Polar Research:
Let Us Share - *Amiqqaaluta*

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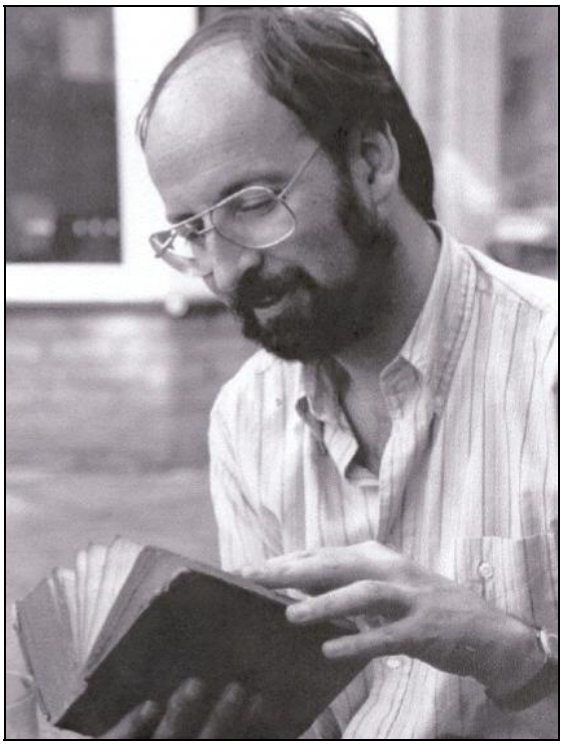

William Mills, Librarian and Keeper of Collections, Scott Polar Research Institute, the University of Cambridge, was a great supporter of polar libraries and research. He was always generous with his time. Many of us benefited from his advice and support. William was also an energetic booster of the Polar Libraries Colloquy, serving for many years as Secretary-Treasurer. William was a wonderful colleague. Many of us were lucky enough to call him Friend.

William passed away on May 8, 2004. He will be sorely missed.
These proceedings are dedicated to William.

Photograph by Kevin Fleming

Table of Contents

Notes From A PANEL DISCUSSION: Traditional Ecological Knowledge

The Northern Contaminants Program: a Catalyst for Action

Liseanne Forand
Assistant Deputy Minister, Northern Affairs
Indian Affairs and Northern Development Canada

• Introduction

On behalf of the Government of Canada, and more specifically Indian Affairs and Northern Development Canada, it is my great pleasure to welcome all of you to Ottawa.

Canada is very proud to host this special 20th anniversary colloquy. I must add that it is a personal privilege for me to address such a distinguished group from across Canada, the United States and Europe. As you share your experiences of polar research over the next five days, I hope that the experience is stimulating, informative and enjoyable.

For my part, I want to share a success story with you this morning.

It is the story of an achievement: how research on the impact of industrial and agricultural chemicals in Canada's North has led to international action.

But it is also the story of a process: how a partnership between the Government of Canada and Aboriginal people has enabled us to produce the research that is, literally, changing our Arctic environment.

• A Pristine Landscape Threatened

It has been said that a Canadian tourist in Europe wants to visit a place that is bathed in history. A European visiting Canada, on the other hand, wants to go where no one has ever been.

It is a cliché, of course, but I do think it speaks to a certain perception of Canada. Certainly, compared to Europe, Canada is largely uninhabited, especially our North. The territory of Nunavut, for example, is a vast landscape of two million square kilometres populated by some 29,000 people.

Alongside their perception of vast open space in our North, many people -- even Canadians -- still hold on to the belief that this landscape is pristine and untouched. With so few people on the land, how could it be otherwise?

Yet sadly this is not the case. At the end of the 1980s, Canada was among several countries that began to identify contaminants in the Arctic ecosystem, including heavy metals, radionuclides and persistent organic pollutants, or POPs.

Many of these contaminants were found far from known sources. Clearly, they were coming from outside the Arctic. And yet they had managed to find their way into the food chain.

Worse still, some of the highest levels of contaminants were found in marine mammals, which are an essential part of a traditional Inuit diet. When studies showed relatively high levels of polychlorinated biphenyls, or PCBs, in the blood and breast milk of Inuit, the alarm bells went off.

• The Northern Contaminants Program

To co-ordinate Canada's response, we set up the Northern Contaminants Program, a comprehensive partnership led by Indian Affairs and Northern Development Canada that involves two other federal departments, three territorial governments, Aboriginal organizations and university researchers.

The program has two main goals: to determine the extent of contamination and the implications to people living in the North, and to communicate these results to northerners; and to determine where contaminants are coming from and to seek international controls.

I would like to paint a picture for you of our work, our major findings, and the importance of partnership to achieve our results. Afterwards, I will talk about the program's impact on international policy.

The program has produced a wealth of research into the nature of contaminants in the northern atmosphere. We have examined the impact of contaminants on everything from marine mammals like beluga whales, to land mammals such as caribou, to freshwater fish like trout. We have also looked at how contaminants affect lake sediments, the marine environment and plant life.

I would like to highlight some of this work, but with another 750 research publications produced by the program, there is a lot to choose from. I am going to focus on the impact on human

health because it shows the need for ongoing research and inclusive partnerships with Aboriginal people.

- **Highlights of Our Work**

The Northern Contaminants Program has found that some northern communities are exposed to many contaminants such as POPs and mercury, primarily through traditional diet. However, traditional diet is also known to be extremely healthy. This apparent dichotomy is crucial to developing appropriate advice on their health and food use.

Let me say a few words about traditional food, also known as *country food*. The traditional diet varies among regions and indigenous groups. Yukon First Nations, Dene and Métis, for example, tend to eat more moose, caribou and whitefish. Inuit, in certain regions of Nunavut and northern Quebec, eat a lot of marine mammals, caribou and Arctic char, whereas Inuit in Labrador eat caribou and trout.

Research shows traditional foods have more nutritional value than food purchased at a store. One study found that on the days when people eat traditional food, they eat less sugar and consume more healthy types of fat, as well as more vitamin E, iron and zinc. But the benefits of a traditional diet go beyond providing better nutrition. Traditional foods also help people fight illness, injury and disease. Vitamin E, for example, may help protect people from the effects of contaminants such as PCBs.

Moreover, because harvesting traditional food is physically demanding, it helps people stay fit as a community, and preparing, sharing and consuming these foods are also important, helping people feel part of a group, and reinforcing their culture. This is especially important for young people, who learn skills they need to live off the land, and who develop leadership qualities such as responsibility, patience and respect.

Another important consideration is economic. Because market foods are more expensive, most Inuit, Yukon First Nations, Dene and Métis are not able to feed their families with store-bought food alone. They harvest traditional food partly out of economic necessity.

There is no simple formula to balance the benefits and risks of consuming traditional foods. Instead, the program examines the various perspectives -- health, cultural, social and economic – and tries to deal openly with the complexities.

Our early research found that the many benefits of consuming traditional foods outweighed the known risks, and this message was conveyed to all northerners. New research, however, revealed some disturbing trends that have changed that message. In Quebec's Arctic region of Nunavik nearly 80 percent of mothers have levels of mercury in their blood that exceed new guidelines set by Health Canada. In some communities, up to half of the residents take in more of several toxic chemicals (chlordane and toxaphene) each day than they can tolerate safely. And the blood levels of nearly three-quarters of Inuit women from Nunavut and Nunavik exceeded guidelines for PCB blood levels, some up to five times higher than accepted levels. In fact, PCB levels in the milk of Inuit women are among the highest recorded in the world.

Researchers followed the development of Inuit children who were exposed to PCBs and mercury in the womb. We now have some evidence that this exposure may delay the development of the nervous system, lower resistance to respiratory and ear infections, and create behaviour problems that can last into the teenage years.

As of last year, health authorities advised that women in some Inuit communities who were pregnant or of childbearing age, might wish to eat less-contaminated country foods. For example, they could cut back on eating the blubber of marine mammals and eat more Arctic char and caribou, which are less contaminated. This was a dramatic shift from earlier messages; it was important that the new advice reached the women who needed to hear it.

That leads me to how these messages get out to northern Aboriginal communities

- **Knowledge in Action**

In all of our research, the program relies on close consultation with Inuit communities. Initially, we sat down with our Aboriginal partners and developed guidelines for responsible research. Our goal was to involve northern communities as partners in research - from the initial stages of project design to communicating findings throughout the process.

Communication and education are critical components to the program. To that end, we developed a network within each region and territory that links communities and individuals to the national structure.

We have several ways to reach the community:

- We develop materials for the classroom. These were initially produced by the Métis Nation in the Northwest Territories, who worked with teachers, school boards and the territorial government, as well as school children.
- We set up training courses for frontline workers in northern communities, including health workers and Elders. We have trained 100 front-line workers in Labrador, Nunavut and the Northwest Territories, and evaluations have shown these courses have greatly increased the awareness of contaminants at the grassroots level.
- We conduct community tours. A small group composed of Aboriginal people, health experts and scientists talked to people about contaminants in nearly 50 different communities in the Northwest Territories and Nunavut. This approach was also very successful.
- The Dene Nation suggested the idea of retreats for Elders and scientists. We held four retreats, which allowed participants to learn more about what traditional and scientific knowledge had to offer each other, and to build personal relationships.

Our approach constantly evolves, and we are always looking for better ways to communicate our message. One important innovation has been the introduction of Regional Contaminants Co-ordinators. In many cases, the co-ordinators are local people who not only manage research projects, but also represent the program at the community level, and whose knowledge of the local culture and language helps them develop trust within their communities.

For example, a few years ago the regional co-ordinator was involved in a community tour of Inuvialuit. Throughout the tour, many communities had questions about the relationship of contaminants to global warming, as well as oil and gas development. The regional coordinator was able to explain the issues plainly, in their own language, which helped alleviate some of the fears.

It is easy to understand people's apprehensions. Because food chain contamination is not a black and white issue, our health messages can seem ambivalent. On the one hand, we tell people that eating traditional foods carries risk, but on the other, we tell people it protects health and well-being. And when the messages change, as they have for women of childbearing age, it is no surprise that people become uncertain and distrustful. Given this dilemma, we are constantly questioning our communication methods.

In one project we held community dialogues to interpret the benefits and risks of diet from an Inuit perspective. We also looked at how best to communicate the data so that Inuit could make informed decisions about eating traditional versus market foods. Ultimately, the project used everything from regional workshops and community tours to radio phone-in shows and a Web site. Sometimes a project simply tries to spark dialogue. In one case, Aboriginal people created a fabric wall hanging to show how the contaminant issue affected the Arctic marine food chain that supports polar bears. The tapestry travelled to local, national and even international meetings and gatherings.

The tactile, hands-on approach can work particularly well with children, who are a key target audience. In one project, the program launched a contest that encouraged children and youth to create posters that expressed what they knew about contaminants. Not only was this approach a creative learning tool, it helped teachers measure how well the students understood the issues. So in this contest, everyone was a winner.

Our research is having an impact on people's lives. It is giving them the tools to make informed decisions about their lifestyles, but clearly, this is only part of the answer to the problem of contaminants. The long-term solution is to stop the contaminants from entering the environment in the first place.

This brings me to the final part of my presentation this morning: the impact of our work on international policy.

- **Impact on Policy**

By 1989, Canada and several Arctic countries were trying individually to get the international community to address the issue of these contaminants. It was slow going at first. Only the Convention of Long-range Transboundary Air Pollution showed any interest. Finally, in 1991, after Canada and Sweden presented a paper to the Convention and international Environment Ministers, the Convention set up a task force led by those two countries to gather more evidence and evaluate the need for action.

In 1994, the task force presented a compelling argument for controlling persistent organic pollutants, or POPs, to the members of the Convention. A year later, Canada was leading a working group to prepare a draft protocol that included Canada, Europe, the United States and the states of the former Soviet Union. Last October, I am proud to say, the "Aarhus" Protocol on POPs came into force, and now controls sixteen POPs.

But that is not the end of the story. Throughout the 1990s, in addition to working on the Aarhus Protocol, Canada pushed for further action on contaminants, which continued to draw on research produced by our program. By 1998, the evidence was irrefutable. An international negotiating committee under the United Nations Environment Program was set up to prepare a legally binding agreement on POPs that would have truly global reach. The international community reached an agreement in Stockholm in 2001. I am proud to say that Canada was the only country to both sign and ratify the new Convention at that Stockholm meeting.

And, to bring you right up-to-date, I can tell you that the Stockholm Convention on Persistent Organic Pollutants came into force last month. It immediately targets twelve particularly toxic POPs for reduction and eventual elimination. More importantly, like the Aarhus Protocol, it sets up a system for tackling additional chemicals. It also channels resources to cleaning up existing stockpiles and dumps of POPs. Ultimately, the Convention points the way forward to a future free of dangerous POPs.

I have spoken already about the critical role of Aboriginal people in developing the research. They played an equally important role on the international stage, both as members of the official Canadian delegation and as leaders in parallel meetings with other like-minded indigenous groups. The Canadian Arctic Indigenous Peoples Against POPs made sure the needs of both the Arctic and Aboriginal people were prominent during negotiations, through their own words, but also through symbolic gestures. At one point, they presented negotiators with a carving of a mother and child -- a powerful reminder about what was at stake, and why it was imperative that negotiators had to work hard to reach an agreement.

The Stockholm Convention and the Aarhus Protocol are living agreements that require all parties to live up to their commitments. To that end, they call upon the parties to cherish the value of science as a tool to help them reach consensus for national and international policy. They also call for a high degree of transparency, inclusiveness and willingness to understand the positions of others.

For all these reasons, the work of the Northern Contaminants Program will continue to be important. There is still much more to know about the impact of contaminants, and how to communicate the associated risks effectively. We must continue to research these areas, and to share our best practices with others, while we must continue to work in a spirit of partnership with Aboriginal people.

- **Conclusion**

Ladies and gentlemen, I have given you a whirlwind tour this morning of the Northern Contaminants Program – a Canadian success story with international ramifications.

This partnership between the Government of Canada and Aboriginal people has enabled us to produce research that helped sparked the world to action on contaminants. It is helping to improve the environment in our Arctic for ecosystems, flora and fauna, and humans alike. Through our research, we are helping people make informed decisions about their traditional lifestyles today, and we are laying the groundwork for a world where the next generation of Inuit will be protected from the impact of these contaminants.

I know that you are anxious to share your own stories of successful polar research. So let me end now by thanking you for coming to Ottawa for this conference, and by wishing you all the best in your discussions.

Together, through research, we can make a difference in the Arctic.

Remembering William James Mills
14 August 1951 – 8 May 2004

David Walton

It is always difficult to sum up a friend's life in just a few words, more especially so when their lives seem to have been cut short just when their greatest achievements have come. So it is with William, a friend and colleague to many both in the UK and throughout the world. In the fifteen years he had been Librarian at the Scott Polar Research Institute (SPRI) he had achieved an amazing range of changes and improvements, but there was still more to come as the ideas continued to bubble to the surface.

William was born in Hitchin, Hertfordshire in 1951, and grew up in Oxford. He chose to go to Cambridge for his university education and read geography at Emmanuel College. After graduation he decided to try teaching, but that soon proved to be the wrong choice so he then trained as a librarian. Clearly finding an aptitude for this career, he went first as a librarian to the Geography Department in Oxford University and then moved to Aston University in Birmingham.

When Valerie Galpin left the SPRI in 1989, William, who was looking for a change, applied for the post with little hope of getting it as he knew very little about the polar regions. Presumably the other candidates knew even less, and his enthusiasm carried the day. It turned out to be an inspired change of focus. William was a quick learner and soon realised that the Polar Regions had awakened a deep and lasting interest in him that made the job his life.

In the 15 years he spent as Librarian, and later as Keeper of the Collections, he brought about major changes in the library in many areas, all ably documented by Shirley Sawtell in this volume. Perhaps his most outstanding achievement was the development of the Shackleton Library along with the Director Dr John Heap. The building is architecturally innovative, and provides a wonderful working environment with much needed extra shelving for the growing collections.

While all this dwells on his professional career, there was a much more important and fundamental shift in William's personal life when, visiting the Antarctic as a cruise ship lecturer, he chanced to meet a young Taiwanese woman and fell in love. For his cremation service, William had chosen a passage from the poem *Prospice* by Shackleton's favourite poet Robert Browning, which remembered that meeting when they had visited the explorer's grave in South Georgia together.

Prospice

I was ever a fighter, so - one fight more
The best and the last!
I would hate that death bandaged my eyes, and forebore,
And bade me creep past.
No! let me taste the whole of it, fare like my peers
The heroes of old,
Bear the brunt, in a minute pay glad life's arrears
Of pain, darkness, and cold.
For sudden the worst turns the best of the brave,
The black minute's at end,
And the elements rage, the fiend-voices that rave,
Shall dwindle, shall blend,
Shall change, shall become first a peace out of pain

William's life changed rapidly with marriage in 1999, especially when the first child Jacquie arrived. The twins Tony and John followed her 18 months later. While previously he had got up early in the morning to work on a book or paper, or practise his lute playing, early mornings now meant looking after the babies!

In the latter part of 2003 the cancer he thought he had fought and overcome returned with a vengeance and proved untreatable. He bore his fate with philosophical dignity and set his heart on achieving two goals before he died. The first and easiest was to see publication of the book *Exploring Polar Frontiers – a Historical Encyclopaedia* that he had laboured over for so long. (See Shirley Sawtell in this volume for details of William Mills' publications.) I am sure that many others will sing its praises anyway and it has already won an award from the Alaska Library Association.

Suffice it to say that even after 35 years in polar research I found a great deal in this work that I had never heard about before. In this book, written in his clean, clear and understated style, William has left a major and lasting memorial to his scholarship and passion for the Polar Regions.

The second objective was to move his family out of the house in the centre of Newmarket to live in a small village outside Cambridge. Despite his illness and with a great deal of help from his many friends, this goal was achieved.

I had known William since he first came to SPRI, not least because of a shared passion for polar literature. We normally shared a room at the Colloquy (and I can therefore state with conviction that he really could snore!); we sat on committees together; we met at many social occasions; and as I am the person responsible for the British Antarctic Survey grant for the library, we agreed to a work plan on Antarctic literature each year.

In his memory, the Friends of the Scott Polar have established the William Mills Library Acquisitions Fund to continue to add to what for William and many others is the best polar library in the world. A glacier flowing down into the Ronne Ice Shelf in the Antarctic was also recently named in his honour.

He was a thoughtful, kind and caring person, unfailingly polite and courteous, amusing and enthusiastic, dedicated to his family and the library and eccentric in what can only be described as a "Cambridge way"!

He helped many people in his different roles, including those he undertook for the Colloquy. We shall all miss him in many and various ways, but none more so than his young family. Our thoughts must surely go out to Dion and the children whose time with him was far too short.

I told him in February that we would be dedicating this Colloquy to him in recognition both of his many achievements and because his many friends across the world wanted to do this. He has left us with our personal memories as well as all his writings and the ideas he brought to fruition. It is a life well worth celebrating.

The Contribution of the Scott Polar Library With Special Reference to the Work of William Mills, Librarian and Keeper of the Collections.

Shirley Sawtell
Information Assistant.
The Scott Polar Research Institute Library
The University of Cambridge

- **Introduction**

I am dedicating this paper to the memory of the work of William Mills, Librarian and Keeper of the Collections at the Scott Polar Research Institute, who sadly, died in May 2004. William graduated in geography from the University of Cambridge in 1973. After an initial period as a teacher, he qualified in librarianship, working as an information specialist at Bristol Polytechnic and Aston University before being appointed to the post of Librarian at the Scott Polar Research Institute in 1989. William was also the North American Bibliographer, and worked closely with many Polar Librarians through the Polar Libraries Colloquy.

In an article in the *Easterner* published in 1999, William wrote:

The Scott Polar Research Institute was founded in 1920, as a memorial to Captain Robert Falcon Scott, RN, and his four companions who lost their lives on their return journey from the South Pole in March 1912. The collection and making accessible information about the polar regions lay at the heart of the Institute's founding concept, dreamed up by two members of Scott's last expedition, when sheltering from a blizzard on the slopes of Mount Erebus. Frank Debenham and Raymond Priestly believed that too many mistakes were continuing to be made by Antarctic and Arctic expeditions simply because there was no place where planners of such expeditions could go to find out what had already been learned. SPRI'S aim was to provide such a place, which it did initially in the loft of the Sedgwick Museum of Geology and subsequently in its own premises on Lensfield Road, where the beautiful building was constructed in 1934, extended in 1968 and most recently further extended by the addition of the Shackleton Memorial Library in 1998.

The central role played by the library and archives in the Institute's life is demonstrated by the proportion of space occupied. Most unusually for a research institute, about two-thirds of the total space is taken up by theses facilities, since the library serves not just SPRI'S own researchers, but those of the world. Indeed, one of the great joys of the Institute is the opportunity to meet scholars from the world's most distant regions. Today, whilst a few still come to plan expeditions, most come to carry our scientific, historical and social research. In addition to providing the world's premier polar information centre, the library also houses the World Data Centre for Glaciology (Cambridge) with special responsibilities for the provision of information to British and European glaciologists; the Thomas H. Manning Polar Archives containing the world's finest collection of unpublished material relating to the polar regions; and a Picture Library with an outstanding collection of photographs, both historic and contemporary.

The strength of the Library lies almost as much in the detail of its long-established cataloguing practice as in the size and coverage of the collection itself. Since the foundation, publications have been catalogued at the analytic and not just main entry level. Each provides sufficient bibliographic information for identification and location of the source document, together with brief abstract and appropriate index numbers derived from the Universal Decimal Classification for Use in Polar Libraries developed and maintained by SPRI Library, and used by many other polar libraries. All cataloguing, indexing and abstracting is carried out by specialist bibliographers possessing a range of linguistic, regional and subject expertise. Since 1985 all records have been in SPRILIB, an in-house database. SPRILIB records are available commercially on the NISC Arctic and Antarctic CD Rom. An abstracting journal Polar and Glaciological Abstracts *is published quarterly by the Cambridge University Press. A range of other Library services are provided through the Institute Website* www.spri.cam.ac.uk *including directories of polar organisations and museums with polar collections, in addition to SPRILIB Antarctica.*

SPRI Library is a departmental library of the University

of Cambridge. Its work is supported by grants from the NERC British Antarctic Survey, the Ministry of Defence, the Foreign and Commonwealth Office, the government of Australia and from private companies and individuals. The World Data Centre for glaciology (Cambridge) is funded by the Royal Society.[1]

- **Polar and Glaciological Abstracts.**

In 1990, not long after William became Librarian of the Scott Polar Library, the library's abstracting journal *Recent Polar and Glaciological Literature* became *Polar and Glaciological Abstracts* (PGA). A subject/geographic index was added, and longer abstracts were included. The publication was taken over by the Cambridge University Press, who handle marketing and distribution on behalf the Institute. As a result of these changes, circulation increased by 50%. As Editor of PGA, William developed many new exchanges with other polar libraries.

- **Universal Decimal Classification for Use in Polar Libraries.**

The Scott Polar Library is responsible for the maintenance of the Polar Universal Decimal Classification (UDC), the only purpose-designed classification schedule for Polar Libraries.) This has provided one of the major vehicles through which the Library has influenced the international polar community. Although a revised version was published in 1986, the last new edition was 1976. William worked on significant updating, adding some 200 numbers in order to both better reflect scientific developments, and to clarify the classification's logical structure, thus enhancing ease of use by researchers and bibliographers. The new edition was published in 1994. Between 1991 and 1997, the UDC for use in Polar Libraries was adopted by a number of libraries including the Arctic Centre, the University of Lapland, the Institute of Eskimology (University of Copenhagen), the Arctic Institute (Charlottenlund), and the Library of the Crary Laboratory, McMurdo Station Antarctica.

- **William Mills – Librarian and Keeper of the Collections.**

1996 witnessed significant reorganisation of the Library, with the establishment of the Picture Library under the management of Philippa Hogg, and the co-ordination of the Institute collections - Library, Archives, Museum, Picture Library, and World Data Centre for Glaciology (WDCCGC) - under William Mills whose title changed from Librarian and Information Officer to Librarian and Keeper of the Collections. Through this change, the University recognised the growth and development of the Library during the last decade, and ensured that the Institute was best placed to make maximum use of many opportunities presented by the building of the Shackleton Memorial Library, which opened in 1998.

- **Resource Sharing.**

A consistent theme running through the Library activities is the sharing of resources – ways in which the international community of polar libraries may best co-ordinate its activities so as to ensure a maximum of literature coverage with a minimum duplication of effort. William played a large role in participating in important international collaborative projects. Records on the Library's database are regularly loaded onto the Arctic and Antarctic Regions CD-ROM produced by NISC (National Information Systems Services Corporation) and are also to be found on PolarPac 3 CD-ROM. William also edited the Polar Libraries Bulletin of the Polar Libraries Colloquy from 1994 -2000.

In 1994 SPRI began collaborating with the Cold Regions Bibliography Project, then at the Library of Congress, by contributing records to the Antarctic Bibliography which were created at Scott Polar. This collaboration continues, and has even increased now that the Antarctic Bibliography is produced by the American Geological Institute, providing greater coverage of the literature while at the same time reducing duplication. The Antarctic Bibliography can be searched online at *www.coldregions.org*. At the Polar Libraries Colloquy in 2004, The National Science Foundation made a special award to William for his "valued contributions to the United States Program". I will refer to this later in the paper.

In 1996 the Institute mounted its own web page at *www.spri.cam.ac.uk*. It is part of the Library's continuing policy to make as many of its resources as possible available online. William posted many new pages on the Institute's web site which can be searched at *www.spri.cam.ac.uk/resources* including the online catalogue, SPRILIB Antarctica, SPRILIB Ice and Snow, SPRILIB Russian North, and Polar Pictures, the holdings of the Picture Library. Other online resources developed by William are the

Directory of Cold Regions Organisations, and the Polar Museums Directory. William also organized a program to re-convert the card catalogue to computer records. As a result of this work, anyone interested in Antarctica's history and the development of scientific knowledge related to it will find a near comprehensive bibliography to 1961 in the Institute's database SPRLIB, and on-line.[2]

The Library participates in local resource sharing arrangements such as participation in the Cambridge University Libraries Union Catalogue and List of Serials. William regularly attended local cataloguers' meetings held within the University. SPRI Library monographs and periodicals are now listed in the online University Library catalogue Newton, which can be searched online at *www.lib.cam.ac.uk* making catalogue records available to the world at large.

Another collaborative initiative supported by William, was the establishment of the post of Assistant Archivist. During 2002-2004, Naomi Boneham joined the staff to work on the Archives Hub project, a national initiative enabling repositories within higher education institutions to post listings of their archival holdings on the internet. The Scott Polar Archives holdings can now be searched at *www.archiveshub.ac.uk.* The collection of the month listed on the home page for July 2004 was the Lady Jane Franklin collection held at the Scott Polar Research Institute. Biographical and historical information are included in the entry, along with a description of the Archive holdings, and how to access them.

During 2002-2004, Archives Assistant Caroline Gunn mounted a new Museum exhibition entitled 'Shackleton's Hidden Collections'. It contains many new items acquired by the Institute during the last few years. This is part of the Virtual Shackleton project that William spoke about at the Polar Libraries Colloquy in 2002. The Virtual Shackleton Project aims at sharing our collections with the world at large, through exhibitions and through the Internet.

I will now single out some of the special collections held at the Scott Polar Research Institute.

- **The Antarctic Collection**

The Scott Polar Libraries Antarctic collection is unrivalled. Theses holdings have a particular importance given Antarctica's unique political status outside any sovereign state, and Antarctica has no national Library. The Scott Polar Libraries' Antarctic collection is unrivalled. The collection is located in a new purpose-built extension, The Shackleton Memorial Library.

- **The Shackleton Memorial Library**

William presented a poster at the 17th PLC in September 1998, outlining the initial idea of the Shackleton Memorial Library, which was opened two months later. This poster covered the building period. The Shackleton Memorial Library is a major extension to the existing Library. It is dedicated to the memory of the explorer Sir Ernest Shackleton and his son, the statesman and Explorer Lord Edward Shackleton. In addition to providing space for the rapidly growing library, archives and photographic collections, a facility is included to accommodate up to 17 Students and Visiting Scholars. Networked access is provided for a range of in-house and Internet information resources.

