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Sixty Years of Polar Research and Teaching: The McGill Subarctic Research Station

by Peter Adams

INTRODUCTION

The McGill Sub-Arctic Research Laboratory opened in 1954, when the railroad from the new port of Sept Îles reached Knob Lake (later Schefferville), Quebec, to open up the massive iron mines of that region. "The Lab" was an outpost of McGill University, Montreal, staffed by a faculty member (the director), graduate students, and a senior meteorological observer. McGill had the contract to run the new mining town's aviation weather station. It did this by training four graduate students a year to work as weather observers while taking courses from the director, conducting local year-round Lab research projects, and preparing field-based thesis research of their own. Typically, the students spent 12 months at the Lab plus an additional summer working on their own field research before returning to McGill to complete their degrees. The Lab also acted as a field base for visiting students and researchers from Canada and overseas, as field stations do today.

The Lab, situated at the end of the newly built railroad ("an expedition at the head of steel," according to the late F.K. Hare), was a pioneering university enterprise at a time when there was a great need to train Canadian polar researchers, and when the huge Quebec-Labrador peninsula was still remarkably unknown (Fig. 1). The Lab operated in this fashion until 1971, when it became the McGill Subarctic Research Station that it is today. It produced a stream of polar scholars and a wealth of research publications.

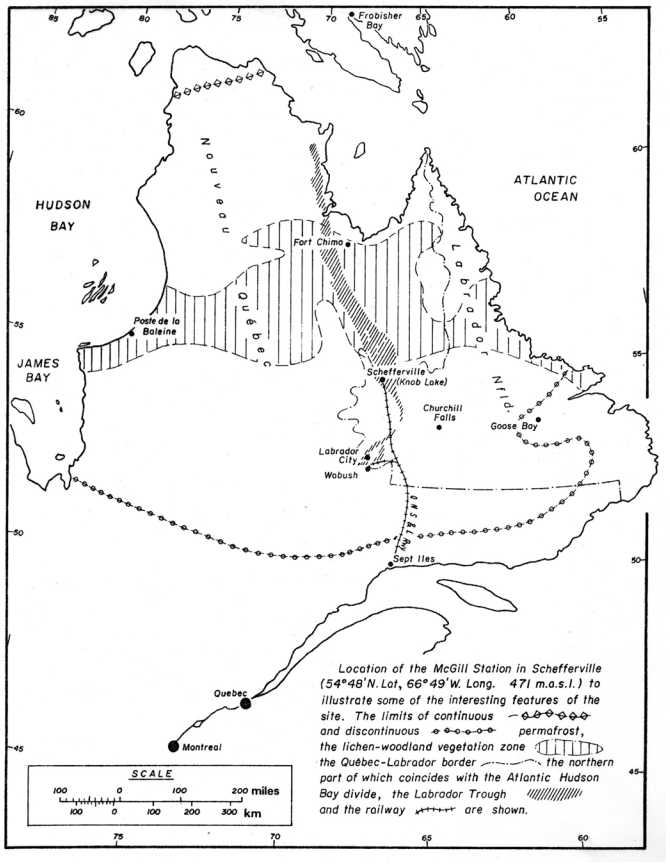

FIG. 1. The Québec-Labrador Peninsula, from tundra and continuous permafrost in the north to boreal forest and no permafrost in the south.

THE CYCLE OF LIFE AT THE LAB

The Lab students and staff lived together in a building that was the 24-hour operating weather station, "Knob Lake A." The director lived in an adjacent building that contained a tiny library, a darkroom, and a seismograph. Life in both buildings was dominated by the chatter of teletypes, through which weather data were transmitted and received. It is easy to forget this basic function of the Lab. The staff, supervised by the senior meteorological observer, transmitted hourly weather data, briefed pilots, and later, developed local storm forecasts for the mines located in the hills above the town. This is a region of terrible weather! Most weather observations, including the tracking of daily pilot balloons, were made outside. The Lab, at various times, also had contracts for seismic, isostatic rebound, permafrost, and other work. The routine weather work was a wonderful basis for an academic institution. As there were only a few years of weather data available in that region, the students were, in effect, gathering data to define a "new climate." Also the staff of this rather special weather station could creatively handle extra weather-related programs, such as lake cover and snow cover surveys and auroral observations. These official activities provided data that could be worked up as research projects (Fig. 2).

