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Reminiscences: Arctic Geography Forty Years Ago

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ABSTRACT. Nearly 40 years ago, in 1948, the writer presented a paper entitled "Some Problems of Arctic Geography in Canada" to the annual meeting of the Association of American Geographers. He noted that geographers were just then appearing in Canada and in so doing were encountering the challenge of describing the North. Evaluation and forecasting were difficult. Local geographers were expected to help politicians assess the value of the arctic region in the Canadian economy. Physical geographers had a good deal to do in describing the arctic environment, including the landforms of the mountainous islands and the central lowlands. In the summer of 1947 new information on sea ice from Canadian and American air and sea expeditions gave the first overall picture of sea-ice conditions in the Canadian Arctic. In 1948, economic geographers were to be concerned with the distribution and utilization of natural resources. Experts concerned with administration were to consider administrative division of the North into an Eastern and Western Arctic, along with a third region, the far northern Arctic Islands. Changes in the lives of Canadian Eskimo had already taken place as "civilization advanced into the Arctic." In the field of human geography, "a geographer had a natural laboratory in the Canadian Arctic" where "the environment offered little, the choices were few, the utilization was direct." Forty years later, the author still believes that the Arctic will play only a minor role in the future development of Canada.

Key words: development, geography, Arctic, division, sea ice, civilization

RÉSUMÉ. Il y a près de 40 ans, l'auteur a présenté un article intitulé «Some Problems of Arctic Geography in Canada» à l'assemblée annuelle de l'Association of American Geographers. Il faisait remarquer que les géographes, vu leur toute récente apparition au Canada, avaient à faire face au défi de décrire le Nord. Il leur était difficile de faire des évaluations et des prévisions. On attendait des géographes locaux qu'ils aident les politiciens à estimer la valeur de la région arctique dans l'économie canadienne. Les géographes physiques avaient beaucoup à faire pour décrire l'environnement arctique, y compris la forme du terrain des îles montagneuses et des basses terres centrales. Pendant l'été de 1947, de nouveaux renseignements sur la glace marine, recueillis par des expéditions aériennes et maritimes venant du Canada et des États-Unis, donnèrent la première vue d'ensemble sur l'état de la glace marine dans l'Arctique canadien. En 1948, des géographes économiques devaient se préoccuper de la répartition et de l'utilisation des ressources naturelles. Des experts intéressés par les questions administratives devaient considérer la division du Nord en Arctique de l'est et Arctique de l'ouest, avec en plus une troisième région, l'archipel Arctique du Grand Nord. Des changements étaient déjà survenus dans la vie des esquimaux canadiens alors que «la civilisation progressait dans l'Arctique.» Dans le domaine de la géographie humaine, «le géographe trouvait un laboratoire naturel dans l'Arctique» où «l'environnement avait peu à offrir, les choix étaient restreints et l'utilisation directe.» Quarante ans plus tard, l'auteur croit toujours que l'Arctique ne jouera qu'un rôle mineur dans le développement futur du Canada.

Mots clés: développement, géographie, Arctique, division, glace marine, civilisation

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PROLOGUE

Geographers were just beginning to look at northern Canada 40 years ago. Much of this early work could be classified as descriptive and not analytical. A great deal of "new" information about the arctic part of northern Canada became known and available during the latter part of World War II, and one of the functions of geographers was to assemble and correlate these facts.

The discipline of geography was new in Canada in the 1940s and few people knew what geographers could, or should, do. Before then, geography was known as a subject taught in Canadian schools about interesting places and regions throughout the world; it was similar to the school geography taught in Britain and France. Geography as a university discipline was established in 1936 by Griffith Taylor at the University of Toronto. Previous to that, geography courses had been given since 1923 in the Department of Geology and Geography at the University of British Columbia but taught by geologists. There were only a few persons with geography degrees in Canada in the early 1940s.

