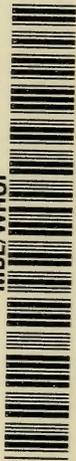


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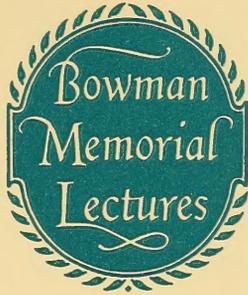
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The Polar Regions

IN THEIR RELATION TO

Human Affairs

BY

LAURENCE M. GOULD

President of Carleton College

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BOWMAN MEMORIAL LECTURES

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Foreword

Virtually since its founding, in 1852, the American Geographical Society has held an interest in the exploration of the Polar Regions. Some thirty years ago Isaiah Bowman, speaking about these areas, remarked that "so much is now known that the unknown is rather closely localized." The large number of significant contributions to polar knowledge published by the Society during Dr. Bowman's directorship bear witness to his keen interest and enthusiasm in promoting a better understanding of the Arctic and the Antarctic. He was a believer in scientific exploration, in attacking the unknown by placing the known facts in the forefront and confronting them with the problems. In his foreword to the Society's publication, "Problems of Polar Research," Dr. Bowman commented that "a world conference on objectives in polar research seems eminently desirable, and to supply an equivalent the present book has been undertaken by the American Geographical Society." One can well imagine his wholehearted support of the present international coöperative research taking place in the polar regions as part of the International Geophysical Year.

It was therefore highly appropriate that at the mid-point in the IGY, the fourth in the series of Isaiah Bowman Memorial Lectures was delivered by Dr. Laurence M. Gould, eminent geologist, geographer, and explorer in both polar regions, at a dinner of the Society held on January 30, 1958. Trained in the field of geology, Dr. Gould

held a position on the University of Michigan staff at the time he served as second-in-command of the University's First Greenland Expedition, 1926. Later he returned to the Arctic on several occasions for further work. He accompanied Admiral (then Commander) Byrd on his 1928-1930 expedition to Antarctica as geologist and senior scientist, and again acted as second-in-command. In recognition of his accomplishments in the field of Antarctic geology and geography, he was awarded the David Livingstone Centenary Medal of the American Geographical Society in 1930, and in the following year was presented with a gold medal by the Congress of the United States for his outstanding contribution to knowledge. In 1945, Dr. Gould became president of Carleton College in Northfield, Minnesota. But his duties as an educator have not deterred him from his scientific interests. He serves as a member of the National Science Board of the National Science Foundation, and during the IGY has acted as chairman of the Antarctic Committee of the United States National Committee for the International Geophysical Year and Director of the United States IGY Antarctic Program.

The Polar Regions

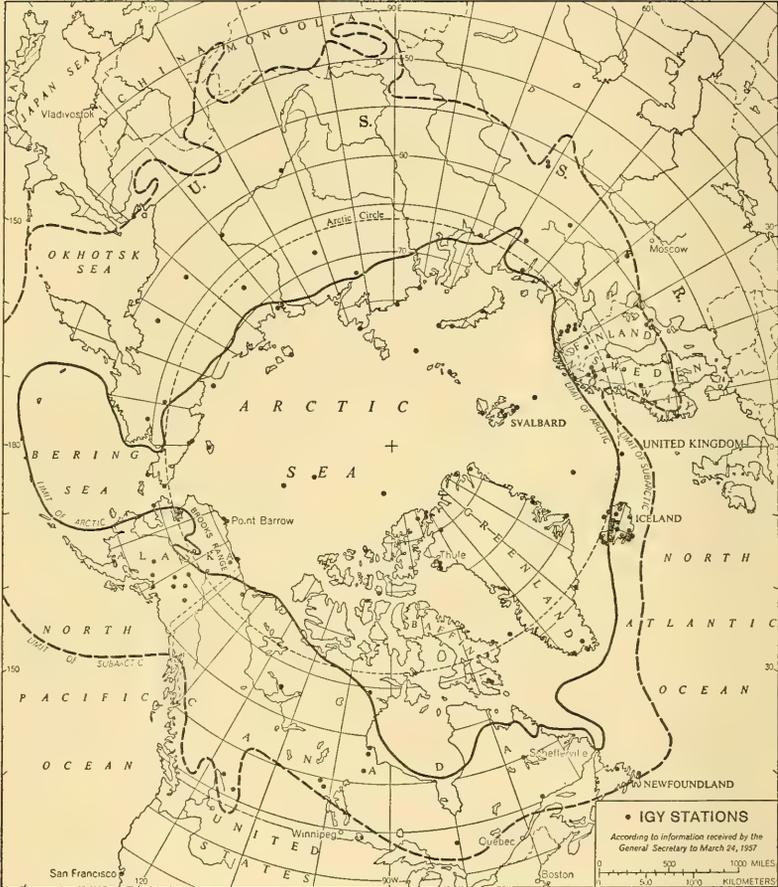
IN THEIR RELATION TO

Human Affairs

MEMBERS AND GUESTS of the American Geographical Society, I am honored by and grateful for the invitation to give the Isaiah Bowman Lecture on a subject which I am sure would have pleased Dr. Bowman. I am honored because of my admiration for the American Geographical Society and its achievements and grateful because of the debt I owe to Isaiah Bowman for the unending stimulation of a long and faithful friendship.

The north and south polar regions are distinguished by their dissimilarities rather than by any common characteristics; therefore they are best understood in terms of their contrasts. Indeed, I can think of but one worthwhile generalization that applies to both, namely, that both will play more and more important roles in human affairs as the world becomes more crowded and man's mobility increases.

Isaiah Bowman once said that the Arctic is a hollow and the Antarctic a hump, referring to the oceanic character of the Arctic and the continental character of the Antarctic. Antarctica, the highest and coldest of all the continents, is the world's greatest desert and the only continent which has never been the home of man, whereas the lands that fringe the Arctic exhibit more than four hundred species of flowering plants and a fauna which with the life of the sea supports a sturdy native population.



North Polar Lands showing the limits of the Arctic Region (solid line) and the Sub-Arctic Region (broken line). All proposed IGY stations reported by the Secretary General as of March 24, 1957, are shown. Participating nations in the North Polar Lands include: Canada, Denmark, Finland, Iceland, Norway, Poland, Sweden, U.S.S.R., and the United States.

The North Polar Lands

FOR THE PURPOSES OF THIS LECTURE, the Arctic and the North Polar Regions are not synonymous. The former is too limited a concept, for it includes only a thin fringe of the North American and Eurasian continents plus Greenland and the islands of the Arctic Ocean. This is a sparsely inhabited region in which the seas are more productive than the lands. I shall include both the Arctic and the sub-Arctic within the term North Polar Lands. A. L. Washburn¹ defines the southern limit of the sub-Arctic as the zone where the average temperature is not higher than 50° F. for more than four months, and where the average temperature of the coldest month is below 32° F. While the Arctic is largely a region of islands and water (see Plate I at end), the sub-Arctic bites off large continental segments of Eurasia and North America.

The first aspect of any region that comes to mind in its relationship to human affairs is its role in the trade and commerce of the world. The economic exploitation of the northlands followed close on the heels of the earliest explorers who were in search of passages to India. Their voyages revealed an abundance of whales whose exploitation established the northern seas as the major source of whale oil for generations to come. Ruthless exploitation — implemented by the development of whaling techniques that included explosive missiles such as propelled shoulder and dart guns — resulted in the rapid elimination of this once rich source.

RENEWABLE RESOURCES

Even as the whalers plied the seas, hunters and trappers were invading the lands to exploit the fur-bearing animals. Much of the early explorations of the coastal and interior regions resulted from the strenuous activities of the hunters and trappers. Though the renewable resources of the fur-bearing animals have been greatly diminished, they still provide an important item in the economy of the northlands.

Fishing has long since replaced whaling as the major harvest of north polar seas. All lands that border Arctic and sub-Arctic waters depend upon fishing as an important item in their economy. Norway is third in all the world in the production of fish. Canada, the Soviet Union, Greenland, and Iceland are important producers, and Alaska provides one-seventh of all the fish consumed in the United States.

Agriculture is limited to a few areas, but is slowly creeping northward. Part of this northward trend is due to the development of new strains of crops more resistant to cold and part may be due to a gradual warming of the climate. Fields are being cultivated in Greenland today that the Norsemen or their descendents cultivated five centuries ago.

Though grazing lands are limited, A. E. Porsild says the physical basis for the reindeer industry is tremendous. He states that the best lichen forest grazing areas would support sixteen reindeer per square mile. At best, however, if the North Polar Lands are to play a much larger economic role in the commerce of the world, it will be on some other bases of northward movement and settlement than agriculture and animal husbandry.

The greatest single renewable resource of the North

Polar Lands is undoubtedly the boreal forests. The Soviet Union leads the world in forest resources and Canada is third. There is great potential for the development of hydroelectric power which will be important in the exploitation of these and other natural resources.

NONRENEWABLE RESOURCES

Even though only a modest beginning has been made in the detailed geological mapping of the North Polar Lands, they have long been important sources of a number of minerals. Gold was the first to be exploited on a large scale and still remains by a large margin the most valuable mineral in production. The Soviet Union is crowding South Africa for first place and Canada is third in the world production of gold.

Important as gold is, it may eventually have to take second place to uranium ores. Two of the three largest known deposits of fissionable ores in the whole world are in sub-Arctic Canada.

Iron has been mined for a long time in the sub-Arctic lands of Eurasia, and as the richer deposits in the lower latitudes of North America are exploited, the pressure for the development of more remote deposits increases. One of the most spectacular iron ore deposits in the world is the Burnt Creek area seven hundred miles northwest of the city of Quebec. Exploitation began in 1954 with 417 million tons of proven ore, averaging 49 per cent to 61 per cent iron on a dry basis, with strong probabilities of greater resources. Little wonder this deposit is called the Mesabi of Canada.

In 1956, International Nickel Company of Canada, Ltd.,

announced the opening up of a vast new deposit of nickeliferous ore four hundred miles north of Winnipeg, which will be in production in 1958. By that time this single enterprise will be supporting a settlement of 8000 people, which according to the president of International Nickel could grow into a community of 50,000 in the predictable future. All this is happening in what only yesterday was a vast sub-Arctic wilderness without roads or railroads.

While not as important as the metallic minerals noted above, deposits of copper, lead, zinc, tungsten, platinum, and tin have been or are being worked at a number of places. Of the nonmetallic minerals, coal is known to occur over wide areas of the North Polar Lands. It has been reported from more than half the Canadian Arctic islands and has long been mined in Spitsbergen and Greenland, as well as on the mainlands of North America and Eurasia. The petroleum industry has a future of much promise. Nearly all Soviet northlands appear favorable for the development of oil, and the gently folded rocks north of the Brooks Range in Alaska are very promising. Much of this part of Alaska has been held as a reserve by the United States Navy since 1923.

The Soviet Union has pursued a much more aggressive policy in the development of its northlands than has either Canada or the United States and is undoubtedly far ahead in number and size of settlements and general exploitation of the natural resources.

On the whole, the polar lands of North America are underdeveloped. Massive capital investments are necessary but they appear to be forthcoming when new resources of merit are opened up. The northward pressure of population in itself will also hasten further developments. Eventu-

ally the peoples of the northlands will be drawn more and more into world affairs from lower latitudes. It is unlikely that the Eskimos and other native peoples will maintain their identity indefinitely. We who have known these remarkable peoples even slightly contemplate with profound regret the eventuality that they will become casualties of our advancing "civilization."

Clearly the resources of the North Polar Lands are important and hold high promise for further development, but the current role of the northlands in their relationship to human affairs derives not so much from economic factors as from their geographic location.

STRATEGIC CONSIDERATIONS

By the sheer logic of its position, the Arctic is destined to become one of the great crossroads for air traffic on a global scale. Most of the earth's regions — indeed, those most highly developed and, except for India and China, most populous — lie about the Arctic. Lloyd calls attention to the fact that 90 per cent of the people live north of the equator, that 10 of the world's largest cities lie between the Arctic Circle and the Tropic of Cancer, and that only 9 of the world's 41 cities with populations over a million lie outside this zone.² The greater part of the world's oceanic traffic has therefore been in the Northern Hemisphere.

The shortest route from San Francisco to Shanghai is not across the Pacific but via Alaska, and the latter route is 2300 miles shorter. If you were to travel by conventional routes on sea and land from San Francisco to Moscow, which would be via Tokyo and Vladivostok, you would cover 15,500 miles. If you flew over the Arctic, you would

need to cover about 10,000 fewer miles. Every capital of Europe is as close to Chicago as is Buenos Aires.

The extensive searches for the Northeast and Northwest passages which followed Columbus' demonstration of a New World failed, not because of any geographic misconceptions, but because their methods were inadequate. The ships of the air provide techniques of exploration not afforded by the ships of the sea. Mercator's chart was suitable for the westward thrust of European civilization in the eighteenth and nineteenth centuries, but presented a completely inadequate concept of the polar regions. We are again forced to discover in our air age that the Mercator chart in itself did not change the world — it is still round, and there is no longer any limitation to the application of this fact to the most effective means of transportation and communication.

Lloyd points out that the recognition of the strategic importance of the Arctic approach to Canada is not new.³ One of the early explorers of the Canadian Arctic mainland was the Scotsman, Mackenzie. When Napoleon read his travelogue almost 150 years ago, he gave Marshall Bernadotte the job of attacking eastern Canada from the rear by way of watercourses described by Mackenzie. For 150 years following the establishment of the Hudson's Bay Company in 1670, western Canada was settled from the Arctic. Traders, trappers, and the settlers came that way — even as far south as the Red River that forms the boundary between Minnesota and North Dakota.