FIG. 2. The weather room of the Lab, social and professional centre of McGill's aviation weather station, "Knob Lake A." Jim Gray (University of Aberdeen, later Université de Montréal) on duty. Note the teletypes through which weather data were constantly received and transmitted.

An annual routine was established during the terms of the first two resident directors, Norm Drummond, 1954–57 (McGill University: alumnus and faculty) and Jack Ives, 1957–60 (University of Nottingham, England, later Geographical Branch, Ottawa, and University of Colorado, USA). Students who had begun weather observer training at Dorval Airport, Montreal, arrived at the Lab in the summer to complete their training with the senior meteorological advisor. They began work as weather observers while exploring the area on foot and in canoes and discussing their own thesis research with the director. This summer field activity was important training for the students' own field research in the following year. At some point, they would take over one of the Lab's year-round research projects (described below) from an outgoing student.

In the fall, when the staff turnover was complete and the summer visitors had left, the Lab settled down to its winter routine of 24-hour weather observations, daily seismic measurements, classes, Lab projects, and personal research. The classes were made more interesting by the stream of academic visitors who came to do research or simply out of curiosity. The lists of visitors from all over the world provide a glimpse of the polar research networks of the day. Each staff member had a study bedroom ("my cell"). These were more or less heated—one student wrote a paper on the microclimate of his room. In the early and later years, Lab personnel cooked in the Lab kitchen. For the years in between, they were able to eat on the nearby RCAF/Marconi Mid Canada Line base (one of the northern radar defense lines of the Cold War), which was a useful source of helicopter and other support.

The weather work schedule varied, but a popular option was a week of 12-hour days, a week off, a week of 12-hour nights, and then a two-week break. This gave each student long periods for personal work. The weather room was the focus of the Lab, a place for work and socializing with visitors coming for "the weather." This was an advantage, in that one could roll out of bed and go to work, but it was a disadvantage for the person trying to sleep after the previous night's shift. There was always someone trying to sleep.

The "Lab projects," handed from student to student over the years, mainly grew out of the weather program. They were lake ice and snow cover surveys and local climate and permafrost studies. The person responsible for the lake cover survey would make weekly measurements on local lakes and would write up the results in the Lab's publication, the McGill Sub-Arctic Research Papers. Similarly the snow survey person would make measurements at a site near the Lab, along fixed snow courses and at a snow stratigraphy site, in the bush. Both of these projects were of heightened interest because they provided background information for the huge James Bay and Churchill hydropower schemes that were being developed during those years. Schefferville is located on the watershed between these two developments. The permafrost project involved weekly measurements of near-surface ground temperature profiles at sites located in a variety of topographic and vegetational situations. The Iron Ore Company of Canada, which ran the mines and the town, was interested in this work because its mines were in a region of discontinuous permafrost. The local climate project involved regular visits to a network of small weather stations scattered around the region. Among other things, these data were important for the local storm forecast system that the Lab developed for the mines. Data from these projects were reported regularly as an adjunct to the Knob Lake A weather station reports.

Over the years, as data accumulated, these more or less routine projects became the basis for more academic publications, including graduate theses. For example, the lake cover project was complemented by detailed surveys of the ice cover of one or more lakes, and the snow surveys were extended to include end-of-winter surveys of whole watersheds (Figs. 3 and 4). Such year-round outdoor work gave the students a healthy respect for the severe environment in which they were living (Fig. 5).

By spring (the mean date of lake break-up was 15 June), students were writing up their project reports, doing exams, and getting ready for their own summer of fieldwork. This summer research might be in the general vicinity of Schefferville, but often it was at distant sites across the length and breadth of the Quebec-Labrador peninsula. This was also the time for meeting and briefing those who would replace them for the following academic year, as well as students and researchers who would be based at the Lab for the summer. Many of these summer people went on to make significant contributions to Canada's North. The departing

FIG. 3. Graduate students snow surveying: David Archer (Queen's University, Belfast, later hydrologist in the United Kingdom), Dick Cowan (Carleton University, later with the Geological Survey of Ontario), and Bruce Findlay (University of Toronto, later with Environment Canada).