Griffith Taylor was the first geographer to become interested in northern Canada. Shortly after Taylor arrived in Canada from Australia and travelled across its southern parts, he surprised many by writing that the physical environment of Canada should be able to support a population of about 100 million persons. These statements were in contrast to unpopular evaluations he had made about the vast areas of unfavourable environment for settlement in Australia. Taylor's optimistic predictions for Canada were equally as negatively received in Canada as had been his pessimistic comments in Australia.

In the early 1940s Taylor made two summer "field trips" to the Mackenzie River Valley and southern Yukon, and on his return he reduced his prediction of Canada's future population capacity from 100 million to 50 million! However, he did remind people that the climate of the southern Mackenzie Valley in the Northwest Territories was similar to areas of agricultural settlement in the Clay Belt of northern Ontario. He emphasized that the "North" should be evaluated on the basis of its actual climate conditions and not by a measure of latitude alone. For the few Canadians who listened, Taylor pointed out that the physical environments of northeastern and northwestern Canada were much different, although they were in the same northern latitude.

I came to Ottawa in the late summer of 1943, as the first geographer to be hired by the federal government. I was employed under personal contract with the Bureau of Northwest Territories and Yukon Affairs in the Lands, Parks and Forests Branch of the Department of Mines and Resources to assemble information about arctic Canada. At that time United States military and administrative personnel were becoming increasingly concerned with developments in northern Canada, and Canadian bureaucrats were often embarrassed by not knowing where to obtain information. In brief, my task was to learn as much about arctic Canada as soon as possible and to establish contacts with those who did know something about the region. In the jargon of my discipline, geography, at that time, I was to do a "regional study."

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Like others who came into geography at that time, my university training was in another field. I graduated in honours history from the University of Western Ontario in 1940, where I had been inspired by the first geography professor at Western, Edward Pleva, to become a geographer because the subject dealt with the "real world." After graduate work in geography in two American universities, I was in charge of the geography program (mainly map reading and area studies) for the U.S. Army Engineers at Syracuse University when the Canadian government found my name as one of only two geographers then recorded in the "Roster of Scientific Personnel" compiled by Canada Manpower.

Sections of the Canadian government had learned about geographers in the early summer of 1943 when Trevor Lloyd was employed by the Wartime Information Board, partly to supply data about the Soviet Union. Lloyd's work came to the attention of Hugh Keenleyside, then Commissioner for Northern Affairs, and he decided that a geographer could help in northern matters. Two weeks after my interview in Ottawa with Roy Gibson, Deputy Commissioner, I was en route by train to Churchill, Manitoba, to join the R.M.S. *Nascopie* on the Eastern Arctic Patrol.

On board the *Nascopie* I was fortunate to have as cabinmates two of the best possible "teachers" about northern Canada — Linc Washburn and Pat Baird. They were most helpful in telling me about the Arctic and later in introduction to other scientists and administrative personnel. Another observer on the *Nascopie* from whom I learned much was the arctic explorer Tom Manning, who was then attached to the Navy. Both Manning and Baird shared office space with me intermittently in Ottawa during the next two years and I maintained close liaison with Washburn in the New York office of the U.S. Army's Arctic-Desert-Tropic Information Center.

One of my specific geographical tasks on that first arctic trip was to compile a map of all known Eskimo campsites in the Eastern Arctic. This information was obtained by asking police, missionaries and traders at each of the settlements and talking, through interpreters, to those Eskimos who could read the 8-mile to 1-inch maps that I carried. When later compiled back in Ottawa into a regional map of the Eastern Arctic, copies were supposed to have been given to pilots ferrying planes from Churchill to Britain. Its purpose was to let them know where local Eskimo help might be found if they were forced down en route.