The first American to call attention to Arctic strategy was Secretary Seward of Lincoln's Cabinet, who sponsored the purchase of Alaska in 1867 and who would also have had us secure Iceland and Greenland by purchase from

Denmark as part of our ultimate national security. The pathetic struggle of the late great General Mitchell to open the eyes of his colleagues to the importance of Alaska is a story too well known to need reiteration here. And of course Stefansson, perhaps the greatest and most persistent of all Arctic prophets, has been trying for nearly half a century to educate us to an awareness of the impending importance of the Arctic.

The Soviet Union was first to recognize the strategic importance of the Arctic in our air age and first to attempt to do something about it on a large scale, her extensive explorations and settlements being dominated primarily by a sense of military strategy. But even the great Russian trans-Arctic flights of 1947 failed to impress us. Not until World War II was fairly upon us did either Canada or the United States begin to take serious thought and action concerning the Arctic regions. To secure the best coordinated effort, the Permanent Joint Board on Defense was created in August, 1940, to "consider in the broad sense the defense of the northern half of the Western Hemisphere."

Under the agreement each country is responsible for bases in its own land except for United States bases in Newfoundland. The Board now involves strategic planning at the highest levels in both countries, armament programs with standardized specifications, joint weather programs, and joint network of radar and other communication systems. The most notable is the most recently completed DEW (Distant Early Warning) line, which stretches from Point Barrow, Alaska, three thousand miles eastward to Baffin Island. It has been completed at a cost of six hundred million dollars. Does not this sum suggest to you something of our official concept of the strategic importance of

the Arctic? The DEW line is backed up by the Mid-Canada Defence Line and by the Pinetree Line on the U. S.-Canadian border. In addition to these developments, the United States and Canada have established experimental stations on some of the great floating ice islands in the Arctic.

NATO, the North Atlantic Treaty Organization, is a further reflection of the importance of this area, for it includes countries of the free world for which the North Atlantic is an important thoroughfare.

There is much we do not know about Soviet activities in the Arctic. Undoubtedly the Russians have not only duplicated, but have far exceeded all that we have done. We know that they have made hundreds of plane landings on ice islands, which as early as 1937 they began using as platforms for meteorological and other observations.

The late General Arnold, who commanded the United States Army Air Force in World War II, said that if World War III came, its strategic center would be the North Pole. Few people even in his own service paid attention to him. It took another courageous voice to call attention to our vulnerability via Greenland, which led to the establishment of the great air facility of Thule in north Greenland. That was the voice of Colonel Bernt Balchen.

The strategic significance of the Arctic has increased as civilization has progressed or developed. The development of guided missiles and other weapons but adds to it from a military standpoint. It is tragic that the real possibilities for economic development should be overshadowed and obscured by the defense preparations I have described. Granted peace, the economic strategic importance of the northlands will exceed their military significance.



Fig. 1 — NORTH POLAR REGION: RESEARCH AND DISCOVERY. An Aerobee rocket carrying scientific instruments is launched at Fort Churchill, Canada. (Photograph courtesy of U. S. National Committee for the International Geophysical Year.)



Fig. 2 — NORTH POLAR REGION: LANDSCAPE. The Alaska Range from the Richardson Highway at Little Miller River. (Photograph by Austin S. Post, American Geographical Society IGY expedition.)

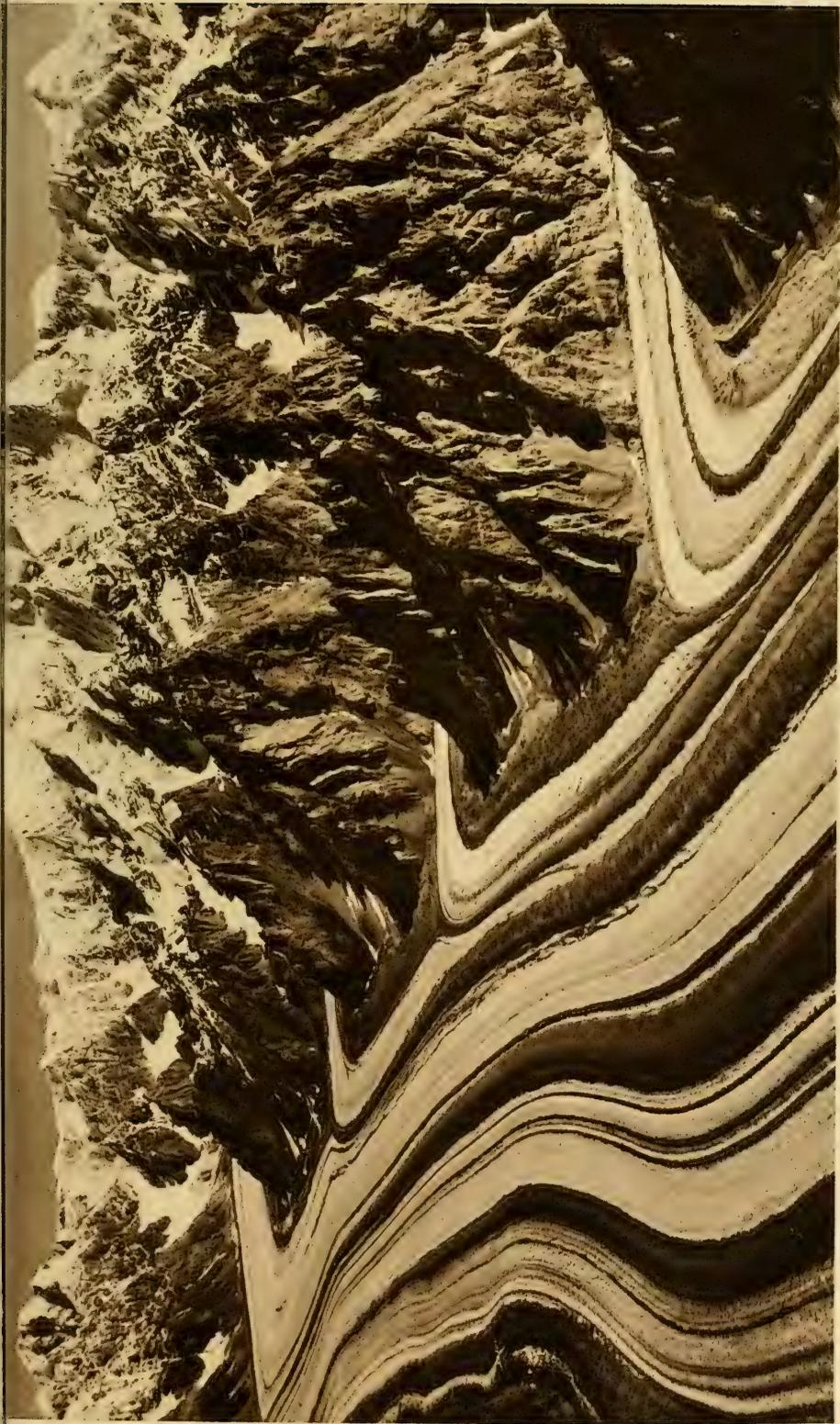


Fig. 3 — NORTH POLAR REGION: LANDSCAPE. Barnard Glacier, Alaska. The dark stripes are moraine deposits carried on the surface of the glacier. (Photograph by Austin S. Post, American Geographical Society IGY expedition.)



Fig. 4 — NORTH POLAR REGION: LANDSCAPE. Arctic tundra of the coastal plain near Point Barrow, Alaska. Mixed plant communities dominated by sedges, mosses, and lichens occupy about 25 per cent of the low wet flatlands. (Photograph courtesy of Max E. Britton, Office of Naval Research.)



Fig. 5 — NORTH POLAR REGION: SEASCAPE. Winter ice and heavy polar ice off Arundel Island, on the east coast of Greenland. Note the icebergs frozen in the pack. July 19, 1933. (Photograph courtesy of Louise A. Boyd.)



Fig. 6 — NORTH POLAR REGION: AGRICULTURE. Matanuska Valley dairymen water their herd from a 1000-gallon tank mounted on a truck. The pasture is about 200 yards from the barn. (Photograph courtesy of A. H. Mick, Palmer, Alaska.)

Fig. 7 — NORTH POLAR REGION: AGRICULTURE. Vegetable garden, with peas, beets, carrots, beans, cabbage, oats, and potatoes, at Thunder River, 80 miles north of the Arctic Circle. July 13, 1930. (Photograph by W. D. Albright.)

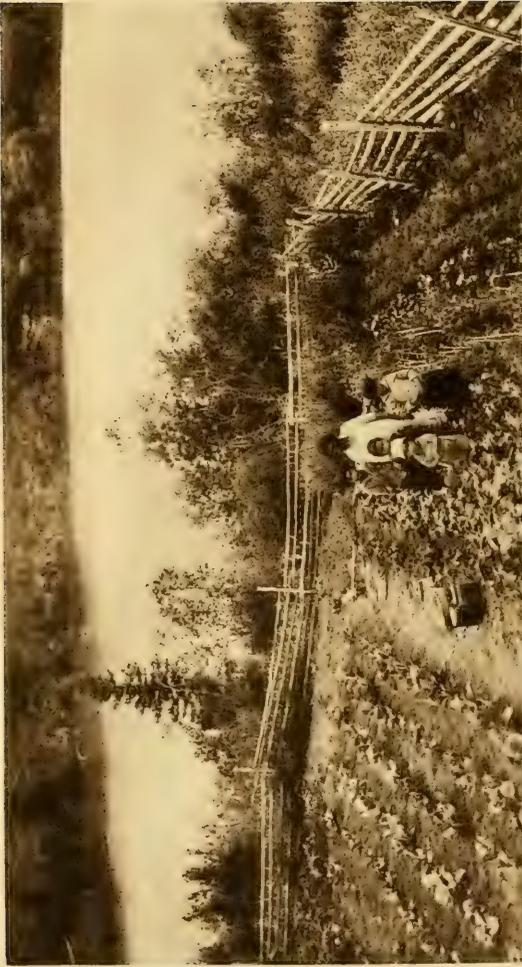


Fig. 8 — NORTH POLAR REGION: TRANSPORTATION. Tractor trains moving over frozen lake in new mining area 400 miles north of Winnipeg. In the winter of 1957, 24 such trains operating 24 hours a day hauled 30,000 tons of equipment and supplies. (Photograph courtesy of International Nickel Company.)



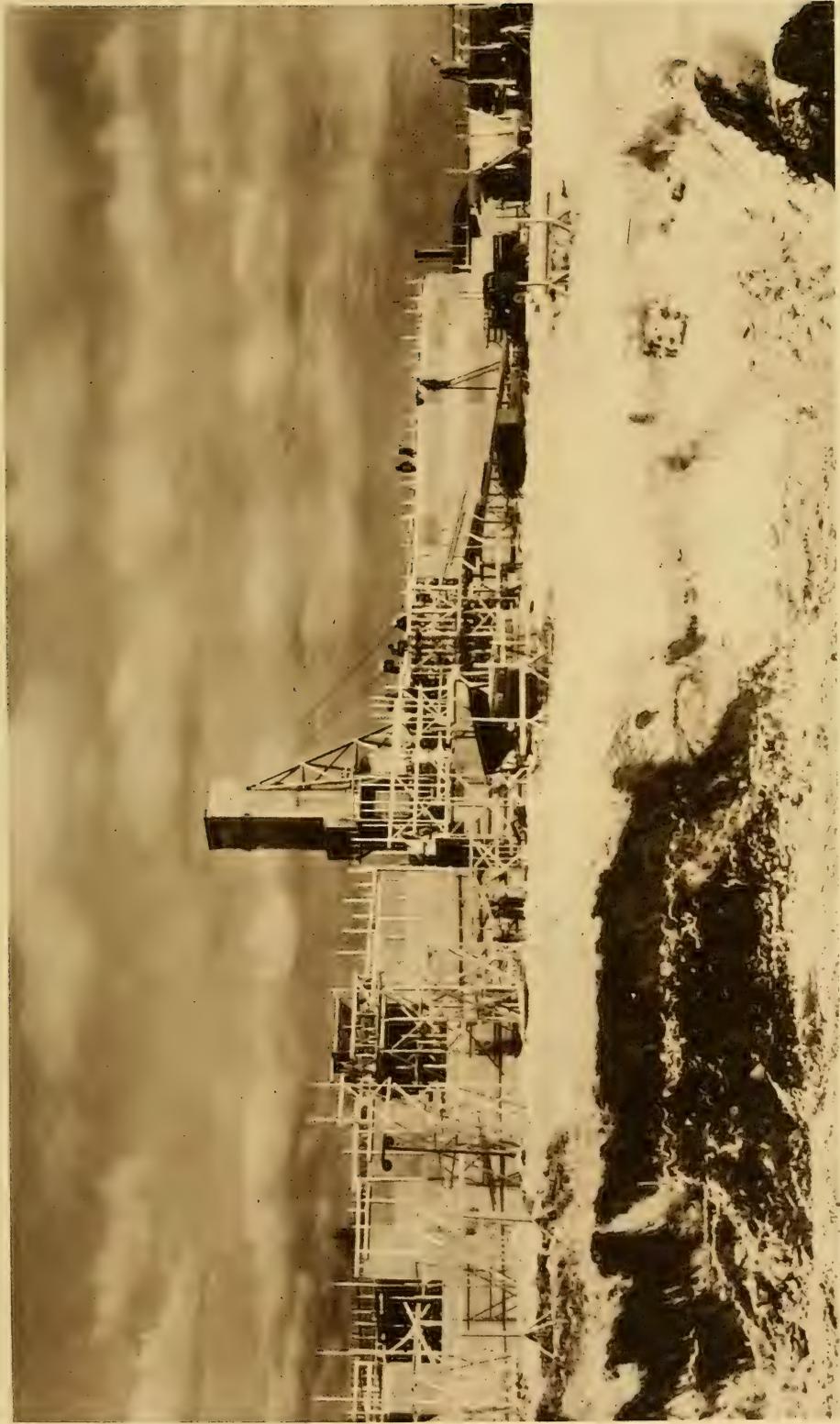


Fig. 9 — NORTH POLAR REGION: MINING. Temporary headframe housing No. 1 shaft and part of concentrator foundations at the Thompson, Manitoba, plant. The plant will process nickeliferous ores. (Photograph courtesy of International Nickel Company.)