The New library was opened on 20th November 1998 by Professor Alex Browers (Vice Chancellor) of Cambridge University, and The Honourable Alexandra Shackleton, grand-daughter of Sir Ernest Shackleton. The Library won an award by the Royal Institute of British Architecture in 1999. The new Library provided space to house the Antarctic collection, a collection of books classified by subject including biographies, the pamphlet collection, and half of the periodical collection. Access to the Shackleton Memorial Library is through the Friends Room, in which a variety of exhibits are displayed, including paintings by George Marston, the artist on Shackleton's Endurance expedition, (1914-17). The Antarctic Collection is on the first floor of the Shackleton Memorial Library, where a comprehensive collections of books on all subjects relating to the Antarctic, including law and politics, environmental issues, climatology, and all aspects of historical and scientific research are held. There is a large collection of books about Antarctic exploration including the many published diaries and scientific reports resulting from the Expeditions.

The Antarctic rare book collection is kept in locked cupboards. One book of particular interest is *South Polar Times,* a two volume reproduction of the monthly journal written by members of Captain Scott's Discovery Expedition (1901-04), published

by Smith, Elder & co in 1907. Another rare book is *Nankyoku-ki,* [A record of Antarctica.] This is an account of Shirase's 1910-12 Japanese Antarctic Expedition published in 1913 in Tokyo, by Nankyoku Tanken Koenkai. At present, the book is being translated into English by Hilary Shibata, the Antarctic Bibliographer at Scott Polar Library.

The Rotunda spiral staircase leads up to the Wubbold Room where pamphlets and journals are located, including the Antarctic journals collection. The Wubbold Room is dedicated to Joseph Wubbold III of the United States Coast Guard, who, supported by his wife Mary, did so much by his friendly touch with all hands to ensure the completion of the Shackleton Memorial Library in a smart seaman-like fashion.

- **Picture Library and Archive Reading Area.**

The Shackleton Memorial Library includes a Photographic Archive where the Institute is able to store its holdings in ideal environmental conditions. William developed the post of Picture Library Manager, which was first held by Philippa Hogg in 1997 and later taken over by Lucy Martin. For some years it had been apparent that in the Institute's excellent photographic, film and art collections, the Institute possesses assets of economic as well as academic value. The increased demand for reproduced photographs from publishers, journalists and members of the public had proved difficult for the Archivist and Museum Curator to meet. The Shackleton Memorial Library extension has provided a new area for Archives and Picture Library users.

- **Scott Polar Library - The Russian North Collection.**

William worked closely with Isabella Warren the Russian Bibliographer in developing this interesting and valuable collection. It is one of the largest collections of its kind in the world, attracting visitors worldwide. Many publications held here are not available elsewhere. William was able to obtain grants from the British Library for the cataloguing of large numbers of books on Sakha, a collection which is heavily used by students and researchers who come to Scott Polar to study.

There is a comprehensive collection on the Northern Sea Route, started by the late Terence Armstrong. (1920-1996), and William obtained another grant to catalogue books on this subject. He also supported the idea of a conference that will be held at Scott Polar in August dedicated to the work of Terence Armstrong. This is currently being organised by Dr Lawson Brigham, retired US Coast Guard Captain, who completed his Doctorate at Scott Polar and is now working for the Arctic Research Commission in Anchorage Alaska. Other current initiatives that encourage the use of the Russian North collection are studies on oil and gas, global warming, and the idea that the North East Passage could be a viable transport route across the Arctic. In 2003, the special issue of the Russian *Journal of Geocryology* was published by the Russian Academy of Sciences, Siberian Branch, in collaboration with Professor Peter Williams, and edited by Isabella Warren, Russian Bibliographer at the Scott Polar Research Institute.

The following is quoted from the Scott Polar Website *www.spri.cam.ac.uk/resources/russian.*

About approximately 50% of Arctic land lies in Russia. When this is combined with the extensive continental shelves lying to the north of Russia, it is clear that a large proportion of the world's potential resources is located here. Such resources require special expertise to exploit them and though the Russian cold region scientific and technical knowledge is unrivalled, little of this currently reaches the West. Today, the free flow of information is obstructed not by politics but by language, and by a publications structure which means that much significant research is only reported in small circulation Russian-language journals and monographs, virtually unobtainable throughout much of Russia, let alone elsewhere.

The explanation goes on to talk about the special role of the Scott Polar Research Institute.

Throughout the Cold War, the Scott Polar Research Institute was one of very few places where Russian and Western scientists met. As Russian scientists routinely visited the Institute, the Library made use of the contacts established to build up a network of arrangements with research institutes carrying out work in the Russian Arctic and in Antarctica whereby their publications were received in exchange for the Institute's publications. Today, the Institute's researchers are primed to collect publications during their fieldwork in the Russian Arctic. Literally hundreds of publications have been brought back in recent years, many of them published in remote centres, and unobtainable even in Moscow and St

Petersburg. Through the Russian Information Transfer Program, these resources are now being made available.

- **Publications by William Mills, 1998-2004**

A list of William's publications is provided at the end of this paper. William's last publication, a two volume Encyclopaedia entitled *Exploring Polar Frontiers*: *A Historical Encyclopedia* was published by Clio in 2003. This book recently won the 2004 Outstanding Alaskan Award, an annual award made by the Alaska Library Association for reference works judged most helpful for the state. The ABC Clio website decribes the work as:

the only reference work that provides a comprehensive history of polar exploration from the ancient period through the present day. The author is a noted polar scholar and offers dramatic accounts of all major explorers and their expeditions, together with separate exploration histories for specific islands, regions, and uncharted waters. He presents a wealth of fascinating information in a variety of subject entries (methods of transport, myths, achievements, and record-breaking activities).

By approaching polar exploration biographically, geographically, and topically, Mills reveals a number of intriguing connections between the various explorers, their patrons and times, and the process of discovery in all areas of the polar regions. Furthermore, he provides the reader with a clear understanding of the intellectual climate as well as the dominant social, economic, and political forces surrounding each expedition. Readers will learn why the journeys were undertaken, not just where, when, and how.

Shortly before William died, he wrote an inscription in the copy of his books that he kindly gave to the Scott Polar Library. "Is there a more interesting collection of publications than SPRI Library? I don't think so. Read this book and then visit the real thing. Be really lucky and you become the Librarian. My warmest wishes, William."

- **William Mills Acquisitions Fund**

The William Mills Library Acquisitions Fund Appeal has been set up in honour of William's work as Librarain and Keeper of the Collections at the Scott Polar Research Institute from 1989-2004. The Fund is a tangible acknowledgement of his contribution both to the Institute and to the many Library visitors that were helped by William. This will be an endowment fund, the income from which will be used to purchase books, periodicals and maps for the library of the Scott Polar Research Institute. The Friends of the Scott Polar Research Institute have launched this Fund with an appeal. Further details can be found on the Scott Polar Web site *www.spri.cam.ac.uk/friends/polarbytes/31* or by writing to: The Friends Secretary, Scott Polar research Institute, Lensfield Road, Cambridge. CB2 1ER, UK.

- **The Mills Glacier**

On 31st March 2004, as a mark of William's achievements in the Polar world, The Antarctic Place names Committee named a glacier "The Mills Glacier". This is to commemorate the contribution of Mr William James Mills to Antarctic historical research, especially the comprehensive encyclopaedia, *Exploring Polar Frontiers* that was published by Clio in 2003. The Mills Glacier is an Inlet in the Evans Ice Stream, which provides a route down on to the ice stream from the Fowler Peninsula, draining part of upland West Antarctica. Its location is 77° 23' S, 65° 37' W. William was delighted that "The Mills Glacier" will appear on the British Antarctic Survey Map "Antarctic Peninsula and Weddell Sea".

- **Posthumous Award Presented to William Mills by the National Science Foundation**

In June 2004, the National Science Foundation presented William with an award, which was sent to the Polar Libraries Colloquy in Ottawa, along with a letter from Kark A. Erb, Officer and Director, and which was subsequently brought back to the UK where it was given to William's wife and family. The letter reads:

During his career as Librarian and Keeper of the Collections at the Scott Polar Research Institute, William James Mills greatly advanced access to Arctic and Antarctic information areas of key significance to the National Science Foundation.

The letter goes on to describe William's cooperation with the Library of Congress, and later the American Geological Institute through the US Cold Regions Bibliography Project, which involved digitising bibliographic records back to 1951. The letter reads:

Bringing this overlooked tool online completed our two nations quest for worldwide access to Antarctica's research literature spanning the centuries from the earliest times to the present.

And later:

Published research literature is the irrefutable measure of scientific progress. William Mills made a highly significant contribution to gaining bibliographic control of the polar research literature. With thanks for his work and sadness at his passing, I enclose on behalf ofthe National Science Foundation an award to William James Mills for his valued contributions to the United States Antarctic Program.

One of the last things William talked to me about during my last visit to him before he died was his fond memories of the many Polar Library Colloquies he had attended, and how he valued the friendships he had made over the years. I know this to be true for previous SPRI Librarians, for myself also, and will be true for SPRI Librarians in the years to come.

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Sharing Polar Slide Collections at The Ohio State University

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- **Introduction: Specific Care and Handling Needs for Slides**

This paper's focus is sharing polar slide collections at The Ohio State University. A general discussion of the proper storage and handling needs for slides is essential for an understanding of the physical management of slide collections. The care, handling, and storage of slides is actually much like that of all other image media. Cool, dark, dry, and dust-free conditions are optimum. In the ideal storage environment, refrigerated storage is the standard and is recommended for all present and past slide films. At the Goldthwait Polar Library and University Archives, true refrigerated storage is not available. However, in the Archives photo and document stacks, library and archival materials, including slides, are housed in a climate-controlled area where a cooler temperature (55-60°F) and a lower humidity (40-45%) is steadily maintained. In contrast, the Goldthwait Polar Library does not have a separate climate controlled area. The library relies solely on standard office air conditioning and heating, although care is taken to store the slides in an area without constant light or near a heat source. It should be noted that the humidity component is the most important. To avoid fungus growth on film emulsions, in any collections, with or without refrigerated storage, the humidity level in a storage area should never be allowed to remain above 65-70% for prolonged periods.[1]

One key point concerning slides is that the great majority of 35mm slides are one-of-a-kind transparencies produced by reversal processing of the original camera film; the slide that you put in your projector is the same piece of film that was exposed in your camera. In this respect, original slides are like the daguerreotypes of a bygone era and the Polaroid instant colour prints of today; none have usable negatives.[2] (While it is possible to make a slide from a negative or print, slides that originate in this manner are not the focus of this paper.)

In addition to 35 mm slides, the Polar Archives also holds several collections of glass lantern slides. Lantern slides were developed in the mid 1800s and reached their greatest popularity around 1900. They were commonly used for lectures and study up to about the 1930s, when they were replaced by 35 mm slides. The typical lantern slide is a photographic image on a glass plate, 3¼" x 4". They can be black and white, toned or coloured by hand with transparent oils. Beginning in 1907, natural colour lantern slides were also made in quantity. For use, the slide was protected with a cover glass bound on all four sides with black paper tape. Often a cutout mask was sandwiched in between the slide and cover glass and frequently a caption was printed in the image area. Many lantern slides have survived in remarkably good condition, and may often be the only photographs of a particular subject or area that have survived.[3]

The guiding principle for preserving slides, whether glass or 35 mm, is to handle them carefully, in much the same way as one would handle valuable original negatives. Ideally, 35mm slides should be housed in individual acetate sleeves to avoid fingerprints, scratches and abrasions. During the past two decades, plastic slide pages have become a popular means of storing and viewing slides. Polypropylene or polyethylene slide pages are recommended, while pages made of polyvinyl chloride (PVC) should be avoided. PVC pages can deteriorate over time, with gooey plasticizers exuding from the sheet and sticking to the surface of the slides.[4] Slide storage boxes are also satisfactory for long-term storage, provided that they are kept in cool, dark, and dry conditions. Metal divided slide boxes, archival cardboard boxes and inert plastic boxes are all acceptable.

Glass lantern slides should be housed in boxes with grooved separations that keep plates from coming into contact with each other. Traditional wooden grooved boxes should be-replaced with steel boxes with a baked-on enamel finish, inert plastic boxes, or alkaline board. Lantern

slides should never be stacked and should be protected against breakage by individual strong paper envelopes or archival photo sleeves, if vertical storage in non-grooved boxes is necessary.[5] Along with the storage needs of slides, there are precautions that should be taken with the projection of slides. Depending on the film and the pictorial characteristics of an image, 35mm slides may show perceptible fading after as little as 15 minutes of projection time. In an academic environment, excessive projection of originals is common. It is not unusual for a particular slide to be projected every time a talk is given over a period of many years. In some cases, a slide will remain on the screen for 15 minutes or longer to accompany a detailed discussion. One recommended approach for educators and others who give frequent lectures is to review periodically all slides in current use and have duplicates made of particularly important ones. In this way, serious damage to crucial originals can be avoided.[6] In the ideal scenario, important slide collections should be duplicated in their entirety.

The preservation collection, consisting of the originals, is not projected or subjected to day-to-day use. Instead, the working collection, which is made up of the duplicate slides, can be edited, projected, and provided to publishers without risk to the valuable and often irreplaceable originals. Likewise, lantern slide projectors still exist, and can produce slide shows of good quality. However, the intense projection light and heat can harm glass slides. In addition, glass lantern slides are fragile and heavy, making them difficult to use. It is recommended that copy negatives be made of lantern slides, in order to preserve them.[7] From the copy negatives, any number of other formats can be produced, and the lantern slides can be retired from use.

Damage can also occur when slides are left on light tables for an extended period of time. Exposure to ordinary office illumination also poses real hazards to slides and can cause image fading in a surprisingly short period of time.[8] Care should be exercised when working with slides to avoid leaving them out in the open on a desktop, for example. Fluorescent lamps and daylight are particularly damaging.

The documentation is rich with recommendations for the ideal storage, preservation and access to slide collections. The reality is that the conditions in our repositories do not always meet these high standards. Constraints can take several forms, such as the limitations of our physical space, lack of financial support to properly care for the materials, or lack of time to work with the materials. The variety of polar slide collections housed in the University Archives and the Goldthwait Polar Library serve to illustrate various levels of the ideal conditions.

Polar Slide Collections Housed in the University Archives

- **Papers of Sir George Hubert Wilkins**

The Polar Archival Program acquired the Wilkins collection in the mid 1980s. It was processed and made available to researchers in 1991, and includes more than 4000 images. However, the collection contains a number of glass lantern slides, nitrate negatives and other difficult to use images. Researchers, publishers and scholars have used the Wilkins collection frequently, but the nitrate negatives and glass lantern slides have not been used, due to their difficult format. In 2002, the Polar Archival Program received a grant to digitize these images. As a result, it was discovered that these were unique images in our collection. They cover a variety of topics, including images from the Shackleton Antarctic Expedition in 1921-1922, Wilkins' flight on the Graf Zeppelin in 1929, and the Nautilus Submarine Expedition in 1931. The access copy for these images is now the digital CD and the originals have been retired to our stacks area for long-term archival storage and preservation. It should be noted that digitizing is not considered as an archival replacement for the original images, but it does have advantages for access and use, particularly for difficult formats, such as glass lantern slides. One of the problems posed by these images is a common one among image collections, and that is the lack of individual caption information.

- **Joe Hill Papers**

Joe Hill was a tractor driver on Byrd's second expedition to Antarctica (BAE II), 1933-1935. In 2000, his daughter donated his papers to the Polar Archival Program. Included in the collection are 132 glass lantern slides, which were received in excellent physical condition. The slides are numbered consecutively, 1-132, indicating their original order. Unfortunately, there are no captions, and no other documentation extant in the Hill papers identifies

these images. One good possibility for identifying some of these images is that the Byrd expeditions are well documented; it may be possible to identify images with relative certainty, based on other identified images both in publications as well as in archival collections. They have been re-housed in individual sleeves and are stored upright in acid neutral boxes.

- **Calvin Larsen Slide Collection**

The Calvin Larsen collection of slides illustrates one of the best slide collections we own, in terms of organization and information given. Larsen was a navy photographer in Antarctica in 1956-1957. One of the nicest features of the Larsen collection is that there is a caption for each individual slide, which includes the subject matter of the image, as well as the date. Larsen donated the slides to the Archival Program in November 1997, and with his donation, he assigned all use and publication rights to us. The one step still remaining for this collection is to key each caption into an inventory list. This would be useful to share with patrons who may wish to see the caption list in order to determine usability of this collection for their needs.

- **Ted Heckathorn/Scott Fischer Slide Collection**

The Heckathorn/Fischer slides consist of 800 images taken in 1994 during the Ruth Glacier Expedition. The purpose of the expedition was to trace Frederick A. Cook's 1906 route to the summit of Mt. McKinley, a feat that has been hotly debated and continues to be challenged. Ted Heckathorn, the leader of the expedition, donated the slides to the Archival Program in 2002. The photographer was Scott Fischer, a well-known and experienced mountain climber and guide. Fischer perished in 1996 on Mt. Everest after being stricken with altitude sickness during a severe storm on the mountain. While this is an exceptional collection of images, it serves to illustrate a number of problems that can occur with slides (and other visual media). The first problem involves the donation of the materials themselves. Since Fischer was the photographer, do these slides belong to Heckathorn to donate? Or do the rights belong to the Fischer heirs? Heckathorn gave the collection in person. However, he did not want to sign the instrument of donation at that time, but promised to sign it and return it by mail. Unfortunately, he has not done this. We have prompted him several times, but have had no reply. This lack of completed paperwork serves to limit the usage of these materials. Essentially, this collection of images remains unknown to patrons. Although it has been accessioned into the Polar Archives, it has not been catalogued, and does not appear in the list of collections on our web site. Even if the matter of the donation itself could be resolved, the only caption information for each image is the date stamp.

- **Emanuel Rudolph Papers**

Emanuel Rudolph, or Rudy, as he was fondly known, was Professor Emeritus of the Ohio State University's Department of Plant Biology, and held many positions in the University during his tenure, including the Director of the Institute of Polar Studies (now the Byrd Polar Research Center), from 1969-1973. Rudy and wife, Anne, were avid collectors of books, art and other materials. In fact, their collection of books and other materials was so extensive that they purchased a second house just to hold their library. After Rudy's death in 1992, the University received his book collection, as well as other documentation of his illustrious career, including a slide collection of more than 1500 images. Much could (and should) be done with the Rudolph slides. The physical housing for the slides is acceptable, with slides contained in a combination of metal divided slide boxes, plastic boxes, archival boxes, and plastic slide pages. Roughly 80% of the slides have individual captions. However, most of the captions are handwritten and can be challenging to decipher. In any case, an attempt at an itemized listing would be a valuable asset in using this collection. At present, general headings serve as a guide to the images. We do list the Rudolph collection on our website, but details of the records held are not given.

- **John H. Mercer Papers**

Dr Mercer was a senior research scientist with the Institute of Polar Studies. He first came to OSU in 1960, and during his tenure with the University, conducted research in Antarctica, Alaska, Chile, Greenland, Argentina and Peru. His papers were given to the Byrd Center after his death in 1987. In 1999, 11 cubic feet of material was transferred to the Archives. Included in the transfer were 960 slides that document his extensive travels and research. Approximately half of the slides are housed in metal,

divided slide boxes and are have individual captions. The remaining slides are housed in archival plastic slide pages, and for the most part, bear no captions, although they are grouped by area of study (for example, Chile).

The Mercer collection is listed on our web page, but details of the slide collection are not given. Like the Rudolph collection, an itemized listing of the individual slides would be of value in using these images.

Polar Slide Collections Housed in the Goldthwait Polar Library

The Goldthwait Polar Library's collections of slides represent relatively recent polar history. Collections include slides from the United States Antarctic Service Expedition (1939-40), cold regions research in the 1950s and 1960s, Operation Deep Freeze I (1955-1956) and the first US all-women's expedition to Antarctica (1969-1970). We also have slides depicting contemporary Byrd Center scientists working in Antarctica that were contributed by members of the Center.

- **Charles F. Passel Slide Collection**

The Passel collection was donated by his widow, Alda Passel. Dr Passel was a geologist at West Base in Antarctica on Byrd's 1939-1941 Antarctic Service Expedition. He had been to our Center as a guest speaker and we had a book signing party for his book, *Ice: the Antarctic Diary of Charles F. Passel.*[9] Over the years we developed a relationship with the Passels. This collection consists of 621 slides that he took during the expedition. He used these slides primarily for his lectures and for his book. Unfortunately, many of the slides are not inventoried, but there is documentation for some of the slides in his book *Ice*, which is heavily illustrated with detailed captions. Most of the slides arrived in carousel trays, which indicates a chronological order. Dr Passel also used two slide projectors simultaneously when giving a talk and this also preserves the order of the slides. However, the slides should not be stored in the carousels indefinitely. A goal is to eventually house this collection in either slide boxes or protective sleeves when time permits.

- **Robert W. Gerdel Slide Collection**

The Gerdel collection of slides consists of 11 slides boxes that contain 2539 slides. Dr Gerdel was an alumnus of The Ohio State University, receiving both his master's degree and PhD at OSU. The slide collection was part of a donation that included Dr Gerdel's personal library and archival material. After the library received the collection and evaluated the contents, it was evident that some of the material, such as photographs, original documents and logbooks should be housed in the Polar Archives. In this particular case the library kept the slides because of the relationship the library had with the donors of the collection. The slides were meticulously inventoried and represent the cold regions research Dr Gerdel conducted in Greenland, and includes whiteout visibility testing, drift fence research and life at Camp Century. The inventory is transcribed and information about the slides is available from the Archives website, listed under Dr Gerdel's archival collection.

- **David N. Grisez and Dick Prescott Slide Collections on CD.**

The David N. Grisez collection came about as a by-product of OSU's Polar Oral History Program. Grisez was interviewed in his home in Logansport, Indiana by the GPL librarian and he then showed her other memorabilia and mentioned his slide collection. Grisez spread the word about our interest in Operation Deep Freeze I and his friend Dick Prescott agreed to donate his slide collection as well. These images represent every day life for the Navy personnel at Williams Air Operating Facility, which is now known as McMurdo Station. The Navy personnel depicted in the Grisez and Prescott slides were responsible for the building and maintenance of the facility, including the building of the runway at Williams Field.

In both of these cases, it was necessary to borrow the slides for duplication, as both donors wanted to keep their originals. The library was interested in getting the material and the donors were assured that they would receive CDs of their slide collections and that they could then share with other members of their Operation Deep Freeze reunion group. We had the capability to scan the slides in house, which would have saved money. Unfortunately, we did not have the time to scan all 1072 slides. We had them commercially scanned and formatted on CDs. In retrospect, we probably should have duplicated the slides and then made the CDs.

However, that would have required a larger expenditure of funds from the library and archives budgets. This duplication was not allocated in either of our annual budgets, but a decision was made to proceed because the unique opportunity presented itself. Operation Deep Freeze I is not as well documented in our collections here at OSU as some of the earlier expeditions. Therefore, the expense in duplicating the images on CD seemed justified. In addition, both of these slide collections came with detailed hand-written inventories that needed to be transcribed into Word documents. To date, one has been completed; the other has not. We should also note here that the images in both collections vary significantly in quality. Some are very good, while others are fuzzy and out of focus, thus making some parts of the collections not as valuable. We accepted them "as is" and did not select what images we wanted and what images we did not think were appropriate or usable.

- **Lois M. Jones Slide Collection**.

Dr Lois M. Jones, an alumnus of the Institute of Polar Studies at Ohio State University, was the expedition leader of the first US all-women team to go to Antarctica in 1969. The library received her slide collection, which consists of over 4,000 slides, from the executor of her estate in 2001. The collection represents her historic expedition to Antarctica in 1969, her extensive travels in the United States and as a tourist in foreign countries. Also included in this collection are slides she used for her geology classes at Kansas State University, some of which are professional slides she purchased. While there is no written inventory, Dr Jones did keep them organized by subject matter. Other members of our Center have used her slides to illustrate talks, particularly about the 1969 expedition. As the photographer, she did not appear in many of the slides, but the slides do document the expedition as a whole.

- **Institute of Polar Studies/Byrd Polar Research Center Slide Collection.**

Members of the Center are often asked to give presentations to schools and to visitors as part of the Center's Educational Outreach Program. Because of the time constraints of the faculty members of the Center, we sometimes ask graduate students and post doctoral researchers to go to schools in the area or to give presentations. They do not always have a complete selection of slides to choose from, particularly if the talks are given to differing age groups of children. To alleviate this problem and to not give anyone an excuse to say no to our requests for participation, we started a new project in the library. We should note that this project was the result of a suggestion by a post doctoral researcher at our Center who was willing to go to the schools, but she did not have enough slides for the talks. We asked some members on an individual basis to contribute their slides for duplication and the library became the repository for these slides. We maintain two sets of each slide, an archival copy with appropriate credit given to the contributor and one set for use during presentations. The duplicate set can be borrowed and scanned for use in PowerPoint presentations and also stored on CDs. This slide collection is a work in progress, and to date 238 slides have been donated. In addition to their value for use in presentations, these slides represent a small part of the permanent record of the history of the Center. A subset of this collection includes slides taken during meetings held at the Center. Eventually we would like to incorporate other slides that are already owned by the Center into this collection. We have slides of past directors, other events in the history of the Center and slides that members have donated over the years. Maintaining a database of all the slides that have been digitized would also enhance the usefulness of the collection.

- **Conclusion**

We recognize the potential value of the slide collections in our repositories, but at the same time we realize that these are only one part of the historical record. It can be difficult to properly manage slide collections because it is labour intensive and time consuming. Potential issues that may need to be addressed for each collection include donor relations, physical storage needs, labelling, indexing and cataloguing.

If slides are received without proper identification, their value is diminished. This is a factor that should be considered when accepting new slide collections into the library or the polar archives. In addition, it is important to consider new potential collections in relationship to our collection development policies. This allows both the library and archives to collect materials within our scope and to decline those materials that are peripheral to our main collecting mission.

The overarching goal for the Goldthwait

Polar Library and the Polar Archival Program is to make materials available to researchers, scholars, and others interested in polar history and research. At this point, our slide collections are definitely under-utilized, in part because some of the collections are not fully described, indexed or catalogued. Sharing information about the slide collections in our repositories is one step toward achieving the goal of accessibility and utilization.

In an article about the maintenance of slide collections, Randy Ralph states that the value of photographic materials lies in the fact that, "the great bulk of the information they convey resides in the image itself, rather than in words."[10] Despite the many challenges we mentioned, slides do often represent moments in time that can never be duplicated or re-enacted. As the managers and keepers of these unique items, we have an obligation to the donors, as well as the users of these collections, to properly care for the slides and make them as accessible as possible.

Arctic Survivals: the Restoration of Records Recovered from Lost Polar Expeditions

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Given the wealth of documentation on the history of polar exploration generally and the knowledge of individual expeditions in particular, it is tempting to think that a great deal is known about what actually happened in polar history. Yet there is every reason for caution against such hubris: history is like the proverbial iceberg, most of it hidden from view, inviting further investigation and speculation, while it gradually melts away. Among caveats against excessive certitude are the unreliability of both the written record and the memory that written records represent, deliberate misrepresentation of what happened in the past, the sometimes ill-concealed narcissism of the would-be-hero's self-assessments, the easy tendency to myth making, the distorting effect of money on veracity, the prevarications of journalism, or the absence of any evidence whatsoever. In other words, hindsight is never twenty-twenty.

To give a few examples: knowledge of the legendary voyage of Pytheas to *Ultima Thule* in the third century BC survives only in fragments of critical commentary in Strabo and Pliny; virtually nothing documents the loss of the Greenland colonies in the fourteenth century; the famous John Cabot disappeared without a trace and what were left were only second-hand oral reports; a speculative five pages tells us the little we know about the voyages of Olivier Brunel. The romanticized and sometimes ghost-written fabrications by and about numerous explorers can be swallowed like harmless bromides but at the risk of historical incomprehension. Even more dangerous are the lies bolstered by falsified records.

