primarily on manufactures exploiting Alaskan resources. The industries either would not duplicate