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PREFACE

This is a very personal book, a sort of "my life and times in the North." However, it is intended as a serious illustration of Canada's progress, over the last fifty years, as a sovereign Arctic nation.

Recently, concern about Canada's sovereignty in the Arctic has, once again, risen in public and political consciousness. This time, the concern is driven in part by the opening up of Arctic waters as a result of global warming. Who owns Hans Island on the Canada-Greenland-Denmark border? Who owns that oil-rich piece of the Beaufort Sea between Canada and Alaska? Whose is the Northwest Passage? This book does not answer those questions, but it provides information for moral and responsible answers to them.

To me, sovereignty is about responsibility rather than just ownership. If we claim sovereignty over a part of the Arctic, land or sea, we have to be confident that we have the national will and capacity to govern it, to exercise stewardship over it. Canadians resident in the North should be able to live happy, fulfilling, lives confident that they are part of a great nation which is interested in them and which has the will and capacity to help them sustain themselves and the environment in which they live.

I believe that Canada has matured remarkably as a sovereign Arctic nation during the 50 years between the International Geophysical Year of the 1950s and the current, 2007–2009, International Polar Year.

For example, in those days, there was a strong, official US presence in Canada's North with considerable dependence on the US for logistical support. Today that is no longer the case, and all aspects of life are Canadian. Then, most residents of the Territories had little or no representation at the local or national levels and could not even vote. Today, the Territories, including Nunavut, have fully elected legislatures and their own MPs.

This personal tale is about one aspect of the development of Canada's capacity for Arctic

sovereignty, a national system of cold weather and polar science and technology that generates, generation after generation, people with an interest in and knowledge of things Arctic, indeed of things polar.

This book is about research on and teaching about Canada's North from the 1950s to the beginning of the twenty-first century. At the beginning of the period, air photo coverage, and therefore map coverage, was limited and incomplete. Travel to and in the North was slow and difficult, but, from today's vantage point, it was a much simpler world. At the end of the period, map and satellite coverage is complete and detailed and air travel in the North is easy, but some aspects of life and sovereignty in the North are much more complicated.

In the 1950s, research in the North was conducted almost entirely by federal agencies, with contributions from a few universities. They did fine work, but one of the disadvantages was that interest in the Arctic was confined to a relatively small number. Today, more than forty universities, many colleges (including colleges in the North), provincial and territorial agencies, and private sector groups work alongside federal agencies. At the beginning of the period, teaching about the North was rare and confined to a handful of universities. Today, scores of institutions of higher learning offer courses in many disciplines that include Arctic, and increasingly Antarctic, content. "Northern Studies" courses are common.

In the 1950s, many of those involved in Arctic research were expatriates. Today, Canada produces its own Arctic and Antarctic researchers.

The story of these changes in northern studies teaching and research is told here through experience at two quite different institutions. McGill University is one of the older universities in Canada and was a pioneer in university Arctic and sub-Arctic research and teaching. Trent University is still a relatively new university but one that recognized



northern studies from its earliest days, in the 1960s. It was a pioneer in indigenous peoples studies and in extending northern studies to the undergraduate (and high school) levels.

The story of the changes is also told here as a personal memoir. My own career in northern research and teaching began at McGill at the very end of the 1950s. Through experience with the McGill expeditions to Axel Heiberg Island, Nunavut and with the McGill Sub-Arctic Research Laboratory (on the Québec-Labrador border), I had close contact with people who had been involved in northern research in Canada in the post-WW II period. Then, I moved to Trent University and was able to experience the new wave of northern teaching and

research. Also, for a period of time, I was Executive Director of the Association of Canadian Universities for Northern Studies (ACUNS) that became the coordinating agency for universities and colleges with polar interests.

Later still, from 1993 to 2006, I was a Member of Parliament who maintained a special interest in polar affairs. This gave me a different perspective on the changes in Canada's status as a sovereign Arctic nation, beyond the teaching and research that are the main focus of the book.

Enjoy!

Peter Adams, PC, PhD



An MP relaxes on the bunk of Trent alumnus Peter Doran, at a U.S. research station close to the Canada Glacier in the dry valleys of Antarctica.