The scribbling sailors were the butt of at least one nineteenth-century English poet, Thomas Moore, whose satirical poem, "Thoughts on Patrons, Puffs, and Other Matters," reduces the diarists to a sad lot:

Patrons, indeed! When scarce a sail
Is whiskt from England by the gale,
But bears on board some authors, shipt
For foreign shores, all well equipt
With proper book-making machinery
To sketch the morals, manners, scenery
Of all such lands as they shall see,
Or not see, as the case may be: --…

We authors now more prosperous elves,
Have learned to patronize ourselves;
And since all-potent Puffing 's made
The life of song, the soul of trade,
More frugal of our praises grown,
We puff no merits but our own. …

He's off—the puffers carry it hollow--
The critics, if they please, may follow.
Ere they've laid down their first positions,
He's fairly blown thro' six editions! [Circa 1828]

Such are the distortions that afflict all historians, not least those of polar exploration. Nonetheless, the persistence through the centuries of the inveterate record keepers who have helped keep some knowledge of the polar past, however imperfect, still vibrant and subject to revision commands gratitude. The priority of record-keeping in polar exploration has often been the *sine qua non*, in fact the justification of the scientific purposes of countless expeditions. It could be argued that by 1850 the search for Sir John Franklin and his crew had transformed itself into a search for the records and relics of his expedition. The search has continued to this day. That very few written records were found in all the Franklin searches only heightens the sense of importance attached to expeditionary records.

There have been many remarkable survivals of expeditionary records that just as easily could have disappeared. Thomas James in 1631 is said to have found possible relics of Henry Hudson's abandoned party. James Knight's 1719-21 British Northwest Passage expedition members had all perished by 1721, but remains of their house and

ships were found on Marble Island in Hudson Bay fifty years later. Jean François le Pérouse on his circumnavigation of 1785-88 had the foresight to send records of his expedition overland to Paris from Kamchatka before disappearing with his two ships into the void of the South Pacific.

The recovery of Scott's diaries is another famous incident of fortunate survival and those diaries are now, still in excellent condition, at the British Library. Some other extraordinary survivals are parts of the Stefansson collection and the Ada Blackjack diaries at Dartmouth, the records of Elisha Kent Kane at the American Philosophical Society, the archives of Charles Wilkes and of Charles Frances Hall at the Smithsonian, to give mostly American examples. We know from such authors as Roland Huntford and Jennifer Niven, as well as from the almost sectarian Cook and Peary proponents, how variable the interpretation of these sources can be.

The point here, however oblique, is that this evidentiary base, which fortunately and fortuitously survives, however fragmentary, is often all there is and its care is largely the responsibility of the librarians and curators of those collections. Since that responsibility extends to preservation, we want to engage briefly today with two remarkable record troves discovered long after their disappearance, discuss how our predecessors in this responsibility dealt with the problems, and how their treatments might differ from the received wisdom of today. The examples are the Willem Barents Dutch expedition of 1597 in search of a Northeast Passage (whose relics were recovered starting in 1869), and Salomon Andrée's failed balloon attempt on the North Pole in 1897 (whose fate was not unravelled for another thirty years).

These two stories are briefly told. Willem Barents participated in two Russian Arctic expeditions seeking the Northeast Passage in 1594 and 1595 before his fatal journey to Spitzbergen and Novaya Zemlya in 1596-97. Barents and his crew of seventeen men wintered at Ice Haven on the north coast of Novaya Zemlya where they built a hut from driftwood. Their ship remained icebound, and in June of 1597 they headed south in two open boats, shortly before Barents died. Although many of Barents' men survived, the camp at Ice Haven was not discovered until 275 years later in 1869, with many relics found in subsequent visits.

Salomon August Andrée attempted to fly to the North Pole by balloon from Spitzbergen with two colleagues in 1897. The trip was a disaster from the outset and its fate remained unknown until 1930, when the Norwegian sealer *Isjborn* discovered their camp and the three bodies on White Island, one of the more remote islands of Svalbard. What later knowledge we have of the balloon voyage after its inauspicious departure from Danes Island in northwest Spitsbergen, comes from two of Andrée's diaries, both severely damaged and partially illegible. It is the preservation of these diaries and of the Barents relics that we propose to examine in the remainder of this paper.

- **Polar Preservation: The Treatment**

The recovery of water-damaged paper artifacts that have been alternately wet and frozen for long periods of time has been fraught with difficulty, not least because of the breaking down of the protein sizing in the paper and the consequent adhering together of the leaves. Paper conservators have known for some time that the aqueous treatment of paper, especially of chemical and mechanical wood pulp, significantly weakens it. Moreover, "sizing" (the act of adding a material made from protein or starch to the paper to provide resistance to the penetration of inks and as reinforcement to the fibres) is greatly reduced in water, presumably by the solubilization of the sizing.[1] Older papers are made from long natural fibres (linen, cotton rags), and are sized with animal glue (gelatin) and starch paste, with the occasional addition of gypsum or flour. The gelatin sizing added during the sheet formation results in much stronger paper, probably because of the interaction of the carboxyl groups of gelatin with the hydroxyl groups of cellulose, resulting in the formation of additional hydrogen bonds as the sheet dries.[2] More modern papers are much less durable, being made from short-fibred wood, and the sizing is more of a filler than gelatin.[3]

- **The Barents Relics**

The discovery in 1869 and 1871 of the Barents relics, lost in the ice of Novaya Zemlya since 1597, resulted in a long process of document recovery which continued through the 1980s. Although early attempts at restoring some of the Barents paper documents were somewhat crude, they appear to have been reasonably effective. In 1877, J.K.J. De Jonge (Deputy Royal Archivist of the Netherlands) and J. H. Hingman (Chief Assistant) began to unfold

an adhered scroll using water vapour and alcohol with damp paper interleaves.[4] The two men were able to unfold the document well enough to photograph the resultant single leaf and decipher much of the writing, and De Jonge later noted in his 1876 report to the Dutch Minister of Marine that a badly damaged note book would take "weeks, and perhaps months," to decipher.[5] With further work, the men may have been able to recover more of the paper documents.

In 1975 work began again to delaminate more of the paper artifacts. In the first discovery of the Barents relics by Captain Elling Carlsen in 1871 a number of artifacts were identified that did not appear in the final listing in De Jonge's report of Charles Gardiner's subsequent relic discoveries of 1876. Among Carlsen's discoveries were a group of "many engravings"[6] which Barents took on the expedition for trading purposes with China. The prints, adhered together as solid blocks, were given to the Rijksmuseum at the end of the 19th century. In 1975, scientific advisor Mrs J. Hofenk de Graaf, together with the paper restorers of the museum, began again the task of separating the adhered prints. The blocks of prints had become masses of hard *papier maché* - like material, glued together by the action of the animal glue or gelatin sizing that had permeated each sheet. Using enzymes was the method chosen to separate the sheets,[7] certain types of which can "digest" the adhesive and help to release the laminates. Enzymes are complex substances with the ability to act outside of living organisms, and they can be used to accelerate or catalyse certain types of chemical transformations, such as the tanning of leather and the modification of adhesives and substrates. The rate of reaction depends upon a number of factors, such as temperature and pH. An elevation in temperature generally increases the effectiveness of enzymes, but there is a practical limit, as the reaction rate increases with temperature to a maximum level, then abruptly declines with further increase of temperature.[8] Because most animal enzymes rapidly become denatured at temperatures above 40°C, most enzyme determinations are carried out somewhat below that temperature. Over a period of time, enzymes will become inactive at even moderate temperatures. Storage of enzymes at 5°C or below is generally the most suitable; some enzymes lose their activity when frozen. However, enzymes are extremely effective, because as catalysts they accelerate chemical reactions in appropriate conditions and digest and liquefy hardened glue and starch.

The conservation strategy developed by paper conservators Willem van Oort and Peter Poldervaart in 1977 on the Novaya Zemlya prints involved the use of enzymes to break down the proteins of the animal glue, which analysis had shown to be present throughout the blocks of prints. After experimenting with various methods, Maxatase enzymes were eventually applied in a mixture of water and alcohol, the latter added to help with the penetration of the solution into the paper fibres. The block of prints was laid onto a Plexiglas sheet and the solution applied with cotton wool to the top layer of the block. A half hour was needed for the enzymes to do their work, after which the excess moisture was removed with dry cotton wool, leaving the upper layer of the block damp. Each print was removed by laying on a sheet of Mellinex coated with methyl cellulose which allowed one sheet at a time to be removed from the pile with the help of a palette knife. The print adhering to the sheet of Mellinex was then moistened with cold water, which dissolved the methyl cellulose. The print was then soaked in water before being partially dried with the aid of cotton wool. To strengthen the extremely weak print, dampened Japanese tissue was laid onto the back of the print and the print sized with methyl cellulose, which also helped to adhere the Japanese tissue. Approximately 700 impressions of 150 different prints were fully recovered using these methods.[9] These included works by Goltzius, de Gheyn, and other Dutch artists of the period.

The strategies used by van Oort and Poldervaart represent a sensible use of enzymes. Another method that has been used with great success is the enzyme poultice. In this technique, a poultice based on cellulose ether and enzymes is applied locally to the adhered area, allowing the enzymes to migrate with the moisture through the paper fibres to the adhesive.[10]

- **The Andrée Diaries and Records of Nils Strindberg and Knut Fraenkel**

In contrast to the Barents relics, the documents recovered from the Andrée expedition were probably made from relatively short-fibred, machine-made paper,[11] and the sizing material a mixture of gelatin and alum-rosin. Exposure to the

arctic elements was over a much shorter time period: thirty-three years as opposed to two hundred and seventy four years. The condition of the Andrée materials and their locations when found is as follows:

Andrée's memorandum book/diary. This was found in an inside pocket of Andrée's jacket along with a lead pencil. It was noted that because Andrée's body was found high up on the slope of the cliff, it must have undergone thirty-three years of alternate freezing and thawing The diary was badly moulded, especially on the cover and along the spine. Only fragments of the four-page text survived.

Expedition observation book. This appears to have been in relatively good condition as it was found in a part of the boat that was covered in snow and ice. However, when Eliassen held the book, it was "wet and heavy, and the leaves stuck together."

A parcel of published books including tables, and a Swedish scientific work. The salvage mission appeared to be uninterested in these books, which reportedly consisted of textbooks of various kinds. They may have been more salvageable as they were buried in the ice.

Frankel's almanac/diary, three memo books, Strindberg's logbook, a meteorological journal, Strindberg's almanac/diary, and other documents "of less importance." All discovered frozen in the sledge.[12]

- **Attempts at Salvage**

Knut Stubbendorf, a Swedish journalist, took it upon himself to effect some restoration attempts on board the *Isbjorn*. Frankel's almanac, three memo books, Strindberg's logbook, and other objects were discovered beneath the ice. Strindberg's almanac/diary and a meteorological journal and other documents were discovered in the afternoon of the second day of searching and excavating.

Stubbendorf describes the paper objects as "frozen books and lumps of paper," and he set about thawing them out in his cabin. In order to speed up the process, he began to separate the wet and partially frozen leaves with a knife, a dangerous procedure. From the beginning, Stubbendorf's motive seemed to have been to bring the documents to the point of legibility from which he could fulfill his journalistic role, and there seems to have been a definite sense of urgency about his work to ensure that his story on the expedition was not anticipated by others. However, he did not seem to have been too concerned about the documents' value as historical artifacts. He did make some treatment mistakes which he subsequently recognized. The first was to allow the manuscripts to defrost without safeguarding them against mold. The second was in not noticing that the paper sizing seemed to have acted as an adhesive, which tended to adhere as the documents dried. Given the overall weakness of machine-made papers which retain less than ten percent of their strength when wet, the leaves should have been handled with great care. However, most of Stubbendorf's instincts were good and he did—as he said---improve with practice and experience.

If the documents were to be treated in a conservation laboratory today, a number of treatment options would be available, including freezing and freeze drying, followed by a much more considered approach to separating the adhered leaves. The use of enzymes would certainly have been a valuable tool for releasing the leaves, probably in combination with freeze drying. Stubbendorf, of course, did not have conservation facilities available to him, and had to deal with the original package of papers on board ship.

A conservator placed in the same situation today might not fare much better than Stubbendorf, but there could be an attempt to freeze-dry the documents naturally by using the (presumably) icy wind on deck. This could be accomplished using a cage arrangement to prevent the released leaves from blowing away, assuming the documents could be protected from sea spray. Another option might have been to air-dry the documents at normal room temperature by placing the frozen and wet packages on blotting paper and simply allowing them to defrost completely by constantly blowing air from some source of moving air. As separating the weak leaves with a knife is very risky, the conservator might use Mylar or Mellinex sheets to pick off the top leaves gently, one at a time, and then placing them on pieces of absorbent (blotting) paper or clean cloth, such as felt. The inevitable moulding of the wet packages that Stubbendorf wrapped in paper could be avoided by layering the released leaves on the absorbent materials, ensuring that the layers were changed frequently, and exposed to moving air.

The moral, as in so many cases involving

preservation practices, is the conservative caution from which conservators take their title. It certainly was the admirable stance of one of those who worked on the Barents relics in the 1870s. A. W. Hingman had this to say about a printed hymn-book on which he was working:

The copy brought back from Novaya Zembla is too greatly damaged in respect to the title and moreover the pages too much stuck together to enable them to be counted or to enable a comparison to be made affording any accurate conclusion as to the edition. I did after all intend trying to loosen the adhering pages when I was justly and opportunely reminded of what M. Flament, formerly librarian of the Royal Library, used to say of old books in such a state, but in a way only too plastic, 'Il vaut mieux les laissez toujours morveaux que leur arrocher le nez!' ["It is better to leave some mucous [snot] rather than to destry the nose."] I therefore left the little volume in the state in which it came back from the Ice Haven."[13]

Mining a Cold Archive: Antarctic Treaty System Papers

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• Introduction

The Antarctic Treaty was borne out of scientific enthusiasm and Cold War politics. On the evening of 5 April 1950 a group of senior geophysicists were gathered for dinner at the home of James van Allen in Maryland. During the discussions the idea was born of a new Polar Year, timed to focus on a solar maximum. This idea, which Sydney Chapman and Lloyd Berkner seized upon and took to the International Council of Scientific Unions in 1951, was the birth of an International Geophysical Year (IGY) that would bring together the international science community in a previously unheard of way. They wanted to show that together scientists could tackle problems too great for any one country, and by 1954 twenty nations had agreed to take part.[1] The planning committee recognised that it would not be simply a polar year in accepting the title, but by 1955 the objectives of the IGY had recognised two outstandingly difficult and challenging fields: measurements from space and the exploration of the Antarctic.

The Antarctic had already attracted a considerable degree of interest from several countries. After the Heroic Age exploration period there were sporadic private expeditions but little interest from governments. The longest permanently manned station was Orcadas (South Orkney Islands) that Argentina had inherited from the Scottish National Antarctic Expedition in 1904 after the British Government decided it would not provide continuing funding for a permanent station. In the latter part of the Second World War however, the UK had established several stations on and around the Antarctic Peninsula to watch for German naval activities in the Southern Ocean, and these stations were converted to civilian use after the war and run as part of the Falkland Islands Dependencies Survey (FIDS). Britain was, and is, a claimant nation as far as Antarctica is concerned and after the war other claimants also decided to establish permanent stations. Both Argentina and Chile were active in the Peninsula area while Australia and France established stations in their claims in East Antarctica.

Despite the existing political difficulties between the super powers, the USA and the Soviet Union found common cause in ensuring that neither gained unnecessary advantage from this IGY initiative and both threw large sums of money and expertise into making it a success. The Soviet Union put Sputnik I into orbit, while in the Antarctic, twelve nations prepared to co-ordinate their observations and undertake collaborative studies in a new way.[2] As an added bonus the British and New Zealanders decided that they would make the first surface crossing of the Antarctic, an expedition in the old style led by Vivian Fuchs and Edmund Hillary.[3]

So successful was the IGY that the scientists petitioned their governments to maximise the value of the infrastructure established on the continent and continue the international investigations. Led by the USA, there were a lengthy series of secret negotiations which resulted in 1959 in the Antarctic Treaty, a model international agreement ratified by all twelve countries to come into force in 1961 and to run indefinitely.[4]

• The Antarctic Treaty

The Treaty is in many ways a model document. In drafting it the lawyers and diplomats had to find agreement on a number of apparently intractable problems. Firstly, there was the problem of sovereignty. France, Australia, New Zealand, Argentina, Chile, Norway and the UK all claimed various parts of the Antarctic with the added difficulty that the Argentine, Chilean and British claims overlapped. Secondly, there was the clear interest, especially from the USA and the Soviet Union, in militarising the area. Thirdly, there was the question of resources and who might own or exploit them. Fourthly, there was the interest, again from the USA, in using the Antarctic as a waste dump and finally there was the problem of what legal regime and governance system was to be

used.

In solving these problems the lawyers broke new ground in some areas and laid up problems for the future elsewhere. The brevity and apparent simplicity of the Treaty belies the difficulties circumvented. On sovereignty, the Treaty puts the claims to one side, making it impossible for new claims, but also making it clear that existing claims cannot be improved on or changed in any way. On governance, the laws of their particular nationality apply when personnel are on the continent and the management of Antarctica is by consensus decision through meetings of the State Parties. In this way the smaller countries were given the same rights as the super powers to control development. No military developments, nor any disposal of nuclear waste proved initial sticking points as how could the Russian be assured that the Americans were not cheating? The right of international unannounced inspections of the stations removed that uncertainty. As for resources, since nobody knew what was there, and it would anyway be too expensive to exploit, the Parties simply ignored them.

Important parts of the agreement for the Treaty were the freedom for scientific investigations and access to data, encouragement for international collaboration and exchange of personnel between countries. The opportunity for review after 30 years was seen as an important longstop in case the system was not working properly and the establishment of two levels of Parties (Consultative Parties who were actively involved in Antarctica on a continuing basis, and Acceding Parties who accepted the principles of the treaty but did not wish to commit to work on the Continent) provided a system of international governance that all interested states were happy to accept. An arbitrary limit of 60º S was placed on the Treaty area and the high seas were specifically excluded from its provisions so that there was no need to get into arguments over items like existing marine rights of passage.

It was agreed that there would be four official languages: English, Russian, French and Spanish. The United States would be the depositary government. Unfortunately, there was no discussion of a secretariat, or of any ability to raise funds for any purpose. And it would seem that the method of rotating the meetings – alphabetically by country using the English alphabet – grew up by custom rather than by an explicit decision. Initially meetings were biennial, but as business became more complex and detailed and new legislation was agreed that required shorter time scales, annual meetings were adopted.

It was clear at the outset that a formal agreed report at the conclusion was essential for each meeting and that it must be available in all four languages. This immediately became a responsibility of the host government, but they were assisted in the early meetings by a Drafting Committee. As output became more complex and lengthy, the final stages of reaching agreement on the final report became more time consuming and by the XVIth meeting it became clear that a secretariat would be an important step, if only agreement could be reached on where it should be and how it should be run. The XXVIIth meeting has just taken place and the first Executive Secretary has been appointed for a secretariat to be sited in Buenos Aires – things move slowly by consensus!

All this activity began with only the twelve countries active in the IGY **(Table 1)** and there was only a slow growth in membership for the first few years. Not until the 1980s, when discussions centred on a new regime for management of mineral resources, did many other countries become interested. There are now 28 Consultative Parties and a further 17 Acceding Parties. The population represented by the Antarctic Treaty Parties is now close to 70% of the global population. In addition, scientists from other countries work collaboratively with the Treaty Parties making Antarctic science truly a global collaboration.

- **Publications of the Antarctic Treaty**

From the beginning the Parties decided that there should be two types of papers for the meetings: Working Papers that must be discussed, must be available in all four languages, and which normally required a decision by the time of the meeting, and Information Papers that were normally only available in the language submitted, might be discussed if a Party requested it, but which principal purpose was to lay information on the table. With only 12 countries attending initially, the meetings were small and almost all the work was done in plenary. It soon became clear that this would need to change and two Working Groups were established, one dealing with science and operations, and the other with law and politics. Plenary was used to start the meeting and adopt

the agenda, and to discuss the Working Group reports, agree on the report and make recommendations and close the meeting.

All the early meetings were closed except by invitation and the papers submitted were not made available outside the State Parties. The climate of secrecy prevailed for many years, especially during the negotiations over mineral resources, as governments saw no need to keep the public informed. The report published after each meeting constituted the only public record of the discussions and agreements. It became clear by the IVth meeting that some matters needed to be discussed by more expert groups than were present at the Consultative Meetings. It was thus resolved that Meetings of Experts could be called to advise the Plenary on complex issues for the ATCM before a final decision was made. Special Consultative Meetings were developed to deal with a different circumstance – that of enabling Consultative Parties to reach decisions and act on them without having to await the approval of a formal Recommendation at an ATCM. This could have meant significant delay since meetings were biennial until 1991.

- **Depository**

Gradually there has been a liberalisation of the secrecy surrounding the meetings. Now the meeting papers are posted on the web site and are freely available after the meeting, and the report is normally posted on the web site. As far as printed reports go, it is still not possible to get an official copy of the final printed report unless you were a delegate at the meeting, nor are the printed working papers distributed anywhere outside the meeting participants. The lack of a secretariat and any formal agreement from the start on an official depository for all papers is clearly a problem for the researcher. While it seems likely that the United States National Archives contains sets of all the papers used by the US delegations at each meeting, it is not clear that there are publicly accessible sets in many other countries. Normally they would be stored wherever the Foreign Affairs department papers are deposited, but even in cases where these are on deposit and retrievable, it may well be the case that the sets are not complete. They will certainly not be in all four languages. Unusually, the library at the Scott Polar Research Institute has a remarkably complete set of papers thanks to the efforts of Brian Roberts, one of the principal architects of the Treaty and leader of the British delegation to the ATCM for many years.

- **Subjects Covered by the ATCM Papers**

The papers submitted for consideration have grown in number and complexity with time, more especially since the expansion in the number of Consultative Parties in the 1980s. **Table 2** shows the number of papers in each category over the past few years.

The early meetings attended by only 12 countries had less than 75 delegates and there was rigorous exclusion of anyone not formally part of a national delegation. Now there are normally over 40 countries present and a number of expert groups including IUCN, UNEP, WMO, IAATO, for example, all of whom bring in a wider range of interests and expertise.

While the first few meetings were concerned principally with deciding how the system should function, the Parties soon began to be interested in conservation of both species and sites, as well as heritage. They also recognised the need to hold separate specialist meetings of which the first was one about telecommunications in Washington in 1963. One political feature was the development of formal addresses by each Head of Delegation which were given orally for many years but have now been consigned to written material only. These provide an interesting insight into the priority accorded to particular topics by each country and may often trail ideas later presented in Working Papers.

In ATCM XXVI in Madrid, there was a mix of papers dealing with protected areas and their management plans, species conservation, pollution and clean up, environmental management principles, State of the Environment reporting, document management, management of the proposed Secretariat, legal liability and insurance discussions, logistics and shipping, marine acoustics and their effects, Antarctic Treaty inspection, science reports from many countries, and tourism. The papers for ATCM XXV are available at *www.25atcm.gov.pl,* and for ATCM XXVII in Cape Town at *http://168.83.9.25/27atcm/.* It is expected that in future all the papers will be posted on the Secretariat site at *http://www.ats.org.ar/.*

At various times there have been attempts to provide summaries of the history of decisions and the Treaty itself has encouraged the production

of a series of editions of a Handbook of the Antarctic Treaty System. The last version formally printed was the 8th edition in 1994 edited by John Heap. A later version has been produced on CD edited by Joyce Jatko. In both cases the material was made available by the USA as the depositary government. There is now a searchable version on the web at *http://webhost.nvi.net/aspire/*.

- **The Antarctic Treaty System**

Over the past forty years the Treaty Parties have identified a number of key areas where major legislation was needed in order to manage the problem internationally. In each case the subjects were connected to resource exploitation and three major instruments were negotiated, of which two were ratified and implemented. These, together with the Antarctic Treaty and its new Protocol, constitute what is now called the Antarctic Treaty System. While the texts of the Treaty and various Conventions are available in the Treaty Handbook and as an appendix to a number of books, they are also available on web sites including *http://www.polarlaw.org/Treaty.htm* which also contains the final reports of many Treaty meetings as well as copies of other international legislation relevant to the Antarctic.

The first to be agreed upon was the Convention for the Conservation of Antarctic Seals (CCAS) (1972) which was negotiated when it appeared likely that large scale commercial sealing operations might be undertaken by several countries.

The second, the Convention for the Conservation of Marine Living Resources (CCAMLR) (1980) arose from concerns in the science community in the 1970s that overexploitation of marine stocks in the Southern Ocean would have severe repercussions on the entire marine ecosystem.

The third was the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) and it took a long period of closed negotiations before agreement was reached. This Convention never came into use as the refusal to ratify it by three claimant states (Australia, New Zealand and France) meant it could never meet the targets for political acceptability.

Out of the debacle that was the failure of CRAMRA came a new and more all- embracing international instrument. The Parties had been concerned for some time about the plethora of individual decisions on many aspects of environmental management and, under pressure from a wide variety of non-government organizations, and because of public interest, the parties agreed to a new Protocol for the Protection of the Antarctic Environment, which consolidated all conservation and environmental management into a single system. The agreement was reached in Madrid in 1991 and barred not only mineral resource exploitation for the next 50 years, but also established a new advisory committee, the Committee for Environmental Protection, to provide a higher level of expertise and advice on the environment to all Parties .[5]

- **CCAMLR publications**

The establishment of a Secretariat for CCAMR in 1982 enabled it to begin functioning in a way that the ATCM has never even attempted. With a permanent Executive Secretary, an administrative staff and a regular annual meeting schedule for the Commission and the Scientific Committee in Hobart, Tasmania, the organisation of documents, their deposit and their publication has provided an indication of what could be achieved with the right political will at the start. The CCAMLR web site at *http://www.ccamlr.org/* is frequently updated.

As an official part of the Antarctic Treaty System (ATS) CCAMLR documents are produced in the four Treaty languages. These include Reports from the annual meetings of both the Commission and the Scientific Committee (including its working groups), a schedule of conservation measures in force, a statistical bulletin and *CCAMLR Science*, an international peer-reviewed journal, together with CCAMLR Scientific Abstracts which contains details from all scientific papers presented at any CCAMLR meetings. In addition, there are technical manuals (Inspectors Manual, Scientific Observers Manual and CEMP Standard Methods Manual), annual reports on Members' Activities as well as what are described as Basic Documents (which comprise the Convention itself, Rules of Procedure, Headquarters agreement, and Staff and Financial Regulations). Much of this material is available via the web site as well as in printed copy.

- **Conclusions**

All the Antarctic Treaty papers have now been declared publicly available and they provide a remarkable resource for researching the

development of what has been one of the most successful international treaties ever negotiated. The papers provide an insight into the way in which international consensus has been reached over a range of potentially contentious issues including resource management, conservation, tourism, data management and availability, and the importance accorded to scientific information in decision-making. While a number of books have been written about the legal implications of the Treaty as an international instrument,[6] the majority of this remarkable resource has yet to be mined for other subjects. CCAMLR papers are already freely available but only now are the ATCM papers being made public and accessible.

Table 1. Antarctic Treaty Countries with the date of their accession.

Where there has been a change in status of some countries (Czechoslovakia, Germany, Soviet Union) the first date of accession is given. The third column indicates whether the country was an Original signatory, a Consultative Party, or an Acceding party.