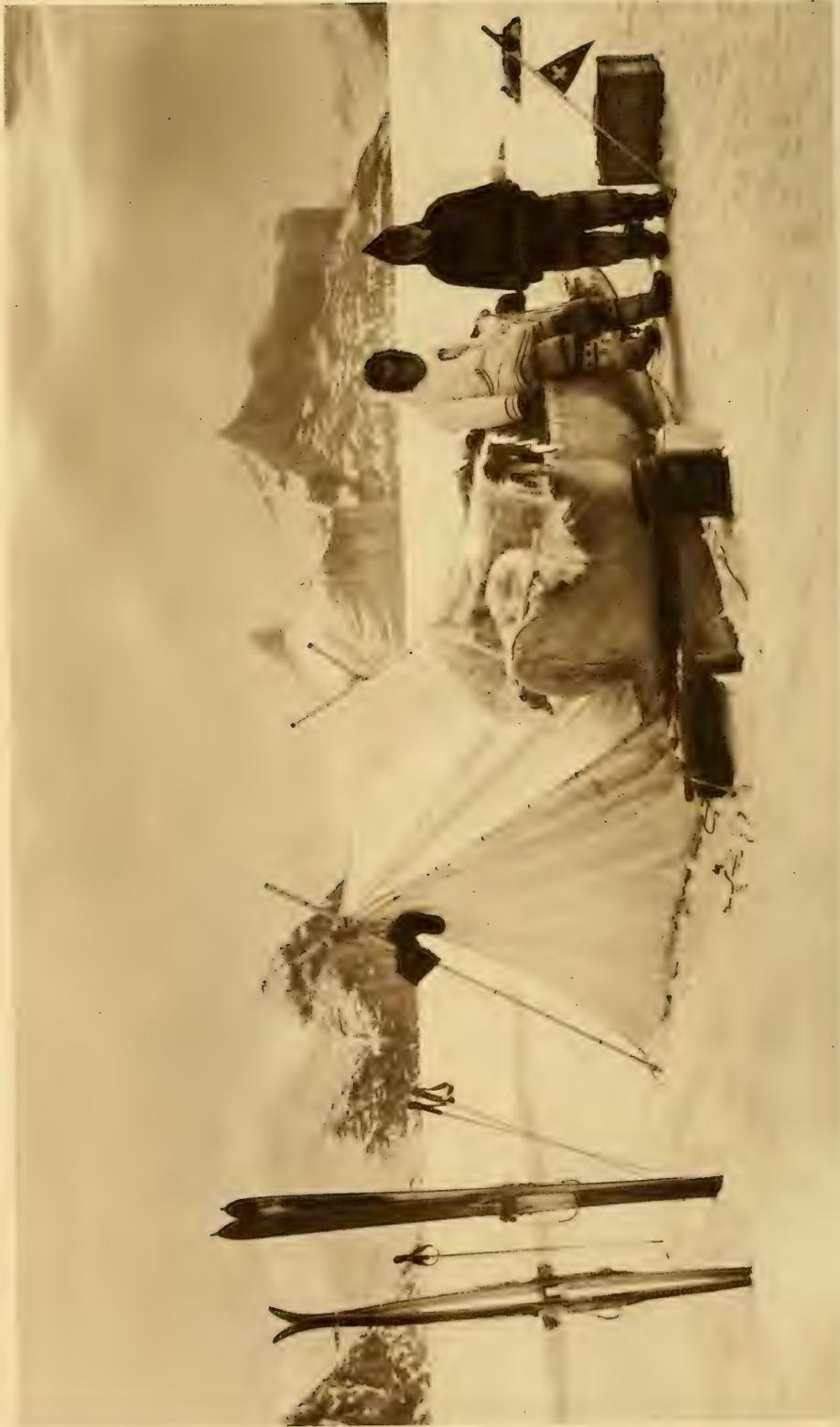


Fig. 10 — NORTH POLAR REGION: EXPLORATION. Temporary camp of Arctic Institute of North America expedition during traverse of the sea ice of Sam Ford Fiord, east coast of Baffin Island, 1950. (Photograph courtesy of Arctic Institute of North America.)



Fig. 11 — NORTH POLAR REGION: IGY OPERATIONS. Joint Canadian-United States weather station "Isachsen" on Ellef Ringnes Island, operated as part of the International Geophysical Year program. (Photograph courtesy of U. S. Weather Bureau.)



Fig. 12 — SOUTH POLAR REGION: TRANSPORTATION, IGY OPERATIONS. USNS Greenville Victor and USS Arneb moored to the ice in Kainan Bay, Antarctica. December 29, 1955. (Official U. S. Navy photograph.)



Fig. 13 — SOUTH POLAR REGION: TRANSPORTATION, IGY OPERATIONS. P₂V arriving at sea-ice runway near Ross Island, Antarctica, after flight from New Zealand. December 20, 1955. (Official U. S. Navy photograph.)

Fig. 14 — SOUTH POLAR REGION: LANDSCAPE. The recently discovered Pensacola Mountains, looking west. Forrestal Range in foreground, Neptune Range on horizon. Approximate location, $82^{\circ}30' \text{ S.}, 39^{\circ} \text{ E.}$ January 13, 1956. (Official U. S. Navy photograph.)



Fig. 15 — SOUTH POLAR REGION: LANDSCAPE. Taylor Dry Valley, on the west side of McMurdo Sound, view southwest, looking up-valley toward Taylor Glacier. December, 1957. (Photograph courtesy of W. O. Field.)



Fig. 16 — SOUTH POLAR REGION: WHALING. Modern Antarctic whaling expedition. Factory ship with tenders taking on fresh water at South Georgia. (Photograph courtesy of a/s Thor Dahl.)



Fig. 17 — SOUTH POLAR REGION: WHALING. Factory ship in operation. In foreground, dismembered carcass of a fin whale, ready for processing; in background whale carcass stripped of blubber. (Photograph courtesy of a/s Thor Dahl.)

Fig. 18 — SOUTH POLAR REGION: IGY OPERATIONS. Little America V, March, 1957. This station is part of the United States effort in the Antarctic program of the International Geophysical Year. Compare this view, taken in the southern autumn, with Figure 19. (Official U. S. Navy photograph.)



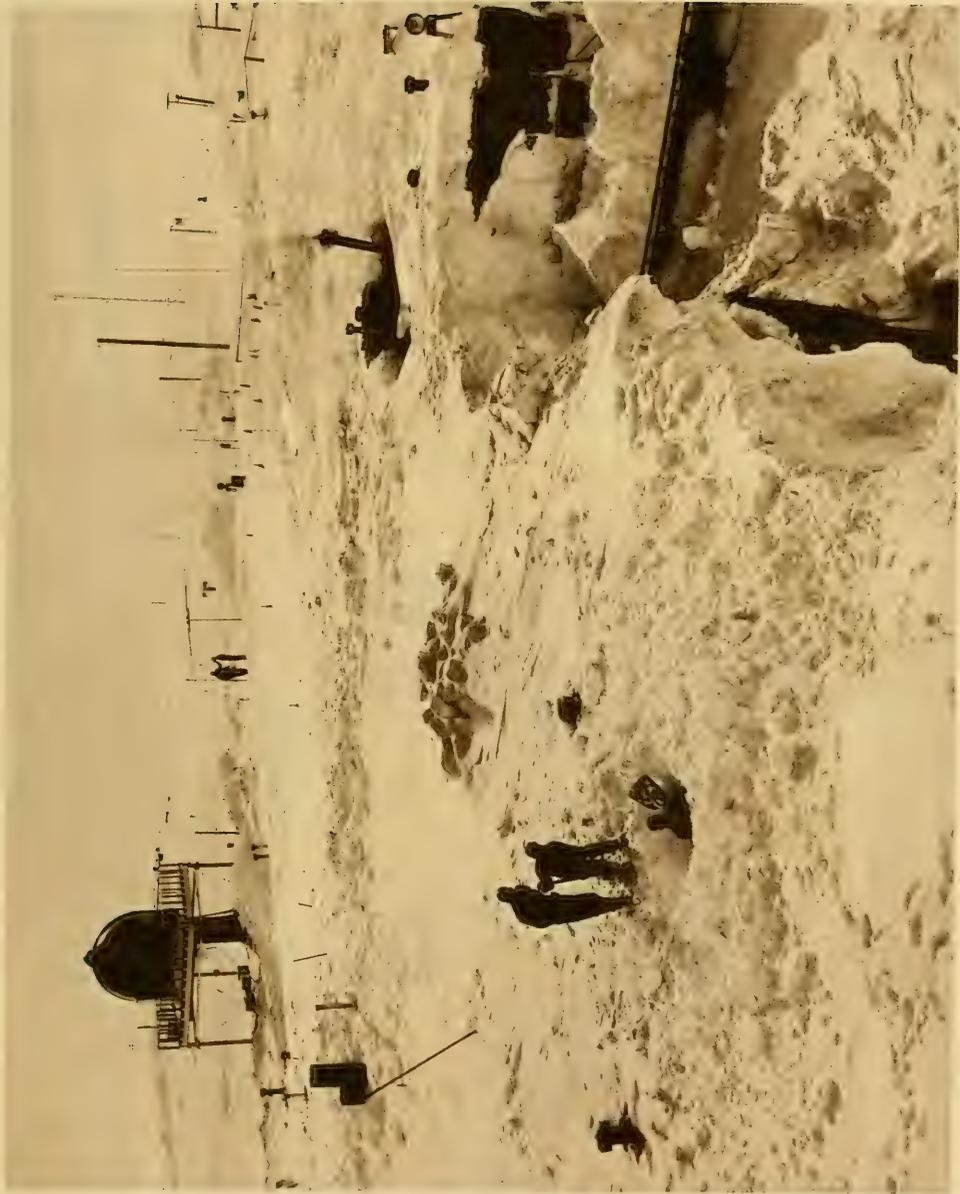


Fig. 19 — SOUTH POLAR REGION: IGY OPERATIONS. Digging out at Little America V after the winter of 1957. View from top of aurora tower shows meteorological and radiation instruments drifting since station was completed in January, 1956. Melt holes around ventilation pipes and weak points in roofs of interconnecting tunnels marked by flags. (Official U. S. Navy photograph.)



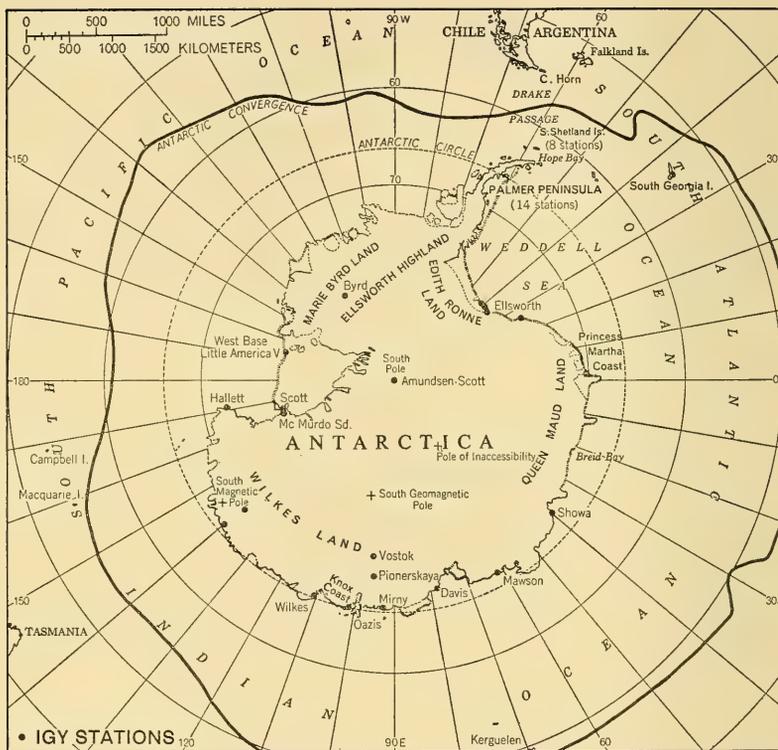
Fig. 20 — SOUTH POLAR REGION: IGY OPERATIONS. Wilkes Ice Cap Station being readied for winter occupation. Anemometer mast, foreground, is about to go up; glaciologist in background is sinking stakes for support ropes of Jamesway hut. (Photograph courtesy of Rudolph Honkala, U. S. Weather Bureau.)

The South Polar Lands

WHILE THERE MAY BE some ambiguity about the term "polar lands" as applied to the Arctic, there is none in the Southern Hemisphere. The Antarctic Continent lies almost wholly within the Antarctic Circle, which roughly parallels the isotherm of 32° F. for the warmest month.

There is no intimacy between Antarctica and other land masses as there is between all of the other continents. You might start at Cape Horn and travel to all the rest of the continental lands never crossing more than sixty miles of shallow seas, whereas most of the lands around Antarctica are separated from it by as much as two thousand miles of water. The narrowest oceanic area, Drake Passage, is more than seven hundred miles wide.