CHAPTER SIX

REFLECTION, PERSONAL, PRESUMPTUOUS AND POLITICAL ON CANADA'S PROGRESS AS A SOVEREIGN POLAR NATION

In this chapter, I reflect on the personal and public policy aspects of this book. Most of the book deals with contributions to "Northern Studies" in Canada of the McGill Axel Heiberg expeditions, the McGill Sub-Arctic Research Laboratory, and the Department of Geography, Trent University. The thread of the story is the way in which the lives of Jill and I and our family have been affected by involvement in northern teaching and research in association with these institutions

You can think of our life story as a way of gaining an understanding of the northern research institutions of McGill and Trent; the institutions provide a microcosm of much more general changes in Canada's approach to its North. Here, I deal with the personal first, and then with some aspects of the political underpinnings of changes in research and teaching about the North, changes considered in this book. After all, although it is not a prominent part of this book, I was an MPP and MP for many years! Finally, as we are in the midst of an International Polar Year, I think aloud about Canada's capacity as a sovereign polar nation today, as compared with the situation described at the beginning of the book, the situation 50 years ago at the end of the International Geophysical Year which many think of as the last "polar year."

Personal

Family and University

This is clearly a personal memoir, a downloading exercise, which is important for my family and me. Our lives have been wrapped up in McGill University, Trent University and the North since Jill and I arrived in Canada. I came to Canada to go north, and so we did. We were given extraordinary opportunities in this country, opportunities that we are still doing our best to repay.

The book is also personal in the sense that I use the Trent-McGill-North thread to document a number of lifelong interests relating to undergraduate education, environmental education, and the nurturing of interest within Canada in both polar regions. Canada, I believe, has special responsibilities in both the Arctic and Antarctica. We have the people, the knowledge, and the know-how to truly contribute in the circumpolar north and in Antarctica. In return for our contributions, we stand to benefit very directly from advances in cold weather science and technology, which research in Antarctica and in the northern polar region generates. A broadly based public interest in, knowledge of, and passion for the polar regions is developing as part of



our sense of national identity, as a foundation for responsible northern sovereignty that includes a sustainable national system of cold weather and polar science and technology.

One of my long held personal beliefs is that a good undergraduate education, in a strong research environment, is a keystone of a healthy postsecondary education system and of life-long learning. I believe that this is so not only for those students who remain in the academic world but for all undergraduate students. In this book, I try to document the way the more “academic” students benefit from a rich undergraduate experience, mainly by means of anecdotes about and career lists of publications of some of our students. The lists may be of interest only to a few, but I believe that they do show the persistence of interests, gained early, through professional lifetimes. It is less easy to document my case for the thousands of undergraduates who shared the undergraduate experience but went on to productive, fulfilling lives in diverse fields in which publication is not a measure of success. I truly believe that if I could survey such students in some systematic way, the results would confirm the belief that I have gained from unsystematic contacts with them. They are richer for their experience of the North, and they have retained a healthy, enriching interest in the environment and the polar regions.

Another personal belief that I have is that meaningful experience in the field, at the undergraduate level or earlier, is an excellent foundation for a lifelong interest in the environment. Even students who do not really like field work seem to get real satisfaction from it. Some of the winter and arctic field work described here was quite arduous, but, time and again, former students from all walks of life remind me of long forgotten field experiences, which they clearly relished. Their interest in the environment persists. Lest my personal biases appear too strong, I should say here that some of my best friends are modellers. However, in the environmental sciences, the best of them had early field experience that stimulated a lasting interest in the environment, which still provides a foundation for their current, rather abstract, thought processes.

I believe that this point about meaningful field experience is particularly true for developing an

interest in the North among non-northerners. Nothing plants the seeds of interest in and passion for the polar regions like actual experience in them at an early age. In this book, I try to describe the lengths that Trent and McGill, and Canada, have gone to over the years to give undergraduate and young graduate students worthwhile experiences in the North. I believe that those students, Canada, and the North are the better for this. In the book, I mention the federal Northern Scientific and Training Program (NSTP) that, over the decades, has provided tiny grants to thousands of students wishing to do field work in the North. (See supplemental endnote No. 5.) There is a long running academic and political battle about the share of those funds that should go to undergraduates and young master’s students and that which should go to PhD students. My view is that the balance should lean towards the former. The more young people we can get into the North in a meaningful way, and the more young northerners we can attract into research, the better for the North and for northern studies in Canada. The NSTP has supported many students who went on to fine academic work in polar research. This can be demonstrated and has been. However, an NSTP experience has also nurtured lifelong interest in the North in citizens of all sorts, now living in southern or northern parts of the country. It is a program that merits revitalization in this International Polar Year.

One of Trent’s contributions, over the years, has been the generation of interest in the polar regions at the undergraduate level in Canada. This is one of the more effective ways in which universities can reach out to the general public on polar affairs.