I never knew whether the map was ever actually distributed and I hope that it never had to be used for that designed purpose! It was, however, an original map, planned and designed with geographical methodology and, I believe, a useful contribution to our knowledge of the seasonal activities of the Eskimos of that time. A reduced version of the map was published in the September 1944 issue of the *Canadian Geographical Journal* as part of the first article by a Canadian geographer on the distribution and seasonal activities (including original data on seasonal births) of eastern arctic Eskimos.

In 1944, I again accompanied the Eastern Arctic Patrol on the *Nascopie* from Montreal to Churchill and then travelled by coastal schooner and a single-engine plane into Keewatin District on the west side of Hudson Bay. One of my tasks in Keewatin was to recommend a site for an air base at Baker Lake.

During the winters of 1943 and 1944 I had several functions as the only geographer in the federal government. I continued to be a source of information on a wide variety of topics for requests that came to the director's office, particularly from the military and other governments. An arrangement was made with the *Canadian Geographical Journal* to publish articles by me as "public" information, with reprints being distributed by the Northwest Territories Administration. Four such descriptive articles were published in the journal between August 1944 and March 1945. I was also put "on loan" for two months to RCAF Intelligence in Ottawa to help prepare information for operations in northern Quebec and Baffin Island.

Concurrently, I wrote a 38-page information booklet called *The Canadian Eastern Arctic — Its Geography, Peoples and Problems* (1944), which was the first regional geography on that part of Canada. The booklet contained a great deal of "new" information about the physical environment of arctic Canada — the type of information that I knew was being requested by other agencies. This booklet was the first to report that central Hudson Bay was frozen over all winter (p. 11), a fact that was not recognized by the article on climate and ice conditions in Hudson Bay that appeared later in *Arctic* (F.K. Hare and M.R. Montgomery, "Ice, Open Water, and Water Climate in the Eastern Arctic of North America," Parts I and II, *Arctic* 2:79-90, 149-164). My source of information had been Tom Manning and other pilots who had flown over the northwestern part of the bay, plus my experience of seeing the vast amount of ice through which the *Nascopie* passed from Port Harrison to Churchill in July 1944.

With all of the information now available from air and satellite photos about every square mile of terrain in the Arctic, it may be difficult for the present generation of earth scientists to realize how little was known 40 years ago. When I prepared the first landform map of the Eastern Arctic for the *Canada Year Book* of 1945, the information came almost entirely from descriptive sentences culled from reading hundreds of explorers' and scientists' reports. Very little basic landform knowledge was available about areas away from the coasts.

By the spring of 1945 military concern had shifted from the Eastern Arctic to the Canadian Northwest. I was sent to the Mackenzie Valley during the summer of 1945 to collect information and get a "feeling" for the region in order to advise those who were making decisions about peacetime "development" in the Northwest. The variety of topics with which I was concerned, and the analysis of these conditions in terms of future use, were published in six more articles in the *Canadian Geographical Journal* between July 1945 and July 1946. These articles contained a great deal of information, particularly about environmental conditions and potential land use, based on my own field work and reports of other scientists working in the Northwest. For example, I mapped (by sketch map and pacing) the siting and pattern of all buildings in most of the Mackenzie Valley settlements; these maps are now of historical value. I also prepared long-term tables of ice break-up and freezing of the Mackenzie River, written down by hand from missionaries' diaries.

Part of my time went to help R.K. Odell, Assistant Director of the North Pacific Planning Project and assistant to Charles Camsell, particularly in the writing of an information booklet, *Canada's New Northwest* (1947, 155 p.). As an unnamed civil servant, I wrote the chapter on population.

In 1945 I was given another task that, I think, indicated a growing awareness in government of the correlating skills of a geographer. At the request of the Department of External Affairs I brought together information from each branch of the

Department of Mines and Resources as to their possible increased costs if Newfoundland joined the Canadian Confederation. I don't know where this request originated, but in retrospect I was interested to know that some sections of the Canadian government were investigating possible union with Newfoundland several years before the latter voted on it.