However, what is generally regarded as the most notable natural boundary relating to the totality of South Polar conditions roughly parallels the isotherm of 50° F. for the warmest month (the outer boundary of the Outer Polar Belt). This is the Antarctic Convergence, an unbroken and rather sharply defined boundary around the continent whose position shifts slightly from season to season. The Antarctic Convergence is caused by the fact that the cold waters of the northward-moving Antarctic intermediate current are denser than the sub-Antarctic waters and sink sharply below them with but little mixing. Sea and air temperatures, water analyses, the character of the plankton and the sea birds, all reveal this boundary.



The approximate location of the Antarctic Convergence, generally regarded as the most acceptable boundary of South Polar conditions, is shown by a solid line. IGY stations and facilities are shown by solid dots. Participating nations in the Antarctic are Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, United Kingdom, United States and U.S.S.R.

ECONOMIC RESOURCES

The economic role which Antarctica plays in human affairs is a simple one. Although the continent proper is a great desert, the seas that surround it are notable for their abundance of life. Whaling is currently the only exploitation of this abundance, but it is an important industry which accounts for eighty-five per cent of the world's total production of whale oil.

Of the nonrenewable or mineral resources, coal is present in Antarctica in vast quantities. It is, however, low grade lignite and not even in the predictable future can it be regarded as an economic asset. The structure and geology of the rocks in west Antarctica suggest the possibility of oil. Traces of manganese, nickel, copper, and other ores have been found, but at the present time we know of no commercial deposits of any mineral whatsoever in Antarctica. It is unwarranted to assume that there are great riches. It is equally unwarranted to assume that there are none. We just don't know, for less than one per cent of the continent has really been examined geologically.

SOVEREIGNTY PROBLEMS

One of Antarctica's roles in human affairs is apt to center around the question of its ownership. Seven nations have claimed pie-shaped sectors: Great Britain, New Zealand, Australia, Norway, Chile, Argentina, and France, leaving unclaimed a sector from 150° to 90° W. — West Antarctica, which includes Marie Byrd Land and which has been the principal area of recent United States explorations before the IGY.

These claims are based upon debatable evidence. The

British, Norwegian, and French claims are presumed to be based on the right of discovery, yet Great Britain made its first claim in 1908 — eighty-eight years after the supposed discovery of the continent by Bransfield.

There has long been much difference of opinion between British and American investigators as to who actually discovered Antarctica. The British are sure Bransfield made the first continental landfall early in 1820. Americans have generally believed that this landfall was an island and that the first sighting of the continent was made by an American sealing captain, Nathaniel Palmer, later in the same year.

In 1952, E. A. Stackpole⁴ called attention to a third candidate whose credentials I consider the best of all. He is Christopher Burdick, a Nantucket sealing captain, who sighted the continent on February 21, 1821, and recorded with clarity and conviction the fact that his landfall was part of a continent. The point in dispute between Bransfield's and Palmer's supporters is in the same area as Burdick's landfall.

Recently the Russians have proposed another contender — Admiral Fabian von Bellingshausen, who in the service of Czar Alexander I circumnavigated the continent in 1820-1821. The charted route of his journey shows that he came near enough to the continent to have seen it in the African sector, but he makes no record of any landfall then. In 1949, the All-Soviet Geographical Congress, after examining the data, concluded that von Bellingshausen had actually discovered Antarctica in the area of the Palmer Peninsula. Others who have examined the data are of the unanimous opinion that the discovery in question is an island and not the mainland of the continent.

In the American section of Antarctica three claimants overlap 21° W. — Chile, Argentina, and Great Britain. This has led to a good deal of friction and on February 2, 1952, the Argentine Navy actually fired on the British when they attempted a landing at Hope Bay. Both Argentina and Chile insist that the right of discovery is negligible and that effective occupation is the only test.

One of the most spectacular lapsed claims is reflected in the name of New Schwabia or New Schwabenland, which is now a part of Norway's Queen Maud Land. In 1938-1939, Hitler determined to secure for Germany her share in the approaching division of Antarctica among world powers and thus create the basis for her rights to continue and develop her whaling industry. A superbly equipped, steel-clad ship penetrated the ice pack below South Africa within fifty miles of the coast. Planes were catapulted from the ship, many flights were made, and three hundred thousand square miles of territory were mapped. This was the first photogrammetric work in Antarctica. By way of establishing claims, the planes dropped hundreds of steel spear-pointed shafts, which plunged into the ice to remain erect, and on the free end contained the Nazi symbol. And by the way, how fast history moves in our time! It seems incredible that it was just twenty-five years ago this very day that Hitler came to power.

The United States official position was stated by Secretary Hughes in 1924 as follows: "It is the opinion of this department that the discovery of lands unknown to civilization, even when coupled with formal taking of possession, does not support a valid claim of sovereignty unless the discovery is followed by actual settlement of discovered country." Our official position since then is that we reserve

all rights accruing from United States explorations and discoveries without making any actual claims and that we do not recognize the validity of claims made by other nations.

United States interests in Antarctica may be said to have begun in 1839-1840 when Admiral Wilkes voyaged more than halfway around the continent and demonstrated the reality of a continent by his landfalls in the Australian quadrant. Then there was a great lapse both in official and unofficial interest. Not until the First Byrd Antarctic Expedition of 1928-1930 did Americans again concern themselves with Antarctica. However, many American citizens were long restless about our attitude toward political claims, especially after Australia claimed about one-third of the continent in 1933.

I know that a number of American citizens from time to time recommended to the State Department that we take a more aggressive position regarding our interest in Antarctica than that embodied in the Hughes policy. This concern finally filtered through to the very top, and in 1938, President Roosevelt asked Secretary Hull to prepare a policy study as to what our interests in the polar regions should be. Meanwhile, even before this study could be completed, Secretary Hull directed Lincoln Ellsworth, who was about to fly into the Antarctic in the sector claimed by Australia, to drop a copper cylinder containing a note claiming for the United States all inland territories within one hundred and fifty miles of his route "so far as this act allows." I have not been able to find anyone who could interpret just what is meant by the words quoted.

In January, 1939, the report requested by the President was delivered and reversed the historic Hughes policy. In-

deed, this study quite emphatically stated that we did have interests in the polar regions for the following reasons: the impending importance of transpolar aviation; the importance of strategic location from a military standpoint; the probability of rich mineral resources; the active political interests in Antarctica expressed in claims; and concern about potential claims by other countries. Hull's recommendations led to the almost immediate establishment of the United States Antarctic Service in the Department of the Interior. This was initiated on January 7, 1939.

That the President planned the establishment of a number of summer settlements to provide the basis for extensive claims is now clear. What is now Queen Maud Land, almost directly south of the Cape of Good Hope, was one of the areas to be settled.

However, before the United States could take any action, Norway published its claims to this area. At the same time Hitler's expedition to "New Schwabia" was on its way to claim a large part of this land. Though Norway did have other reasons for making claims, it was probably this German bid for sovereignty that precipitated Norway's actions. In 1929-1930, Captain Hjalmar Riiser-Larsen photographed from the air what is now Princess Martha Coast, and there were further Norwegian explorations in this region in 1930-1931 and in the years thereafter. The lucrative whaling industry has long been dominated by the Norwegians and the coastal seas of this part of the continent are of great importance to the industry, for the huge factory ships not only operate near the pack ice, but occasionally break through it toward the coast.

There was such a feeling of urgency stemming from the rising power of Hitler and the approaching war that a

further proposal was made involving a possible joint claim to the Antarctic lands south of us in behalf of all the American republics. The jurisdiction of the Monroe Doctrine would thus have been pushed right down to the South Pole. In 1940, Secretary Hull stated categorically that it was imperative for continental defense that the twenty-one American republics maintain a clearer title to the part of the continent below the Americas than those of other nations.

The field operations of the United States Antarctic Service resulted in the establishment of West Base near the site of Little America and East Base on Stonington Island near the base of Palmer Peninsula below South America in 1939. Explorations of the unknown lands of West Antarctica were to be made from these two bases and participants were directed to leave records for the purposes of "consolidating and extending United States sovereignty over the largest practicable area of the Antarctic continent." Much good work was done, but what the completion of the explorations might have accomplished in claims and "settlements" can now be only a matter of speculation, since World War II ended the United States Antarctic Service for all practical purposes.

The end of World War II, its eventual replacement by the cold war, and the emergence of the Soviet Union as an opponent rather than an ally brought the military strategic importance of the Arctic into sharp focus. It was expedient that our military personnel should have actual experience in cold weather operation. Because of the Soviet Union's proximity to the Arctic, Operation Highjump was organized for Antarctica under the United States Navy in 1946. This was the largest exploratory venture in Antarctic history up to that time and resulted in the exploration of

many hitherto unknown areas with extensive aerial photographic coverage. Operation Highjump was followed in 1947 by Operation Windmill, which operated under instructions similar to those of Highjump, though on a smaller scale. Both operations carried directives (only recently declassified) to extend and consolidate United States sovereignty.

Operation Deepfreeze I, which headed south in 1955 to begin the establishment of bases for the International Geophysical Year, was directed to continue the political activities of Highjump and Windmill, reflecting the continuing United States "official" political interest in Antarctica. Since this was inconsistent with the world-wide agreement that there should be no political activities in connection with the International Geophysical Year, all reference to any political activity of any sort was dropped from the directive of Operation Deepfreeze II for 1956-1957. This operation was directed to support the IGY only.

STRATEGIC CONSIDERATIONS

If there is any part of Antarctica that has particular military importance, it is the Palmer Peninsula. The only natural link between the Atlantic and Pacific oceans is Drake Passage, between Cape Horn and the Palmer Peninsula. Should the Panama Canal be knocked out of commission, this might become a waterway of very great importance to us.

As a matter of fact, as early as 1820 Great Britain believed this waterway so significant that it directed Captain Bransfield to investigate the possibilities for colonization of the land south of the passage and to establish friendly relations

with the natives. This would have been a difficult task, for the largest native land animal in Antarctica is a wingless mosquito, and very few of these have been reported. Certainly it was the belief in the strategic importance of the Palmer Peninsula and Drake Passage that led to Secretary Hull's proposal in 1940.

Except for Drake Passage, the oceanic waters that surround Antarctica are of such breadth that they do not carry specific names. Indeed, the Atlantic, the Pacific, and the Indian oceans merge into a great belt of such proportions that the whole is sometimes called the "Antarctic Ocean."

Except for South America, the lands that lie north of Antarctica are around two thousand miles away. However, there still may be certain strategic advantage in the possession of parts of the continent below New Zealand, Australia, and Africa. Great powers with vast resources beyond any possessed by the lands noted above could conceivably command these waterways with modern aircraft and guided missiles. However, even for the richest countries, the cost of establishing and maintaining such stations would be fantastic.

The presence of Soviet IGY bases in the sector claimed by Australia has caused much apprehension in that country, which has erupted into vigorous editorial protest with the announcement that the Soviet Union proposes to maintain some of its bases after the official expiration of IGY on December 31, 1958. Yet this decision on the part of the Soviet Union merely coincided with that which was recommended by the United States and is now concurred in by the twelve nations participating in the current IGY Antarctic programs.

During World War II German raiders operated from

sub-Antarctic waters with an effectiveness that was devastating, sinking or capturing several hundred thousand tons of shipping. Indeed, the first United States vessel to be sunk in the war — the *City of Bayville* — was a victim of German mines laid in Australian waters. One cannot dismiss the fact that an unfriendly power today with long-range submarine fleets might find sub-Antarctic waters a safe place from which to operate.

Clearly the Antarctic does not now nor can it ever possess the strategic military position which the Arctic will always have. Even if the empty areas of South America, Africa, and Australia be filled, the population will always be small as compared with that of the Northern Hemisphere or the circum-Arctic. Of course, there will one day be trans-Antarctic air routes but not on a scale with those that cross the Arctic.

One might well ask why there should be so much concern on the part of so many nations about maintaining claims in Antarctica. Clearly there is no present and no probable immediate future for the exploitation of mineral resources. Only on the basis of the laws of probability may we even assume that such deposits will one day be discovered. However, such long chances seem to be one of the major reasons for great interest in the ownership of this bleak continent. But, even granting actual discoveries, the exploitation of minerals in this inhospitable continent would raise problems far more serious than those encountered in the exploitation of the Arctic's mineral resources.

Of course, one of the chief reasons for Antarctic claims is the competitive element itself. No one wants to be left out whether such claims ever amount to anything or not. The possession of Antarctic claims means "a place in the

sun" for such countries as Argentina and Chile. Neither Chile nor Argentina has been willing to submit to arbitration of its claims as opposed to those of Great Britain by any agency, international or otherwise.

Antarctica in the IGY

I COME TOWARD THE END of this address and conclude with what seems to me the most important role Antarctica has ever played in human affairs and one which I trust it will play for a long time. I refer to the International Geophysical Year. As you may know, the overall International Geophysical Year program blankets the earth with several thousand stations manned by scientists from sixty-six different nations. The program includes the study of the shape and structure of the earth, more precise measurements of longitude and latitude, the study of the earth's heat and water budget (meteorology, oceanography, glaciology), and the physics and chemistry of the upper air, even to outer space.

This is the most comprehensive scientific program ever undertaken by man. It is the first attempt at a total study of his environment. Every one of the geophysical sciences is global in character, by which I mean that data collected in any one part of the earth have relevance throughout the rest. None can be fully explored or understood on a provincial basis. Antarctica as the earth's last great empty quarter was destined to play a major role in such a universal program. No field of geophysics can be understood or complete without specific data available only from this vast continent and its surrounding oceans.

The geophysical sciences touch all of man's major activities. Such fields as agriculture, transportation, and communication of all sorts are inseparably involved in them.