This book is also personal in that, in it, I describe networks in cold weather and polar science to which I can relate personally. All science can be reduced to linkages and networks. The Networks of Centres of Excellence program that has been such a great success for research in Canada in the last decade is a product of the stunning technological developments in communications of recent years. Researchers across the country and around the poles are now linked as never before. But even the most superficial examination soon shows just how personal these, at first sight highly technological, networks are. They are people networking with people as people have ever done. In this book, you get glimpses of this personal



side of science networking which is especially important in a decentralized country like Canada and in multidisciplinary, international "Northern Studies." This personal networking is also very important for the evolution of humane, responsible governance of the northern polar regions and Antarctica.

Presumptuousness?

Looking back from the vantage point of Canada in the twenty-first century, I am stunned by things that I took for granted or did not know or care about in our early days in Canada, including the North. For a number of years Jill and I, and our family, lived in real or psychological isolation from the mainstream of the country. From the vantage point of today, we were unbelievably presumptuous.

I arrived in Canada, by ship, spent two or three days in Montréal, ten days travelling north, and then a couple of months with my "expedition" on Axel Heiberg Island. Having read about the Norwegian Sverdrup's expeditions to the Canadian high Arctic (which occurred at the end of the nineteenth century), I knew where Axel Heiberg was but little else. The reference book that I consulted suggested that the mountains on the island might reach 1500 feet—I climbed and measured mountains three times that height within days of arriving there. I could not ski, had never been on a glacier, and my clothes were British rock climbing gear, including my father's WW II army pants. We flew into and out of Axel from Resolute on Cornwallis Island. While there, I worked and socialized with young Inuit completely unaware that, a few years earlier, their families had been moved to this extreme high latitude location from northern Québec. This deliberate relocation was part of a federal policy that became notorious during my years at Trent and in parliament. Although it is still used, the word "expedition" can carry serious overtones of presumptuousness and condescension—towards the people of the region or nation in which the expedition takes place. On our expeditions, we compiled lists of official "first ascents" (were we the first to climb those peaks?), and we chose names for the regions and features we mapped without a thought that they might already have names. It was not even as if southern Canadians were presuming to be the first to explore northern Canada. Many of our senior expedition

personnel were expatriates, going home at the end of the expedition season. However, as I have pointed out, most of the students on those early Axel Heiberg expeditions, undergraduate and graduate, were Canadian or, like me, remained in Canada for their studies. This cohort of students was an important part of the changes in northern teaching and research in Canada that are the focus of this book.

In the graduate school at McGill in those days, we formed an expatriate anglophone island. Although we had to do two "translation languages" for the PhD (one of mine happened to be French, but one of my colleagues chose Old Norse), we rarely heard French spoken. We socialized a bit with students at l'Université de Montréal, but there was little in the way of real exchanges with them even though many were engaged in research close to ours. This was the Front de libération du Québec (FLQ) era in Montréal, and one of the bombs exploded across the street from our apartment. But I recall little serious discussion of such matters even though, as very privileged British immigrants, we could vote in elections. Those of us in northern studies tended to spend the winter studying and preparing to go north for the four summer months. I did not experience summer in southern Canada for my first three years here.

During the three years when we lived at the McGill Sub-Arctic Research Laboratory in Schefferville, on the Québec-Labrador border, we were isolated from mainstream Canada in a similar fashion. We were a small academic group, mainly anglophones, in a mining community that was composed of francophone Québécois and that had a fair number of immigrant miners. Half of the aboriginal community used French as their second language, half English. We did not have TV, and radio was not good. Newspapers arrived late from the south. So we were not particularly tuned in to life "down south." Miners (including our friends and neighbours) were leaders in the separatist movements in Québec at that time, and there was usually more than one separatist candidate in local elections. Yet many of us had a better sense of the post-contact history of the two local First Nations than we did of the evolution of the province in which we lived. We conducted snow and ice surveys that were of great interest for the Churchill Falls and Baie-James power projects, but we had no sense of the Québec,



Newfoundland and Labrador, and First Nations and Inuit politics associated with that work. We knew that Maurice Duplessis had died in Schefferville because every newcomer was told this, but we had no real idea about who he was and what he represented. The McGill Sub-Arctic Research Laboratory, although located on the edge of a thriving mining town, was as much of an “expedition” as the one to Axel Heiberg Island.

We were rather like the early employees of the Hudson’s Bay Company, recruited in Scotland, brought into northern Canada, and taken out again without ever visiting the south. However, again, the difference was that, like the students on the Axel Heiberg expeditions, the vast majority of those associated with the McGill lab did stay and flourish, and contribute, in Canada and were remarkably influential in the evolution of arctic teaching and research here.