FIG. 4. Snow stratigraphy site, one of the Lab research projects (Bob Rogerson, Liverpool University, later Memorial University and University of Lethbridge).

resident students would return at the end of the summer to touch base with their replacements before returning to McGill to write theses as hardened "Arctic" hands.

RESEARCH EMPHASES OVER THE YEARS

The research emphases of the Lab evolved over time. They were influenced by the staff of particular years and by developments in polar research in Canada and overseas. Each year built on what came before. However, the directors, usually in residence for three years, were particularly influential in the Lab's research and teaching directions.

The broad strokes of the academic year at the Lab were drawn during the terms of the first two directors and their wives, Norm and Pat Drummond and Jack and Pauline Ives. Norm and Pat had the onerous task of learning to operate the new-style aviation weather station with student observers. They also had to learn to cope with "distinguished" visitors, attracted by the Lab as a base for research or as a glamorous, expedition-like, place to visit. Norm himself was heavily involved in the interpretation of the still-new air photos of the Quebec-Labrador peninsula. This work revealed the patterns of retreat of the Laurentide Ice Sheet and, for the first time, gave an overview of the vegetation cover of the peninsula, from tundra in the north to boreal forest in the south. As the first groups to run the aviation weather station, Drummond's people also took a special interest in the climate of the peninsula. Both the air photo studies and the climate research were based on ideas of Professor Ken Hare of McGill University, the person most responsible for the founding of the Lab. The students of those early years also reported on the evolution of the brand-new mining town and burgeoning region in which they lived and worked. These interests are reflected in the McGill Sub-Arctic Research Papers and other publications of those years.

Jack Ives used the new knowledge of the surface of the peninsula to field-test the concept of a radial retreat of the Laurentide Ice Sheet from the coastal rims of the peninsula towards its centre. He and his students used the air photo patterns to select field sites in key areas of glacial retreat, such as the coasts, glacial lake zones, and locations close to the final centre of glacier ice, not far from Schefferville. This work involved elaborate summer research seasons with multiple field parties flying from the Lab to locations around Quebec-Labrador. In those years also, students and staff began to expand the Lab research projects mentioned above. John Andrews (Nottingham University, later University of Colorado), for example, with the support of the National Research Council of Canada (NRC), invigorated and expanded the lake ice program. Around the same time, with support from the Iron Ore Company, the permafrost program began. One of the students, Brian Haywood (University of London, England), developed a device for measuring surface freeze-thaw activity. This was a seed for periglacial research in later years, which complemented the permafrost program. Such developments laid the foundations for future work at the Lab. The International Geophysical Year fell during this time and the Lab became one of its research sites, which involved adding new tasks to the daily weather routine (for example, auroral observations, which continued for years). Publications based on this work, in the McGill Sub-Arctic Research Papers and

FIG. 5. The Lab on the right, with the instrument "enclosure" in the foreground.

elsewhere, stimulated interest in the Lab and student applications from around the world, for many years.

Bill Mattox (Dartmouth College, New Hampshire, later Department of Natural Resources, Ohio), became director in 1957 and ran the Lab with his wife Joan until 1960. Again with NRC support, Bill oversaw the beginning of serious permafrost research, building on the routine Lab program. One of his crew was a full-time permafrost researcher. From that time onwards, there was a steady flow of permafrost data and papers from the Lab. Another achievement of the Mattox years was the rediscovery of an old Hudson Bay post, Fort Nascopie, on Petitsikapau Lake, east of Schefferville.

Directors Peter Adams (1963–66, Sheffield University and McGill, later Trent University,) and Bruce Findlay (1966–67, also a student at the Lab in 1962–63, University of Toronto, later Environment Canada,) expanded snow hydrology and lake ice work at the Lab, greatly increasing the amount of winter fieldwork. However, several students from those years continued the glacial geomorphology and permafrost and periglacial themes of earlier years. This was the era of UNESCO's International Hydrologic Decade (IHD, 1965–75), established out of global concern for freshwater resources. The Lab was an IHD centre and participated in various efforts to standardize equipment, monitor representative watersheds, and improve teaching in hydrology. The first female resident student was at the Lab during the term of Peter and Jill Adams.