Indeed, human progress from a long-range point of view and man's eventual survival on this planet depend upon an increasingly better knowledge of his environment.

I shall not take your time to go into details about the various aspects of the IGY program in Antarctica. There are a few special high spots, however, that I think would interest you particularly. I suppose of all aspects of man's environment the one that touches everyone most is meteorology, the study of the earth's weather. Blanketing our earth in a closed system is the atmosphere that provides us with life-giving oxygen and water and also protects us from the lethal rays of the sun. Surprisingly little is known about the exchange of the air masses between the polar regions and the tropics. The vast Antarctic ice cap, which is large enough to cover the United States and Europe combined, has long been suspected of having a profound effect on weather and climate. The air over Antarctica today may be over Chile tomorrow. Certainly the hub of the atmospheric circulation of the Southern Hemisphere is located on Antarctica and just as certainly it is the world's greatest factory for cold weather.

We are now achieving coordinated observations from many stations in and around Antarctica which may provide a major breakthrough in our understanding of the role played in weather and climate by this vast, ice-covered continent. I predict that this role will be so important that it will dramatize the urgency of providing the continuous flow of data necessary for the construction of world-wide weather maps through the maintenance of Antarctic weather stations. Such maps are becoming indispensable with man's increased speed and global flights, which are surely coming with jet transportation.

To the casual observer the vast Antarctic ice cap itself may appear to be of only technical or scientific interest; this is not true. Inasmuch as nearly ninety per cent of all of the land ice in the world lies in Antarctica, changes in the volume and thickness of the ice are matters of universal concern. The return of only a few feet of thickness of ice to the oceans by melting would have serious effects in many places. If all of the ice melted into the sea, its level would rise perhaps two or three hundred feet, submerging all of the world's densely populated coastal lowlands and all of its seaports. Great changes in the volume of Antarctic ice have taken place in the past and may recur. That such changes may not happen with catastrophic suddenness does not mean that they are not of practical concern to man if he expects the earth to support his progeny for thousands of years.

Borings are being made into the Antarctic ice right now which will be studied in great detail. They may reveal layers that will show us the succession of stages involved in the formation of the ice. They may give us much more accurate clues to climate of the past centuries than are to be derived in any other way. Similar observations might be made about the peculiar importance of cosmic rays, ionospheric physics, aurora and airglow, geomagnetism, and seismology in Antarctica. There is not time to give you details about these.

Currently the IGY program in Antarctica is implemented by forty-eight stations established by twelve countries. The United States has six major scientific stations in addition to its great central logistic naval facility at McMurdo Sound. One of these stations at Cape Hallett is operated jointly with New Zealand.

The establishment of two of the stations warrants particular mention here. They are the Amundsen-Scott Station at the South Pole and Byrd Station, which lies six hundred and forty-seven miles southwest of Little America. The successful establishment of these two stations by Operation Deepfreeze II under Admiral Dufek's command was one of the great logistic achievements in the long history of polar exploration.

The establishment of the South Pole Station was accomplished by air dropping materials from the great Air Force Globemasters. Some eight hundred tons of materials were dropped for the establishment of the station, including a 14,000-pound tractor. Only the personnel and limited amounts of equipment were flown in and landed by ski-equipped planes.

The techniques used in establishing Byrd Station were equally impressive. Globemaster air drops were also important here, but the main mission was carried out by great tractor train operations, which included crossing a dangerously crevassed area more than seven miles in width. It took five weeks for the special Army Transportation Corps teamed with Navy personnel to "bridge" this crevassed zone and establish a well-marked route.

Of the other nations in the Antarctic operations, the Soviet Union has the most ambitious program next to ours. Their main base at Mirny is the largest and best-equipped station in Antarctica. On December 16, 1957, they established a second major base at the South Geomagnetic Pole and they still hope to establish a station at the so-called "pole of inaccessibility" or the geographic center of the continent, approximately four hundred miles from the South Pole at longitude 63° E. In addition to these main

stations, the Soviets have established a minor one called Oasis in the Bunger Hills midway between Mirny and our American base, Wilkes, on the Knox Coast.

The United Kingdom has a total of sixteen stations, eleven of which lie within the Falkland Islands Dependencies on or near Palmer Peninsula. They were established before the IGY, but have been enlarged to include its program. The main new IGY base was established by the Royal Society near the head of Weddell Sea.

Argentina operates ten stations, six of which are on the Palmer Peninsula. It has a major base at the head of Weddell Sea, which was established in 1955. Australia established its major station at $60^{\circ} 36' \text{ S.}, 62^{\circ} 54' \text{ E.}$ in 1954 and named it for the most distinguished Antarctic explorer, Sir Douglas Mawson. This was later enlarged to include the IGY program and early in 1957 an auxiliary station was established some three hundred miles west of Mawson. Belgium has recently established a station at Breid Bay, $70^{\circ} 30' \text{ S.}$ and $23^{\circ} 00' \text{ E.}$

Chile's six long-time meteorological stations in the Palmer Peninsula area are carrying on IGY programs, as are her three sub-Antarctic stations. France established a main station on the coast of Adélie Land and a small auxiliary one three hundred miles inland. In January, 1957, Japan established Showa Station at $69^{\circ} 02' \text{ S.}, 39^{\circ} 36' \text{ E.}$ In addition to the station cooperatively maintained with the United States, New Zealand has a major base, Scott Station, located on Pram Point about two miles from the United States' installation at McMurdo Sound.

In January, 1957, Norway established its IGY station at $70^{\circ} 30' \text{ S.}, 2^{\circ} 32' \text{ W.}$ This is really a re-establishment of the international station which had operated there in 1948-

1950. The Union of South Africa reactivated its station on Marion Island in 1955-1956 as a part of the IGY.

Naturally as the IGY draws toward its close on December 31, 1958, those of us who have been involved in the program are concerned about its continuation. We are sure now as I speak that there will be such continuity. It is apparent to anyone that the value of scientific data being gathered by IGY is cumulative. The longer continuous observations can be maintained, the greater is the value to any part of our accumulated knowledge, as well as to the whole. Dr. Harry Wexler, who is chief of the research activities of the United States Weather Bureau, estimates that a ten-year minimum of continuous observations is necessary to get a comprehensive understanding of Antarctic weather and climate and the effect it has throughout the rest of the world.

I believe that the major exports of Antarctica are scientific data. Certainly that is true now and I think it will be true for a long time and I think these data may turn out to be of vastly more value to all mankind than all of the mineral riches of the continent and the life of the seas that surround it.

On September 9, 1957, an *ad hoc* committee on post-IGY activities in Antarctica met in Stockholm. There were representatives from Argentina, Chile, France, Great Britain, Norway, Japan, the Soviet Union, and the United States. This committee recommended to its parent ICSU (International Council of Scientific Unions) that plans should be carried out for a continuing cooperative scientific program in Antarctica. Toward this end ICSU invited participating nations to name representatives for the creation of a Special Committee on Antarctic Research (SCAR).

This committee is meeting on February 3-6 in The Hague. As the United States representative I shall be flying over there to participate in what to me is an important historic activity. I am sure that the result will be the recommendation of a program that will not only continue IGY scientific activities, but will also embrace other important scientific aspects of Antarctic research as well. For instance, as a geologist I must insist that geology shall be a part of all programs at all stations where geological phenomena are accessible. Furthermore, it is of fundamental importance that a coordinated, comprehensive mapping program be carried out. Maps and charts are indispensable tools to almost all of the other scientific activities in Antarctica.

THE UNITED STATES AND ANTARCTICA IN THE FUTURE

Of course, no account of Antarctica would be complete without some further comment about the future political attitude of the United States.

You will have noted that Britain, Argentina, and Chile claim the most attractive part of Antarctica, Palmer Peninsula. This is the part of Antarctica which we believe was discovered by an American. The United States could review Secretary Hull's proposal to invoke the Monroe Doctrine to include all lands to the South Pole, but I doubt if such a proposal would be acceptable to any of the present claimant nations.

Shall the United States officially declare its sovereignty over the unclaimed section between longitudes 90° W. and 150° W.? To limit our authority by the 90th meridian, the boundary of Chilean claims, might be interpreted by the British as an endorsement of the Chilean position, but to

extend it beyond to the 80th meridian, where Britain ends her claim would be viewed by Chile as sheer trespass and would undoubtedly bring forth vigorous protest.

Probably all of the present claimant nations in Antarctica tacitly accept the United States' right to the area between longitudes 90° W. and 150° W., that is, Marie Byrd Land and Ellsworth Land. That is, however, the most inaccessible part of Antarctica. Repeated attempts made by our ships to penetrate the dense pack ice that hugs the coast of Marie Byrd Land have resulted in only one ship being partially successful and that apparently was due to the fact that it was a freakishly warm summer.

Currently our only access to Marie Byrd Land is by land over the Ross Dependency, an area claimed by New Zealand. Furthermore, the only known land area on rock which could be used as a base for an air strip is also in the Ross Dependency, near our McMurdo Sound naval installation. We know from recent surveys that this area near Marble Point could be used for the establishment of a permanent year-round landing strip.

A joint claim by the United States and New Zealand would have merit and might be advantageous to both. Antarctic exploration is costly, and New Zealand, with a population about equal to my own state of Minnesota, does not have the resources to build and maintain far-flung Antarctic bases. I should guess that New Zealand is currently making a greater per capita investment in Antarctica than is any other nation. A further suggestion is that Australia, New Zealand, and the United States join in a common claim that would include almost two-thirds of the continent.

I have but recently received a letter from Sir Douglas

Mawson, commenting upon the question of claims and I am sure he would not mind if I quoted a paragraph from his letter:

“I am still sorry that America has not laid territorial claim to the big unclaimed central Pacific sector. There would be no difficulty with New Zealand, I am sure, having it extended into the Ross Ice Shelf. No doubt also territorial adjustments could be made elsewhere. What seems to me important in such a move is that the Antarctica ice continent if tied up to a limited number of sovereignties of good repute and mutual regard could then be administered on good lines conjointly for the benefit of all and especially of the inhabitants (penguins, birds, seals, etc.). If every nation had a hand in it, some of the life there may soon become extinct.”

Hindsight is inevitably clearer than any other kind of sight. The United States, at the time of Hughes' historic policy, could probably have claimed without much, if any, protest more than half the continent, on the basis of the discoveries of Palmer and Burdick, and more especially on what has only recently been recognized as the brilliant achievements of Wilkes in 1839-1840. Such a claim now would certainly produce “comment,” to say the least.

The Soviet Union has made it clear that she will not recognize any realignment of claims to which she is not a party, though she has made no Antarctic claims herself. Whether the Russians would accept any of the approaches suggested above is an open question. It might, indeed, stimulate them to make claims based on von Bellingshausen's supposed discoveries.

Nehru of India proposed that the whole matter of Antarctic claims be discussed by the United Nations General

Assembly. It has not yet gotten on the agenda. In the long run it is difficult to see how face-saving, especially important to the nations with overlapping claims, can be accomplished other than by some form of international jurisdiction.

Those of us who have been deeply involved in the International Geophysical Year fervently hope that the experiences of cooperation there will point the way toward a satisfactory solution. Since the geophysicist is inevitably a truly international scientist, the IGY may turn out to be a brilliant new approach toward international understanding and organization. The current Antarctic operations have been marked by the friendliest kind of cooperation from all of the nations involved. The work has proceeded without even a discussion of political claims. The location of the various bases was agreed upon at an international conference in Paris in July, 1955. The principal criterion was provision for the best scientific coverage. Our own American stations are located in areas currently claimed by Great Britain, Australia, New Zealand, Argentina, and in the still unclaimed sector between 90° W. and 150° W., and our South Pole Station occupies territory common to all claimants. Great Britain, France, Argentina, Chile, and Norway have their bases on land claimed by the respective nations, but the Russians are located within the sector claimed by Australia.

We do believe that precedents are important in the evolution of civilization. The successful cooperation of the IGY in Antarctica and the expectation of a continuing international cooperative program in that vast continent may provide a pattern that will move over into other areas and result in further working together of all nations.

POSTSCRIPTS

SCAR (Special Committee on Antarctic Research) was officially organized as a permanent committee of ICSU at The Hague meeting noted above. The committee is in process of preparing a long-range program of Antarctic research which will be broader in coverage than IGY and in which it is expected all participants in the current IGY program will share.

Shortly after the delivery of this address the United Kingdom stated a position favoring the solution of Antarctic claims on some kind of international basis. Premier Nash of New Zealand later announced his country's concurrence with this position. Dr. Somov, Russian Antarctic leader, is quoted in a newspaper account as saying he did not see how the Antarctic situation could be resolved except on some kind of international basis.

FOOTNOTES

1. A. L. Washburn: Geography and Arctic Lands, in Griffith Taylor, edit.: Geography in the Twentieth Century, New York, 1951, pp. 267-287; see especially pp. 269-271.
2. Trevor Lloyd: Frontier of Destiny — The Canadian Arctic, *Behind the Headlines*, Vol. 6, No. 7, 1946, 16 pp.
3. *Idem*: The New North, *Canadian Affairs*, Vol. 1, 1944, pp. 1-16.
4. E. A. Stackpole: The First Recognition of Antarctica, *Boston Public Library Quarterly*, Vol. 4, 1952, pp. 3-19; or see Chapter 25 of *idem*: *The Sea-Hunters*, New York, 1953.

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1. Antarctica in the International Geophysical Year, *Geophys. Monogr. No. 1*, *Amer. Geophys. Union Publ. No. 462*, Nat'l. Acad. Sci., Washington, D. C., 1956.
2. Laurence M. Gould: Antarctic Prospect, *Geogr. Rev.*, Vol. 47, 1957, pp. 1-28.
3. *Idem*: Antarctica in World Affairs, *Foreign Policy Assn. Headline Ser. No. 128*, New York, 1958.