This particular, isolated, expedition-like existence, up north and down south, had direct effects on the ways in which we conducted our snow and ice research. Without the background in cold weather living, which my children and grandchildren take for granted, we tended to approach our research from first principles, re-inventing wheels or adapting, for example, ice drilling techniques or clothes that someone had brought from another country. Although understandable under the circumstances, with hindsight, I see that this also was presumptuous, as well as inefficient.

On Axel Heiberg, for example, we tended to use clothing and skis developed in the Alps. The skis were fine, but the clothing, including the boots, was not good in the April to June period, when temperatures were really low. We drilled holes in the glacier, thousands of them, some to 10 m depth, with a hand drill that extracted a few centimetres of ice at a time. I don’t know where this drill came from, certainly not from Canada, which was full of better drills. We did use a more or less state of the art US drill for extracting ice cores but, as far as I know, gave no thought to attaching a motor to it. We used the imported rear-engine “motor toboggan” described in Chapter 2. Through the staff of the weather stations on Ellesmere and Cornwallis islands, which were our points of entry to and exit from Axel Heiberg, we did get glimpses of real Canadian cold weather gear such as mukluks and parkas. But we did not adopt them.

By the time Jill and I and our kids arrived at the McGill Sub-Arctic Research Laboratory in Schefferville, we had lived for a number of winters as inner city dwellers in Montréal. This is not a bad place in which to learn about living in cold and snow. We quickly learned that Eaton’s parkas and rubberized urban mukluks were the only way to go. We had skied but had barely tried snowshoeing.

The climate of Schefferville (and of Montréal in midwinter) is much more severe than that of the four summer months in the high Arctic. As the McGill lab was a weather station, we were issued with federal (Department of Transport) gear, which had been developed by the Department of National Defence. As a good deal of our work was in very deep snow in the bush, we had to learn to use large snowshoes, some of military design but the best made locally by the Naskapi. We were introduced to good Canadian snow survey equipment, but our official ice survey hand drills were still very slow and primitive. Very intent on our research and living in relative isolation, we did not, even then, realize how ice drilling and over snow travel (we were in the home province of the snowmobile!) had advanced among, for example, the ice fishing fraternity of Schefferville.

By the time we arrived in Peterborough to start winter research in the Kawartha Lakes region, we were much better informed. However, those who have read this book to this point will realize that this was the first time, nine years after our arrival in Canada, that Jill and I had lived in a more or less normal way, in a real community in southern Canada. We had “next door” neighbours, our kids went to school all winter, we joined clubs and associations, and we experienced all the other challenges and opportunities of urban life, winter and summer. The impact on my research of our unusual, isolated lives to this point was brought home to me when I went to McKay’s Surplus, a father and son retail establishment north of Peterborough, near Lakefield. At this time, I was putting together sets of cold weather gear and equipment for our classes at Trent and for local schools. To do this, I was corresponding with contacts in the North about mukluks and parkas, weather service ice drills, and the like. But I had still not thought of consulting our neighbours. I needed a large saw for cutting blocks of ice out of lakes. Someone recommended McKay’s. I asked one of the McKays for “a cross cut saw with a



handle at one end, ideally without thickening at the end without the handle.” (This was a case of thinking from first principles, as I knew that the end without the handle had to slide through the slot cut in the ice). Mr. McKay asked me what I wanted this for, and I mentioned the ice blocks. He said, “Oh, you mean an ice saw.” He then took me behind some of his piles of surplus and showed me a number of brand new ice saws with, nearby, equally new large tongues for lifting the blocks out. He then showed me a variety of ice drills, of various diameters, with and without power. He did a brisk business in these things with ice fishers and cottagers of the Kawartha Lakes. He also had parkas, mukluks, snowshoes, and other cold-weather gear.

One afternoon at McKay's Surplus taught me more about making holes in lake ice than a year of “expedition” life. In talking about this to neighbours in Peterborough, I quickly came to realise that this ice technology, which they took for granted, was based on that used in the truly huge ice block industry, which preceded mechanical refrigeration. (See, for example, Weightman, 2003). The basics of this industry were common knowledge across Canada, not just among ice fishers. A few years later, a couple of Trent students received national science awards from the Queen and Pierre Trudeau for their lake ice research. Trudeau spent several minutes chatting with our students about the best ways of stimulating ice growth on lakes and of harvesting blocks from them. He had personal experience of commercial lake ice operations.

The wheel has been re-invented in science far more often than most researchers care to admit. Today, the Internet provides rapid access to the experience of past researchers, but, even now, people tend to pursue their enthusiasms within the confines of their particular circle or academic silo.