Country	Date	
United Kingdom	31 May 1960	Original
South Africa	21 June 1960	Original
Belgium	26 July 1960	Original
Japan	4 August 1960	Original
United States of America	18 August 1960	Original
Norway	24 August 1960	Original
France	15 September 1960	Original
New Zealand	1 November 1960	Original
Russia (USSR)	2 November 1960	Consultative
Poland	8 June 1961	Original
Argentina	23 June 1961	Original
Australia	23 June 1961	Original
Chile	23 June 1961	Original
Czech Republic	14 June 1962	Acceding
Slovak Republic	14 June 1962	Acceding
Denmark	30 March 1965	Acceding
Netherlands	30 March 1965	Consultative
Romania	15 September 1961	Acceding
Germany (DDR)	19 November 1974	Consultative
Brazil	19 May 1975	Consultative
Bulgaria	11 September 1978	Acceding
Germany (BDR)	5 February 1979	Consultative
Uruguay	5 February 1979	Consultative
Papua New Guinea	11 January 1980	Acceding
Italy	16 March 1981	Consultative
Peru	18 March 1981	Consultative

Spain	31 March 1981	Consultative
China	8 June 1983	Consultative
India	19 August 1983	Consultative
Hungary	27 January 1984	Acceding
Sweden	24 April 1984	Consultative
Finland	15 May 1985	Consultative
Cuba	16 August 1984	Acceding
South Korea	28 Noevmber 1986	Consultative
Greece	8 January 1987	Acceding
North Korea	21 January 1987	Acceding
Austria	25 August 1987	Acceding
Ecuador	15 September 1987	Consultative
Canada	4 May 1989	Acceding
Switzerland	15 November 1990	Acceding
Guatemala	31 July 1990	Acceding
Ukraine	28 October 1992	Consultative

Table 2. Papers Submitted to Antarctic Treaty Meetings

Number	Date	WP	IP	Total
XVIII	1994	34	77	111
XIX	1995	31	119	150
XX	1996	37	140	177
XXI	1997	41	131	172
XXII	1998	28	131	159
XXIII	1999	40	132	162
XXIV	2001	38	82	114
XXV	2002	50	111	161
XXVI	2003	41	68	109
XXVII	2004	48	110	158

APPENDIX A

Date and place of Antarctic Treaty Meetings

Consultative Meetings

I	Canberra	1961
II	Buenos Aires	1962
III	Brussels	1964
IV	Santiago	1966
V	Paris	1968
VI	Tokyo	1970
VII	Wellington	1972
VIII	Oslo	1975
IX	London	1977
X	Washington	1979
XI	Buenos Aires	1981
XII	Canberra	1983
XIII	Brussels	1985
XIV	Rio de Janiero	1987
XV	Paris	1989
XVI	Bonn	1991
XVII	Venice	1992
XVIII	Kyoto	1994
XIX	Seoul	1995
XX	Utrecht	1996
XXI	Christchurch	1997
XXII	Trômso	1998
XXIII	Lima	1999
XXIV	St Petersburg	1001
XXV	Warsaw	2002
XXVI	Madrid	2003
XXVII	Cape Town	2004
XXVIII	Stockholm	2005

Special Meetings

I	London	1977
II	Canberra & Buenos Aires	1978-80 CCAMLR
III	Buenos Aires	1981
IV	Wellington & elsewhere	1982-88 CRAMRA
V	Canberra	1983
VI	Brussels	1985
VII	Rio de Janeiro	1987
VIII	Paris	1988
IX	Paris	1989
X	Vina del Mar	1990
XI	Madrid	1990-91 Protocol
XII	Utrecht	2000

Geographic Information Systems: an Overview

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• Introduction

At the 2004 International user conference hosted by the industry software leader in Geographical Information Systems (GIS), over 13,000 attendees from around the world were presented with a simple but catchy tag line: *GIS, the language of geography.*

Geography has no boundaries, and GIS helps organizations to unlock geography from the data they use everyday to make decisions. This paper provides an introductory look at the capabilities of the GIS technologies and geographic data types and concludes by describing how a federal department of the Government of Canada, namely Indian and Northern Affairs, use geography to support more informed decisions.

Simply, to evaluate information, the best way to view multiple layers of data is on a map. At one time the maps were paper based – today, using GIS, it is possible to construct intelligent digital maps allowing users to analyse, manipulate the information.

• What is GIS?[1]

GIS is computer software that links geographic information (where things are) with descriptive information (what things are). Unlike a flat paper map, where "what you see is what you get," a GIS can present many layers of different information. To use a paper map, you unfold it. Spread out before you is a representation of cities and roads, mountains and rivers, railroads, and political boundaries. The cities are represented by little dots or circles, the roads by black lines, the mountain peaks by tiny triangles, and the lakes by small blue areas similar to the real lakes. A digital map is not much more difficult to use than a paper map. As on the paper map, there are dots or points that represent features on the map such as cities, lines that represent features such as roads, and small areas that represent features such as lakes.

All this information—where the point is located, how long the road is, and even how many square miles a lake occupies—is stored as layers in digital format as a pattern of ones and zeros in a computer. Think of this geographic data as layers of information underneath the computer screen. Each layer represents a particular theme or feature of the map. One theme could be made up of all the roads in an area. Another theme could represent all the lakes in the same area. Yet another could represent all the cities. These themes can be laid on top of one another, creating a stack of information about the same geographic area. Each layer can be turned off and on, as if you were peeling a layer off the stack or placing it back on. You control the amount of information about an area that you want to see, at any time, on any specific map.

Geography is helping people make better decisions in many disciplines. Geographic data can be gathered and organized to support the generation of information products that are integrated in the business strategy of any organization. A geographic information system is not an end in itself. It is used to create useful information products that help organizations run better. It has the potential to save hundreds of millions of dollars through increased productivity and efficiencies.

• Evolution of GIS

Canada has been recognized as an early pioneer in GIS and commercial GIS technologies solutions have been evolving for over 40 years. In the early days "experts" located in a GIS departmental or project setting would have had a desktop equipped with difficult to use tools and utilities. Through a series of transitions including desktop viewers, distributed operations that included remote users, the internet, to larger scale enterprise intranet based capabilities to today's solution of large scale distributed data and applications making extensive use of web based tools and protocols. Today's architecture enables federated groups, for example circumpolar stakeholders to more effectively stay connected and share information.

Geographic data types have also expanded. From vector line information to the addition of multiple types of raster data such as satellite

information at many resolutions to digital images of objects, perhaps buildings or geology mineral pictures, which can be readily stored in a data base. Finally on the database front older GIS systems have evolved from being file based to what is often termed as object-based geodatabase architectures, whereby a geographic entity and all the elements that make up the entity are stored as one object. The user no longer worries about each separate element.

Some Ways GIS Can Be Used[2]

- **Mining and Earth Sciences**

GIS creates efficiency and productivity opportunities in all aspects of mineral exploration and mining. GIS enables mineral geologists and mine operators to mine intelligently, efficiently, competitively, safely, and environmentally. GIS provides the framework to acquire, develop, and interpret the complex spatial and tabular data sets used for mining and the earth sciences. Mapping, spatial concepts, and time/space operations technology are absolutely essential to effective mining.

- **Natural Resources**

At a time when the earth's resources are being taxed like never before, natural resource managers are discovering the power of GIS to help them make crucial decisions. GIS is helping development and conservation communities find common ground by providing a framework for the analysis and discussion of resource management issues. Companies and organizations, including the Nature Conservancy, the Environmental Protection Agency, Chevron, and the Department of Fish and Wildlife, are unleashing the power of GIS to manage natural resources.

- **Petroleum**

Making decisions based on geography is not new in the oil business. Where to drill, route a pipeline, or build a refinery are all questions that rely heavily on an understanding of geography to make the right business decisions.

- **GIS in Indian and Northern Affairs (INAC)**

INAC makes extensive use of GIS from coast to coast to coast. The GIS skills within the department are wide ranging, from GIS experts with many years experience who have access to a full suite of analytical tools on their desktop to others with a general interest in the domain and an eagerness to learn. There is an active GIS community within INAC willing to share project experiences and data, some of the examples are as follows:

NWT Region: Mineral development; land lease and environmental management for the north. CS Lord center in Yellowknife use GIS technology to support their digital geology map and field data collection

Northern Affairs Program, INAC: Managing pipeline dispositions, granular deposit management and contaminated site management

Comprehensive and Specific Claims: Using GIS technologies and data to compile map output products to support land claim negotiations.

Land Trust Services: Reserve parcel application; environmental management.

Socio-Economic Planning Program: Community planning in partnership with First Nations

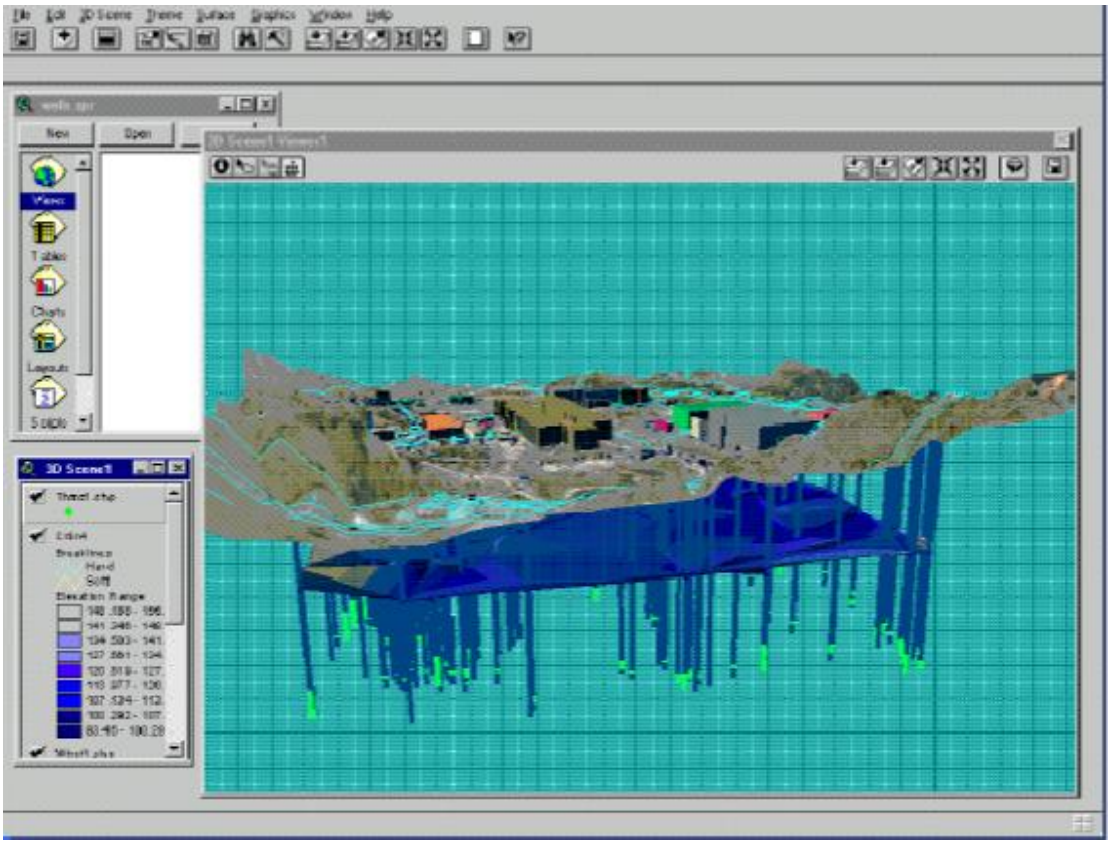
BC Region: Specific Claims support.

Alberta Region: Capital Asset Management with GPS

Atlantic Region: Community Planning and Asset Management

- **Conclusions**

Studies suggest that 80% of decisions made in government involve geography. Although there may be communication challenges in the north, the extensive use of satellite communications is helping to shorten the distances between communities. Making use of GIS technologies combined with Global Position systems (GPS), geographic data can be gathered and organized to support the generation of information products that can be integrated into any organization. It is used to create useful information products that help organizations run better, allowing communities to share ideas and to work from more isolated locations to collect, analyse and resolve problems.



3D Mining Model

Earth Sciences Information Centre: 150 Years of Library Service

Pauline MacDonald
Rosemarie Pleasant

• Beginnings

On November 10, 1854, a Legislative Select Committee on the Geological Survey voted on a motion and subsequently ordered that "the following sums appear to be required annually, beyond the present appropriation, to maintain the Museum and Library on an efficient footing." And so, with £250 was launched the oldest scientific library in the nation at the Geological Survey of Canada (GSC).

Hitherto [it was argued], *all the books, and almost all the instruments, used by the survey, have been the private property of Mr. Logan and his assistants, but in so important a public institution, a library should be kept up, containing the best standard works and books of reference connected with geology and the allied sciences, and the necessary instruments should be provided by the government*.[1]

The Earth Sciences Information Centre (ESIC) at Natural Resources Canada as it is now known, has grown from its inception to include more than one million items including books, journals, maps, images and an expanding digital collection.

A search through the archives reveals a fascinating story of buildings and books, people and personalities, the development of librarianship as a profession, and the early co-operative agreements by which libraries have developed world-class collections. Interwoven are details of difficulties in organizing a rapidly growing collection, pressures of space and funding, and occasional political interference, echoes of which still resound in our modern age.

• The Early Librarians

The first reference to a librarian was in testimony given to a parliamentary committee in 1884 and mentions that a Mr d'Urban was nominally librarian in the early years of the Survey.[2] It was not a full time occupation since it was also stated that he did a great deal of work in the field. He later went on to teach science in England and to manage the Science Museum at Exeter. Following d'Urban, T. C. Weston assumed responsibility for the collection. He wrote that "about this time, [1868] Sir William appointed me Librarian to the Survey. I was to spend a short time every morning, before going to my more important duties, in recording the various publications purchased and presented, and attending to the distribution of Survey reports, etc."[3]

Weston continued as Librarian for six years until he was relieved by Joseph White who was hired in 1872 as Librarian and janitor at a salary of $550 per year.[4] In September, 1881 A.B. Perry, a graduate of Kingston Military College, was temporarily appointed as acting Librarian for four months at a salary of $300. During that time he arranged, labelled and numbered nearly all the books in the library, and made very considerable progress in the preparation of the catalogue.[5]

By 1882, the collection had grown to some 12,000 volumes and an Order in Council appointed Dr John Thorburn as Librarian & Curator. Described as a gentleman of ripe experience and scholarship, Dr Thorburn had been headmaster at Ottawa Collegiate Institute. The salary for Librarian was now $600 per year. Records show that by 1897, Dr Thorburn had two lady assistants, one of whom was Mrs J. Alexander – hired at $1.50 per day. Her duties as assistant librarian included cataloguing, shelf arrangement and reference. In1908 Mrs Alexander became acting Librarian, a post she held until her death in 1912. Miss Barry was responsible for the distribution of GSC publications, and for filing and monitoring attendance. A typist had been added to the staff in 1905, and in 1911 a Miss Calhoun was to attend a cataloguing course at McGill University summer school. Miss Calhoun was Acting Librarian from 1912 to 1918.

• Establishing the Collection

Prior to the allocation of funds to formally create a library, Sir William Logan had "been under the necessity of supplying at my own expense nearly all the scientific books indispensable for the proper prosecution of the survey."[6] A report of 1873-74

described the library as containing "upwards of 2000 volumes, comprising standard works of reference on Geology, Mineralogy, Metallurgy, Chemistry and Natural History.[7] Additions to the collection were made by purchase and presentation, and valuable reports from surveys in the United States and overseas, as well as publications from scientific societies, were received in exchange for Canadian geological survey publications. Fifteen years later, it was exclaimed that "every year, the list of our exchanges is increasing, so that, as a consequence of this, the operations of the Survey are being more widely known and its publications more sought after."[8] The exchange program, though reduced in recent years, is still in existence today.

The GSC had its first home in Montreal and moved to Sussex Drive in Ottawa in 1881. A description from the *Ottawa Citizen* describes the GSC offices.

The ground floor, which is reached by the main entrance from Sussex Street is provided with a spacious hallway, .passing through an archway to the George Street wing on the same floor, the library is reached, the area of which is sixteen by twenty-eight feet and which will be filled up to its full height with handsomely finished shelving with sliding glass fronts, while a neat gallery hung by rods from the ceiling will give ready access to the upper portion of the cases.[9]

The move to Ottawa also necessitated the purchase of the books which Logan had provided with his own funds; 715 volumes and 41 maps were purchased from the Logan Estate for the sum of $2092.72. The resource library expanded steadily, and the idea of developing the collection as a resource for public consultation was first suggested in 1884. "There should also be a library, not merely of scientific and theoretical books, but a library where any person could go and consult the works which would give them to information which they required," declared the Parliamentary Select Committee.[10]

By 1888, the collection had outgrown the available space. It was reported by the Summary Reports on the Operations of the GS that:

for a considerable time past the space allotted to the Library has been found to be altogether insufficient, and, consequently, many of the books, which are frequently required for reference, have had to be stored away in other parts of the building, to the great inconvenience of those wishing to consult them.[11]

This became the yearly refrain.

In 1891 there was a complaint that "the cases are all filled, and a large portion of the books are piled up round the library floor and in other parts of the building."[12] An annex to the library was added but by 1892 was nearly full. It was with a tone of exasperation that the government was reminded of a potential fire hazard, and "the attention of the government has, on more than one occasion, been called by the director to the ever present risk of the whole Museum, with its immensely valuable treasures, being destroyed by fire," suggested the Summary Report for 1892.[13] This sentiment was echoed five years later in an article published in *The Gazette* which reported that "[we] may close with reference to one lack, which requires immediate attention; since the priceless collections of the library are stored in a building which an hour might destroy, and thus deprive the Dominion of treasures, many of which could never be replaced."[14]

In 1903 an additional room was built to accommodate the collection which had grown to 14,000 volumes, making it possible spread out the books in a properly classified and orderly arrangement. By 1910 preparations were underway to move the library to new quarters in the Victoria Memorial Museum. In her report of 1910, Mrs Alexander estimated that 4,500 feet of shelving would be required to provide for present needs and future expansion. A sense of relief and anticipation is evident in Mrs Alexander's letter to J. A. Lapp, Managing Editor of Special Libraries in 1911 when she wrote that "we have just moved from the very cramped and inconvenient quarters which we have occupied for many years, to a fine new building and are anxious in re-organizing to do so in the best way."[16]

Part of the reorganizing involved weeding out the collection and material was offered to other Ottawa libraries, and there where several requests to be removed from mailing lists included in Mrs Alexander's letters. During her tenure, she also attempted to fill gaps in the collection, and to replace some European journals which were lost on the *Titanic*.

- **Progress in Librarianship**

In an effort to ensure a successful reorganization of the collection, Miss M. Calhoun, the library

assistant, spent time with Miss Masson, the cataloguer at the Ottawa Public Library. Miss Calhoun had read John Dana's *A Library Primer* and Miss Theresa Hitchler's *Cataloging for Small Libraries*, and had corresponded with C. H. Gould, the University Librarian at McGill University with respect to Summer School programs where she hoped to benefit from the proposed course, particularly in respect to cataloguing. After the death of Mrs Alexander, Miss Calhoun became acting Librarian and reported that the rearrangement of the collection according to the Cutter classification scheme was completed and a modern dictionary catalogue of all the volumes in the library was being compiled.

In 1914 attention was turned to the care of the map collection. The Summary Reports for 1914 recorded that because there were no facilities for filing or storing the many maps in the collection, steel map cases were installed and maps would soon be available to all staff at the Survey. By 1916, in consultation with the library committee, a classification scheme for the maps had been worked out.

During the First World War Miss Calhoun left the Survey to work in the Voluntary Aid Detachment, and upon her return and subsequent marriage to a geologist, she resigned her position. Mrs F. E. Forsey, who was hired as a cataloguer in 1913, became acting Chief Librarian. Upon the departure of Miss Calhoun, Mrs Forsey was recommended for promotion to the position of Librarian by the Library Committee, the two Directors and the Deputy Minister, but the Civil Service Commission insisted she write the examination used for the post of librarian in the Public Archives. Months later, an appointment had still not been made and it was the action of Tom Tweedie, MP, who eventually forced a decision.

Eugene Forsey remembered in his memoirs how Mr. Tweedie went to see Dr Roche, Chairman of the Civil Service Commission, and put the facts of his mother's case before him. Roche said he could do nothing at the moment, but Tweedie was determined and told Dr Roche that he would sit outside until an appointment was made. After a time Roche appeared and expressed surprise when he notices Tweedie was still there. Tweedie declared he would continue to wait until the appointment was made, and eventually Roche caved in."[14]

By all accounts it was an excellent decision, for Mrs Forsey not only did German, Spanish and Italian translations, she helped compile a catalogue of scientific periodicals in Canadian libraries with a colleague at McGill University. An active member of the Ottawa Library Association, and vice-Chair of the Museums Group of the Special Libraries Association, Mrs Forsey prepared bibliographies and wrote papers on library work and made the GSC library the best equipped scientific reference library in Canada.[15] Mrs Forsey ran the library until her retirement in 1941.

- **Between the Wars**

Notwithstanding her professionalism and expertise, it is evident that Mrs Forsey was required to defend her activities and decisions, and there appears to have been a growing strain on her relationship and that of some of the scientists, with the Chief Geologist of the Survey, Dr G. A. Young. It had been Mrs Forsey's practice to check periodicals, book reviews and the Library of Congress catalogue for titles of interest and then to furnish recommendations to the library committee. Concerns were expressed that the needs of the whole Survey were not being met and there was favouritism towards mineralogy and physical chemistry. As a consequence, Dr Young wished to establish a more rigorous process, so he disbanded, and then re-formed the library committee in 1937. Henceforth, lists of suggested purchases were to be circulated to staff which were then to be sent back with recommendations and reasons for purchase to be reviewed by the library committee and sent to the Chief Geologist for final approval. Memoranda indicate that, despite recommendations from scientific staff, Dr Young was not afraid to use his veto. Perhaps this was the reason so little was spent on developing the collection during this period. A comparative analysis of library spending in Federal Science departments reveals that the Agriculture Library spent $28.57 per staff officer, the National Research Council, $53.84 per staff officer, and the Geological Survey spent $1.68 per officer.[16]

With hostilities developing in Europe, the necessity of continuing subscriptions to German periodicals was also questioned. Mrs Forsey wisely consulted her colleagues in other departments and reported that neither the National Research Council, nor the Dept. of Agriculture were required to suspend German periodical subscriptions which

were pertinent to the current research activities. Mrs Forsey would have been well supported by a statement released some 30 years later by the National Librarian that "A librarian, who is presumably employed because of special skills and knowledge, should have an adequate status and should have authority to act in accordance with a determined policy and within the limits of a distinct library budget."[17]

In 1941 Mrs N. I. (Wills) Kummerman became librarian and had to deal with Dr Young's interference. One can assume that, despite controversies, ultimately Dr Young was concerned about the quality and reputation of the library. Questioned by the Director as to the value of the collection, he responded:

I told the Director that I believed he was mistaken, the amount of useless material would be found to be surprisingly small. I pointed out to him that it was within the experience of all of us that from time to time it was most important to be able to investigate statements in old reports, in old textbooks which might perhaps be thought to have lost all value."[18]

- **Reorganization**

From 1842 to 1946 one of the functions of the GSC was to provide a museum. However, in the mid-1940s plans were developed to transfer the museum work to the Department of Resources and Development, and subsequently divide the library collection. The material was classified according to the Cutter system. It was proposed to transfer to the National Museum that part of the library which dealt exclusively with archaeology, ethnology and the flora and fauna of Canada. Other material of primarily museum interest was also to be transferred provided it did not contain material of geological interest or cause the separation of periodical sets. Works dealing with invertebrate palaeontology were to be retained by the Geological Survey, while vertebrate palaeontology collections would be transferred to the Museum.[19] Undoubtedly there was much detailed discussion over works which contained material of common scientific interest and it was decided to deal with reference material, such as legislation, dictionaries and directories, at a later date.

In 1959, the GSC Library was relocated along with the laboratories and offices to the Booth Street complex, where it remains to this day.[20] Mrs Kummerman supervised the move when the library was closed for only four days. There were approximately two miles of shelving, in accommodation that was described as airy, spacious and bright. Efforts were made throughout the next year to properly arrange and store the collection of US Geological Survey topographic maps. Culling of the collection and card catalogue continued.

Mrs Doreen Sutherland was appointed Head Librarian in 1966 and the following years saw the geological collection develop in both quality and quantity. The report of the National Librarian in 1968 stated that the GSC Library contained more than 100,000 volumes and was the most comprehensive collection of geological publications in Canada.[21] As evidence of the success of the exchange program initiated in the 1870s, and strengthened by Mrs Forsey, it was recognized that the collection was particularly rich in complete runs of geological journals and publications issued by government geology departments and geological societies throughout the world. Demand for loans to other libraries was high throughout the 1960s, when a library in Calgary at new regional headquarters was created, and which supported the work in the sedimentary basins of the western interior and Arctic Islands.

- **Library Automation**

The GSC Library adopted automated procedures early on. The first project began in 1968 and produced a periodical finding aid entitled "PERFIND". The same year, selective dissemination of information began in conjunction with the Canada Institute of Scientific and Technical Information (CISTI) CAN/SDI service. The Annual Report of 1970 recorded that the service had led to a significant increase in the demand for inter-library loans. By 1975, CISTI was using the PEBILL system, and the CAN/OLE enquiry system was in use. However, the rapid growth in the collection in these years, the transition towards automation and staff illnesses combined to create sufficient pressure that there was a deterioration in both the organization of the collection, and the efficiency of the services, providing impetus for a library study which took place in 1975 and 1976. There were now more than 150,000 volumes and as a result of the study recommendations, new shelving was purchased, a library committee was re-established and additional staff were hired.

After the arrival of Ms Annette Bourgeois as Head Librarian in 1978, further renovations were completed. The necessary shift in the collection also favoured the consideration of a new classification system and, with an eye to complete library automation, Ms Bourgeois led the conversion from the Cutter system to the Library of Congress cataloguing system. The UTLAS cataloguing module was fully implemented by 1979 during which year the AACR2 cataloguing standard was adopted. A few years later, the local implementation of MINISIS to replace remote use of UTLAS was begun; this was ultimately to be replaced in 1994 by the Innovative Interfaces system, which is still in use.

Changes in technology have allowed for improved co-ordination of the network of libraries now serving the Earth Sciences Sector. The common catalogue is shared with GSC libraries in Québec, Calgary and Vancouver and there is continuing dialogue to ensure that collections and technologies are developed to the benefit of all.

- **Consolidation**

With the program review of the 1990s, further changes were implemented. The Observatory collection, which traced its origins to the Earth Physics Branch and amalgamated with the GSC in 1986, was consolidated with the geology collection on Booth Street. At the same time, with the formation of the new Earth Sciences Sector, the library of Geomatics Canada was merged with the GSC Library to form the Earth Sciences Information Centre. The Geomatics Canada library was established in the 1960s as part of the Surveys and Mapping Branch and had developed an extensive collection of topographic maps and materials on cartography, surveying and remote sensing. The Earth Sciences Information Centre now holds close to one million items consisting of journals, books, maps and photographs as well as digital files. The generosity of donors to the Logan Legacy Fund has allowed the preservation of rare material from the early years. Certainly the collections and services will continue to evolve to meet changing needs, yet the rich heritage of earth science knowledge so carefully tended over the years, is indeed a national treasure of enduring value that continues to serve the nation.

Building a Northern Topographic Data Base From Multiple Satellite Data Sources

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Centre for Topographic Information

• Introduction

Having complete topographic coverage of Northern Canada is essential for establishing a base for sustainable resource development. Currently, the unmapped areas of the Canadian North would cover approximately 1500 topographic sheets at the 1:50 000 scale, which would represent about one-third of Nunavut and a small part of Northwest Territories.

This paper describes the topographic data collection of Natural Resources Canada (NRCan), the acquisition process, and the experiments made to complete the topographic coverage of the northern areas of Canada. It summarizes the results of pilot projects using ERS, RADARSAT and Landsat 7 satellite imagery underway since the fall of 2003 involving Natural Resources Canada and the Canadian Space Agency. The goal is to use the results of these tests to develop production processes that will permit awarding contracts to Canadian industry for map production in the autumn of 2004.

• What is a Topographic Database?

Topographic maps are commonly used and are often seen as a given territory, providing information about such things as land use, land shape, and water networks. They often provide a background for other maps, like road maps, geological maps, or parks plans. In the northern territories, where the road network is not large, they can also be used to plan transportation. The topographic database that lies behind a topographic map is less known. To understand exactly what a topographic database is, understanding how topographic maps are produced is necessary.