By the time Director Bruce Thom (1967–70, University of New South Wales, Australia, later University of Sydney, Australia) and Irene arrived, the pattern of work of resident staff and visitors at the Lab was well established. Bruce himself took a special interest in the permafrost work, and his students and staff continued the snow and lake ice projects. A McGill Sub-Arctic Research Paper from that time (#24) contains a remarkable range of topics, including vegetation studies, reports on butterflies and birds, glacial geomorphology, lake ice and snow cover, notes on the Naskapi and the local workforce, seismic work (for the Dominion Observatory), phytoplankton and sediments in local lakes, and hydrology (e.g., rain gauge studies). This wide spectrum of research is an indication of the maturity of the Lab by that time as a research base for its residents and visitors.

In 1971, McGill lost the contract for the aviation weather station that had been the financial basis of the Lab. The weather station moved into the nearby airport. The last resident director was Frank Nicholson (1970–72, Liverpool University, England). Frank and Margaret oversaw this change. Frank greatly developed the permafrost program, with a number of applied studies relating permafrost occurrence to snow cover and vegetation, while encouraging hydrological and other research. The Lab at this time began to receive requests from universities wishing to bring field trips to Schefferville. They were attracted by the accessibility of the place (by train or plane), its distinct subarctic character, and the growing database that was available for undergraduate projects. As the Lab could not handle large groups, it worked initially with the Iron Ore Company to accommodate them. Frank and his colleagues produced valuable briefing material.

In the following years, the McGill Sub-Arctic Research Laboratory was transformed physically and organizationally into the McGill Subarctic Research Station that it is today. Trailers, hauled in from the Churchill Falls construction site for Frank Rigler's limnology project, were used for dormitory and laboratory space, strengthening the old Lab as a base for visiting students and researchers until a new building could be added. This strength was important, as the iron mines closed in 1983, and the population of Schefferville shrank from thousands to hundreds. The new organization had a scientific director, based at McGill, with Doug Barr (senior meteorological advisor from 1965 to 68, then at Trent University) as the resident station manager. The first scientific director was John Drake, who was followed by Tim Moore and Wayne Pollard. In 1983, Doug was replaced by Oksana Choulik (McGill and Trent), the current station manager. Doug continued to be responsible for the Lab from McGill, spending summers there, until 1996. Doug's contributions to the Lab, over many years, have been remarkable. The newly equipped station was very productive during those years, among other things, as a base for a NASA project. Researchers stayed there for extended periods, and there were frequent visits by university field parties from Canada and overseas, including field courses from McGill (Fig. 6). There was a steady flow of publications, including theses and journal articles and, until 1987, volumes of the McGill Sub-Arctic Research Papers (by then the McGill *Subarctic* Research Papers). This was important because during these years, the shutdown of Schefferville and its mines and the adjustment of the local First Nations

FIG. 6. Trent University students at the McGill Subarctic Research Station, an example of field parties making use of the expanded accommodation built in the 1970s. Doug Barr and Oksana Choulik, who managed the Station in those days, are behind the husky at right. Oksana is the current Station Manager.

to these changes were covered by Lab observers, just as the opening of the town had been, more than 30 years earlier. Many of the established research themes, like snow and ice hydrology, glacial geomorphology, climate and limnology, were maintained within a spectrum of research topics much wider than that of earlier years. Wayne Pollard, the current director of the station, is also director of McGill's Arctic Station on Axel Heiberg Island, Nunavut.

REFLECTIONS AND OBSERVATIONS

The McGill Sub-Arctic Research Laboratory, during its residential years, was very much a creature of its times. These were times when the universities of Canada were expanding rapidly and working hard to develop a capacity for polar teaching and research. The Lab played its part in this through the example it set and through the people it influenced (resident graduate students, faculty, and technical staff, and visiting students and researchers). As Lab personnel spread into the education system, their teaching and contributions to textbooks (highlighting "Knob Lake" examples) excited interest in things polar across Canada. Nevertheless, it should be noted that of the more than 80 people who can be defined as residents of the Lab from 1954 to 1972, just over half were from Britain and only 13 were Canadian. The remainder was drawn from seven other countries. As might be expected, Canadians were much better represented among the visiting researchers, although even those visitors were remarkably diverse in terms of country of origin. A remarkably high percentage of the overseas Lab students stayed in Canada, and an even larger proportion stayed in polar work.