I hope that I have made my point about “presumptuousness” but one more example. When well established at Trent, I was invited by the Royal Canadian Institute (RCI) to give a public lecture in Toronto about our snow and ice work. Today, the RCI does fine work in popularizing science. However, talking to its officers and my colleague Al Brunger, I discovered that it was founded, as the Canadian Institute, in the mid-nineteenth century as the learned society of Canada. Its founder was Sandford Fleming,

a very distinguished Canadian who lived in Peterborough, after whom our local college is named. For half a century, it held academic meetings and published several series (whole series!) of scientific journals. Those series of journals eventually ceased publication, to be replaced by the myriad of journals we have today. In the RCI journals, for decades, papers on lake ice, snow, glaciers, and the like were common and popular. Those papers included reports on work in the Peterborough and Kawartha Lakes region, including reports on the lakes on which we work from Trent (see Adams, 1992c, 1993). This was the equivalent of my academic world, over a hundred years before Trent was founded. People just like me, my colleagues, and my students were struggling with problems of ice research in the Great Lakes and St. Lawrence and in the near North (including work of the then youthful Geological Survey of Canada), while Franklin was getting lost in the North West Passage. A fine contribution to this International Polar Year would be to put the Canadian Institute journals on the Internet so that they become part of Canada's collective scientific memory. They will strengthen our pride as a polar nation. Trent has a full set of them.

Political

Experience as the MPP and MP for Peterborough

Even though Pierre Trudeau was mentioned a few paragraphs ago (and Jean Chrétien and Brian Mulroney were mentioned earlier) and even though I am a recovering MP, recently retired, this is not a political book. However, there are strong political underpinnings to the developments in “Northern Studies” in Canada which this book is about. Also my experience in cold weather and polar research and the North clearly influenced me as an MP. And, that being so, I like to think that some of my parliamentary work had positive effects on college and university teaching and research in Canada, including that related to the North, and on the quality of life in Canada's North.

I corresponded with Jean Chrétien and worked with former Peterborough MP Hugh Faulkner long before I had any interest in running for parliament. Both held the position of Minister of Northern Affairs. The



correspondence dealt with environmental issues but mainly focused on early ideas for a "University of the Arctic" (Graham, 1994). I had no idea that I would one day serve in parliament with Jean Chrétien. While I was MP, the international University of the Arctic (Adams, 1998a, 1999) was founded under the aegis of the Arctic Council. This Council includes the eight northern polar nations and major circumpolar aboriginal groups. It was inaugurated in Ottawa at a meeting chaired by Lloyd Axworthy, then Minister of Foreign Affairs. Canada's influence was important in the founding of the Arctic Council, particularly with respect to persuading the US (Alaska) to become involved. Lloyd also took an active interest in the University of the Arctic. (For more information, consult Chapter 3).

The existence of the Arctic Council is something that makes this International Polar Year quite different from previous ones. The northern polar nations do now talk to each other. And Canada is a major player among them.

In the House of Commons, I was chair of the Government Caucus on Post Secondary Education and Research (Adams, 2001). This caucus was influential in redesigning and strengthening federal involvement in higher education and research under the Chrétien-Martin governments, in the change in the federal approach to higher education. The involvement of the federal government in all aspects of lifelong learning is now accepted across the country, which was not the case when we were elected in 1993. The federal government and, equally important, parliament now deal with colleges and universities on a fairly systematic, continuing basis. The research and teaching system of Canada, at the college and university level, is in reasonable shape and appears to be reasonably self-sustaining. Today, the academic community, including the polar research groups, is a bit more conscious of the political implications of its heavy dependence on the public purse, but it still is far from being as effective at lobbying as other sectors of society (Adams, 2006, 2007). I believe that there is a need for a more effective national umbrella body for higher education and research in Canada, but that is a topic for another time. However, there is an urgent need for such an organization in the case of Arctic teaching and research. Our responsibilities in the

North are national responsibilities that cannot be addressed by the provinces and territories separately. I hope that one of the contributions of this International Polar Year will be the development of an effective national body to focus polar interests in Canada.