4. G. H. T. Kimble and Dorothy Good, edit.: *Geography of the Northlands*, *Amer. Geogr. Soc. Special Publ. No. 32*, New York, 1955.
5. John H. Roscoe: *Exploring Antarctica Vicariously: A Survey of Recent Literature*, *Geogr. Rev.*, Vol. 48, 1958, pp. 406-427.
6. F. A. Simpson, edit.: *The Antarctic Today*, New Zealand Antarctic Society, Wellington, 1952.
7. Walter Sullivan: *Antarctica in a Two-Power World*, *Foreign Affairs*, Vol. 36, 1957, pp. 154-166.
8. *Idem*: *Quest for a Continent*, New York, 1957.

Appendix: Sovereignty in Antarctica

ARGENTINA

Area of Claim. 74° W. to 25° W.

Date of Claim. None

Remarks. The Argentine Government has not made a formal declaration of claims to Antarctic territory because it regards the "Argentine Antarctic" as an area which has belonged to the republic since its foundation. The Argentine claim is included within the area claimed by the United Kingdom, and from 70° W. to 53° W. overlaps the Chilean claim. On July 12, 1947, the foreign ministers of Argentina and Chile issued a joint declaration indicating their "desire to arrive as soon as possible at the conclusion of a Treaty between Argentina and Chile, regarding the demarcation of boundaries in the South American Antarctic." No such treaty has as yet been concluded. Considerable diplomatic correspondence has also accrued between the Governments of Argentina and the United Kingdom with the issue of the Antarctic being complicated by its connection with an older dispute over the sovereignty of the Falkland Islands.

Relevant Documents. Excerpt from a note addressed to the British Ambassador in Buenos Aires by the Argentine Minister for Foreign Affairs and Worship, 27 February 1952.

In paragraphs 5 and 6 of your excellency's Note No. 31, reference is made to the embassy's Note No. 180 of 30 April 1951; and details are once more given of the titles on which Her Majesty's Government consider their rights in Antarctica to be based. The above-mentioned Note was answered by this ministry in their Note No. 876 of 1 July 1951, and the supposed rights of the United Kingdom were the subject of this and earlier communications. I now repeat the views set forth in these communications and reaffirm once again the unquestionable rights of the Argentine Republic to sovereignty over the Falkland Islands, South Georgia, the South Sandwich Islands and the antarctic sector bounded by longs. 25° and 74° W., south of lat. 60° S.

AUSTRALIA

Area of Claim. 45° E. to 136° E. and 142° E. to 160° E.

Date of Claim. 1936

Remarks. Although Australia had been active in British expeditions to the Antarctic even before the foundation of the Commonwealth (1908) and Sir Douglas Mawson led an Australasian (1911-14) and later a combined British-Australian-New Zealand expedition (1929-31) to the continent, Australia put forward no formal claim until 1933. In that year an Order in Council transferred the area of the present Australian claim to the Commonwealth Government contingent upon acceptance by the

Commonwealth Parliament. The necessary legislation was passed and assented to on 13 June of the same year. The Acceptance Act went into effect when issued as a proclamation by the Governor-General on 12 August 1936.

Relevant documents are as follows:

ORDER IN COUNCIL, February 7, 1933

At the Court at *Sandringham*, the 7th day of *February*, 1933

PRESENT

The KING's Most Excellent Majesty

Lord President

Earl Stanhope

Mr. Chancellor of the Duchy of Lancaster

Whereas that part of the territory in the Antarctic Seas which comprises all the islands and territories other than Adelie Land situated south of the 60th degree of South Latitude and lying between the 160th degree of East Longitude and the 45th degree of East Longitude is territory over which His Majesty has sovereign rights;

And whereas by the Commonwealth of Australia Constitution Act, it is provided that the Parliament of the Commonwealth of Australia may make laws for the government of any territory placed by the King under the authority of and accepted by the Commonwealth:

And whereas it is expedient that the said territory in the Antarctic Seas should be placed under the authority of the Commonwealth of Australia:

Now, therefore, His Majesty, by virtue and in exercise of the power in that behalf in His Majesty vested, is pleased, by and with the advice of His Privy Council, to order, and it is hereby ordered, as follows:

1. That part of His Majesty's dominions in the Antarctic Seas which comprises all the islands and territories other than Adelie Land which are situated south of the 60th degree of South Latitude and lying between the 160th degree of East Longitude and the 45th degree of East Longitude is hereby placed under the authority of the Commonwealth of Australia.

2. This Order shall come into operation on such date, after legislation shall have been passed by the Parliament of the Commonwealth of Australia providing for the acceptance of the said territory and the government thereof, as may be fixed by Proclamation by the Governor-General of the Commonwealth of Australia.

M. P. A. HANKEY

AUSTRALIAN ANTARCTIC TERRITORY ACCEPTANCE ACT 1933.

* * *

No. 8 of 1933.

An Act to provide for the acceptance of certain territory in the Antarctic Seas as a Territory under the authority of the Commonwealth and for the Government thereof.

(Assented to 13 June, 1933.)

Be it enacted by the King's Most Excellent Majesty, the Senate, and the House of Representatives of the Commonwealth of Australia, as follows:

ACCEPTANCE OF THE TERRITORY.

1. This Act may be cited as the *Australian Antarctic Territory Acceptance Act 1933*.

2. That part of the territory in the Antarctic seas which comprises all the islands and territories, other than Adelie Land, situated south of the 60th degree south latitude and lying between the 160th degree east longitude and the 45th degree east longitude, is hereby declared to be accepted by the Commonwealth as a Territory under the authority of the Commonwealth, by the name of the Australian Antarctic Territory.

ORDINANCES.

3. (1) The Governor-General may make Ordinances having the force of law in and in relation to the Territory.

(2) Every such Ordinance shall —

(a) be notified in the *Gazette*;

(b) take effect from the date of notification, or from such date, whether before or after such date of notification, as is specified in the Ordinance; and

(c) be laid before both Houses of the Parliament within thirty days of the making thereof, or, if the Parliament is not then sitting, within thirty days after the next meeting of the Parliament.

(3) If either House of the Parliament passes a resolution, of which notice has been given at any time within fifteen sitting days after such Ordinance has been laid before the House, disallowing the Ordinance, the Ordinance shall thereupon cease to have effect.

BELGIUM

Area of Claim. None

Date of Claim. None

Remarks. Although Belgium has not put forward a claim to any Antarctic territory, the Belgian Government has indicated that, on the basis of the discoveries of the 1897-99 expedition, it would expect to be included in any international discussions about the future political status of Antarctica.

BRITISH COMMONWEALTH

Area of Claim. General claims outside Falkland Islands and Ross Dependencies

Date of Claim. 1926

Remarks. At the Imperial Conference of 1926, the representatives of the Commonwealth Governments discussed Antarctic exploration and British rights in the area, except for the Falkland Islands Dependencies

and the Ross Dependency. In British eyes, the status of the former had been fixed by letters patent of 1908 and 1917 and of the latter by the Order in Council of July 30, 1923. The areas discussed were along the coast between 20° W. and 160° E., the bulk of them in the present Australian claim; some, to which the British have apparently relinquished their rights, are in the Norwegian claim. The alleged titles were based upon prior discovery.

Relevant documents. Excerpt from *Imperial Conference, 1926: Summary of Proceedings.*

The official summary of the proceedings of the British Imperial Conference of 1926 contains the following list of areas in the Antarctic "to which a British title already exists by virtue of discovery:

"(i.) The outlying part of Coats Land, viz., the portion not comprised within the Falkland Islands Dependencies.

(ii.) Enderby Land.

(iii.) Kemp Land.

(iv.) Queen Mary Land.

(v.) The area which lies to the west of Adelie Land and which on its discovery by the Australian Antarctic Expedition in 1912 was denominated Wilkes Land.

(vi.) King George V Land.

(vii.) Oates Land."

CHILE

Area of Claim. 90° W. to 53° W.

Date of Claim. 1940

Remarks. The Chilean claim was put forward as the result of a study of Chilean rights in the Antarctic authorized by the Government in 1939. Chile recognizes the sector principle and its claim, therefore, runs to the South Pole. East of 80° W., the Chilean claim overlaps that of the United Kingdom, and east of 74° W. that of Argentina as well. On July 12, 1947, the foreign ministers of Argentina and Chile issued a joint declaration of their "desire to arrive as soon as possible at the conclusion of a Treaty between Argentina and Chile, regarding the demarcation of boundaries in the South American Antarctic." No such treaty has as yet been concluded.

Relevant documents.

CHILEAN DECREE No. 1747 OF 6 NOVEMBER 1940

WHEREAS:

It is the duty of the State, to fix, with exactitude, its territorial limits;

Up to the present the Chilean territorial limits in the Southern Polar region known as the American Antarctic have not been determined;

The Ministry for Foreign Affairs publicly declared in 1906 that the delimita-

tion of the territory referred to was the subject of preliminary investigations which had not yet been completed;

The actual state of these investigations now enables a decision to be reached in this respect;

The special commission appointed by the Ministry for Foreign Affairs' decree No. 1541 of the 7th September, 1939, have established the limits of Chilean Antarctic territory in accordance with the data supplied by geographical, historical, juridical and diplomatic precedents which have been consulted and which have accumulated up to the present time;

I decree:

All lands, islands, islets, reefs of rocks, glaciers, already known or to be discovered, and their respective territorial waters, in the sector between longitudes 53° and 90° West, constitute the Chilean Antarctic or Chilean Antarctic territory.

Take note, communicate, publish and insert in the Bulletin of Laws and Decrees of the Government.

PEDRO AGUIRRE CERDA.
MARCIAL MORA M.

FRANCE

Area of Claim. 136° E. to 142° E.

Date of Claim. 1924

Remarks. Although for more than a century after the initial discovery in 1840 no further voyages were made to the continental area eventually claimed, the French continued to maintain their interest in Antarctica. France also claims several sub-Antarctic islands, including Saint-Paul, Amsterdam, Kerguelen, and Crozet. A decree of November 21, 1924, placed these islands and Adelie Land under the administration of the governor general of Madagascar. The original area of Adelie Land was defined as the territory lying between 136° E. and 142° E. and 66° S. and 67° S. A second decree of April 1, 1938, enlarged this territory to include all land included in a pie-shaped sector running to the South Pole.

Relevant documents.

MINISTRY OF COLONIES

REPORT

TO THE PRESIDENT OF THE FRENCH REPUBLIC

Paris, 21 November 1924

Mr. President:

I have the honor to submit for your high consideration a draft of a decree attaching administratively the Saint-Paul and Amsterdam Islands, the Kerguelen and Crozet Archipelagoes, and Adelie Land to the government general of Madagascar.

These faraway parts of our colonial domain have not been up to now the object of any permanent administrative organization. In the ignorance in which we were for a long time concerning the economic value of these uninhabited

lands, situated apart from the great maritime routes, it did not, in fact, seem at all indispensable to confirm by the establishment of effective authority the rights of sovereignty which, from a distant date, France had acquired over the archipelagoes and over the parts of the Antarctic continent discovered by our navigators.

The scientific missions carried out at the beginning of this century in the southern seas have established that these long-neglected dependencies of our overseas domain could offer to the large-scale fishing industry some extremely precious resources: whales, seals, and sea elephants are in reality very abundant in these latitudes, and the great industrial value of the products derived from these animal species did not take long to inspire the creation of fishing and hunting enterprises whose first campaigns have proved to be most fruitful.

In order to exercise over the exploitation of these national riches the effective and continued control which is needed, it has appeared necessary to provide an administrative organization for these southern islands and lands and to plan, for this purpose, their attachment to an already constituted government: that of Madagascar has seemed to me naturally designated, by the geographical situation of that colony and by the means of action of which it can make use, to assure the sovereign authority of France over that part of our colonial domain. Consulted on the principle of this attachment, the governor general of Madagascar has declared himself favorable to this measure and has just made known to my department that he has decided to include in the budget of the colony a credit covering the participation of Madagascar in the expenses of organizing these new dependencies of the Great Island.

With these considerations, I have the honor to beg of you, Mr. President, to have the kindness to complete with your signature the attached draft of a decree which places the Saint-Paul and Amsterdam Islands, the Kerguelen and Crozet Archipelagoes, and Adelie Land under the authority of the governor general of Madagascar and confides to that high official the task of organizing, under the supervision of my department, the effective administration of these territories.

I beg of you to accept, Mr. President, the homage of my profound respect.

Minister of colonies

DALADIER

* * *

The President of the French Republic,
Having seen the senatus consultum of 3 May 1854;
On the report of the minister of colonies,

Decrees:

Article 1. The Saint-Paul and Amsterdam Islands, the Kerguelen and Crozet Archipelagoes, and Adelie Land are attached to the government general of Madagascar and constitute one of the administrative dependencies of that colony.

Article 2. Some orders of the governor general of Madagascar subject to the approval of the minister of colonies will fix the conditions for the application of the present decree.

Article 3. The minister of colonies is responsible for the execution of the present decree which will be published in the *Official Journals* of the French

Republic and of the colony of Madagascar and inserted in the *Bulletin of Laws* and in the *Official Bulletin* of the ministry of colonies.

Done at Paris, 21 November 1924.

GASTON DOUMEGUE

By the President of the Republic:
Minister of colonies

DALADIER

MINISTRY OF FOREIGN AFFAIRS

Boundaries of French territory in the Antarctic region called "Adelie Land."