Although female students were common among those who came to the Lab to do summer fieldwork, there was only one woman, Rona Bassett, among the resident staff and students in all those years.

Four of the senior meteorological advisors (Don Macnab, Bod Shaw, Andy Williams, and Jim Franks) and two non-student observers (Brian Westlake and Kenn Back) came directly from the British Falkland Islands Dependency Survey (now the British Antarctic Survey), bringing with them their years of experience in Antarctica. They greatly strengthened the Lab programs. Two of the resident students, Olav Loken (Oslo University, Norway) and Len Bryan (University of Indiana, USA), also came with extensive Antarctic experience. This meant that in most years the resident students had a first-hand introduction to Antarctica from people with sound cold-weather experience. Antarctica featured large in the Lab teaching program. This interest continues today in the work of the current director, Wayne Pollard. I believe that the Lab influenced, and still influences, Canada's roles in that important continent.

The Canadian, Scandinavian, and American Lab residents (including several from Dartmouth College, New Hampshire—famous for skiing and Arctic expeditions) and those who came more or less straight from Antarctica, must have been baffled by their keen British and Australian colleagues who rarely had previous experience of skis, snowshoes, real cold, or real canoes. It was these students who gave the Lab the air of a permanent expedition. They did not realize that their summer replacements, although excited by the subarctic environment, viewed their work as a good summer job rather than as an expedition. I came to the Lab after three summers living on a glacier on Axel Heiberg Island, in what is now Nunavut. I was struck by how much more severe and dangerous the Quebec-Labrador environment was than the High Arctic. The year-round experience provided by the Lab was a critical part of the polar training of expatriate and other students.

The Lab, located on the outskirts of Schefferville, was physically and psychologically separate from the town. Schefferville at that time was a thriving company town populated by Francophones and a large number of new immigrant or transient miners. Almost everyone lived in company houses or bunkhouses, worked long shifts, and received very good pay. The Lab residents were, with some notable exceptions, Anglophones and they were the lowest paid people in town, with the student observers at the bottom of the pile. The Lab directors were poorly paid, even by McGill standards. When questioned about this issue, McGill officials muttered phrases that contained words like "perks" (housing?) or "air fare" (one flight out each year). They viewed work at the Lab as a privilege for young academics. This was not an easy argument for us to rebut, as we agreed with them! I do not know about the other directors, but I treasured for years a letter from the chair of my department asserting that my position was "the equivalent of that of an Assistant Professor," a phrase that kept my pay down. This poverty had its advantages and

disadvantages, mainly the former. The people of Schefferville knew that we were poor, eccentric academics who had difficulty communicating. They and their Company helped us out with enormous generosity. When something failed in our rather ramshackle facility (usually the heated water and sewer lines—McGill did not spend much on the buildings, either), it was cheerfully fixed by the Company, which would send a gang of men who were curious to see how we lived and worked. These workers and their families would call us regularly for "the weather" and to settle midnight trivial pursuit disputes about the capital of Inner Mongolia and similar matters. In return, our students were in great demand as babysitters and substitute teachers, and we were more than welcome at private and public celebrations, including 24-hour bonspiels and the Winter Carnival (where our snowshoers were valuable cannon fodder). We were a novelty! When we had a party, it would be very well attended by people who brought their own refreshment and observed the work of the sober, night shift weather observer with great, if noisy, interest.

The Lab's contacts with local First Nations were mainly with the Naskapi Nation, whose second language was English, rather than with the Montagnais, who spoke French. Our relations with the Naskapi were cordial and productive. Two First Nations communities, Matimekush and Kawawachikamach, are now located in the region.

So we lived in a kind of bubble. One effect of this situation was that we were cut off from the politics of our province, Quebec. This was a pity, as the Lab operated during momentous times in Quebec. Premier Maurice Duplessis died in Schefferville. This signaled a time of great change for Canada and the province. The townspeople were still pointing out the bed he was supposed to have died in, and spinning conspiracy theories, when I was there. In one election, no less than three different separatist parties had candidates running in the riding that included Schefferville. The early separatist movements of Quebec gained a great deal of their energy from the mining communities of the province. And then, more or less throughout the Lab's existence, the James Bay power project was coming to fruition on its doorstep. This was of huge political significance, accounting for the rise and fall of governments. I suspect that few Lab residents were aware of the larger political implications of such things.