Making a map means illustrating the terrain. In order to represent that terrain accurately, information must be collected. It is possible to go into the field and measure everything but that would take too much time. In the topographic field, images of the terrain are used to determine the necessary information. Traditionally, these images, called sources, are either aerial photographs taken from a plane, or images collected from satellites. From theses sources, two kinds of information are obtained. The first is called *planimetry* describing what can be found on the surface of the terrain, such as forests, glaciers or water. The second is called *altimetry* which describes the shape of the terrain such as valleys, mountains or cliffs. *Altimetry* and *planimetry* provide the basic description for drawing a topographic map. Today, with the help of computers it is possible to do much more with planimetric and altimetric data than just produce a paper map. For example, this information can be used in geospatial information system (GIS) applications, allowing information to be manipulated, analyzed, and merged with other data with specialized computers software for specifics applications such as environmental studies, and territorial management.

The topographic database is simply the collection of topographic data, that stores information about *planimetry* and *altimetry* for a given territory. The database also includes information about the data, called metadata, so the database can be easily managed. Planimetric and altimetric data are usually in numerical form.

• What Information Is Included in the NRCan Topographic Database?

Two main sources are used to collect information and extract the altimetric and planimetric information necessary to fill the topographic database. The traditional source used to extract both altimetric and planimetric information is aerial photography. NRCan has more that six million aerial photographs which are collected and managed by the National air photo library. These photographs cover all regions of Canada, including the North. Some of these aerial photographs are scanned in digital format but most of them are on film. The photographs are not always recent: for the majority of northern regions, most of them date from the late '50s and '60s.

Another well-used source is satellite

imagery. Satellite images are less detailed but more recent than aerial photographs, which is why aerial photographs are usually used to produce the original data, and satellite images used to update them. Recently, NRCan, along with different federal organisations and all provinces and territories, acquired Canada-wide coverage of LANDSAT-7 satellite images. The images are recent and cover all the regions of Canada.

From theses sources, altimetric and planimetric information are collected at 1/250000 scale and 1/50000 scale. Scale simply reflects the density of information that is represented. Obviously there is more information on the land on a local map than on a whole map of Canada, but both scales are necessary, depending on the way they are used. There are fewer than a thousand tiles or maps needed at the 1/250000 scale which is the less detailed one. There are approximately 13,000 tiles at the 1/50000 scale; 37% of theses tiles are located in one of the three northern territories of Canada.

At the 1/250000 scale, all of Canada is mapped, but the accuracy and the validity of the information varies. At the 1/50000 scale, almost all the country is covered. Here again the accuracy and the validity of the tiles vary. At that scale, some of the tiles are still only covered with paper maps rather than numerical support but many are being converted every year. There are fewer than 1500 tiles at the 1/50000 scale where no information exists.

Planimetric and altimetric information at those two scales are only a subset of all the information managed by NRCan. Those interested can find more information on these websites:

- The atlas of Canada *(atlas.gc.ca)*: Free maps of Canada at a general scale.
- Centre for topographic information *(www.ctis.nrcan.gc.ca):* Access to the topographic data collection, the toponymy collection and the National air photo library. Free access to a visualisation tool (Toporama).
- Geobase portal *(www.geobase.ca):* Federal, provincial and territorial government initiative, overseen by the Canadian Council on Geomatics (CCOG), to provide free data over Canada.
- Ceonet portal (ceonet): Z39.50 server for geographic information.

Most of the university libraries in Canada have direct access to the topographic data. There is also a network of local distributors. Having a distribution network is very important, especially in the North where access to the Internet is very difficult, and often slow.

- **What Is Planned for the Unmapped Territories?**

Complete topographical mapping coverage of Canada's North is essential as a basis for the sustainable development of resources. The unmapped areas in the Nunavut and the Northwest Territories amount to over 800,000 square kilometres, equivalent to almost 1,500 map tiles **(See Figure 1)**. This is the context in which RNCan's CartoNord project was launched. The essential thrust of this project is to develop the capabilities for gathering digital topographical data on a scale of 1/50,000 in northern Canada.

It is a challenge to map this area. It is a remote territory with limited access and a short summer season. The limited access is significant because it complicates gaining access to quality checkpoints. The short length of summer is a critical factor as it is difficult to identify features of the terrain that are under snow cover. There is also a surprisingly important cloud cover, important because the main data sourcesare aerial or satellites images, which are quite useless when clouds prohibit a view of the ground. The terrain is also variable; it ranges from completely flat to mountainous covered in glaciers. Finally it is also a region ignored by new technologies: even though a lot of new satellites began to acquire images in the last few years, they tend to overlook the northern regions as there is little commercial potential in these regions.

It was initially thought that using aerial photographs was the best approach for making the coverage complete, because they are available almost everywhere. But these images are old, not very accurate in the northern regions and cannot be used over ice-covered regions. Acquiring new aerial photographs would be very expensive.

Using LANDSAT-7 satellite images was a second option: there is a complete, recent cover of these images over the North but it is impossible to extract the altimetric information from them. ASTER, another satellite, can be used for both planimetric and altimetric content but there are not many images available at present. The RADARSAT satellite has acquired many images, and can be

used to extract both planimetry and altimetry, but the accuracy of the results are not always satisfactory. The ERS satellite gives nice altimetric data, but there is a problem of user rights on these images. Rights, prices and availability are also the main problem in using data obtained by other satellites such as IKONOS satellite images, SPOT images or IRS images.

This is a real dilemma: very few sources are accurate, validity is an issue, as are the cost of rights, availability, and acquisition costs, and availability. Four interesting sources (aerial photographs, LANDSAT, RADARSAT and ERS) were chosen to be tested over northern regions to determine which method offered the most potential for completing the mapping of Nunavut and the Northwest Territories. The tests were completed with the help of industry because one key component of the production system is its capacity to produce the topographic data with the expected quality. More than one method may be chosen, depending on the constraints imposed by the terrain to be mapped.

Two areas representative of the northern landscape were chosen, both located in Nunavut: The first one is near Clyde River City on Baffin Island (tile numbers 27G03, 27G04, 27F13, 27F14) and the second one on Devon Island, facing Grise Fiord (tile number 48G09). In selecting the test areas, different local stakeholders such as the Geological Survey of Canada and Nunavut's Department of Sustainable Development were consulted.

The tests were completed in April 2004. Considering availability, price, user rights, risk and expected quality of each source tested, no sources seemed better for extracting planimetric data with a satisfactory quality than the traditional one using aerial photographs followed by a LANDSAT update. For altimetric data, ERS images give a quality

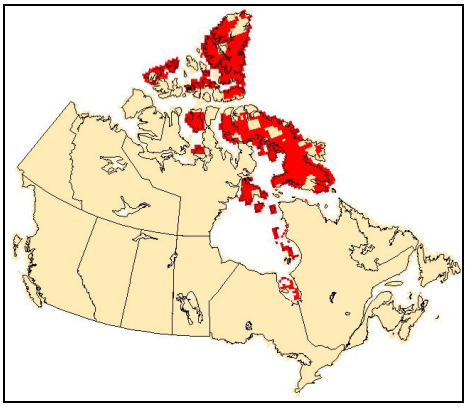


Figure 1: Unmapped areas at the 1/50000 scale.

equivalent to the aerial photographs, and as they are more recent, they could be a good source of data, but for the moment, the user right does not allow indiscriminate application. The quality of other sources tested provided disappointing results. Optimism must prevail, however, as there is no way to tell what new sources will be available in the future. Satellites continue to acquire images, and a competitive world will mean that they become more affordable. Other tests will need to be completed as soon as the use of other sources become possible.

Now the tests have been completed, the results have been presented to users in Nunavut to obtain their feedback. After this consultation, the data production system was implemented so that production can start in 2004-2005. The selection of the first tile to map will take place as the experiment proceeds, depending on the needs expressed by various users in Nunavut (territorial, local and federal government and industry).

Alfred Wegener Institute for Polar and Marine Research: Facts and Figures

Marcel Brannemann
Library Head
(With special thanks to Claudia Pichler)

The following is a representation of the images presented at the Polar Libraries Colloquy.

- **Branches in Germany**

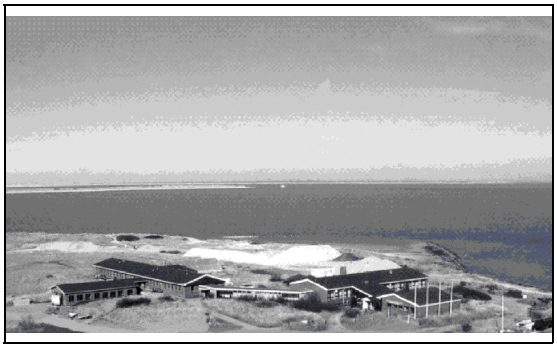
- **AWI Bremerhaven** (below)

Foundation of the Institute in Bremerhaven, 1980; - Budget: 100 Million Euro; 768 employees; Member of the Helmhotz Association.
Financed by :

- 90% Federal Ministry of Education and Research
- 8% State of Bremen
- 1% State of Brandenburg % State of Schleswig-Holstein
- Third parties

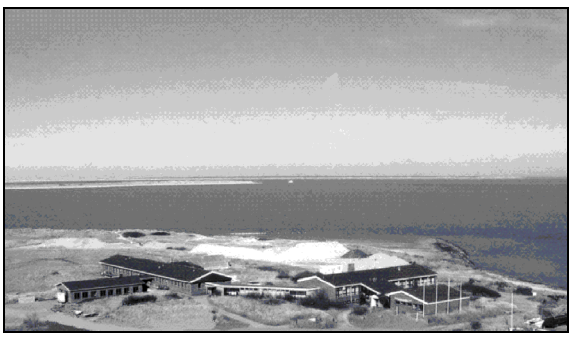
- **Helgoland** (below)

The Biological Institute on Helgoland (BAH), founded 1892, conducts basic research into marine life, focusing primarily on the North Sea and the Wadden Sea. In this way, it helps to protect the natural diversity of marine ecosystems and maintain their functions within the mass balance of the biosphere. It has been part of the AWI since 1980.



- **List / Sylt** (below)

The Wadden Sea Station Sylt was founded in 1924 as a laboratory of the Biological Institute on Helgoland for the study of the European oyster (Ostrea edulis). Nowadays, research focuses on current topics of coastal ecology and geology



• **Potsdam** (right)

The Research Unit Potsdam began work in 1992. The main fields of research of the Potsdam Research Unit are terrestrial geoscience studies in the periglacial regions at the margins of inland ice sheets and in permafrost areas as well as model and experimental investigations of atmospheric processes in the polar regions.

Research Stations

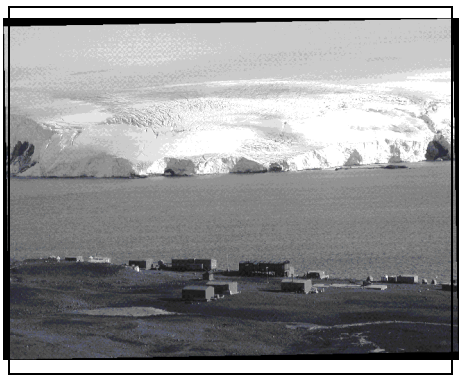
• **Neumayer** (left)

Built in 1992; working year round; focus on geophysics, meteorology and chemistry of the air;

• Operation of long term series of measurements; logistic base for Khonen Station and land expeditions

Kohnen (below)

Built 2001; EPICA (European Project for Ice Coring in Antarctica) Summer Station; drilling status: 2565 m metres on February 9th, 2004.



• **Dallmann Laboratory** (above)

Summer Station; focus on marine and terrestric biology; flat water and ice free areas; joint operation with Argentina at Jubany

- **Samoilov** (left)

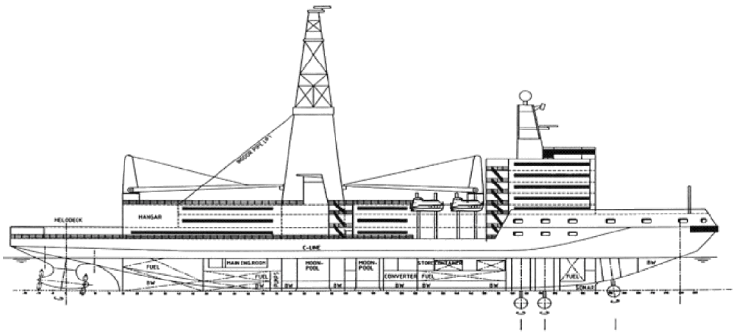
The Samoilov research station, located in Lena Delta Sanctuary, is used by AWI scientists for measuring greenhouse gas emissions from tundra soils for five years.

- **Koldewey** (right)

Year round operation; focus on Atmospheric Research, Marine Biology and Geophysics; member of the Network for the Detection of Stratospheric Change (NDSC)

- **RV Polarstern** (left)

Research Icebreaker used for Polar Research and Logistics; started work in 1982; length 119 m; staff 44 + 50



- **Aurora Borealis (project)**

Ice breaking Research and Drilling ship; research area: Arctic Ocean; sediment cores up to 1 000 m

French Travellers and Explorers in Siberia:

The October 2003 exhibition at the Polar Academy in St Petersburg, and the upcoming exhibition in Paris at the central library of the *Muséum national d'histoire naturelle* in October 2004.

Sylvie Devers
Curator of the *Fonds Polaire*
Bibliotèque centrale du Musée national d'Histoire naturelle

France's part in the exploration of Siberia is not very well known in the wider world, but since 1653, numerous French travellers, geographers, archaeologists, anthropologists and engineers have traversed the vast expanse of Siberia to study the land and the population in cooperation with the Russians. Bibliographical references follow the listing.

Pierre-Martin de la Martinière, a surgeon and explorer, obtained permission to embark from Copenhagen on a ship belonging to the Northern Company in February 1653. He visited the coasts of Norway, Lapland and northern Russia and went as far as Novaya Zemlya, then on to Greenland and Iceland. La Martinière was the first Frenchman to publish a travel narrative about the northern shores of Europe. His *Voyage*, filled with naïve descriptions of the people he encountered, was often reprinted, and Louis Georges Leclerc, Comte de Buffon drew inspiration from his observations.

Philippe Avril, a Jesuit priest, charged with finding new routes for missionaries to travel to China, left Marseille in 1685. He stayed in Kurdistan and then in Armenia, traversed Persia and Tartary, all along observing the manners and customs of the people he met. Unfortunately, once in Moscow from where he hoped to go to China with the first traders' caravan, the Russian government refused permission for him to return to Tartary. Greatly weakened, he returned to France six years after his departure.

A brilliant astronomer and member of the Academy of Sciences of Paris, **Joseph-Nicolas Delisle** attracted the attention of Tsar Peter the Great during a visit to France. He was selected by the Empress Catherine II in 1725 to found the School of Astronomy in Saint-Petersburg, which he directed for 22 years. He drew up a map representing the known state of Russia's northern sea, which contributed to the success of Vitus Béring's expedition of 1741. Upon his return to Paris, Delisle published the results of his explorations of the northern territories undertaken for the Russians.

Louis Delisle de la Croyère was a half-brother to Joseph-Nicolas, and accompanied him to Russia, where he visited the coasts of the Glacial Ocean, Lapland and the government of Arkhangelsk. He traveled through Siberia to Kamchatka, and in 1741, embarked from Saint-Paul under the auspices of Alesksei Tchirikov, a comrade of Vitus Béring. De la Croyère died of exhaustion on October 22, 1741 at Avacha, after his return from the Aleutian Islands.

Jean Chappe d'Auteroche who was an ecclesiastic and an astronomer, was chosen by the Academy of Sciences, of which he was a member, to observe the passage of Venus behind the sun on June 6, 1761. In addition to scientific observations and detailed topographical information, the account of his two-year voyage comprised numerous observations on the customs and habits of the Russians and Siberians he encountered.

A well-known mineralogist **Eugène Patrin**, accompanied by a Russian petty officer, set out to visit Siberia in 1780. The petty officer was to be his guide and his assistant. In exchange for this special protection, Patrin agreed to send the mineral samples he discovered to the Academy of Saint-Petersburg. Patrin took eight years to traverse the mountain range of northern Asia. Towards the end of 1787, he returned to Saint-Petersburg to learn with annoyance that many of his most interesting samples had been taken by the German naturalist Peter Simon Pallas.

The encyclopaedists **Voltaire, Buffon and Diderot** were thoroughly acquainted with travel literature, as illustrated by their libraries. *L'Histoire générale des*

voyages by the Abbey Prévost (in 20 volumes) was published between 1746 and 1770. The encyclopaedists ardently questioned the origins of society, the place of religion and the passage from the primitive state to the nation. Diderot, yielding to Catherine II's pressure (she had acquired his library), went to Saint-Petersburg in 1772. During his speech at the Russian Academy of Sciences, he submitted a detailed questionnaire on Siberia, which apparently elicited no response.

Ship's captain **Jean-François Galaup de La Pérouse** was entrusted by Louis XVI with a campaign of discovery intended to compete with the circumnavigation of Captain James Cook. The *Boussole* and the *Astrolabe* left France on August 1, 1785. Between April and September 1787, the two crews went along the coasts of Tartary, Sakhalin Island, and the Kurils, called at Castries' Bay, and put into port in the harbour of Saint Peter and Saint Paul on Kamchatka peninsula before continuing their route southwards where they would meet a tragic death.

Aboard the *Boussole*, and later the *Astrolabe* in the capacity of interpreter for the expedition headed by La Pérouse, **Jean-Baptiste Barthélemy de Lesseps** was entrusted on September 29, 1787 with the mission of carrying journals, maps and official dispatches destined for the government of France. After leaving Saint Peter and Saint Paul, he crossed the Kamchatka peninsula – observing the manners and customs of its inhabitants, regained the town of Okhotsk by sleigh pulled by Kamtchadal dogs and by reindeer, then continued on to Tomsk and Saint-Petersburg. On October 17, 1788, he was warmly received by Louis XVI at Versailles. The King had himself traced the expedition's route and passionately hoped for its success, and he had Lesseps' travel journal printed at the state's expense. The author was barely 20 years old.

The poet **Adelbert von Chamisso**, a French émigré in Prussia, travelled as naturalist aboard the *Ryurik*, a Russian ship under the command of Otto von Kotzebue, to explore the possibility of a northeast passage and to consolidate the position of the Russian-American Company that was thriving in Alaska. In June 1816 the *Ryurik* reached Kamchatka, went on to Alaska, then returned along the Asian coast before heading out to the Aleutian island of Unalaska. Chamisso published his own version of the trip and numerous articles taking stock of his discoveries.

Paul Gaimard, who was a naval surgeon, was appointed in 1780 as a naturalist on the expedition sent to Iceland in search of Jules de Blosseville's lost mission. In April 1838 he was aboard the *Découverte* to Scandinavia, Lapland, Spitzberg and the Faroe Islands. He sailed past Greenland and along the Novaya Zemlya and Siberian coasts, where he collected palaeontological samples. The narrative of this trip and its scientific results were the subject of a 26 volume work.

Captain of the frigate *Venus*, **Abel Dupetit-Thouars** travelled around the world between 1836 and 1839 and returned with a profusion of scientific observations and ideas about the political future of the French in the Pacific. He sailed to Petropavlosk and to the Aleutian Islands. He had the governor of Kamchatka erect a monument in honour of La Pérouse opposite the port of Petropavlovsk.

Lise Cristiani, a young virtuoso violincellist who went to try her luck in Saint-Petersburg, was disappointed by the funereal ambiance of the city following the Tsar's death so she then dashed off to the middle of Siberia, giving a series of concerts from Petropavlovsk to Okhotsk. In September of 1853 she arrived in Novo-Tcherkask where an epidemic of cholera raged and to which she succumbed. Her correspondence was published in the form of notes in the periodical *Le Tour du Monde* in 1863.

The anthropologist and linguist **Alphonse Pinart** decided at the age of 19 to make his first scientific expedition to Alaska, which had been recently ceded to the Americans by the Russian Empire. He travelled more than 1000 miles across the Aleutian archipelago in a kayak, on snowshoes, and on skis. The results of this voyage were at once and the same time a contribution to geography, natural science and linguistics. Pinart returned with an extraordinary collection of Eskimo and Aleutian masks and other objects that he deposited in the Chateau-Musée of Boulogne-sur-Mer. In 1873 he made his way to Siberia to study languages and the "Tartar" people, and to verify the kinship between the indigenous peoples of northwestern America and those of northeastern Asia.

The famous novelist **Jules Verne** was also an enthusiastic explorer, and he wrote several books about explorers, among them, La Pérouse. One of his most popular heroes was *Michel Strogoff*, who made the hazardous crossing of the vast area of Siberia, invaded by hoards of Tartars. First published in 1876, reissued, translated and adapted numerous times, this novel has struck the imagination of generations of people all over the world.

The journalist and explorer **Edward Cotteau** traversed five continents and published his observations in a series of books. During the summer of 1881, Cotteau crossed Siberia and gave a detailed description of Nijni-Novgorod, Perm, Ekaterinenburg, Tiumen, Tobolsk, Tomsk, Krasnoiarsk, Irkustsk, Tchita, Stretensk, Khabarovsk and Vladivostok.

Geologist and explorer **Joseph Martin** dedicated himself to the study of eastern Siberia and central Asia. In 1879 the Russian authorities commissioned him to explore the gold deposits between Lena and Oussuri. From 1882 to 1886 he journeyed 35000 km, often in the most remote areas, studying local geology, mineralogy, and anthropology. In 1887 the Geographical Society of Paris awarded him a gold medal. The numerous objects he collected during his mission are among the most beautiful in the Musée de l'Homme in Paris.

Edgar Boulangier, a civil engineer, was considered a specialist of Asian railways. In 1890 he was entrusted to go to Siberia to study the route of the future Trans-Siberian railway as far as Irkutsk, to evaluate the mineral wealth of Siberia, and to examine the consequences of railway construction on relations among Europe, Russia and China.

Geographer, glaciologist, reporter and lecturer, **Charles Rabot** was also interested in cartography and the anthropology of the people living to the east and west of the Urals – the Tchuvaches, Tcheremisses, Ostiaks and Samoyeds. In 1890, he headed a scientific mission in northern Russia for the Ministry of Public Instruction. The account of this trip appeared in the periodical *Le Tour du Monde*.

The colonial official **Charles Vapereau** decided to return to France from China by crossing Asia from east to west, accompanied by his wife and a Chinese servant. This trip lasted more than four months and took them from Vladivostok to Sakhalin Island, Khabarovsk, Irkustsk, Tomsk and Tobolsk. Vapereau returned with an interesting report about Siberia on the eve of construction of the Trans-Siberian railway, including observations on the Golde, Giliak, Tunguse and Buriate populations.

Jean Chaffanjon, a naturalist who received the gold medal from the Geographical Society for his expedition to the source of the Orenoque, set off with two companions on a west-east crossing from the Caspian Sea to Vladivostok in 1895. Nearly 1800 kilometres of new routes were recorded and thousands of zoological and botanical specimens, as well as a collection of Buriate and Mongolian skulls, were sent to the *Muséum national d'histoire naturelle* in Paris. Numerous anthropological studies were published. At the end of the century he founded commercial establishments in Vladivostok, which were later destroyed by the Russian-Japanese conflict.

The archaeologist **Joseph de Baye** participated in the principal learned societies in Russia where he stayed for protracted periods from 1895 to 1899. An excellent observer of people, de Baye was also witness to the deep transformations brought to Siberia by the construction of the Trans-Siberian railway. The collections brought back by this "intrepid globe-trotting scholar" greatly enriched the *Muséum national d'histoire naturelle*, the *Musée de l'Homme* and the *Musée Galliéra.*

The linguist and anthropologist **Paul Labbé** was one of the most respected French experts on Siberia at the end of the nineteenth century. About 1896 he undertook a series of missions in the most remote regions of the Tsar's empire. He principally dedicated himself to the study of non-Russian peoples—the Kirghizes, Ostiaks, Tunguses, and Buriates—from an anthropological and religious perspective. In 1902 he visited Sakhalin, which had been a penitentiary colony since 1883. The important collections that he brought back are distributed among the *Muséum national d'histoire naturelle, the Musée de l'Homme* and the *Musée Guimet* in Paris. His studies on shamanism have for a long time been considered authoritative works.

In 1876, **Louis Marin**, a former student and later professor at the school of anthropology created by Paul Broca, undertook a series of "ethnic exploration" missions, principally in Asia. along with his friends Collenot and Ducrocq in 1901, he crossed Eurasia studying the lifestyle of the nomadic tribes of Golde, Giliaks and Tunguse hunters and fishers along the Okhotsk Sea. After his death his wife published his travel journals.

Mining engineer **Albert Bordeaux** was charged in April 1902 with the study of "industrial civilisation" in Siberia, which he would later compare to California. Bordeaux visited the gold, coal and iron mines in Tomsk, Stretensk, Blogovetchensk, Khabarovsk and Nikolaievsk, and for him "Siberia was a reservoir where Russian people reinvigorated their energy."

Louis Philippe Robert, the duke of Orléans, and the older brother of the Count of Paris was banished from France with his father in 1886. He stayed in England and in India before returning to Paris when he came of age. A great enthusiast of polar exploration, he participated in an expedition to Spitsberg in 1905, and in 1907 he was aboard the *Belgica* commanded by Adrien de Gerlache. He decided to explore the Kara Sea. His observations and photographs were published in his book, *A travers la banquise* or *Across the Ice-pack*.

George Montandon, a doctor and enthusiast of anthropology, was sent shortly after the First World War on a mission to eastern Siberia by the International Committee of the Red Cross in Geneva. He brought back a handsome collection of clothing and ethnological objects from far eastern Siberia that are deposited in the *Musée de l'Homme* in Paris.

Anthropologist and pre-historian, **André Leroi-Gorhan** was interested in the archaeology and anthropology of the northern Far East because of his knowledge of the Russian, Chinese and Japanese languages. He spent three years before the Second World War in the region, and in 1946 published two works on the populations of the North, especially Siberia, *Archéologie du Pacifique Nord* and *La civilisation du renne*.

I would like to mention here the special contribution of **Dr. Jean Malaurie,** the first chair in the area of polar geography in France. During the Soviet period in the middle of the Cold War, Dr Malaurie succeeded in establishing cooperative relations with the Institute of Arctic and Antarctic Research and the Institute of Ethnography of the Academy of Sciences in the USSR. As a result, four bilateral French-Soviet symposia were organised and a documentary was filmed in central and eastern Siberia in 1973. Soviet scientists contributed to the periodical *Inter-Nord* and to the international colloquies of the Centre of Arctic Studies.

Furthermore, in 1990 Dr. Malaurie led the first Soviet-French expedition to Tchukotka. bringing together French and Soviet specialists to study the economy, health, environment, and archaeology as well as the famous "Whalebone Alley". Following the successful conclusion of this expedition, it was decided to establish a school of higher education in Saint-Petersburg for inhabitants of the northern region of Russia. In 1998 it became the State Polar Academy. Today this school has more than 1000 students from throughout northern Russia.

The *Fonds polaire Jean Malaurie*, which I direct, has maintained exchanges with Russian institutions for over 40 years, and there are plans to establish a new cooperative agreement for the deposit of Russian interdisciplinary publications on the Arctic and the Antarctic in the *Fonds polaire* in Paris.

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Is Science Influencing Programs for Children and Youth in the Arctic?

Valerie Hume, PhD
Special Advisor to the Arctic Children and Youth Foundation

Is science Influencing Programs for Children and Youth in the Arctic? Before attempting to answer this question some background information will provide a context for my investigation.

I am currently assigned by the Department of Indian Affairs and Northern Development to work with the Arctic Children and Youth Foundation (ACYF). This is a not-for-profit non-governmental organization (NGO). The mission of the Foundation is "to enable Arctic children and youth to attain educational, social, health and economic well-being equal to other Canadians."[1] The Foundation considers that the enhancement of conditions for children and youth of the Arctic is not only desirable, but also an essential part of sustainable development.

Research presumably should be able to tell us through the use of appropriate indicators, including: the current status of well-being in Canada and in the North; geographic inequalities - not just between the North and the South, but in different parts of the North. Many documents and studies recognize the significance of understanding inter-regional differences; trends in data that provide evidence of the rate and magnitude of change taking place in the environment and the circumstances of children and youth; identification of optimum, tolerable, or unacceptable conditions; ethnic/cultural inequities (aboriginal and non-aboriginal); gender inequities; and identification of populations at risk. In an ideal world there would be indicators to show trends and the current situation, which would permit the development of rational targets.