I have a story from these interviews with branch officials that may now be of interest. It is perhaps an indication of government values that the Immigration Branch was then "buried" in the Department of Mines and Resources, where it had no connections or interaction with the other resource branches. One of the worries of certain Immigration Branch officials was that the entry of Newfoundland into Confederation would result in an overwhelming flood of Newfoundlanders who would then be able to migrate to Canada without the political barrier that kept them on the Island! It did not happen.

During these years I was on the edges of discussions about the formation of the Arctic Institute of North America. I frequently talked with my good friend and fellow geographer Trevor Lloyd (then at Dartmouth College, New Hampshire) about "northern" matters and specifically the need for a coordinating information centre in Canada similar to what I was operating singlehandedly in the Bureau of Northwest Territories and Yukon Affairs. I recall evening meetings in Tom Manning's home where the organization of such a centre was discussed among many of the scientists then working on northern topics. I was sometimes in a delicate political position in those years because some of the scientists, especially Trevor Lloyd, were very critical of the policies and lack of leadership of certain officials in the Northwest Territories administration.

Those years, 1943-46, were certainly exciting ones. They were satisfying years because I knew that I was successfully "promoting" my discipline of geography and I was helping others to know and appreciate the way in which geography looked at the interaction among environments, resources and people in a particular part of Canada. Undoubtedly, the geography that I was practising was inventory and descriptive; it stressed correlation and relationships. I was fortunate to be working in a region where it was still possible to discover "new" information and to be able to "put it together" for people who knew little about that part of Canada. Also, I could still try to be a "whole" geographer and not to qualify my interests with an adjective, as is now done. However, in the article that follows, I did refer to the specific tasks of physical, human, economic and regional geographers.

I left the Bureau of Northwest Territories and Yukon Affairs in the late summer of 1946 after being invited to go to the University of British Columbia to organize and expand a Geography Division in the Department of Geology and Geography. The bureau hired me again during the summer of 1947 to be the geographer on the department's airborne expedition to relocate the North Magnetic Pole.

In December 1948, I presented the paper that follows to the Association of American Geographers. It may be of interest, 40 years later, to indicate something of the state of knowledge about arctic Canada at that time. Note that the article was aimed at an American, not Canadian, audience.

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SOME PROBLEMS OF ARCTIC GEOGRAPHY IN CANADA

Paper presented by J. Lewis Robinson to the Annual Meeting of the Association of American Geographers, 1948. Abstract published in the Annals of AAG 39 (March 1949):75.

Within the large area of more than one million square miles of arctic Canada are many problems of interest to geographers. Despite some authoritative descriptive writing about the Arctic (the Bureau of Northwest Territories and Yukon Services, Department of Mines and Resources, Ottawa, issued 17 booklets and reprint articles during 1944-48), there are still many misconceptions concerning the Canadian North. Some of this incorrect knowledge stems from inaccurate or misleading facts presented in elementary school geography books of a few decades ago.

The Canadian Arctic is a challenge to geographers in *all* fields. Their techniques and correlating abilities are needed in the realm of physical, human and economic geography. New facts are rapidly being assembled as aeroplanes and modern icebreakers make accessible large areas of hitherto little-known territory. The task of organizing, analyzing and interpreting this new information is not going to be easy for Canadian geographers. It is not the purpose of this paper to summarize this new material, but to indicate some of the lines of research now being undertaken in the late 1940s and to suggest further work.

One of the contributions of physical geographers is to present descriptive information clearly. Facts about the arctic environment have been assembled by other scientists, the few residents and explorers. The Arctic has a physical environment very different from that which the few Canadian geographers have experienced. By seeing the vast stretches of barren rocky hills, the rolling treeless tundra and the grinding ice-floes, geographers may adequately "feel" the arctic environment. Much descriptive geography has been written by southern geographers who do not have a feeling for the "different" character of the region.