Our caucus had a polar research arm, chaired by Karen Kraft Sloan, who later became Ambassador for the Environment. Nancy Karetak-Lindell (MP for Nunavut) Clifford Lincoln, and Charles Caccia, the last two unusually experienced parliamentarians, were key members of that group. We supported the creation of the post of Ambassador for Circumpolar Affairs, held first by Mary Symon and then by Jack Anawak, both Inuit. Sadly, in this International Polar Year, this post no longer exists. Jack was MP for Nunatsiuk before that part of the old NWT became part of Nunavut; later, he was a councillor and minister in Nunavut. While he was in parliament, the Standing Committee on Environment studied and revised the Canadian Environmental Protection Act. The committee's report (*It's About Our Health! Towards Pollution Prevention*, 1995) has an excellent section on the North and the new act was the first to include traditional knowledge as well as current science in environmental regulations. The committee was chaired by Caccia, with Anawak, Kraft Sloan, Joe Jordan, Lincoln, and myself, all with polar interests, among the members. The Government Caucus on Post Secondary Education and Research also lobbied for such things as the Polar Continental Shelf Project (the arctic field research support system described in supplemental endnote No. 3), NSTP funding (supplemental endnote No. 5), the Canadian Polar Commission, northern research chairs, the research ice breaker (now a focus and symbol for polar research in Canada), the University of the Arctic, national parks in the North, funding for the International Polar Year, and other initiatives.

We supported David Anderson, Minister of the Environment, in his efforts to strengthen Canada's roles under the Antarctic Treaty. The Antarctic Environmental Protection Act (see Adams, 2003) was a small step forward in this regard. I mentioned earlier that I believe that Canada should be more involved in Antarctica, on moral grounds and out of self-interest. Many Canadian researchers and students now work in Antarctica, but they all work with other nations that, unlike Canada, are full members of the Antarctic Treaty. Our Twin



Otters, snowmobiles, and mukluks are widely used there. Canadians are heavily involved in Antarctic tourism. Yet we are still not full-fledged members of the Antarctic Treaty organization. We badly need a more effective national focus on Antarctica and a national commitment to it through the Antarctic Treaty. This is an organization that has proved to be remarkably effective for science and the global environment. It also survived the Cold War as a mechanism through which the USSR and the USA maintained reasonably civilized contact with each other. Again, this would be a fine contribution from Canada during this International Polar Year.

One of the more notable achievements of my time in the House of Commons was the stream of settlements of claims or similar agreements with First Nations and Inuit people, in the territories and some provincial norths. These settlements form the greatest change in Canada's North since the last International Polar Year. The division of the old NWT and the creation of Nunavut (within which Axel Heiberg Island, so prominent in this book, is located) was perhaps the most dramatic of these achievements. However, the agreement with the Labrador Inuit and the wonderful evolution of Nunavik (the home of the Québec Inuit), under an earlier agreement, were of great interest to me because of our early life and work in Québec-Labrador. I was one of a group of MPs who visited communities in Nunavut studying the justice and health systems (Adams, 1998b). This group was led by the late Shaugnessy-Cohen, a lawyer, and Carolyn Bennett, a physician. During that tour, I met the mayor and council of Resolute whose parents and grandparents had been relocated there from Québec just before my first visit in 1959. I played volleyball with them! Later, I was able to visit and work with the thriving people of Nunavik in northern Québec, the original home of the people in Resolute and home of Mary Symon who is mentioned at various points in this book. Québec-Labrador was, of course, the focus of McGill and Trent work from the McGill Sub-Arctic Research Laboratory, which features so largely in this book.

I was fortunate to be in the same caucus as a number of fine parliamentarians who represented northern ridings including, in the Territories, Jack Anawak, Nancy Karetak-Lindell, and Senator Willy Adams (all Nunavut); Ethel Blondin Andrew (NWT); and

Larry Bagnell (Yukon). Notable representatives of provincial northern regions included Bill Romkey (see Romkey, 2003), Todd Russell and the late Lawrence O'Brien (all Labrador), Guy St. Julien and Senator Charlie Watt (Nunavik), and Elijah Harper (Churchill, Manitoba) and Rick Laliberte (northern Saskatchewan). This list includes Inuit, Métis and First Nations Canadians. At the beginning of this book, residents of the Northwest Territories could not vote and had no federal representation, and First Nations and Inuit people in general had little representation in parliament. In this and other respects, Canada's North is a very different place during this International Polar Year than it was in the International Geophysical Year of the 1950s. And our capacity for northern sovereignty is the stronger for it. There is still much work to do here.