The ACYF was founded when, because of financial limitations it became impossible for the Arctic Council's initiative on the Future of Children and Youth of the Arctic to mount effective programs agreed to by the member countries, and Permanent Participants (international Aboriginal organizations associated with the Arctic Council), and it was because of the low priority attached to these programs that funds were not available to implement them. Prior to the Council's adoption of the initiative, Mary Simon, former Ambassador to Denmark and Circumpolar Affairs, promoted the Future of Children and Youth of the Arctic as an Arctic Council program. When speaking to the Council, she had this to say:

Most fundamentally, all the [Arctic] Council Members are signatories to the UN Declaration on the Rights of the Child. This Declaration affirms the right of children everywhere to effective health services, a standard of living adequate for physical, mental, spiritual, moral and social development, and to education. Signatories are obligated to protect these rights, and encouraged to co-operate internationally in doing so. Regarding minority or indigenous people, the Declaration protects the child's right to enjoy their own culture and to practice their own religion and language.[2]

Changing socio-economic conditions in the Arctic are considered a factor in some of the social and psychological issues facing children and youth. Compared with the rest of the country, Arctic children and youth suffer from the highest rate of school drop out, the highest rate of unemployment, the lowest rate of per capita income, the highest rate of substance abuse, the shortest life expectancy and suicide rates ten times that of the national average. Has scientific enquiry done anything to improve the situation? Perhaps. Some work with young people is being done without any basis for predicting or measuring the outcome, and that many national programs dealing with issues like substance abuse, school dropouts and unemployment were developed with southern conditions in mind and the indicators and targets have needed modification to be suitable for the North. Baseline information could assist the development of programs that are appropriate for different Arctic communities, and permit evaluation of the efficacy of these programs in the region.

- **An ACYF Objective**

The Foundation has a number of objectives, one of

which is related to research in the northern context and to work with appropriate partners to facilitate research and gather information about existing databases on the health, economic and living conditions of Arctic children and youth for use by academics, northern communities and organizations, governments and other national and international agencies.

Although the ACYF is a new organization rather preoccupied with raising funds, it is pursuing its objectives by proceeding with two or three projects. The directory of databases that pertain to Arctic children and youth has been initiated. It will provide a short description of databases along with the name of the owners and how access might be gained by researchers.

- **What Databases Exist?**

The majority of databases that include information for whole populations do not differentiate between one age group and another, and many do not differentiate data for specific geographical regions. Existing databases include:

1. Data owned by individual researchers who have collected and manipulated data so that it suits their purposes. This is often available to the public in the form of summary tables in journal articles. The quality and the value of the data for future use are variable.

2. Data that has been collected for censuses, the most common of these being the national decennial census and the partial census in the intervening periods. Much of the data is demographic and economic in nature. Statistics Canada also creates other databases, often in collaboration with others departments. While custom tabulations are available from Statistics Canada they are very often very expensive, and their creation requires a considerable amount of time. In addition, often the aboriginal identifier is deleted rendering the data useless when attempting to identify comparative disparities between aboriginal and non-aboriginal Canadians.

3. Data that has been supplied by many people and then collated by others, usually for reports, Health Canada`s Notifiable Diseases Monthly Reports for example - though these are not broken down by age groups in the Internet versions. Some reports are issued regularly, and others only once.

4. Databases that have been created by research organizations either for their own purposes or as a service to others.

The initial work on identification of the databases pertaining to children and youth in the Arctic is in areas of health, education and economy, but the work will not be restricted to these topics. The directory will be posted on the Arctic Children and Youth website - *http://www.arcticcyf.org.*

The information comes from territorial governments, publications, and individual researchers. A request for help has been made to a variety of organizations - International Institute for Applied Systems Analysis (IASSA), research institutes, universities through the Association of Canadian Universities for Northern Studies (ACUNS) and to individual universities, non-government organisations (NGOs), and governments. Libraries could be a good resource. Not all of the databases are about children and youth, but there is reference to them, or data for age cohorts that are applicable.

It is not surprising that there has been some difficulty identifying new or current databases. The Social Sciences and Humanities Research Council (SSHRC) makes a comment in its description of its new Northern Research Development Program, that "over the past decade, dedicated funding support for northern research has diminished (see the official SSHRC-NSERC (Natural Sciences and Engineering Research Council) report, *From Crisis to Opportunity: Rebuilding Canada`s Role in Northern Research*)."[3] At the same time, the costs of doing northern research are significantly higher than conducting comparable research in other parts of Canada. Faced with high costs and reduced funding, universities have terminated programs for northern research and curtailed graduate student training and recruitment of new faculty. In short, capacity in the social sciences and humanities for northern research has eroded at the very time that significant social, economic and cultural change and adaptation is taking place in Canada's North. It is hoped that the new program will attract applications from researchers interested in issues affecting children and youth.

- **Value of existing data**

The value of data depends on the use that is to be made of it and by whom it will be used. Areas

which I want to touch upon with some specific reference to the Arctic are: reliability and validity of data; data based on age cohorts; levels of aggregation; data for ethnic populations; and standards.

- The **reliability and validity** of data are dependent on collection methodologies and storage of samples or manipulation of raw data. Data collected for one purpose is not necessarily appropriate for other purposes.

- As previously mentioned, relatively few databases hold information for specific **age cohorts**. It is not always possible to determine the extent to which there are biases resulting from the population structure. The selection of age cohorts is also problematic. It is not unusual to have five-year groupings in the early years, and for the span to increase in upper age ranges. Youth are sometimes regarded as under 18 years, sometimes under 25 years and sometimes under 30 years.

- **Levels of aggregation** can have major consequences for users. In this connection is a story that comes from the Canadian Red Cross. The Society was collecting statistics related to drowning. A perusal of the data showed drowning incidents by territory or province. It was only when maps showed the actual locations of the incidents that the focus of water safety instruction was extended beyond larger centres like Yellowknife to communities near the Mackenzie River. The effectiveness of the Water Safety Program increased dramatically. When the data had been aggregated for the whole territory, crucial details were not available for the program planners.

- Planning to enhance the well-being of children and youth requires disaggregation of certain data, by community or geographic area, by age group, by ethnicity, possibly by socio-economic status. However, this is not always feasible, depending on the size of the community and the sample size. The community profiles now available on the Statistics Canada website, provide basic information for nearly all communities. These databases are very basic, easy to follow, do not leave room for a lot of incorrect interpretation and can be used by communities that are trying to create community programs, but again, there is minimal data related to youth.

- The separation of data for Aboriginal and non-Aboriginal people, or of **data for major ethnic groups** is also limiting the use of some databases. Some databases exist for the Aboriginal population and particularly for First Nations in Canada and even for specific reserves (in the South) or communities. This information is not always available in the North. There are few reserves, and responsibilities for collecting statistical information vary. There are also sensitivities associated with comparison of data of different ethnic groups whether for young people or for total populations. For example, in the study of health indicators for the circumpolar region, no data was available for Aboriginal people alone in the Yukon and very little in some of the other circumpolar countries. I understand that the Yukon Government and the Yukon First Nations came to an understanding in 1992 or 1993 that the Government would release no data related to ethnicity without the express agreement of the Council of Yukon First Nations. Since close to 25 percent of the population in the Yukon are First Nations, this could result in an inability of other organizations to provide assistance where it is most needed. On the other hand, one could assume that it implies equal treatment for all.

- The European Union has a regulation that is sometimes interpreted as making it illegal to separate data pertaining to Aboriginal people from data for the population as a whole. Some of the Nordic countries interpret it this way. As a result, it is sometimes very difficult to obtain data pertaining to Aboriginal children and youth unless it has been collected separately by the Aboriginal groups who are willing to share it.

- This leads to some thoughts about standards of collection and treatment of data, the adoption of certain standards for collection, use and description of data facilitates comparison, as well as the selection of policies to improve conditions. Many groups adopt so-called “standards” that are used by no-one else. Health data is collected by provinces according to their own “standards” and methods. It is not surprising when the Federal Government and the territorial governments provide significantly different basic population data for the same areas. This being said, some progress

has been made in recent years with the development of a comprehensive set of comparable health indicators.

This is partly the outcome of a *Communiqué on Health* in which First Ministers agreed to provide clear accountability reporting to Canadians. They directed Ministers of Health to provide comprehensive and regular public reporting and to collaborate on the development of a comprehensive framework using jointly-agreed comparable indicators addressing health status, health outcomes and quality service. A Plan for Indicator Reporting was developed by mid 2002.

- Even within the Federal Government, data collected by several departments for different reasons appears to measure the same factors, at least on the surface. Standardizing the collection of data has always been an issue although increasing interdepartmental collaboration seems to be improving the situation. When it comes to the provinces and territories it is even more difficult. For example, in the provinces, there are cases where municipalities adopt their own "standards" for basically the same tasks and reporting purposes, justified by the view of the municipality of the significance of different data.

Differences between surveys and the need for adjustments of population figures has been noted in a chapter of *Aboriginal Conditions: Research as a Foundation for Public Policy*, edited by Jerry P. White, Paul S. Maxim and Dan Beavon. The chapter, entitled "Perils and Pitfalls of Aboriginal Demography: Lessons Learned from RCAP Projections," was the result of collaboration by Don Kerr, Eric Guimond and Mary Jane Norris.[4] The authors also note that incomplete enumeration and under-coverage account for most of the difference between the Census count of persons registered under the Indian Act (about 488,000) and that produced by the Indian Register maintained by the Department of Indian Affairs and Northern Development (about 601,000). Methodological differences, as well as differences in concepts and definitions between the two sources, also account for part of the difference. The two sources have very different purposes and, given the coverage and other differences, are not directly comparable.

This difference in standards spreads far beyond the collection of data. Different metadata standards are used even within the federal government, let alone across the country and internationally, and even when national standards have been adopted, in theory, by all departments. This has been particularly noticeable in the field of geomatics where national and international standards exist but all sorts of other standards are used.

Different standards lead to difficulties of analysis and interpretation when comparison or compilation of data - nationally or internationally - is required. This was quite an issue with the collection of indicator data by the Health Programme of the Future of Children and Youth of the Arctic when participating countries were found to use radically different standards for collection, storage and analysis of data. Examples of this can be found in the interpretation of the stages of infant mortality (neonatal, postneonatal, perinatal), reporting of low birth weight babies and indicators relying on answers in surveys to questions such as those who are smoking, by age group.

It is interesting to note that the Standards Council of Canada is currently preparing a Canadian Standards Strategy to be "a blueprint for the future structure of standardization activity in Canada. Its purpose is to provide direction and leadership on how to use standardization to best advance the social and economic well-being of Canadians in a global economy."[5] Although implied, it is not clear whether this will reflect the need for standards for data collection and description.

- **Databases Used for Indicators**

In the interest of economy, there is a tendency for governments to select indicators where the data already exists and not necessarily what is most appropriate. On the other hand, the selection of indicators to measure progress or change can lead to the development of new databases. An interesting article called, "Measuring Quality of Life: the Use of Society Outcomes by Parliamentarians" by Carolyn Bennett, Donald G. Lenihan, John Williams and William Young, November 2001[6] is based on discussions and presentations from roundtables and some informal discussions between the authors, parliamentarians and other interested individuals. There was considerable discussion of an overarching framework along with indicators to track the community's progress towards realization

of a vision, just as the Arctic Children and Youth Foundation will seek indicators by which to judge progress towards its vision. First there is a question of exactly what should be measured. For example, an indicator of poverty could be in terms of income or basic needs. There are indicators that measure inputs and others that measure outcomes. In relation to human behaviour, the outcomes tend to change slowly over time, so how do we determine the time frame that will be relevant to decision-makers? The indicators selected could have a significant influence on future policies.

The United Nations Development Programme uses an index with composite indicators to compare general trends across countries, but it is appropriate to question whether this can be used within a country. For most of the Foundation's work, it is more useful to disaggregate the information by sex, age, ethnicity and location. Analysis of indices and weighting of factors do not provide the kind of information valuable for community planning.

Given the importance of using indicators that are easily understood by the public at large, there is a temptation to put a priority on low cost, simplicity and neatness. Some indicators involve considerable expense to collect data while others force consideration of conflicting information that makes a "neat" conclusion impossible. There must be a balance between usefulness and simplicity.

- **Gaps**

Admittedly, the ACYF has a long way to go to identify all existing databases pertaining to children and youth of the Arctic. But we do know that there are gaps in the array. In some cases, the gaps exist, not because data has not been collected, but some of the owners are not prepared to share the names and brief descriptions of their databases. This can collectively be considered an issue of intellectual property. Governments are expected to be open and transparent, and consequently one assumes that many of their databases can be made available to the public if they conform with the *Privacy Act*. Ethical codes imposed by governments and professional associations place some limitations on the way that data can be shared, but provided there is strict adherence to the *Act* and the codes, many data bases held by academics, Aboriginal groups and NGOs lie unused and unknown. How many significant and useful databases related to children and youth are residing on computers in Canada is hard to estimate.

Although there may be many good reasons for reluctance to share descriptions of databases, from the example that was given with reference to Yukon health indicators, one motive could be a fear of exposure to criticism or unfavourable comparisons with other groups. But what happens if territorial indicators are not comparable or are not accessible like the files that are in school board records? Other database gaps exist although data are certainly in existence. I asked an orthopaedic surgeon recently about data that he must have gathered on his three visits each year to Nunavut. He said that he never retained any data. He wrote his reports for each visit and presumably they are filed somewhere - possibly in the office of the Medical Officer of Health. Only if a researcher had the need for these reports and gave them a high enough priority, might a database be created. Not many of these peripatetic workers have the strong attachment to a community that would encourage them to develop databases for use by others in the future. One of my conclusions from this is that for small communities served by visiting dentists, doctors and other specialists, there is unlikely to be a few good histories of ailments (other than infectious diseases), environmental health, or even information of a genetic nature.

It is possible that information may never have been gathered or assembled because no one ever looked at the issue from a different point of view. For example, data may exist for a whole nation, but not for smaller geographical areas. Some data, like that on child abuse or neglect may exist, but not in a form that is relevant for a public audience, or easily understood by the public, or shows its technical merit, or is not easily comparable with other areas. And this is the sort of data that some jurisdictions choose not to release.

If we are particularly concerned about the horizontal aspects of community development, the gaps in available data seem to become more apparent. Programs requiring horizontal action across governments tend to awaken fears that making information available on their performance-exposes governments to criticism or unfavourable comparisons with other governments.

Information and Communication Technology (ICT) is allowing different methods of data collection and measurement systems. Accumulating enough relevant data and integrating them into high-quality useable information may not

be such a hurdle in the future. As a consequence, fewer projects will be rejected because of the cost of collecting indicator data to determine progress, and data for different age cohorts will become more readily available.

- **Dissemination of Databases**

Accessibility refers to the mechanisms available to Arctic communities to gain access to existing data. Most people at this colloquy work with a library, so to them working through the library, using inter-library loan and, computers seems an obvious answer. What about the dozens of communities with no library, very expensive computer- access, and possibly a low literacy rate in the local population?

The cost of access to the Internet, coupled with limited ownership of computers and the language of communication means a real difference in the infrastructure and capacity between the North and the South which is sometimes referred to as the "digital divide". At present, most information sent electronically is in English. There are about fourteen other languages and dialects used in the Arctic. The cost of translation has to be taken into account. At 25 to 30 cents a word for translation, costs mount quickly. It would cost more than $1000 for this short paper to be translated into Inuktitut, not including printing and transmission. Now multiply that by fourteen if every community were to receive a copy of this presentation in its local language. Furthermore, it is difficult to provide scientific reports in some of the Aboriginal languages which are not structured to deal with some concepts. Yet clearly, translation will be essential if we expect databases to form a basis for community planning.

Dissemination of data takes many forms and as ICT infrastructure is improved in the Arctic, the opportunities for northern communities to have access and use data and information will increase. Two organizations which are very much aware of the issues associated with the dissemination of information are the University of the Arctic - an international non-governmental organization dedicated to higher education in and about the Circumpolar North. UArctic is a decentralized university without walls that mounts programs of higher education and research, builds local and regional educational capacity, and stimulates co-operation among participating institutions. Consequently, it is exploring all sorts of ways of disseminating information. It is about to publish a book called, *On Top of It: Overcoming the Challenges of ICT and Distance Education in the Arctic*, an anthology containing papers by twenty-two authors describing issues of access. Of course, by increasing access to information through ICT some of the same problems as those in the south will be replicated, for example information overload and concerns over such issues as personal data privacy and protection.

The other organization is the Crossing Boundaries National Council which is exploring the role of information and communication technologies in transformation of government and making information a public resource.

- **Actions Resulting From Scientific Research**

Even if scientific research is carried out and the results are reasonably conclusive, how much chance is there of this research influencing policies and programs given the short-term nature of political interest? Tracking the progress of project and program outcomes is a long-term process. Parliamentarians look for measurable progress from election to election. New governments are known to discontinue programs. My experience has shown that not only are some programs not based on scientific evidence, but the lack of evaluation of the outcome provides no opportunity to determine how effective they have been.

Having said so much about the difficulties of finding data and creating databases, it should be noted that the results of scientific research can have an impact on future policies and programs, not only of governments, but also of NGOs. The results of data analysed by the Health Program of the Future of Children and Youth of the Arctic, which was the outcome of research in a number of Arctic countries, along with data from the government of Nunavut, findings of the Canadian Mental Health Association, and the new document, *A Canada Fit for Children*[7] which is a National Plan of Action, have all influenced approaches pursued by the Arctic Children and Youth Foundation.

According to the volume of the Canadian Arctic Contaminants Assessment Report II (CACAR II) called *Knowledge in Action*: *Results and data from NCP [Northern Contaminants Program]*[8] studies on contaminants and their effects on the developing fetus, infants and preschool-age children have influenced and assisted in setting the federal agenda

on environmental health for children. As a result, distinct recognition has been given to the routes of exposure, contaminant levels and effects among northern Aboriginal children.

CACAR II notes that information from the Northern Contaminants Program has found its way into a trilateral initiative under the Commission for Environmental Cooperation (CEC) on North American Children's Health and the Environment, which considers chemical pollutants, pesticides and toxic metals among the key environmental threats to children's health. However, it has been a challenge to find any reference in the reports and actions of the Commission, to the Arctic region or to young people.

At a national level, the National Children's Alliance has made good use of the results of research on brain development in its advocacy for new programs and feels that the funding announced last September targeting Early Childhood Development was influenced by the use of good scientific evidence.

At a more global level, though not oriented specifically towards children and youth is evidence that scientific data results in some action. An article, "Arctic Health Policy: Contribution of Scientific Data" by Andrew Gilman and James Berner in the *International Journal of Hygiene and Environmental Health*, describes how,

in the western hemisphere Arctic regions, scientific findings in humans, wildlife and the environment have resulted in major governmental policy formulations. Government policy resulted in establishment of an effective international organization to address scientifically identified problems, including health disparities in arctic indigenous populations. Western scientific data and indigenous knowledge from initial international programs led to international agreements restricting certain persistent organic pollutants. In recent years, scientific data, and indigenous traditional knowledge, have resulted in government policy in the United States, Canada and Nordic countries that includes the full participation of indigenous residents in defining research agendas, interpreting data, communicating information, and local community policy formulation.[9]

The summary on Human Health, in the State of the Arctic Environment Report of the Arctic Monitoring and Assessment Program[10] summarizes the information obtained in the larger scientific assessment report in a very readable fashion, and is reference to the way that the Arctic Environmental Protection Strategy (the forerunner of the Arctic Council) formed the Arctic Monitoring and Assessment Programme to address the scientific questions around key pollution topics, including persistent organic pollutants (POPs), heavy metals, transport pathways, radio nuclides, petroleum hydrocarbons, climate change (including ozone depletion and ultra violet radiation) and human health. The Human Health Expert Group assessed specific pollutants and heavy metals in the blood of pregnant women and their newborn infants. The recommendations, included the need for improved information on spatial and temporal trends to clarify the adverse effects of POPs, methylmercury, and cadmium on human populations, especially on child development, were adopted.

Although some action is being taken to fill gaps in information and to obtain the scientific evidence to justify the implementation of new programs in the Arctic very little data and research is focussed on children and youth in the Arctic. Efforts were made by Finland during its chairmanship of the Arctic Council to encourage the formation of a network of researchers dealing with topics affecting children and youth, but the group's inability to attract funds to support its plan led to a quick demise, and the researchers have moved on to issues in other areas. So, at least in Canada, researchers are often limited to national and territorial databases dealing with total populations, and have to manipulate the data to determine what might be applicable to young people. This means that it is difficult to obtain results of studies and data that show trends in such issues as child poverty for specific communities. Governments know that child poverty exists, but without baseline data or trends showing progress in the fulfilment of basic needs it is often difficult to justify the need for new programs, and the focus for these programs geographically or topically.

- **Conclusion**

Without repeating my main messages about the challenges associated with obtaining good information about one of the most vulnerable groups of Arctic people, I will simply add three points:

1. There are probably much data and even databases remaining inaccessible to the world at

large. Too often they collect dust on researchers' shelves and lack any form of targeted dissemination. The ACYF would welcome information about any databases and research pertaining to children and youth of which you are aware in the circumpolar world.

2. It is hoped that the Directory of Databases pertaining to Arctic Children and Youth will help researchers and communities to become more aware of the existence of databases.

3. Scientific information about young people in the Arctic would reduce the need for anecdotal arguments to show performance of a policy or program. Ideological arguments are often based on a number of assumptions. Arguments based on statistical information and careful analysis provide a basis for rational policy development and debates over the effectiveness of specific policies and programs.

I am hopeful that increased scientific research will provide information that will allow all of us to make better decisions in view of enhancing the well-being of children and youth of the Arctic.

Northern Research Forum

Steven C. Bigras
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It is an honour to be invited to the 20th Polar Library Colloquy to speak to you about a truly innovative and exciting initiative, the Northern Research Forum (NRF).

The purpose of the NRF is to promote a thorough dialogue among members of the research community and a wide range of other northern stakeholders on critical issues, problems and opportunities facing circumpolar peoples in the context of social and environmental changes and economic globalization. The Forum provides an open meeting for policy-relevant discussion on the role of research in addressing issues of sustainable development, community viability, peace and security, social and environmental policy, and the impacts of global change.

The NRF convenes an open meeting every second year, rotating among the different northern countries in order to address regional and local concerns. NRF participants include researchers, educators, politicians, business leaders, civil servants, community leaders, NGO representatives, resource users, and managers. The forum also encourages participation by young researchers with new and unconventional approaches.

Dr. Ólafur Ragnar Grímsson, President of Iceland, launched the idea of the NRF in September 1998 in a speech commemorating the official opening of the twentieth academic year of the University of Lapland in northern Finland. The University of Lapland took up the challenge and prepared a feasibility study for this initiative. Work on the NRF began in earnest in Iceland in October of 1999 with the formation of an international steering committee and the establishment of a secretariat in Akureyri, Iceland.

The first NRF was held in Akureyri in November of 2000. It was aptly named "North meets North" and consisted of five theme sessions: the Relevance of History, Northern Economies in the Global Economy, Regionalism and Governance, Implementatioof a Northern Dimension, and finally Science and Technology Application in the North. Each session had a moderating chair and four to five expert panelists representing an array of views. The aim was to examine alternative methods of dealing with issues of global concern in a South-North format. Often a South-North relationship does not provide culturally, socially and environmentally relevant solutions to northern issues. In between each session was a "Square Hour" – modelled on the idea of informal town square meetings -- designed to allow young researchers to respond formally to the previous session or to make a prepared presentation. What sets the First NRF apart from other international forums is the openness with which each of the themes was addressed by the panelists and the audience. It allowed for a more integrated view of the north and discussions of the findings of multi-disciplinary research. In the final analysis it became very obvious to participants that the phrase "in the North, by the North for the North" was not only a rallying point for the NRF, but also the best approach to addressing the unique challenges facing circumpolar nations in today's environment of globalization.

The second NRF was held in Veliky Novgorod, Russia in September 2002, and was called the "Northern Veche", once again very appropriate given that "veche" means public assembly. It is important to keep in mind that each successive NRF builds on the previous NRF: recurring themes are not unusual. The Northern Veche dealt with four main themes: Human Capital in the North, Innovation in the Northern Governance, Applying the Lessons of History, and Economic Development in the Changing North. Here participants were asked to consider what might be the critical issues facing their region and people in the relatively near future.

The Northern Veche brought to light the importance of involving regional research groups with the international research community in an open dialogue or in NRF terminology a "town square for dialogue". It also served to underline the extent to which globalization, issues of human capital, and the need for sustained development were considered priorities by circumpolar nations.

The third NRF is scheduled for September 2004 and will be held in Yellowknife, Canada. The event will be hosted by the Government of the Northwest Territories, the City of Yellowknife, Aurora College, and the community of Rae Edzo, and organized by the Northern Research Forum Secretariat in cooperation with the Canadian Polar Commission.

The main theme of the 3rd Open Meeting of the Northern Research Forum, "The Resilient North – Human Responses to Global Change," builds on the themes of the Akureyri and Veliky Novgorod Open Meetings, with a focus on those issues that are challenging the ability of northerners to adapt to change.

Northern peoples have an inherent ability to adapt to change, whether rapid or gradual, and their cultures, societies and economies have responded with a vibrancy that is greater than many other regions of the world. The causes of change have usually been outside the region and beyond the control of the population, and therefore leadership is critical in the North.

The 3rd NRF Open Meeting will seek to demonstrate some of the responses to the opportunities posed by globalization, climate change and other global changes, while broadly addressing questions of security and how to implement and promote adaptive capacity and human change in the North. The first of the four plenary sessions, Perspectives of Appointed and Elected Officials, will reflect the fact that the North is represented in regional, national and international debate by appointed officials and elected leaders from all levels of government and from within communities.

Governance, Resources and Co-management is the second session and will provide a wide range of perspectives on how an inherent resilience of the North may serve to ensure that the North seizes the opportunities being presented in the 21st century. The third, Cultural Resilience and the Tourist Economy, will examine how tourism and its associated services are viewed in many parts of the world as a significant part of the economic development strategy. The fourth plenary session deals with Security. Security involves all elements of the resilience of northern communities, ranging from military security to environmental security, and to the most pressing concerns of civil security.

There is no doubt that the third NRF is shaping up to be a very timely and relevant open dialogue. It will provide northerners and researchers with an opportunity to discuss the potential impacts and the means of dealing with 21st century issues as they relate to the circumpolar world.

I thank you for this opportunity, and I hope to see many of you at the third NRF this fall in Yellowknife.

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Being a Librarian: Multi-tasking at the Reference Desk, ca. 1890

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During the first half of the 20th century Horace Kephart was well-known as a writer about the outdoor life and as an editor of books of adventure and exploration, such as *Adrift in the Arctic Ice Pack, from the History of the First US Grinnell Expedition in Search of Sir John Franklin*, by Elisha Kent Kane, MD.[1] His readers, then as now, are generally unaware of his early life as a librarian.

Born in 1862 in Pennsylvania, Kephart was an only child, but he was inventive, self-entertaining, and lucky in that he had an attentive mother who encouraged his imagination. "My mother taught me to read," he later wrote. "When I was seven, and could read almost anything, she gave me my first book, dear old Robinson Crusoe."[2] As a young man the family moved back to Pennsylvania, where he graduated from Lebanon College in 1879, "Not," he wrote later, "without misgivings on the part of the faculty concerning my orthodoxy and sundry other qualifications."[3]

He enrolled at Boston University as a graduate student in science, but found himself enjoying "the blessed privilege of studying whatever I pleased in the Boston Public Library. The absolute academic freedom of the Library was such a relief to one who had suffered from set curriculums (sic) that I resolved to help others find it: I chose librarianship for a career."[4] His son Leonard, in his unpublished work *An Experienced Generation*, described his interest this way:

He reveled in the libraries around Boston but his interest was constantly frustrated by the disorderly way in which the books were scattered around on the shelves. Even the best libraries had little organization and many were little more than storehouses or even graveyards for books. This, to Horace's orderly mind, made no sense. Surely some method could be devised to classify and arrange books so that they could be made readily and repeatedly available [so] he decided to become a librarian with the definite purpose of doing something about this disorderly situation.[5]

Kephart's first job was at Cornell University Library working on the catalogue under head librarian and bibliophile Willard Fiske. When Fiske resigned, Kephart joined him in Italy in 1885 to collect and catalogue books and manuscripts and serve as Fiske's factotum. While at Cornell, Kephart had become engaged to Miss Laura Mack, and he pined for her while thousands of miles away in Italy When he returned to the United States in 1886 he held a temporary job at Rutgers University Library, where he worked on completing the library catalogue. When he and Laura were married in 1887 he took a position at Yale, settling into married and social life, cataloguing, researching and writing, and attending American Library Association (ALA) conferences (taking Laura with him on at least one occasion, in 1887). Children began arriving.