The President of the French Republic,

Having seen the senatus consultum of 3 May 1854;

Having seen the decree of 21 November 1924 attaching the Saint-Paul and Amsterdam Islands, the Kerguelen and Crozet Archipelagoes, and Adelie Land to the government general of Madagascar;

On the report of the minister of foreign affairs and of the minister of colonies,
Decrees:

Article 1. The islands and territories situated south of the 60th degree of South latitude and between the 136th and 142nd degrees of longitude East of Greenwich are amenable to French sovereignty.

Article 2. The minister of foreign affairs and the minister of colonies are responsible each in what concerns him for the execution of the present decree, which will be published in the *Official Journal* of the French Republic, in the *Official Journal* of the colony of Madagascar and inserted in the *Official Bulletin* of the ministry of colonies.

Done at Paris, 1 April 1938.

ALBERT LEBRUN

By the President of the Republic:
Minister of foreign affairs

PAUL-BONCOUR

Minister of colonies

MARIUS MOUTET.

GERMANY

Area of Claim. None

Date of Claim. None

Remarks. The German Antarctic Expedition of 1938-39 was made with a view to establishing a claim, but none was announced. Unlike Japan, Germany did not renounce possible claims after World War II.

JAPAN

Area of Claim. None

Date of Claim. None

Remarks. Japan sent one exploratory expedition to the Antarctic in 1911-12 and since 1934, with the exception of the war years, has carried on

extensive whaling activities in the area. In 1940, Japan in a note to the Government of Chile reserved her rights in the Antarctic but asserted no formal claim. By the peace treaty signed with the Allied Powers on September 8, 1951, Japan renounced all claim to any right or title to or interest in any part of the Antarctic.

Relevant documents. Excerpt from Chapter II — Territory, Article II of the Treaty of Peace, signed September 8, 1951.

Japan renounces all claim to any right or title to or interest in connection with any part of the Antarctic area, whether deriving from the activities of Japanese nationals or otherwise.

NEW ZEALAND

Area of Claim. 160° E. to 150° W.

Date of Claim. 1923

Remarks. The United Kingdom in 1923 assigned administrative authority over the area between 160° E. and 150° W., known as the Ross Dependency, to the Governor General of New Zealand. British claim to the area was based on British expeditions to the area.

Relevant documents.

COPY

BRITISH ORDER IN COUNCIL providing for the Government of the Ross Dependency. London, July 30, 1923.

* * *

At the Court at Buckingham Palace, the 30th day of July, 1923.

PRESENT: THE KING'S MOST EXCELLENT MAJESTY.

Lord President

Lord Chamberlain

Secretary Sir Samuel Hoare

Major George Tryon

WHEREAS by "The British Settlements Act, 1887," it is, amongst other things, enacted that it shall be lawful for His Majesty in Council from time to time to establish all such laws and institutions and constitute such Courts and officers as may appear to His Majesty in Council to be necessary for the peace, order and good government of His Majesty's subjects and others within any British settlement;

And whereas the coasts of the Ross Sea, with the islands and territories adjacent thereto, between the 160th degree of East Longitude and the 150th degree of West Longitude, which are situated south of the 60th degree of South Latitude, are a British settlement within the meaning of the said Act;

And whereas it is expedient that provision should be made for the government thereof:

Now, therefore, His Majesty, by virtue and in exercise of the powers by the said Act, or otherwise in His Majesty vested, is pleased, by and with the advice of his Privy Council, to order, and it is hereby ordered, as follows:

1. From and after the publication of this Order in the "Government Gazette of the Dominion of New Zealand" that part of His Majesty's Dominions in the Antarctic Seas, which comprises all the islands and territories between the 160th degree of East Longitude and the 150th degree of West Longitude which are situated south of the 60th degree of South Latitude shall be named the Ross Dependency.

2. From and after such publication as aforesaid the Governor-General and Commander-in-Chief of the Dominion of New Zealand for the time being (hereinafter called "the Governor") shall be the Governor of the Ross Dependency; and all the powers and authorities which by this Order are given and granted to the Governor for the time being of the Ross Dependency are hereby vested in him.

3. In the event of the death or incapacity of the said Governor-General and Commander-in-Chief of the Dominion of New Zealand, or in the event of his absence from the said Dominion, the officer for the time being administering the government of the Dominion shall be Governor for the time being of the Ross Dependency.

4. The said Governor is further authorised and empowered to make all such rules and regulations as may lawfully be made by His Majesty's authority for the peace, order and good government of the said Dependency, subject, nevertheless, to any instructions which he may from time to time receive from His Majesty or through a Secretary of State.

5. The Governor is authorised to make and execute, on His Majesty's behalf, grants and dispositions of any lands which may lawfully be granted or disposed of by His Majesty within the said Dependency, in conformity with such rules and regulations as may from time to time be in force in the Dependency.

M. P. A. HANKEY

NORWAY

Area of Claim. 20° W. to 45° E.

Date of Claim. 1939

Remarks. The hinterland boundary of the Norwegian claim is obscure, as the Order in Council of January 14, 1939, merely states that the mainland coast "with the land lying within this coast and the environing sea, shall be brought under Norwegian sovereignty." Norway has also announced claims to the two sub-Antarctic islands of Bouvet and Peter I. As a result of his successful journey to the South Pole in 1911, Roald Amundsen laid claim for Norway to the land along his route and to the area around the South Pole, which he named Haakon VII Plateau. These claims have never been officially advanced by Norway, although their existence was the subject of correspondence between the Governments of Norway and the United States at the time of the First Byrd Antarctic Expedition.

Relevant documents.

ORDER IN COUNCIL

We HAAKON, King of Norway, do hereby proclaim:

That part of the mainland coast in the Antarctic extending from the limits of the Falkland Islands Dependencies in the West (the boundary of Coats Land) to the limits of the Australian Antarctic Dependency in the East (45° E. Long.) with the land lying within this coast and the environing sea, shall be brought under Norwegian sovereignty.

Given at Oslo Palace on the 14th day of January 1939.

Under Our Hand and the Seal of the Realm.

HAAKON
(L.S.)
B. ROLSTED

JOHAN NYGAARDSVOLD

* * *

Recommendation from the Ministry of Foreign Affairs of the 14th January 1939, approved by Order in Council the same day:

By Order in Council of the 23rd January 1928,

Bouvet Island in the Antarctic Ocean was brought under Norwegian sovereignty, and by Order in Council of the 1st May 1931 the same thing was done with Peter I Island in the same ocean.

Bouvet Island lies in 3° 24' E. Long. and 54° 26' S. Lat., i.e. in that part of the Antarctic region often called the Atlantic Sector. Peter I Island is situated 90° 35' W. Long. and 68° 50' S. Lat., i.e. in the Pacific Sector of the Antarctic region.

Our object in bringing these islands in the Southern Ocean under Norwegian sovereignty was to give the Norwegian whaling industry in that region points of support and to guard it against possible encroachment on the part of foreign powers.

Since that time there have been discussions between the Government authorities and the Norwegian interested parties as to whether it would not be right and useful to bring a part of the Antarctic mainland under Norwegian sovereignty.

Of this mainland with adjacent sea and islands, Great Britain brought under her dominion in 1908 the area that has been named the Falkland Islands Dependencies. The region [of the] Ross Dependencies [sic!] was brought under New Zealand in 1923; and the largest of all the Antarctic areas, from 160° to 45° E. Long., was brought under Australia in 1933. In this latter area, however, France had previously taken possession of a small area with a few islands viz. Adelie Land around 140° E. Long.

Bouvet Island lies in the ocean between the British and the Australian sectors. The land filling this intervening area is what has often been called the Atlantic Sector, and here no state has yet claimed sovereignty.

The mainland in this region long remained unknown and unexplored. We know that certain discovery expeditions long ago penetrated the seas adjacent to this mainland, e.g. a Russian expedition in 1820 and two English expeditions in 1831 and 1843. But none of these expeditions got so far in as to sight land and still less to put people ashore.

It was not until 1929 that exploring expeditions reached the mainland in this part of the Antarctic, and these expeditions were Norwegian. In the summer of

1929-30 the whaler Lars Christensen sent out an expedition under the command of Captain Riiser-Larsen accompanied by Captain Lutzow-Holm, who did exploration work and took cartophotographs from the air along great areas of the country, including the region that was subsequently given the name of Kronprinsesse Marthas Land. On a second expedition in 1930-31 fitted out by Lars Christensen a further large area was discovered and explored by airplane; that land was named Prinsesse Ragnhild Land. It was to this land that Captain Riiser-Larsen and others came on an expedition they made with the support of the Norwegian Government in 1932-33, and there, as well as at other points within the sector here in question, Norwegian whalers were close to the coast on many occasions during those years. Finally, in the summer of 1936-37 Lars Christensen despatched still another expedition to the Antarctic, and on that occasion Lieutenant Wideroe piloted a plane over extensive areas, so that a great deal of new land was discovered and mapped both without and within the territory which the former expeditions had visited, and a territory then explored between Dronning Maud Land and Prinsesse Ragnhild Land was named Prins Harald Land. On all these expeditions practically the whole of the mainland within the Atlantic Sector bordering the sea was explored and mapped so well that we may say that not many parts of the Antarctic continent are better known.

It should be mentioned that Norwegian explorers, Roald Amundsen and others, have explored also other parts of the Antarctic, and in particular they have in recent years explored and mapped much of the land which was brought under Australia in 1933. There should, however, not be any question of Norway laying claim to any land that has previously been taken possession of by another state. This accords with the promise given by the Norwegian Government to Great Britain in 1929 to the effect that it would not raise any claim in respect of land within the region which had then been brought under the dominion of the British Empire.

But Norway considers that it may with full right claim dominion over that land which until now has lain unclaimed and, which none but Norwegians have explored and mapped.

It is this very area which in recent years has been of capital importance to Norwegian whaling. This fishery is now prosecuted on the high seas, but as the summer advances the catches are made closer and closer to land. The mainland coast in these parts runs approximately along the 70th degree of latitude and in the beginning of the summer — in December — the edge of ice is usually along the 60th degree. It is not until February that the factory boats draw near to shore.

A question that may have an important bearing on the freedom to be extended to whaling expeditions is the determination of the limit of territorial waters. But on this question there still exists a good deal of uncertainty. It has been maintained that the ice-limit in the Antarctic must be regarded as the limit of the continent, and Great Britain and the two British dominions that have taken land here have in the main drawn the limit along the 60th degree of latitude. What this implies in respect of the right to sovereignty does not appear to be quite clear; one thing is, however, certain, namely that Norwegian whalers operating within this limit were for a number of years required to pay a licence.

For the very reason that such questions of territorial limits remain undecided, it is most desirable for the Norwegian whaling industry in those seas that Nor-

way should hold dominion over a wide tract of the mainland with adjacent waters. Norway for her part will not claim any right to exclude other nations from the waters over which she might thus have dominion, or prevent them in any way from carrying whaling operations there. But Norwegian whalers should be ensured against the possibility of other nations excluding them from these waters or committing any action that might involve their industry in injury or loss.

The Norwegian Government has for a long time been alive to this requirement, and ever since the question arose it has been giving its attention to the preparation of an arrangement that would meet natural Norwegian demands. The Government finds that the time has now come to take the final decision.

As mentioned above, Norway's right to bring the said unclaimed land under her dominion is founded on the geographical exploration work done by Norwegians in this region, in which work they have been alone.

The practical considerations which should lead to Norway's making use of the right it must thus be said to have won, arise from the Norwegian whaling operations in the Southern Ocean, and more particularly in the seas adjacent to the territory here in question.

The Ministry of Foreign Affairs therefore submits the following:

"That Your Majesty be pleased to assent and subscribe to a presented draft of an Order in Council to the effect that such part of the coast of the Antarctic Continent as extends from the limits of the Falkland Islands Dependencies in the West (the boundary of Coats Land) to the limits of the Australian Antarctic Dependency in the East (45° E. Long.) with the territory lying within this coast and the adjacent seas, be brought under Norwegian sovereignty,

and that the Ministry of Justice be empowered to draw up regulations for the exercise of police authority within this region."

SWEDEN

Area of Claim. None

Date of Claim. None

Remarks. As far as is known, Sweden has no intention of claiming any part of the Antarctic.

UNION OF SOUTH AFRICA

Area of Claim. Prince Edward Islands

Date of Claim. 1948

Remarks. The interest of the Union of South Africa has been limited to certain sub-Antarctic islands of importance for meteorological observation.

Relevant documents.

OFFICE OF THE PRIME MINISTER AND DEPARTMENT OF
EXTERNAL AFFAIRS

No. 248.

30 January 1948

GOVERNMENT NOTICE

The following Proclamation was promulgated at the Prince Edward Islands on the 24th January, 1948, and is now published for general information:
No. 12, 1948.

PROCLAMATION

By His Excellency the Right Honourable Gideon Brand van Zyl, a Member of His Majesty's Most Honourable Privy Council, Governor-General of the Union of South Africa.

PRINCE EDWARD ISLANDS

Whereas the National Flag of the Union of South Africa was hoisted by the Commander of His Majesty's South African Frigate *Transvaal* on Marion Island, situate latitude 46° 53' S., longitude 37° 45' E., on the 29th December 1947, and on Prince Edward Island, situate latitude 46° 36' S., longitude 37° 57' E., on the 4th January, 1948;

And whereas effective occupation and administration of the said Islands by His Majesty's Government in the Union of South Africa were established as from the aforesaid dates and will continue permanently;

Now, therefore, by virtue of the powers vested in me by Section *six* of the Royal Executive Functions and Seals Act, 1934, I do hereby proclaim and declare that His Majesty's sovereignty over Marion Island and Prince Edward Island is henceforth to be exercised by His Majesty's Government in the Union of South Africa.