I was a member of the Standing Committee of Parliamentarians of the Arctic Region, the parliamentary arm of the Arctic Council mentioned earlier. Through this group, elected officials of the eight arctic nations and of major northern aboriginal groups talk to each other and to non-northern nations with polar interests, who have observer status on the Council. For my last couple of years as MP, I followed Clifford Lincoln as Canada's representative to that group (Adams, 2005a, 2005b, 2005c). During that time, one of our activities was the development of the international, Arctic Climate Impact Assessment study (ACIA, 2004), which resulted in worldwide awareness that the Arctic is indeed the canary in the mine as far as climate warming is concerned. The impacts of global warming are greatest and are felt soonest at high latitudes. In addition, and this was the great value of the ACIA study, because of the involvement of snow and ice surfaces and permafrost, the effects of climate change are much more clearly visible in polar regions than elsewhere. Images of effects of warming on animals, including humans, vegetation, and snow and ice covered land and water, which were generated by this study, had great resonance around the world, and they continue to be influential. Popular presentations on climate change, like that of Al Gore (Gore, 2006), which are having such a great influence on public opinion during this International Polar Year, invariably include polar images. Global warming is a key focus for the planning of this particular International Polar Year. In the context of the development of arctic science and technology, described in this book, it is



interesting to note the involvement of researchers from Trent and McGill, along with many other homegrown Canadian researchers, in the ACIA study and in activities associated with the International Polar Year, around both poles.

The Evolution of Canada's Capacity as a Sovereign Polar Nation

Although very personal, this book is about the evolution of "Northern Studies" teaching and research in Canada during the last half of the twentieth century. The evolution is viewed through the lens of the life of one person and family, and three organizations, the McGill Sub-Arctic Research Laboratory, the McGill Axel Heiberg expeditions, and the Department of Geography, Trent University.

The book spans the interval between the "third International Polar Year" (actually, the International Geophysical Year of 1957–1958) and the current International Polar Year, 2007–2008. In addition, it can be read as an illustration of Canada's progress as a sovereign polar nation during those years.

At the start of the book, in the 1950s, most research in the Canadian North was conducted by a very small number of people, mainly employed by federal agencies with very limited university involvement. There was no postsecondary education in the Canada's northern territories. There was still a strong official American presence in our North, and the Soviet Union was active in the Arctic Ocean, including Canadian parts of it. Then, as now, there was widespread concern about Canadian sovereignty in the North. At that time, this concern was driven by the ability of foreign nuclear submarines to operate undetected in Canadian Arctic waters (this is still true today) and by the distant prospect of oil in our high Arctic. The first satellites were launched, ushering in a totally new era of polar research and navigation, an era in which the North was opened up as never before. In the universities of Canada, expatriates dominated what northern research and teaching there was, and this research was strongly centred at one university, McGill. Graduate students were systematically recruited from overseas. The northern territories, then the Yukon and the old NWT, were federal jurisdictions in which most residents could not vote.

At the international level, during the International

Geophysical Year of 1957–1958, Antarctica was traversed by a team of scientists, and, soon after, the Antarctic Treaty was ratified successfully setting that continent aside for peaceful, cooperative scientific activities. Canada signed the treaty but is still not a full participant in it. As I have said, I believe that this International Polar Year provides a good opportunity to change this. Canada also supported the International Law of the Sea, arguably another outcome of the IGY, thereby claiming and accepting responsibility for a 200-mile marine zone in all three of our oceans. This was an important step in asserting northern sovereignty. However, we only recently (November 2003) ratified in full this agreement (known more formally as the United Nations Convention on the Law of the Sea). We should have done this much earlier.

Today, more than forty Canadian universities and many colleges are active in northern studies teaching and research, with major centres at Laval, McGill, and the University of Alberta. Each of the northern territories, now the Yukon, the Northwest Territories, and Nunavut, has a well-established college, and there is a strong university and college presence in the northern parts of the provinces. The international University of the Arctic has been established, with Canada as a founder-partner in it. Federal agencies are still major players in northern research, but they work closely with territorial and provincial counterparts, First Nations and Inuit groups, the private sector, and the universities and colleges. The current International Polar Year is notable in Canada for the involvement of First Nations and Inuit in it and for our in-house capacity in polar science and technology. There is renewed concern about sovereignty in the North, now driven by climate change because surface vessels are able to penetrate our increasingly open northern waters and by quite immediate prospects for oil and gas.

During the period covered by this book, travel to and from and within the North has become simpler and safer. Even more strikingly, communications with and within the North have been transformed. In the 1950s, communication even with well-established high Arctic bases was always dicey and was subject to prolonged periods of absolute blackout. These changes are important in terms of the governance of the North and the well-being of northern Canadians. In terms of Arctic



teaching and research, these changes allow data of all sorts, including visual images and voice communications, to be exchanged in real time between an isolated field worker and his or her university. Satellite images of the polar regions appear regularly in the popular media as well as being the basis for sophisticated research. Short visits, automated stations, and remote sensing have replaced the extended expeditions of the past.