One of the major assignments of government geographers is to map the distribution of physical facts as they become known. For example, the landforms of the Canadian Arctic Islands are only sketchily shown on most world or continental maps. Few maps show the new knowledge that the glaciated peaks of eastern Baffin Island reach altitudes of more than 8000 feet a few miles from a steep, forbidding coast. This Baffin Island range, the highest in eastern North America, extends northward along the western rim of Baffin Bay and into northern Ellesmere Island.

Also little known has been the extent of the lowland areas (below 300 feet altitude) of the central arctic mainland, eastern Victoria Island, southern Prince of Wales Island and all of King William Island. One of the first tasks of an arctic geographer is to classify these landform features and to show their distribution on regional maps. The beginnings of such maps, often using scanty information, were prepared by me while I was the first geographer employed by the federal government. These maps of the Eastern and Western Arctic were published in the Canada Year Books for 1945 and 1948.

Accessibility of the Arctic is determined by ice conditions. Bits of information have been available concerning the partial distribution and seasonality of sea ice, but the regional picture was not well known. During the summer of 1948 research in the Geographical Bureau, Ottawa, was directed toward assembling and interpreting ice information. A new technique was to locate the scattered information on regional maps, in contrast to earlier work by non-geographers that listed the data in tables. In recent years more ice information has become available from many

places within the same season. For example, during the summer of 1947 there were several Canadian and American air and sea expeditions in the less accessible Arctic. The assembling and mapping of this information gave, for the first time, an overall picture of sea-ice conditions in the Canadian Arctic. It showed, for example, that in mid-August the islands of the northwestern Arctic were still joined together by unbroken ice. One should really think of this area as a solid "land" mass in summer rather than as land and water, as the usual maps suggest. A zone of loose floes, of varying penetrability, surrounded this frozen area.

In the field of human geography, a geographer has a natural laboratory in the Canadian Arctic. Eskimos live close to their environment; the relationships between man and environment are often simple and direct. Geographical determinism has been smothered in the variety of resources and human choices of our mid-latitudes, but the application in the Arctic of this philosophy is strong. The environment offers little, the choices are few, the utilization is direct.

Changes are coming in the lives of the Canadian Eskimo. The happy Eskimo of our elementary school geographies, with fish spear, harpoon and skin kayak, is indeed rare. For example, to a geographer interested in cultural change, the 2000 Eskimos of the Canadian Western Arctic illustrate the progression in culture contact. Eskimos of the Mackenzie River delta, in direct contact with white settlements, have changed within a few decades to commercial trappers and traders with most of civilization's implements and luxuries. It is this prosperous group of a few hundred people at the north end of the easily accessible Mackenzie River Valley who are seen by visitors and incorrectly described as typical of all Canadian Eskimos.

The Copper Eskimos, farther east in the interior of the Western Arctic, while retaining many of their primitive hunting methods and native clothing, are also industrious trappers who trade white fox pelts for white man's ammunition and food. Still farther in the interior, the Netsilik Eskimos and other groups of the mainland interior near Back River still differ little in seasonal activity and tools from their primitive ancestors. As civilization advances into the Arctic, they will probably disappear as the last group of people dependent almost wholly upon their physical environment (J. Lewis Robinson, Canada's Western Arctic, Canadian Geographical Journal, Dec. 1948). It was probably never correct to describe all Canadian Eskimos — few people scattered over a very large area — as being similar in their adaptation to a restricted environment, and it is less appropriate to do so now. A description must be prefaced by a "where" to account for local differences resulting from the degree of white contact and cultural change.

Economic geographers are concerned with the distribution and utilization of natural resources. In the Canadian Arctic known resources are few. The only export in commercial quantities from the region is white fox pelts. Mineralization has been noted in several places but none has proved rich enough to result in development. For example, coal may be one of the potential resources of the Canadian Arctic. The possible importance of coal to future meteorological stations and airbases, in a region of no wood fuel and severe winter climate, needs consideration. By mapping the distribution of the few coal seams and correlating this with information concerning landforms and ice conditions, an economic geographer may help in decisions about the location of future outpost settlements in the Far North.