GOD SAVE THE KING

Given under my Hand and Great Seal at Cape Town on this Twelfth day of January, One thousand Nine hundred and Forty-eight.

(signed) G. BRAND VAN ZYL,
Governor General.

By command of His Excellency the Governor-General-in-Council.
(signed) J. C. SMUTS

UNION OF SOVIET SOCIALIST REPUBLICS

Area of Claim. None

Date of Claim. None

Remarks. When the Government of Norway in 1939 announced a claim to Antarctic territories, including Peter I Island, first sighted by a Russian navigator in 1821, the Soviet Union sent a note to Norway observing that it would reserve its opinion as to the national status of territories discovered by Russian citizens. In the autumn of 1948, the United States Government circulated a proposal among the nations with announced claims calling for a discussion on possible arrangements for a condominium in the area. Although not a recipient of this United States communication, the Soviet Union took cognizance of its existence in a memorandum of June 10, 1950, setting forth its position that no territorial settlement should be made in the Antarctic without its participation.

THE SOVIET MEMORANDUM ON THE ANTARCTIC, 1950

Since the autumn of 1948 a number of statements of the Ministries of Foreign Affairs of the U. S. A., Great Britain and some other countries, and reports in the world press, have referred to the negotiations on the Antarctic which were begun on the initiative of the U. S. State Department between the United States of America, Great Britain, France, Norway, Australia, New Zealand, Argentina and Chile. From these same statements of the representatives of the Ministries of Foreign Affairs of some states and from press reports it follows that the aim of the negotiations is a decision of the question of the regime for the Antarctic.

The Government of the U.S.S.R. cannot agree that such a question as the question of the regime for the Antarctic should be decided without their participation. In this connection the Soviet Government consider it necessary to recall the outstanding services of Russian navigators in the discovery of the Antarctic. The fact is generally recognized that the Russian navigators, Bellingshausen and Lazarev, at the beginning of the nineteenth century, were the first to reach the shores of the Antarctic, that they circumnavigated the continent and proved thereby the erroneousness of the view which was widely held at the time that there was no land beyond the antarctic circle. This service of the Russian navigators is no less important than the later explorations on the continent itself and on its shores, carried out by the expeditions of some countries whose representatives are now declaring their interest in the determination of the regime for the Antarctic.

It is common knowledge that the territory of the Antarctic and the waters adjacent to it are of great value economically, and from this aspect the Antarctic continent is of significance not only to the states enumerated above which are taking part in the negotiations on the regime for the Antarctic, but also to many other states, including the Soviet Union. It is sufficient to say that nine-tenths of the world catch of whales comes specifically from antarctic waters. The U.S.S.R. is a participant in the whaling industry and in the International Whaling Convention of 1946. Its whaling flotillas regularly participate in the whaling trade in antarctic waters.

The same state of affairs may be observed as regards the scientific significance of the Antarctic, since this continent and the adjacent islands are a convenient base for most important meteorological observations which are also of significance to the northern hemisphere.

The attention of the Soviet public has already been drawn to these facts. In particular they were commented upon in the resolution of a general meeting of the Geographical Society of the U.S.S.R. (Vsesoyuznoye Geograficheskoye Obshchestvo) of 10 February 1949, in which the Society stressed the very great importance of the discoveries of Russian navigators in the Antarctic.

The Soviet Government consider it necessary to state that in accordance with international practice all interested countries should be enlisted for the discussion of the regime for any area of international significance. The Soviet Government consider that this international practice should also be observed in deciding the question of the Antarctic. It has already had occasion to point to the illegality of a separate solution of the question of the state affiliation of the Antarctic in an official note to the Norwegian Government dated 27 January 1939.¹

Because of the above, the Soviet Government cannot recognize as legal any decision on the regime for the Antarctic taken without their participation.

They consider that because the fate of the Antarctic is of interest to many countries it would be expedient at the present time to discuss internationally the question of the regime for the Antarctic, having in view the achievement of an agreement such as would accord with the legitimate interests of all interested states.

The Soviet Government for their part are prepared to examine any proposals of the interested governments both regarding the procedure for the discussion of this question and the nature of the regime for the Antarctic.

¹ This Soviet note contested the right of the Norwegian Government to annex Peter I Island.

UNITED KINGDOM

Area of Claim. 80° W. to 20° W.

Dates of Claim. 1908, 1917

Remarks. Known officially as the Falkland Islands Dependencies, the British claim includes all islands lying off the Antarctic as well as the mainland extending to the South Pole. This claim overlaps the entire Argentine claim and all the Chilean claim except the area between 90° W. and 80° W. A considerable diplomatic correspondence has ensued between the Governments of the United Kingdom, Argentina, and Chile regarding these overlapping claims. In the case of Argentina, the point at issue has been merged with the much older dispute concerning the sovereignty of the Falkland Islands themselves. On May 4, 1955, the United Kingdom made unilateral applications to the International Court of Justice setting forth British title to the area and asking the Court to declare Argentine and Chilean "encroachments" illegal and void under international law. The Governments of Argentina and Chile, however, declined to accept the jurisdiction of the Court, and on 18 March 1956 the Court announced that both cases had been removed from the list of pending actions.

Relevant documents.

British Letters Patent of 1908 and 1917 Constituting the
Falkland Islands Dependencies

LETTERS PATENT OF 21 JULY 1908

British Letters Patent appointing the Governor of the Colony of the Falkland Islands to be Governor of South Georgia, the South Orkneys, the South Shetlands, the Sandwich Islands and Graham's Land, and providing for the Government thereof as Dependencies of the Colony. — Westminster, July 21st 1908.

Edward the Seventh, by the Grace of God of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, King, Defender of the Faith, Emperor of India: To all to whom these Presents shall come, Greeting.

WHEREAS the group of islands known as South Georgia, the South Orkneys, the South Shetlands, and the Sandwich Islands, and the territory known as Graham's Land, situated in the South Atlantic Ocean to the south of the 50th parallel of South latitude, and lying between the 20th and the 80th degrees of

West longitude, are part of our Dominions, and it is expedient that provision should be made for their government as Dependencies of our Colony of the Falklands:

1. Now We do hereby declare that from and after the publication of these our Letters Patent in the Government "Gazette" of our Colony of the Falkland Islands the said group of islands known as South Georgia, the South Orkneys, the South Shetlands and the Sandwich Islands, and the said territory of Graham's Land shall become Dependencies of our said Colony of the Falkland Islands.

2. And we do hereby further declare that from and after such publication as aforesaid the Governor and Commander-in-Chief of our Colony of the Falkland Islands for the time being (hereinafter called the Governor) shall be the Governor of South Georgia, the South Orkneys, the South Shetlands, and the Sandwich Islands, and the territory of Graham's Land (all of which are hereinafter called the Dependencies); and we do hereby vest in him all such powers of government and legislation in and over the Dependencies as are from time to time vested in our said Governor in and over our Colony of the Falkland Islands, subject, nevertheless, to any instructions which may from time to time be hereafter given him under our Sign Manual and Signet, or through one of our Principal Secretaries of State, and to such laws as are now or shall hereafter be in force in the said Dependencies.

3. In the event of the death or incapacity of the Governor, or in the event of his absence from our Colony of the Falkland Islands otherwise than for the purpose of visiting the Dependencies, the officer for the time being administering the government of our said Colony shall be Governor for the time being of the Dependencies.

4. There shall be an Executive Council for the Dependencies, and the said Council shall consist of such persons as shall from time to time constitute the Executive Council of our Colony of the Falkland Islands; and the said Council shall exercise the same functions in regard to all matters arising in connection with the Dependencies as are exercised by the Executive Council of our Colony of the Falkland Islands in regard to matters arising in connection with our said Colony.

5. It shall be, and shall be deemed always to have been, competent for the Governor, by and with the advice and consent of the Legislative Council of our Colony of the Falkland Islands, to make laws for the peace, order, and good government of the Dependencies.

6. The Governor is, and shall be deemed always to have been, authorised and empowered to make and execute, in our name and on our behalf, grants and dispositions of any lands which may lawfully be granted or disposed of by us within the Dependencies, either in conformity with instructions under our Sign Manual and Signet, or through one of our Principal Secretaries of State, or in conformity with such laws as may from time to time be in force in the Dependencies.

7. We do hereby reserve to us, our heirs and successors, full power and authority from time to time to revoke, alter, or amend these our Letters Patent as to us or them shall seem meet.

8. The Governor shall cause these our Letters Patent to be published in the

Government "Gazette" of our Colony of the Falkland Islands, and the same shall thereupon come into force.

In witness whereof we have caused these our Letters to be made Patent. Witness ourself at Westminster, this 21st day of July, in the eighth year of our reign.

By Warrant under the King's Sign Manual.
(signed) MUIR MACKENZIE

LETTERS PATENT OF 28 MARCH 1917

LETTERS PATENT, passed under the Great Seal of the United Kingdom, providing for the further Definition and Administration of certain Islands and Territories as Dependencies of the Colony of the Falkland Islands. (Dated 28th March 1917.)

George the Fifth, by the Grace of God of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, King, Defender of the Faith, Emperor of India: To all to whom these Presents shall come, Greeting.

WHEREAS doubts have arisen as to the limits of the groups of islands known as South Georgia, the South Orkneys, the South Shetlands, and the Sandwich Islands, and the territory of Graham Land otherwise known as Graham's Land; and whereas it is expedient that provision should be made for the government, not only of these islands and territory but also of certain other of Our islands and territories adjacent thereto as Dependencies of Our Colony of the Falkland Islands:

1. Now We do hereby declare that from and after the publication of these Our Letters Patent in the Government Gazette of Our Colony of the Falkland Islands, the Dependencies of Our said Colony shall be deemed to include and to have included all islands and territories whatsoever between the 20th degree of West longitude and the 50th degree of West longitude which are situated south of the 50th parallel of South latitude; and all islands and territories whatsoever between the 50th degree of West longitude and the 80th degree of West longitude which are situated south of the 58th parallel of South latitude.

2. And We do hereby vest in the Governor and Commander-in-Chief of Our Colony of the Falkland Islands all such powers and authorities in and over the lands hereby included in the Dependencies of Our said Colony as are exercised by him over the Dependencies in virtue of certain Letters Patent bearing date at Westminster the Twenty-first day of July 1908.

3. We do hereby reserve to Ourselves, Our heirs and successors, full power and authority from time to time to revoke, alter or amend these Our Letters Patent as to Us or them shall seem meet.

4. The Governor shall cause these our Letters Patent to be published in the Government Gazette of Our Colony of the Falkland Islands and the same shall thereupon come into force.

In witness whereof We have caused these Our Letters to be made Patent. Witness Ourself at Westminster the Twenty-eighth day of March in the Seventh Year of Our Reign.

By Warrant under the King's Sign Manual.
(signed) SCHUSTER

UNITED STATES

Area of Claim. None

Date of Claim. None

Remarks. The United States Government has made no formal claims to Antarctic territory, but reserves all rights accruing from United States explorations and discoveries. It does not recognize claims made by other nations. The present United States position is discussed briefly by Dr. Gould (pp. 12-16).

Relevant documents. Refusal by Secretary of State Hughes to admit that rights of sovereignty over polar areas may be based upon the formality of taking possession after discovery. Letter in reply to the Norwegian Minister concerning the United States attitude with respect to claims to newly discovered lands.

The Secretary of State to the Norwegian Minister (Bryn)

Washington, April 2, 1924

Sir: With reference to your note of February 25, 1924, concerning an alleged agreement of Roald Amundsen to allow the United States to claim all lands he might discover on his projected aeroplane expedition to the North Polar regions, I beg to inform you that I am in receipt of a communication from the Acting Secretary of the Navy stating that a search of the files of the Navy Department shows that the article which appeared in the *Rochester Herald* was incorrect in its statement that any offer made by Mr. Hammer was acknowledged by the Secretary of the Navy. The basis for the rumor contained in the clipping from the *Rochester Herald* of January 7, 1924, is, however, to be found in a signed statement, dated October 26, 1923, made by H. H. Hammer, the American representative of Captain Amundsen, to Captain Johnson, Assistant Chief of the Bureau of Aeronautics, of the Navy Department, setting forth the plans for the transpolar flight.

In the concluding sentence Mr. Hammer states "although Captain Amundsen is Norwegian, he would not lay claim to any new lands discovered on behalf of his government, and an American officer could if so desired claim it for his government." The Navy Department did not reply to this offer in any manner. Furthermore, the Acting Secretary of the Navy states that while Lieutenant Davison was granted permission to volunteer to accompany the expedition, "The Navy has no official connection with the expedition and no control over the plans made by Captain Amundsen to carry it forward."

In the penultimate paragraph of your letter you state that, in order to avoid any misunderstanding, you would add that possession of all the land which Mr. Amundsen may discover will, of course, be taken in the name of His Majesty, the King of Norway. In my opinion rights similar to those which in earlier centuries were based upon the acts of a discoverer, followed by occupation or settlement consummated at long and uncertain periods thereafter, are not capable of being acquired at the present time. Today, if an explorer is able to ascertain the existence of lands still unknown to civilization, his act of so-called discovery, coupled with a formal taking of possession, would have no significance, save as he might herald the advent of the settler; and where for climatic or

other reasons actual settlement would be an impossibility, as in the case of the Polar regions, such conduct on his part would afford frail support for a reasonable claim of sovereignty. I am therefore compelled to state, without now advertng to other considerations, that this Government cannot admit that such taking of possession as a discoverer by Mr. Amundsen of areas explored by him could establish the basis of rights of sovereignty in the Polar regions, to which, it is understood, he is about to depart.

Accept (etc.)

CHARLES E. HUGHES