At one of those ALA conferences, William Poole recommended Kephart to be librarian of the St. Louis Mercantile Library. Kephart got the job and began work in late 1890. At the time, according to library employee Clarence Miller, Kephart was a "man of medium height and build, with quick decisive movements that bespoke muscular strength and coordination." Miller noted that Kephart's dark eyes were animated and expressive, and that "his bristling black mustache seemed to me to contrast violently with his finely modeled features. He was neither introverted nor austere." Kephart was a diligent worker.

He had no secretary, and spent most of his day beating a two-fingered tattoo on a Smith-Premier typewriter. He did his own research in the card catalogue, consulting it many times a day, and when he needed a book he got it himself. Late in the afternoon he made his exit, always with a Boston bag gorged with books. A brief but friendly farewell to the assistant nearest him somehow inspired us all.[6]

Kephart was well thought of by his Board of Direction. The President's Report in 1891 noted an "immense improvement" in the library. His annual reports to the Board were marvels of clarity and

advocacy, and he was an early adopter of technology. The report of 1901 glows with enthusiasm about the new co-operative program between the Library of Congress and the ALA for that new innovation: printed cards distributed to libraries all over the country.

He was gaining a national reputation. *The National Cyclopaedia of American Biography* noted, "He is yet but a young man, and is destined to become pre-eminent in the ranks of his profession. As a classifier of books, he is unequaled."[7]

He continued to work hard, perhaps too hard. A letter to Fiske mentioned that summers were typically a time of widespread illness in St. Louis, and since his staff were among the afflicted, he had to work double hours, dragging himself home with only enough energy to eat a bite and go to bed. Six children were also a source of stress, as were, possibly, Laura's social aspirations. He also felt himself sliding into a domestic rut, a harbinger of things to come. He sought solace in the woods, camping, exploring caves, and shooting with one of the many rifle societies popular at the time. He wrote to Fiske: "the ability to plunk an 8-inch bull's-eye at 200 yards, off-hand, gives me what my master's degree does not—the consciousness that I would be good for something in a crisis."[8]

Kephart also enjoyed the companionship of his friends, who included some of the city's young literary movers and shakers. Part of this social scene was drinking. Kephart developed a fondness for alcohol that dogged him literally to his dying day, and alcohol was undoubtedly a prime cause of the breakup of his family and the loss of his position.

Finally, the stress, and probably the alcohol, broke him. He displayed erratic behavior, and suffered paranoid episodes. In December 1903 Laura tearfully gathered up the children and returned to her family in Ithaca, telling the children their father had suffered a nervous breakdown. Except for a mysterious brief period later in their lives, he and Laura never lived together again, and she raised the children. Kephart's life became, from all accounts, a shambles. On March 25, 1904, newspaper readers awoke to this headline in the *St. Louis Globe-Democrat*: "Horace Kephart held for observation." He had been arrested, apparently on his way to fling himself into the river, leaving a suicide note with the bartender at a tavern on the way to the bridge.

Life as a librarian, and as a family man, was over. His father came from Dayton to fetch him. *Library Journal* announced his resignation in December 1903. However, Kephart recovered and gathered himself together while in Dayton. *Library Journal* reported in May 1904, that Kephart asked the journal to announce that "Newspaper reports [of his recent illness] were greatly exaggerated [and he] is now in good health and engaged in literary work."

During his short, busy career as a librarian, Kephart had made a name for himself. Between 1886 and 1897, he wrote a total of some 18 articles and communications for *Library Journal* on a variety of topics of interest to the profession in his day, including classification, library paste, ink, on professional ethics (he questioned providing book values to patrons, helping genealogists, and giving help of "purely personal and pecuniary interest"), and the article on which the following play is based.[9] His career culminated as director of the Mercantile Library from 1890 to 1903, where he built what was regarded as the major collection of Western Americana, a resource which still attracts scholars.

Kephart retreated to the woods and to the outdoor life which he felt would save him. For the rest of his life, Kephart lived in the mountains of western North Carolina, and made his living writing books, such as *Camping and Woodcraft* (first published in 1906 and never yet out of print), and hundreds of articles about the outdoors and the outdoor life which he credited with saving his own life. He became one of the best-known outdoor writers of his time. He published books on camp cookery and on sporting firearms and in 1913, a book titled *Our Southern Highlanders*, a pioneer ethnographic work about the mountain folk of the southern Appalachians. Kephart devoted the last years of his life to work toward establishment of Great Smoky Mountains National Park, and is regarded as a major voice in that effort. The National Park Service recognized his contribution by naming a mountain in the park after him.

At his death, Kephart was little remembered as a librarian, and while obituaries appeared in 1931 in outdoor magazines and in newspapers including the *New York Times*, and in *Publisher's Weekly*, no notice appeared in *Library Journal*.

His 1890 *Library Journal* article called "Being a Librarian" is the basis for the following play. This article is somewhat unusual in the library literature in that as readers and audiences have remarked, the author actually shows a sense of humour. The dialogue is made up almost entirely from direct

quotations from the article. The role of narrator has been added, as well as the slide presentation which is intended to help the audience follow the obtuse and convoluted cataloguing problem with which Kepart is engaged as he meets patrons at the Reference Desk.

Bibliographic References

"Notice of Resignation." *Library Journal* 28 (Dec 1903) 858.
"Notice of Regained Health." *Library Journal*, 29 (May 1904), 270.
New York Times. "Two Writers of South Killed in Auto Upset." April 13, 1931, (20), 2. (More on April 4, 1931, (22),2 and April 6, 1931, (21), 4.
Publisher's Weekly, "Two Authors Die in Accident." April 18, 1931 (119), 202.

Being a Librarian:
Multi-Tasking at the Reference Desk, ca. 1890

A multi-media play for voices in one act, based on Horace Kephart's article "Being a Librarian," published in Harper's Weekly, 30 August 1890 and Library Journal, November 1890.

See also *www.faculty.uaf.edu/ffdjsl/being18_integ.html*

[SLIDE 1]

**Being a Librarian:
Multi-tasking at the Reference Desk
Ca. 1890**

Adapted by Dennis Stephens
from an 1890 article by
Horace Kephart

Dramatis Personae: Narrator, Kephart, 24 voices, (male and female)

NARRATOR: Our setting is a cold spring afternoon in a college library about 1890. The Reference Desk is lit by a green glass lamp. Traffic at the desk is busy and calm by turns. It is located in the large main room, dusty and drafty, accessed by a double glass door leading directly outside. High windows illustrate the room with pale, diffuse light. Patrons enter and leave singly or in boisterous small groups of students. Each time the door opens, a brisk gust of wind enters.

We see Kephart, and educated, energetic, and dedicated young librarian, sitting at the Reference Desk (or delivery desk as it was called), meeting patrons. He is also engaged in a perplexing cataloguing task which he will share with us in detail, which requires detailed study of a number of heavy, dusty French reference works, each of which contradicts the others in matters of bibliographic fact.

KEPHART: Librarianship offers a better field for mental gymnastics than any other profession. I am cataloguing the four thousand and tenth of an interminable series of French plays, when a herd of unbroken Sophomores comes prancing into the library. Before my wits can be jogged out of Paris and across a half-century, a chorus of voices bursts upon me:

(Nearly in chorus)

VOICE 1: Say, will you please give me a chart of Long Island Sound?

VOICE 2: Say, may I have all my books renewed?

VOICE 3: Say, can you tell me where Milton speaks of the Golden Chersonese?

KEPHART: (Aside) After some effort, I find the Golden Chersonese. Perhaps future librarians will have an easier time of it than mining through dusty volumes like this.

(recites, as *from dusty volume)* Paradise Lost, Book 11, "and thence to Agra and Lahor of great Mogul, down to the golden Chersonese. ..." "Chersonese" comes from the Greek word for "peninsula." According to this source, Milton meant specifically the Malay Peninsula.

NARRATOR: (Sweetly) Does that completely answer your question?

VOICE 4: Say, will you show me something on the woodchuck?

VOICE 5: Say, is Professor Scribner in?

KEPHART: It takes some time to make them all happy, and then I go back to my plays. Here is a thin little pamphlet called Les suites d'un mariage de raison...by Messieurs Dartois, Leon Brunswick, and Lheric.

[SLIDE 2]

Les suites d'un mariage de raison

par
MM Dartois,
Leon Brunswick
et
Lheric

To catalogue it I must first of all identify the authors. Querard

[SLIDE 3]

Le Querard:
Archives d'Histoire Litteraire, de Biographie et de Bibliographie Française

Paris
Breau du Journal

introduces me to three dramatic writers of the same period, brothers, whose family name was Dartois de Bournonville.

[SLIDE 4]

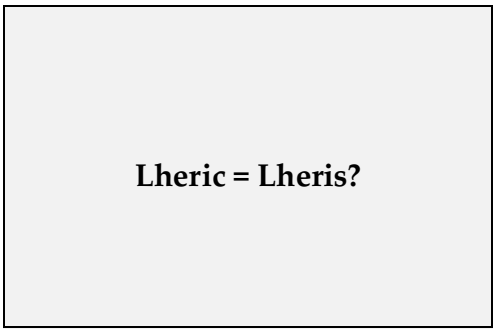
According to Querard:

Family name:
Dartois de Bournonville

Baptismal names:
Françoise Victor Armand
Louis Charles Achille
Louis Armand Theodore

and their baptismal names, respectively, Françoise Victor Armand, Louis Charles Achille, and Louis Armand Theodore. Under the first of these I find my play credited to the said Françoise, "*avec M. Lheris*," Leon Brunswick is not mentioned, and Lheric is spelled Lheris.

[SLIDE 5]



NARRATOR: Someone interrupts here to ask,

VOICE 6: Is 112 College Street at the west end?

KEPHART: Scarcely have I settled back into calm research when a quaint old lady rouses me with the appeal:

OLDER FEMALE VOICE 7: I would like to see a book fifty years old.

KEPHART: Ummm - that is, a book entitled "Fifty Years Old?"

OLDER FEMALE VOICE 7: No; a book that *is* fifty years old.

KEPHART: But we have a great number of books that are fifty years old or more. Is it some one particular book?

OLDER FEMALE VOICE 7: Yes, it is a book that I read when I was a little girl.

KEPHART: What is the title?

OLDER FEMALE VOICE 7: I have forgotten it.

KEPHART: The author's name?

OLDER FEMALE VOICE 7: I don't remember

KEPHART: What was the book about?

OLDER FEMALE VOICE 7: It was a novel, and the scene was laid in this neighbourhood. That is all I remember about it.

NARRATOR: Sound familiar? As Françoise or Louis would say, *Plus ça change, plus c'est la même chose.* The more things change, the more they stay the same.

KEPHART: Our lists of historical novels are of no service, and I am reluctantly forced to give up the search. After assuring several persons that they can find Professor Scribner in his own room, I return to the drama.

No such name as Lheris is to be found among the *L*'s in Querard

[SLIDE 6]

Le Querard:
Archives d'Histoire Litteraire, de Biographie et de Bibliographie Française

⁂

Paris
Bureau du Journal

But he has two contemporary playwrights, brothers, named Victor and Leon Lherie.

[SLIDE 7]

Lheris = not in Querard

brothers:
Victor Lherie
Leon lherie

Puzzling over this, my wandering eye is attracted by a timid little body who needs encouragement to speak out. Yes, we have a "shelf of poetry;" many of them, in fact. And I point out the more accessible. Just then a gentleman asks me, innocently,

VOICE 8: Have you a class photograph of Thomas Green, who graduated here in 1792?

KEPHART: Hmmm. The first photograph was made in 1826, so it's unlikely. Perhaps we could look for a portrait?

NARRATOR: They look. And in one of those little miracles we sometimes experience at the reference desk, they actually find a small portrait of Mr. Green. The patron leaves happily, with promises to return soon with his mother.

KEPHART: I get back to Querard

[SLIDE 8]

Le Querard:
Archives d'Histoire Litteraire, de Biographie et de Bibliographie Française

⁂
Paris
Bureau du Journal

but have hardly found my place when a leisurely acquaintance drops in for a chat. He is soon displaced by a hustling and persistent book peddler, so I bless the old professor who needs me to fetch a book from the nethermost abyss of the basement stacks.

VOICE 9: (Speculatively)
Do you know any history in the Spanish language that would sell well in an English translation?
Of course translating is rather overdone, I know; but I'm thinking of undertaking such a project. . .

NARRATOR: (Quickly)
A wild-eyed woman, in great haste, rushes up and hands Kephart a volume, exclaiming,

VOICE 10: Please extend my time on this book!

KEPHART: I renew her book in English, while thinking in Spanish and musing in French.

My play is found again under Victor Lherie's name, attributed to him "avec MM. Brunswich (*i.e.*, Leon Lherie) et Dartois." Here is progress.

[SLIDE 9]

Dartois de Bournonville,
François Victor Armand

Lherie (or Lheris or Lheric)
Leon (pseud. Leon Brunswick)

Lherie (or Lheris or Lheric)
Victor

My authors' names now stand as follows:
Dartois de Bournonville, Francois Victor Armand [Lherie (or Lheris, or Lheric), Leon (*pseud*. Leon Brunswick)] , Lherie (or Lheris, or Lheric), Victor.

However, past experience has made me distrustful of Querard's accuracy, and I proceed to verify these names, having first sent messengers in search of the elusive Professor Scribner, whose presence is urgently wanted in four different places at once.
Hoefer

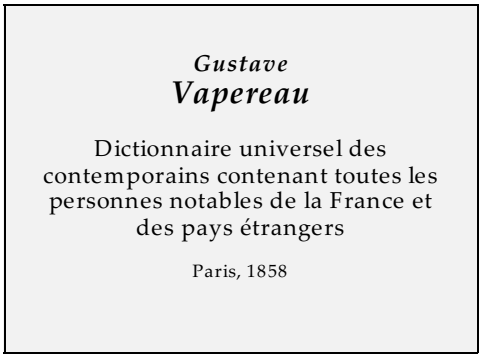
[SLIDE 10]

Jean Chrétien Ferdinand
HOEFFER
Nouvelle Biographie Générale
depuis les temps les plus recules
jusqu'a nos jours,
avec les renseignments bibliographiques et
l'indication des sources consulter

Firmin Didot frêres, fils et cie
Paris, 1853-1866

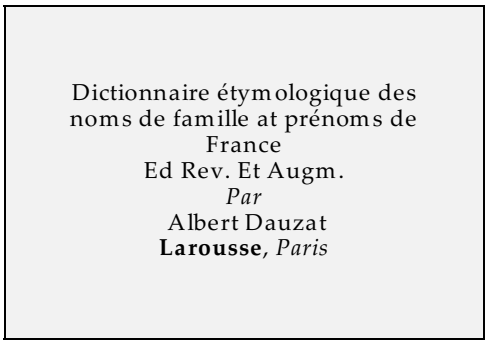
Vapereau

[SLIDE 11]



and Larousse

[SLIDE 12]



copy Querard's spelling of my first author's name. When four such authorities agree, I say, the matter may be considered settled. Now, then, for the Lheries.

VOICE 10: Pardon me, but I have a very rare book here, printed in the sixteenth century. Can you tell me what it is worth?

NARRATOR: After some research, the book is shown to be worth about. . . ten cents.

VOICE 12: Can you inform me, sir, why Shakespeare omitted Henry the Seventh from his plays? . . .

KEPHART: (Eyes on ceiling, stroking chin)
Hmmmmm. . . .

NARRATOR: (aside)

Perhaps he simply died before he could cover all the Henries.

KEPHART: I seem very stupid this afternoon. It is close in the library, albeit whenever the front door is opened a gust of icy wind sends shivers up my back and makes me sneeze. Brunswick, Lheric, fiddlesticks! It is hard to recover the lost thread of evidence.

VOICE 13: Will you be kind enough to show me everything you have on incubation?

KEPHART: Not being an agricultural station, our library yields only short articles in reference-books and periodicals, and these but grudgingly.

NARRATOR: An art student inquires for

VOICE 14: …a good book on science – something short and interesting.

KEPHART: I gave her Thompson's Depths of the Sea and Dunkin's Midnight Sky. She balances them in her hands *[demonstrates]*, and selects the latter.

Her companion wants the largest and best book we have on elephants, and I spend some time searching for an exhaustive monograph on the anatomy of pachyderms. It is only after carrying thirty pounds of folio up and down stairs that I learn what is *really* wanted:

VOICE 15: I *really* just need a picture of an elephant with his trunk up, to work into a decorative design.

NARRATOR: Sound familiar? *Plus ça change, plus c'est la même chose.*

KEPHART: Well, Querard was certain that "Leon Brunswick"

[SLIDE 13]

Querard 1:
Leon Brunswick = Leon Lheris, or Lherie

Querard 2:
Lheric, afterwards Lherie (Leon)

Querard 3:
Leon Brunswick = not found, Brunswick
Pseudonym (leon Levy, later Lheric and Lherie)

is the assumed name of Leon Lheris, or Lherie. In a later volume of his I find "Lheric, afterwards Lherie (Leon)." To make assurance doubly sure I consult a still later continuation of his work, and find no such pseudonym as Leon Brunswick, but under plain Brunswick is the entry, "*Pseudonym* (Leon Levy, later Lheric et Lherie)." Matters are becoming complicated.

VOICE 16: Beg pardon, but will you show me something on the history of the choir of Westminster Abbey?

NARRATOR: This found, the gentleman seeks assistance in deciphering some of his own handwriting. Another wants a German book, author's name forgotten, title remembered only in English, though the work has never been translated, and the English title might be variously rendered in German. Here the incubator man returns his books with a disappointed shake of his head.

VOICE 17: You see, my landlady is raising chickens.

KEPHART: Yes, with an incubator?

VOICE 17: No, with a hen, She breeds game-cocks, and has sold one for as much as twenty-five dollars. Well, there's a sort of workshop next door that has just put in a huge trip-hammer, and the old lady has sent me up here to find out whether the thumping and jarring by that trip-hammer will spoil her eggs.

NARRATOR: A bell rings, and in comes a troop of students. All talk at once. (Voices rushed together, but words intelligible)

VOICE 17: Have you got any of Cardan's formulas?

VOICE 18: I'd like to get the latest Canadian tariff lists.

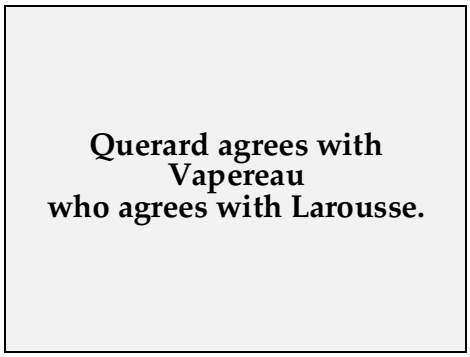
VOICE 19: Where can I get a traverse table?

VOICE 20: Can you give me Lord Bacon's "New Atlantis"? I *think* it's a magazine article.

VOICE 21: I must work up something on 'Byronism on the Continent' for tomorrow morning. Can you give a girl *[or fellow, if male speaker]* a hand?

KEPHART: By and by I get back to those delightful pseudonyms. Querard's latest statement is supported by Vapereau and Larousse

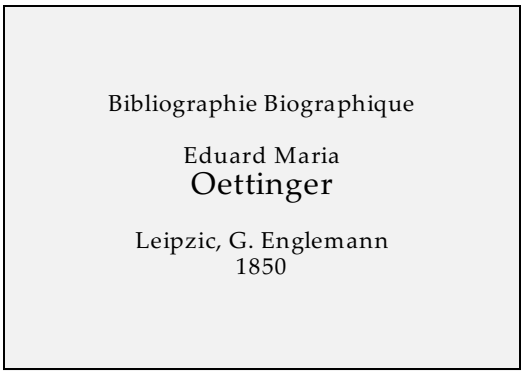
[SLIDE 14]



NARRATOR: You remember Vapereau and Larousse, don't you?

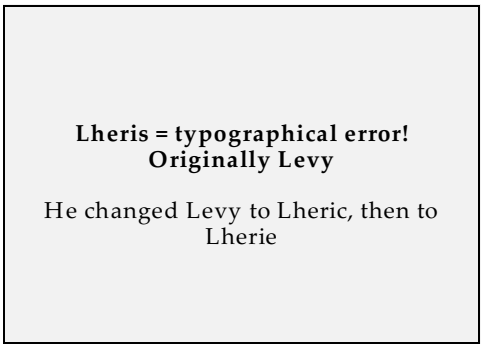
KEPHART: The spelling Lheris, though copied by Oettinger

[SLIDE 15]



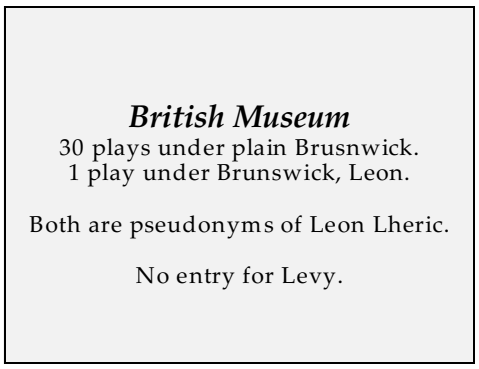
seems to be a typographical error

[SLIDE 16]



The man's name was originally Levy, which he subsequently changed to Lheric, and finally to Lherie. Yet the British Museum catalogue

[SLIDE 17]



enters thirty plays under Brunswick alone, and one under Leon Brunswick, both of which are given as pen-names of Leon Lherie, with no mention of Levy. No two authorities agree about the dates of his birth and death.

NARRATOR: A stranger saunters into the room, gazes awhile at the overburdened shelves, approaches the delivery desk, and opens with a question,

VOICE 22: *(Southern drawl)* Have you any special litterury taste?

NARRATOR: An emphatic negative does not disconcert him.

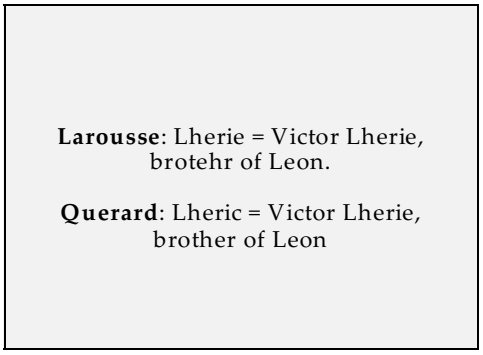
VOICE 22: We've organized a litterury club down at Richmond, and they made me secretary. Now I'd like to get some points on the subject.

KEPHART: He is scarcely gone before a clergyman appears, almost a stranger to me.

VOICE 23: I know you must have a good head for figures. Will you be good enough to figure out my rooming-house bill? I'm about to leave town, and my brain is all in a muddle from these Easter services. *(Coaxingly)* It won't take you long!

KEPHART: Dear me! What would the powers that be remark if they knew it took me half a day to catalogue a tract? Did these Frenchmen themselves know their own names?

[SLIDE 18]



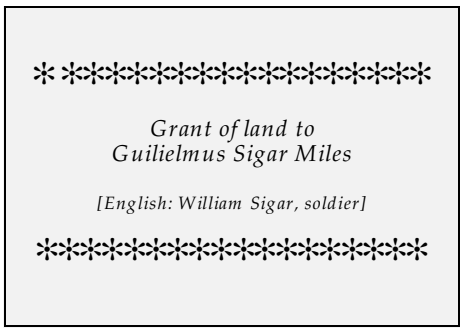
Let us stick to Larousse, and call the man Levy. But the third name remains to be settled. The resources of our library are exhausted without finding any trace of such a person as "Lheric," save that Querard says this stands for Victor Lherie, brother of Leon. Since Leon's name is not Lherie, after all, but Levy, it follows that his brother's name was probably Levy also.

The afternoon is waning. The pale light from our high windows now blends with the all-pervading dust. A shape arises before my dim vision, and I shudder. It is the genealogist, a volume in his hand, propitiatory smiles upon his patient face. Alas! I know his mission.

MALE VOICE 24:
(Excitedly) Ah, sir, I have discovered a wonderful thing a very wonderful thing indeed. May I ask you to translate this for me?

KEPHART: On one of the open pages

[SLIDE 19]



is an emblazoned coat of arms; opposite this a facsimile of some old document. It turns out to be a grant of land which I translate for the gentleman, to one William Sigar, soldier, or as it stands in Latin, Guilielmus Sigar Miles; "Miles" meaning simply that William Sigar was a soldier. The heroic fellow's name was therefore "Sigar."

VOICE 24: You see,

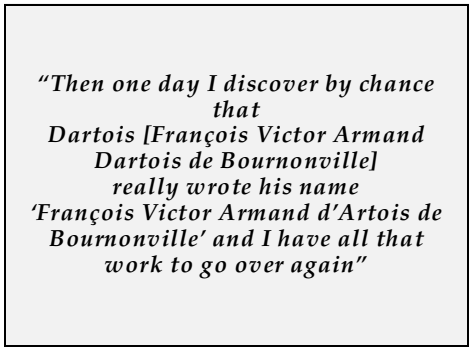
NARRATOR: cried the excited mouser, as his trembling finger singles out the name. . .

VOICE 24: (excitedly) . . .you see, *I am a Miles myself on my mother's side*!

NARRATOR: Alas, he has got this important point quite wrong; it's unlikely he's related to the worthy soldier, since miles is not the fellow's name at all, but rather his occupation. But. . . *[trails off thoughtfully]*

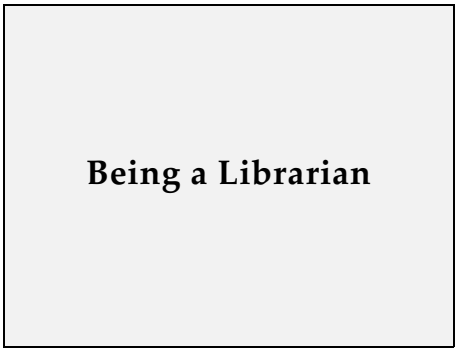
KEPHART: The little French play is finally catalogued – author card, subject card, cross-references, and all. Dartois and the brothers Levy prove to have been quite fecund, and erelong their names as joint authors are intricately woven into the main catalogue.

[SLIDE 20]



Then one day I discover by chance that Dartois really wrote his name Francois Victor Armand d'Artois de Bournonville, and I have all that work to go over again.

[SLIDE 21]



Fini

Exactly Where is Rupert's Land Anyway – and Why Would Anyone Want to Go There?

Barbara E. Kelcey
Archives of the Diocese of Rupert's Land
Winnipeg

When I first came up with the idea for this presentation I thought of it as just being informative, but as I worked on it I realised that what I was probing was an identity problem that the Archives of the Diocese of Rupert's Land (ADRL) needed to deal with, and what follows is merely an introduction to the obstacles needed to be overcome.

Searching for an identity has become something of a national angst for Canadians, according to journalists and academics who tell us that as a nation, Canadians do not actually have a national identity. It is often the case that the first point Canadians make when asked about their national identity is to make it clear that they are not Americans -- which has proven to be an apt analogy for the ADRL because while the Diocese of Rupert's Land shares a common geographical ground with another Rupert's Land, as well as a shared history, it is a *different* history.

The preliminary research for this paper produced a profusion of material, such as historical documents, published works, records of a Rupert's Land Institute, the Rupert's Land Trading Company, the Rupert's Land Ladies School, and even a Rupert's Land Park. Most intriguing, however, was an essay posted on one of those brazen web-sites which supply *custom essay*s. The paper in question analysed two pieces of work about the mixed-blood population of the Red River colony, written by historians Frits Pannekoek and the late Irene Spry. That the author, whose *nom de plume* is "Badgercat" referred to Frits Pannekoek as *her* and *she* throughout, was the first signal this essay was not written by any serious student of pre-confederation Canadian history. Badgercat made some attempt at providing a framework, referring to "The Rupert's Land of Red River" and two of its ethnic groups. There was also the observation advanced that any background required an understanding of the location of Rupert's Land to get a "proper mental picture of the events." Rupert's Land, Red River, according to this writer, "was in what today would be (fill in later when you find location)."[1] The title of the essay is "Rupert's Land: the Division Lies Only in Interpretation" and I thought that for my purposes here, that pretty well summed it up. And if they had not already printed the programme, I would have changed my title to reflect that sentiment.