There were some interesting examples of other effects of living and working in the expatriate bubble of the Lab, cut off from Schefferville, Quebec, and Canada. I had conducted ice research on glaciers and lakes, but it was not until we left the Lab and moved to Trent University in Peterborough that I realized that there was an entire ice drilling/cutting technology built around ice fishing and the ice block industry. I went to a surplus store to get a "cross cut saw with a handle at only one end." When I explained what it was for (cutting ice blocks) the owner said, "Oh you mean an ice saw" and brought out the real thing. He then asked me whether I needed the ice tongues as well. In Schefferville and on the McGill Axel Heiberg Expeditions, we used primitive hand drills, derived from expeditions past, for our ice research, which involved massive amounts of lake ice drilling. To be honest, so, later, did our students at Trent, who patiently accepted my explanation that these "special" drills allowed them to better study the ice in the drill holes.

One of the Lab directors, living in this bubble, bought a British vehicle, a Land Rover, because of its four-wheel drive. No doubt this was useful for a time, but servicing such an exotic vehicle proved expensive in comparison to the less glamorous and more cold- and student-proof vehicles used by the Iron Ore Company. In later years, one of the images we used for teaching air photo interpretation at Trent was a stereo pair of the distinctive company town of Schefferville and its environs. The students were asked to calculate the scale of the image in various ways, including the use of an object of known size. As a possible scale, we pointed out a vehicle outside the town's service station. When discussing the results later, we would casually mention that that we could get very precise dimensions of this vehicle, as it was a particular model of Land Rover. The students would invariably ask how we could identify the model at such a small scale. The answer was that we knew that it spent most of its time there.

As the staff of each year gained experience of the tough new environment, there were invariably accidents or near misses. Trying out a brand new skidoo, three students, sitting astride, tried to drive from one lake to another up the linking stream, where (of course) the running water had kept the ice thin. They ended up sitting on their greatly depreciated machine with only their heads and shoulders above the surface on a bitterly cold day. On another occasion, a snow survey camp dug into the snow pack burned in a few minutes, leaving four people out during a night with −30˚C temperatures. As we all know, fire is a great hazard in cold regions. This incident was particularly galling as, nearby, living quite comfortably in a hole in the snow, with a small fire, was a young Naskapi man, who must have been quite amused at our experience. On another occasion, students doing lakeshore surveys from grossly underpowered canoes were lucky to get ashore (and be wind-bound for days) when they traveled out from a sheltered to a windy lake situation. Another party holed and sank a large canoe in rapids about halfway between Schefferville and Wabush and had to trek to the railroad to get an iron-ore train home.

In those days, when communications were poor and intermittent, subarctic and Arctic fieldwork could be a dicey business. Tragically, two Lab students, André Grenier (University of Laval) and Brian Haywood (London University, England), died during fieldwork on the Koroksoak River, 300 km from Schefferville. In that same year, our department at McGill lost two other students, Joan Goodfellow and Anne Marie Krüger, on Great Bear Lake, Northwest Territories.

To the best of my knowledge, seven children were born at the Lab during its residential years: Jane Drummond, John Macnab, Nadine Ives, Annette Adams, Graham and Jeanette Thom, and Ralph Shaw. Others, like Robb and

Mary-Jo Barr, more or less grew up there. Stories of winter births abound.

In 1975, a few years after the Lab ceased to be residential in the old sense, but while it was still very active, the Arctic Institute of North America (AINA) moved from Montreal to Calgary. This was somewhat of a blow to polar research at McGill and the Lab. Over the years, at least two of those responsible for the Lab at McGill (Svenn Orvig and Pat Baird) were directors of the Montreal Office of AINA. Students returning from the Lab, after the year in Schefferville, often had their offices in the Arctic Institute, and its Librarian, Nora Corley, was a welcome visitor at the Lab as she went to great lengths to see that resident students could borrow AINA library material with a minimum of red tape. One of the senior meteorological observers at the Lab, Andy Williams (one of those who came with Antarctic experience), went on to be manager of AINA's Kluane Lake Research Station in Yukon.