The story line of the book is developed around three pioneer organizations, the McGill Sub-Arctic Research Laboratory (founded 1954 in central Québec-Labrador), the McGill Axel Heiberg expeditions (to the high Arctic, beginning in 1959), and Trent University (founded in 1963 in Peterborough, Ontario), a pioneering institution in various spheres, including northern studies. Its Department of Geography, the sample of Trent's northern activities used in this book, was not founded until 1968.

With hindsight, the McGill lab was most ahead of its time in transforming northern teaching and research in Canada. One of the ways in which the federal government worked to open up the North in the 1950s was by establishing a network of weather stations. As is described in the book, the influence of these on, for example, travel, communications, and research in the North was remarkable. McGill effectively took over one of those weather stations to form the McGill Sub-Arctic Research Laboratory as a remote base for teaching and research. This allowed "southern" students to live, study, and work in the North, year round. Although many of those students were recruited from overseas, once imprinted by the North, most completed their education and stayed in Canada to become very influential in polar work. This critical change in university practice helped kick-start the changes in Arctic teaching and research that have been such a feature of the last 50 years.

Again with hindsight, the Axel Heiberg expeditions were both the end of the era of "real expeditions," when people spent years in the field, and the beginning of an era in which undergraduate and graduate students were deliberately taken into the North, for relatively short periods, in an academic environment. This approach also resulted in students being recruited overseas but staying in Canada to pursue polar work.

Trent University was a new, modern university of

the 1960s, a decade when many universities and colleges were founded in Canada and when the established universities were transformed. In this era, academic life in Canada was Canadianized. In the context of this book, the era saw the Canadianization of "Northern Studies." Trent is still a small university but, in this book, it forms an interesting sample of changes in higher education and the North. It was in the forefront of those changes from the year of its foundation. It has done more than its share in encouraging First Nations and Inuit students and in producing both a remarkable new generation of citizens with a deep interest in the polar regions and polar researchers who are involved in the current International Polar Year. Trent was one of the institutions that took this "Canadianization" to the undergraduate level and thence, very rapidly, into the elementary and secondary schools and out into the general public.

I am very conscious that this book presents only a sliver of a plank in the platform of northern education and research that has been constructed in Canada since the International Geophysical Year of the 1950s. For example, despite its title, the book is not really about McGill University and Trent University but rather about some of the activity in one department, the geography department, of each. But I think that this helps make my point—the activity of these, in the grand scheme of things, small organizations, illustrates just how far Canada has come in northern studies in recent decades.

Sovereignty, in the Arctic as elsewhere, is about responsibility. It has to be built on the will or desire of the whole nation, including those living in the North, to be a responsible custodian of the territory—land, air, and water—concerned. But desire or even passion alone is not enough. To be responsibly sovereign, a nation must have the capacity to fulfil its sovereign obligations. In our case, this capacity involves providing conditions within which people of the North can live rich, productive lives confident that they have the support of the whole country. It also involves developing a capacity to govern, to the highest international standards, the territory concerned, year in and year out, politically, socially, and environmentally.



In the modern era, the international dimension of Arctic sovereignty is more important than ever before. Politically, socially, and environmentally, responsible sovereignty involves constantly working and sharing with other sovereign polar nations (indeed, as concern about climate change has shown us, with all nations, especially those with polar interests).

I believe that, while there is still so much to do, Canada has made great progress as a sovereign Arctic nation since the International Geophysical Year of the 1950s. For example, fifty years ago, our North was in the midst of a polar war, and its government was, to say the least, paternalistic. Today, we are making steady progress in the governance of our North and, through the Arctic Council, we are speaking to our Arctic neighbours, including their aboriginal peoples. Also, more relevant to the context of this book, we have developed a strong, domestic, sustainable capacity in cold weather and polar science and technology—an essential tool for exercising responsible Arctic sovereignty.

Until now, I have tried to avoid mentioning gunships in the context of Arctic sovereignty. I truly believe that

the other aspects of sovereignty that I have tried to describe are the real foundation of “responsible sovereignty” in the modern world. However, while continuing to work on all those aspects, we are now at a stage where Canada’s presence in the Arctic deserves systematic attention. This includes thought about and action on policing the North, air/sea rescue in the North, environment response capacity in the North and military capacity.

I suspect that the ideal here would be to develop a new body within Confederation, one with quite special national and international influence and power.

Be that as it may, I have a growing sense that systematic national action, on all polar sovereignty fronts is becoming urgent. Climate change and technological advances have brought “our” remote Arctic within reach of the whole world. We are responsible for one of the most vulnerable parts of the globe.

Canada has become a responsible sovereign polar nation. We should use this International Polar Year to further strengthen our capacity to meet our responsibilities in the polar regions.