One of the problems for Canadian geographers is to help politicians to assess the value of the arctic region in the Canadian economy. As one-third of the land area of Canada, what part can it play in Canadian economic development, population policies and defence measures? A regional geographer can make a contribution by assessing the natural environment and indicating its possible uses and problems. This task requires research for facts obtained from the physical sciences and understanding principles derived from the social sciences. The correlative ability of a geographer should result in an assessment of the region — its physical limitations, its economic potentials and its possible human adjustments.

One of the interesting academic problems in arctic Canada is to suggest a framework of geographical regions to encourage more detailed study of local areas and for administrative purposes. The generally accepted administrative division has been into an Eastern and Western Arctic, with a dividing line through Boothia Peninsula. This separation has been based primarily on accessibility from ship from the east or west; it is breaking down, as the use of aircraft modifies accessibility. There now should be at least one more region — the Far Northern Arctic Islands, which would include the islands north of the wide channels from Lancaster Sound to M'Clure Strait. Administrators should now consider the changes possible in accessibility and services as a result of the new air bases at Churchill and Frobisher Bay.

The physical environment of the Arctic still presents many problems of accessibility to geographers and others. Sea transport is possible in a very short "summer" season to many areas, but only coasts are visible. Air transport is faster and gives wider coverage but is expensive both for private and government field workers. Land travel in summer is virtually impossible over the lake-covered, water-soaked ground of many areas. Settlements that might be used as bases are scattered along the coasts about 100-200 miles apart. Extended field work requires the importation of large quantities of food and fuel.

The Canadian Arctic was a large, little-known and neglected area until the air age of the past decade focused attention upon its global position. The Canadian Government hired me, its first geographer, in 1943 and assigned me to assemble and coordinate information to be applied to wartime defence and later peacetime development. This task is being continued on an expanded scale by the new Geographical Bureau in Ottawa. In addition, in each of the three large Canadian universities having departments of geography, courses are given dealing with the Canadian Arctic, encouraging students to learn more about northern Canada.

Geographic field work will proceed slowly in the Arctic. It will be many years before even a basic knowledge of physical geography patterns is complete. However, the widespread activity of the past decade has added new information that now requires new interpretation and assessment. Geographers should have much to do in expanding our geographical horizons northward.

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EPILOGUE

It may now be of interest to present Canadian geographers to report that my 1948 paper received a critical comment from one of the leading American geographers, Preston James. Referring to my comments on human geography and the Eskimo, he said

that he was sorry to see that I was another "environmentalist" like Griffith Taylor. I rose to his bait by replying heatedly that "Americans had so many choices to make in using their favourable environments that they should not comment until they had *seen* the Canadian Arctic and realized the serious limitations of the environment upon people's activities and choices." Was I really an environmental determinist then?

As I read my paper now, I think about what has and has not changed in 40 years. The Canadian Arctic is still a difficult physical environment, offering little of use to the local Inuit and little that is attractive to southern Canadians. In 1958 I got into disfavour with some of my "northern" friends, including the then executive director of the Arctic Institute, A.T. Belcher, for a story from the Canadian Press carried in newspapers across Canada with the headline, "geographer says that the Arctic is useless." I remembered Griffith Taylor's comments about the environment of central Australia!

My negative assessment of arctic resources is still valid in the 1948 article if the comments on the significance of coal are replaced with the word "petroleum." Despite improved transport technology, accessibility is still difficult and expensive. My discussion of regionalization for administrative purposes sounds familiar in the current arguments about boundary lines for potential northern "provinces." The tax base for such local or regional government is still going to be southern Canadian taxpayers. Despite all of the likely technological improvements of the next 40 years, I still believe that the negative environmental conditions of the Arctic will result in the region playing only a minor role in the future development of Canada. Am I pessimist or realist?