Fly-in mining towns like Schefferville, by their nature, are populated by highly mobile people who are accustomed to moving from place to place. As a result of this throughput of people, the number of people scattered around the world who have lived in Schefferville is much greater than the size of the town (around 3000) would suggest. Those of us who lived at the Lab frequently meet former Schefferville residents and exchange fond memories. Those who live in single-industry towns know that their community will likely close one day. The closing may be gradual or abrupt. In the case of Schefferville, in June 1983, it was abrupt and stark. The streets were full of vans and trucks (all brought up by train) as a mass exodus, observed from the McGill Lab, took place, and a vibrant community disappeared. Soon after, the residential part of the town, including churches and schools, was bulldozed. Only the downtown core was left to become a focus for Matimekush, one of the two Innu villages in the area. The McGill Lab survived as the McGill Subarctic Research Station it is today.

In 2014, it is beginning to look as though the Station may be well situated to observe a boom in its region, just as the McGill Lab was in the 1950s. Exploration for diverse minerals is up, and property is once again being bought and sold in Schefferville.

THE McGILL SUBARCTIC RESEARCH PAPERS

The McGill Sub-Arctic (later *Subarctic*) Research Papers, the official publication of the Lab, are a treasure trove for researchers with northern interests. They contain material that is valuable for social and natural scientists and historians. During the period covered by them, from the opening of Schefferville to some years after the closing of the iron mines, more than 40 volumes were published. These include annual reports, monographs, collections of articles, and bibliographies. The annual reports contain research articles, as well as accounts of Lab activities and life. The bibliographies, some sorted by subject as well as by author, include journal articles and theses originating at the Lab, with citations that are often annotated.

This series provides a valuable source, in a wide range of disciplines, for researchers and others with interests in the Quebec-Labrador Peninsula and the North in general during the decades concerned. The period covered by the Papers, 1954–87, was of particular interest for a number of reasons that have been touched on here: it spanned the rise and fall of a single resource mining town (Schefferville); the International Geophysical Year and the International Hydrologic Decade; the development, in the Quebec-Labrador peninsula, of two of the world's largest hydropower schemes, James Bay and Churchill; the time when the air photo coverage of the Canadian North was completed; the period from the launch of Sputnik (1957) to the era of satellites and remote sensing; and the Cold War, with the Lab located on one of North America's northern distant early warning lines, the Mid Canada Line.

The Papers also provide a window on the Lab itself and on methods, concepts, and major objectives of northern science of the day. They are available in major university libraries across North America. The bibliographies make them eminently searchable in their present form and efforts are being made to digitize and post them in the near future. A complete list of the papers is provided in the online supplement to this essay (available at http://arctic.journalhosting.ucalgary.ca/arctic/index.php/arctic/index).

CONCLUDING REMARKS

Sixty years ago, the McGill Sub-Arctic Research Laboratory was founded amid the blaze of publicity accompanying the opening of the Schefferville iron mines and the Quebec North Shore Railway that was built to serve them. This was the setting for Hammond Innes' best-selling novel, *The Land that God Gave Cain*. The community of Knob Lake, which became Schefferville, was well known across Canada and around the world and was marked on atlases and in-flight maps of the day. The special residential nature of the Lab attracted widespread interest in the academic community, especially in Canada, but also elsewhere. For almost 20 years, the Lab served polar studies in Canada in a most remarkable fashion, and it continues to do so as the McGill Subarctic Research Station, Schefferville, through which McGill continues its polar work.

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SUGGESTED READINGS

Adams, P. 2007. Trent, McGill and the North. Peterborough, Ontario: Cover to Cover Publication Services.

Ives, J.D. 2010. The land beyond, a memoir. Fairbanks: University of Alaska Press.

Jackson, C.I. 2002. Does anyone read Lake Hazen? Edmonton, Alberta: Canadian Circumpolar Institute.

Lotz, J. 2006. The best journey in the world: Adventures in Canada's High Arctic. Lawrencetown Beach, Nova Scotia: Pottersfield Press.

Shaw, J.B. 2012. T'Other side o' Wakefield, Base F – Antarctica (1958–1959), Lat. 65°15′ S, Long 64°16′ W. London: Blurb Book.

Peter Adams is a Professor Emeritus, Department of Geography, Trent University, Peterborough, Ontario, and a former Member of Parliament for Peterborough.
peter.adams@cogeco.ca