For anyone engaged in historical research in the Canadian North an understanding of what actually constitutes Rupert's Land should be a given, but as I worked in the past few years at the ADRL I have come to the conclusion that many researchers, historians, social scientists, and the clergy can be confused about exactly where Rupert's Land is, or how it is defined.

Prince Rupert, Count Palatyne of the Rhyne, Duke of Bavaria and Cumberland (and so on), was the nephew of Charles I and a cousin of Charles II. Rupert was not English, but was the son of Frederick V and Elizabeth of Bohemia. He first arrived in England in 1636 at the age of 17, from Holland, where his family had been exiled and where he was educated.[2] Rupert was an artist and a scientist, but his place in Canadian history was absolutely secured in 1670 when Charles II assigned, nominated, constituted and made his "Cousin Prince Rupert to bee the first and present Governor of the said Company of Adventurers of England Tradeing into Hudsons Bay."[3]

The royal charter dated 2nd May 1670 declared that Rupert:

and the said undertakers for theire further encouragement in the said designe have humbly besought us to incorporate them and grant unto them and theire successors the sole Trade and Commerce of all those Seas Streightes Bayes Rivers Lakes Creekes and Soundes in whatsoever Latitude they shall bee that lye within the entrance of the Streightes commonly called Hudsons Streightes together with all the Landes Countryes and Territoryes upon the Coastes and Confynes of the Seas Streightes Bayes Lakes Rivers Creekes and Soundes aforesaid which are not now actually possessed by any of our Subjectes or by the Subjectes of any other Christian Prince or State.[4]

Figure 1 shows the extent of land that the Charter described. Of course, when they set out the Charter, there was no real awareness of what the geographical expanse of Rupert's Land included, nor did anyone possess the knowledge that Rupert's Land in its original incarnation in the Hudson's Bay Company Charter covered an area of North America of over 3.9 million square *kilometres*, or 1.5 million square *miles*: which is one third of modern day Canada.

According to a note in the Hudson's Bay Company search files, Sir George Simpson once described Rupert's Land in an 1857 deposition to a select committee of parliament as:

the northern boundary at Methy Portage and Lake which divided the waters falling into the Bay from those falling into the Arctic Sea, proceeding eastwards this boundary

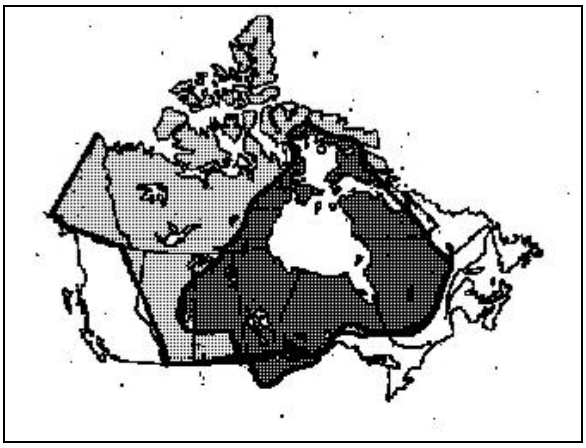


Figure 1. The lighter area is the Diocese of Rupert's Land, 1860 - 1872. Darker marking indicates land granted under the HBC charter and is superimposed on the DRL. (Not to scale and boundaries are approximate.)

extended further to the North reaching its northernmost point at Melville Peninsula.[5]

In 1890, George Bryce, a leader in education

in the new province and a founding member of the University of Manitoba, interpreted Simpson's description in a pamphlet entitled *Brief Outlines of the most famous Journeys in and about Rupert's Land,"*[6]

to mean that "Sir George Simpson, in his evidence before the committee of the Imperial Parliament, claimed that Rupert's Land extended from Hudson Bay to the Rocky Mountains." but that "it was claimed by others that the western boundary of Rupert's Land was a line from Deer Lake south, about 102° 80' W longitude."[7]

(Methye Portage or Portage La Loche, is 13 miles long, and the trail connects the Upper Churchill River to the Clearwater River, which is a tributary of the Athabasca. This portage was a critical link between the Hudson Bay watershed, and the Mackenzie River watershed – which includes lakes Athabasca, Great Slave, and Great Bear.)

As Canada expanded, it was inevitable however, that the HBC and its authority over such a vast domain, and the Company's long-time representation of the Rupert's Land region as useful only for the fur trade would come under pressure from the more developed part of Canada in the east. This was partly because American expansionist interest in the Canadian west prompted more British and Canadian concern for sovereignty, security and defence in the area. The mid 1800s marked a period of profound political and economic change in the four provinces of Canada: the move toward Confederation had begun, and the subsequent development of the Dominion put further stress on the territory because, among other things, British Columbia had demanded a railway connection to eastern Canada and the Atlantic in return for its participation in Confederation. So, two years after the British North America Act proclaimed the new nation in 1867, Britain and the Hudson's Bay Company began negotiations to transfer the Company's claims. In 1869, Canada purchased Rupert's Land, then ten times the size of Canada itself, for the equivalent of $1, 500, 000. There were provisions made for temporary government and the return of some valuable farm land to the HBC. Rupert's Land ceased to exist. Sort of.

In 1849 the so-called colony of Rupert's Land was erected into a Bishop's See, because as it was noted,

the Doctrine and Discipline of the United Church of England and Ireland are professed and observed by many of our loving subjects resident within the said Territories and places called Rupert's Land and [because] Our said subjects are deprived of some of the Offices prescribed by the Liturgy and usage of the Church aforesaid reason that there is not a Bishop residing [etc].[8]

David Anderson became the first Bishop of an area which was significantly larger than even the Hudson's Bay Company's Rupert's Land. **(See Figure 1).**

The Anglican presence in western Canada was established when the Reverend John West arrived at York Factory in 1820, and proceeded to the settlement at Red River (present day Winnipeg) under the auspices of the Church Missionary Society (CMS). Later, the Reverend David Jones built St Paul's Church at Middlechurch, just north of Winnipeg. Jones and West actually ministered to many non-Anglicans – mostly Presbyterians in the settlement, and HBC fur traders at Fort Garry. Little inconsistencies such as denominational diversity never stopped the CMS of course, and soon a thriving Anglican community was firmly established beside the Soeur Grises de Montréal (Grey Nuns) and the Oblates of Mary Immaculate (OMI) who had settled on the eastern side of the Red River in St Boniface.

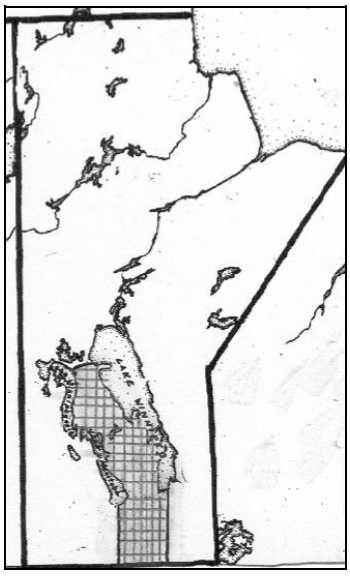


Figure 2. Present day Diocese of Rupert's Land inside the boundaries of the province of Manitoba.

The first Synod of the Diocese of Rupert's Land met in February of 1866. Synod Journals for those early years indicate a major effort at expansion of Church of England missions throughout the entire Diocese, although many of those missions are not listed in Synod Journals by the 1880s, a decrease due largely to an insufficient number of clergy, and the continual lack of funds. Transportation in Rupert's Land was still a pioneer-style venture in the mid-1860s, but the decline in the number of parishes may also be a reflection of that same kind of misconception that was evident in the original Hudson's Bay Charter. The missionaries and clergyman from England simply misjudged the area and geography of western Canada at the time. While some may have had an intellectual grasp of how vast the Diocese, and some even experience in the far-flung missions, the missionaries were spread very thin, across sometimes inhospitable spaces, and communications were slow and extended.

As settlement advanced and larger centres grew, the Diocese changed as well. In fact, the Diocese of Rupert's Land now comprises only a hint of its early dimensions. **(Figure 2.)**

While *I* was pretty sure of where the different boundaries were, it was evident that there seemed to be some confused perceptions out there, including a few academic ones, a view supported by published maps which show a remarkable variance. For example, is Rupert's Land really just the Canadian Shield as one former HBC employee once informed me over dinner? Or as she put it, "you know, it's that bit that goes around," meaning, "why would you bother asking, everyone knows what it is." Or can Rupert's Land be described as a geographical location without any social or historical context, as suggested by a purely topographical map.[9] Available on the Internet showing Rupert's Land as covering a large portion of the United States of America (which would have thrown Badgercat for a loop, no doubt), or as a green blob without any explanation, and for that matter leaving out Baffin Island and the islands in Hudson Bay. But it is maps like the one which illustrates the inside covers of *From Rupert's Land to Canada: Essays in Honour of John Foster,*[10] which present a vague notion of what constituted Rupert's Land. The map, entitled Rupert's Land and the North West, begins just east of Lake Winnipeg and includes much of Alberta and British Columbia, and virtually none of the North West Territories. It does however, include a significant portion of Washington, Oregon Montana and North Dakota! What is particularly galling about this presentation is that the authors, who are Canadian historians, should know better. I was annoyed enough by the misinformation to see Rupert's Land as a worthy research problem, but there were other considerations as well, and while I ***questioned*** myself about whether I ***wanted*** to go there, I knew I must.

In 2001, the ADRL set out to categorize its small, important, but previously unorganized collection of Diocesan administrative records, records from Diocesan groups such as the Anglican Church Women and other auxiliaries such as men's groups and Sunday schools, missionary and clergy records,

the sacramental registers and vital statistics documents for over 175 active and disestablished Parishes,[11] a library of historically significant theological texts, bound volumes of the *Rupert's Land News* and a significant still image collection depicting the early settlement of the region.

While researching for contextual material for the extended project, it became apparent however, that doctoral dissertations, essays and books being published about Rupert's Land used the term quite loosely, often undefined, and even more often assuming the reader knew exactly where Rupert's Land was, even if the author did not.[12] There appeared to be a considerable number of "travelling in" Rupert's Land books, dating back to the 19th century. Essays about the fur trade often used Rupert's Land in the title, presumably using the term fur trade interchangeably with Rupert's Land – which is not outside the realm, just presumptuous. What was more amazing though was the number of titles referring to missionaries in Rupert's Land which were also based on the same principle, written by researchers who had never set foot in the ADRL.

Figure 3. Present day Ecclesiastical Province of Rupert's Land.

What was needed were answers for ADRL staff and volunteers, and to create working definitions that could be passed along to the public. Arguably, this was not a particularly nagging problem to anyone else at the ADRL, just to a nosy historian who had already upset the library carts by rearranging ***all*** the boxes in the lower vault, and whose academic discipline required defining terms and setting parameters, especially as "our guys" had been evangelizing across almost 5 million odd square kilometres of Canada. After all, if the ADRL staff were not clear on the concept, how could others be? Like the colleague who had recently defended a doctoral dissertation entitled *The Native Sons of Rupert's Land,* [13] and whose answer to my question about how Rupert's Land was defined for that work confirmed what I already expected. Everyone knew where it was, even though by now I was certain that although Rupert's Land *the mission* was quite different from Rupert's Land *the fur trade place*, both concerns were important to the identity, development and history of western Canada, to say nothing of the vital statistics that had been used for the research for the thesis.

The Diocese of Rupert's Land has kept its own archives with its own archivist since the 1930s, but as is often the case, the ADRL has evolved and devolved with changing Church circumstances. The larger area of what is now the Ecclesiastical Province of Rupert's Land, **(Figure 3)** has its own Archivist based in Saskatchewan but the actual records are kept at the Archives of Manitoba – which also houses the Hudson's Bay Company Archives. In recent negotiations with the Archives of Manitoba, the Diocese of Rupert's Land committee was not at all surprised to find some of the staff there were seemingly as perplexed about the difference as many researchers are; confounding that view still was that in the immediate past, the archivist for the Diocese acted as the *clearing house* for researchers begging access to the Ecclesiastical Province's collection.

In the middle of the last century the archivist for the Diocese was also the archivist for the Ecclesiastical Province, and as the holdings project progresses it is no longer a surprise to see Diocesan material bearing the little stamp which marks papers collected by TCB Boon for his own substantial book *The Anglican Church from the Bay to the Rockies*,[14] papers which subsequently found their way into the Provincial collection when he was also Diocesan archivist.

In addition, St John's College at the University of Manitoba was founded by the Diocese, and was once an important institution for training clergy and educating the sons of the colony. The Bishop of Rupert's Land was, and is, its Chancellor, and the College's Chapel is a Parish of the Diocese. St John's has been an integral part of the Diocese but over time, the distinction between its theological

underpinnings and secular humanities education has became blurred. As a consequence, many Diocesan papers and important documents became College records, not Diocese records, simply because they were physically located on the University grounds.

This collection was recently deposited in the University of Manitoba archives, organized in a decidedly secular fashion without the context of Diocesan and Anglican church hierarchy and history. Basically, that is not a serious situation: the ADRL knows where it is, and in truth, the Archives of the Diocese has neither the space nor the staff to have organized the extensive material, but it is often necessary to struggle with the University's large finding aid which does not meet Diocesan needs. More importantly perhaps, is those records are now separated -- they no longer share a common identity, even though like those of the Ecclesiastical Province's collection, the records extant are the substance of Rupert's Land *the mission*. It means that the records of the Diocese of Rupert's Land are widely scattered, as even some documents have been deposited in the General Synod Archives in Toronto because of their historical value to the Anglican Church of Canada as a whole.

The Archives Advisory Committee has decided to address this concern through education and awareness, initially to the members of the Church within the Diocese through outreach to smaller, rural parishes, and through the formation of a "friends" group to go out there and "spread the word". To create interest, articles highlighting new additions to the collection, or by requesting information from the readership appear irregularly in the *Rupert's Land News*, a monthly newspaper published by the Diocese.

Much of its documentary history is no longer in the control of the Diocese, and that accounts for some of the identity problem. But all that is changing through information sessions, by promoting parish-based archival procedures, by identifying critical documents already in the holdings, and most significantly because of an active archivist and interested volunteers, the Archives of the Diocese of Rupert's Land hopes to find itself back on research itineraries -- by educating those other Rupert's Land *the fur trade place* institutions, and to people like you who can direct researchers to Rupert's Land, *the mission*.

• **Acknowledgements**

I would like to express my gratitude to the Polar Libraries Colloquy committee for the Wenger Award which made it possible to present this paper in Ottawa.

Following the Tracks of a Pioneer: the Odyssey of Raffaello Lugnani, an Ardent Troubadour in Search of America.

Tamara Lincoln
Curator of Rare Books and Maps
Rasmuson Library
University of Alaska Fairbanks

Sulle orne di un pionere, edited by Aquillo Lugnani, is dedicated to all the Italian immigrants who, in the first half of the century moved to the most remote sites on earth, to become carriers of civilization and energy.[1]

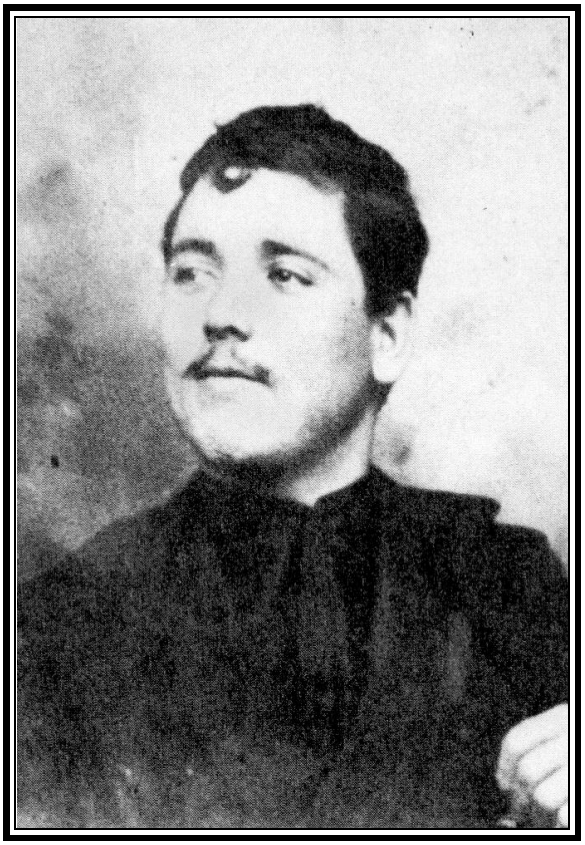
- **Following the Tracks of a Pioneer**

I have to admit: I love to read other people's letters, diaries and autobiographies, legally of course; frequently in archival settings. The familiar echoes of personal lives shared unexpectedly, and the conversations between friends appeal to me as I become captured by their lives. This is exactly what happened with Raffaello's *Sulle orne di un pionere,* which crossed my desk about a year ago. Realizing immediately that my opera Italian was enough to arouse the interest but that I sadly lacked the skills for further investigation, I proceeded to search for an interpreter, whose own saga, it transpired rivalled Raffaello's. I am deeply grateful to Simone Sancinelli, who helped me follow Raffaello's footsteps through America and ultimately to Alaska, as we became fellow travellers looking at America, as outsiders, looking in.

Raffaello Lugnani took *Orlando Furioso* as a model for his personal saga in verse form. The body of work embodies a multitude of stories, episodes, geographical panoramas, characters and causes won and lost. The mosaics of his kaleidoscopic images emerge out of three major segments in the work, which represent Raffaello's three voyages to America. This retold story, however, just highlighted the first two voyages.

Stories, impressions and images inhabit our mind and memory long before they are recorded, in whatever format is there. Dreams are boundless, just as stories are timeless. They capture and describe events and places that occurred in a distant past, yet have the ability to convey the essence of what is relevant today.

Is there another word more laden with myth and hope than America? It echoed through the dreams and aspirations of millions of those who voyaged toward its shores with courage+, anticipation, pain, hardship and hope. Today, the same word, America, bears a heavy burden, but it is still capable of "myth making", as thousands, full of belief and expectation, aim for its shores. Throughout the centuries, many sources have fired the imaginations of multitudes, whispering of what America might be, as these romantic sentiments came to be enmeshed into the powerful attraction of



Il primo addio: 1902. (First departure from Italy.)

the new world. The Statue of Liberty still beckons, as it always has, leading us back to the story to be told.

In 1881, before the Great War devoured part of the world, the birth of Raffaello Lugnani in Vecchiano, Italy, brought much joy and happiness to his parents and grandparents. In maturity he wrote:

The face of the Lord, ever dear to my soul, so well depicted by my parents. -- Being always respectful of Him, who delivered me from evil, leading me away from death many a times – If the Lord will allow me, my tale you will hear all of it, with the worst of it, with no regrets, for it was precious and useful to embark upon the journey and to discover that other world.[2]

In time, the town of Massarosa accepted Lugnani as its native son, particularly after he served his country with valour and honour. Throughout his discourse, he admits readily that military service taught him many of the skills that were essential to his survival while he discovered his horsemanship became especially important to him there, as he tested his abilities in the West and also in California.

Because of Raffaello's adventurous spirit, it is difficult to determine at which point he made the drastic but very determined decision to emigrate to America. Like many young Europeans, he was mesmerized by the vistas projected by James Fenimore Cooper (1789-1851), with their legendary cowboys and Indians, and Buffalo Bill's western spectacles. Europeans already had a long acquaintance with the western novels of an astoundingly prolific German writer, Karl May (1842-1912), and this gifted charlatan, who never visited the American West, managed to capture the imaginations of millions for generations. I too, was drawn into his magic web as I pondered the adventures of the stalwart and virtuous Sioux named Winnetou, and his German brother, Shatterhand. Even Giacomo Puccini (1858-1924), contributed to the mythmaking with his romantic operatic saga: *Girl of the Golden West* or, *Fanciulla del West.* After hearing these stories, countless mothers, daughters, sisters, wives and sweethearts, had to wave goodbye to their loved ones who left in anticipation of a brighter future. By 1907, and driven by need and fertile imaginations, thousands of Italians left to fulfill their dreams. It was rumoured at the time that Italians sent home an estimated three hundred million lire of remittances annually. Edward Corsi, in his important work entitled *In the Shadow of Liberty: the Chronicle of Ellis Island:* reminds us of an anecdote about a mayor of Moleterno, who while introducing Italy's visiting Prime Minister, said: " I greet you in the name of the eight thousand fellow citizens, three thousand of whom are in America, and the other remaining preparing to follow them."[3]

The myth of America enveloped and enticed millions, just as it did Raffallo Lugnani, but while political and economic factors were the primary motivators for emigration, sheer bravado and a sense of adventure in the decision to emigrate to the New World cannot be overlooked. There were also other factors of course, such as the decision to escape conscription, rural immobility, and strict societal and parental domination, as Raffaello himself admits.

Raffaello was a voyager, an immigrant, a voyeur, adventurer and a philosopher, who was never at home in the land he discovered, and his sense of discovery mingled with homesickness, longing and an ever familiar sense of the diaspora, so common among the alienated masses of immigrants. It is curious how he anticipated the deep longing for home, even before he embarked on this first voyage to America, on March 14, 1902, when he boarded a sailing vessel in Naples for New York.[4]

The pain of parting resonates through several of his poems

I wept through goodbyes to my kin [he wrote] *to mom, to father, brothers, my sisters,... full of tears, mutely, with a broken heart I parted, full of courage,... convinced that... at certain times we must not think, for those moments take more courage than battles, as son and father's ties of blood are difficult to sever ... I said adieu, to the beloved land of birth... a star I saw, even seemed to say goodbye. ... To bid farewell, to station comes a disapproving uncle: simple, loving, gentle, father like, sharing my sorrow, who, with but a few words, my sad voice heard. In parting embrace I said: 'Nothing must stand in my way, for we are men, as life's burdens we must bear, for the world, a smiling master must be faced with courage... I am prepared, God's will be done.'*

The hero, also known as Lello, provides the best introduction to the retrospective dimension of his three, colourful voyages to America in 1902, 1906, and 1923. In the story retold on these pages, there is a glimpse only of the first two voyages.

"Though the price I paid for the ticket was reasonable, all of it demanded much courage, but I was determined to seek new experiences, adventures and shed the antiquated stifling ways of the Old World," became his mantra as he paints canvases of ever changing landscapes across Unites States: New York, California, San Francisco, and Ogden, Utah, Seattle, and other locations in the manner of a true pioneer. During the second voyage, Alaska was his panorama where Valdez, Tanana, Fairbanks, Mount St. Elias, and Nome among his discoveries.

Sulle orne di un pionere, comprises 309 pages, including copious notes and illustrations of birds, flowers, landscapes, animals and characters encountered. The vistas are massive, though roughly sketched. Moving swiftly from place to place, job to job, experience to experience, the reader is not allowed time to contemplate but is pulled into the current of constant discoveries. At all times, Lello was aware that he was not only a voyager, but that in order to survive, he had to continually reinvent himself through acquiring new skills to gain prosperity, so that Massarosa could be proud of its native son.

After his arrival in America on the first voyage, Lugnani tried a myriad of jobs ranging from, but not limited to that of a common labourer, dishwasher, and welder; sawmill operator and even a horse trainer .His continuous ability to adapt to new realities enabled him to succeed. Frequently, studies of immigrants have pointed out that a labourer almost always left one locality for another for the sake of betterment or advancement. Yet, this was not the case here. Raffaello gambled as his curiosity and restlessness pushed him to cross America three times. He was, however, always plagued by the fear of not seeing his loved ones again. In time, this caused a deep emotional conflict within him. It is not surprising then that after three years, he decided to embark on a homeward journey.

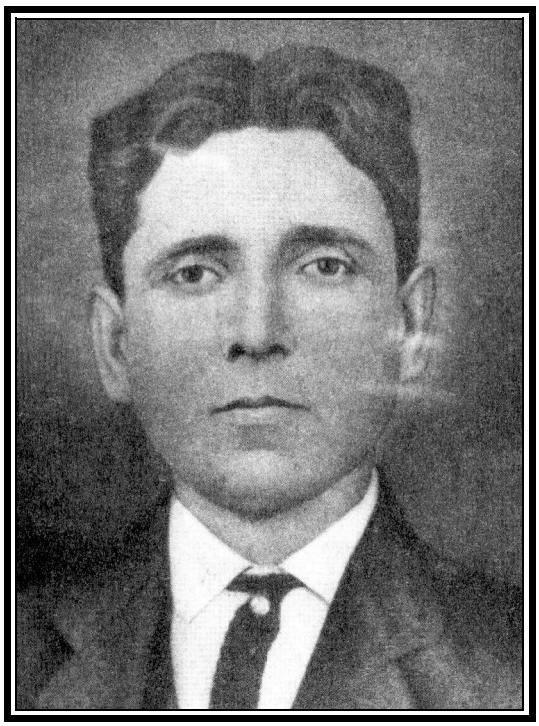
Incontrai la mia donna, 1905. My woman and her child.

But even Rafaello's departure led to conflicting emotions, as joy, regret and sadness mingle, as he recalled the many kindnesses encountered along the way. His poetic voice captures the mood, in a dedication, entitled: "To the Horses' Master and his Daughters", written to pay homage to a family that was teaching him as he was earning his keep, and which treated him with respect. It should not be surprising then, that at the time of Raffaello's departure, the entire entourage came to bid him farewell, including all the horses that he helped to train, so that he could be proud of his accomplishments! He admits, on the other hand, that the memory of certain other places, like the sawmill, for example, evoked negative feelings, because they became the robbers of his youth, strength, will and dignity.

Returning home after three, long years, Raffaello's joy was boundless as he wrote in 1905 that "I could embrace my father so old and dear...and all were happy to see me again." Though not endowed with riches, he acquired the heroic reputation of an explorer. Rafaello became a story teller, whose myths and tales of America mesmerized his home town of

Massarosa. Almost immediately after his return to Italy, Raffaello Lugnani married the beautiful Annebale Butolani,[5] and he boasted that she gave him his first son. Yet, neither fatherhood nor his bride could counter the lure of America, and he embarked on his second voyage in 1908. In the poem, "In America again", he confessed that though it was not his wife's desire to part from him again, he chose to sacrifice her wished for the sake of their son's brighter future.

During the second voyage, he was filled with confidence, and believed he was better equipped to find prosperity in America. Starting in New York, he chased lady luck all the way to California, where because of economic difficulties he was forced to work in the mines, but which ultimately provided the skills and courage he needed to make a journey to Alaska and the Gold Rush.



Secondo ritorno in Italia, 1910. Second return to Italy.

Not a single decade of the second half of the nineteenth century closed without a major gold discovery somewhere. "Gold" became the magic word that caused many to pull up their roots and seek fortunes. The epidemic of the gold rush was more contagious than plague, as it pulled people away from their homelands, drawing people to the Klondike in 1897 and Nome in 1898. Italian Felix, or Felice Pedroni (1858-1910) arrived in Fairbanks on July twenty fifth, 1902, and Pedroni's discoveries led the world to Fairbanks to the last major Gold Rush in the United States. Is it any wonder then, that Rafaello became mesmerized by stories of unrivalled wealth and adventure, which awaited the courageous in the Yukon and in Alaska. He exclaims "I heard, at those sites the need is great, for work in mines, $10.00 bucks a day ... good food and all." Later he wrote "Unrivaled Alaska, vast and unknown, sprawling the width of the universe, boasting a skyline of jewels and earth dust of gold." So the Great Land beckoned to Rafaello and his young friend Roy embarked on their journey on the eighth of March, 1908.

Amongst all of his adventures, Lugnani considered the Alaska portion to be the most daring, sensational and difficult. The mood of bravura, disappointment, fear, discomfort and suffering, mingled with but momentary elation, emerge most clearly from a series of letters, in verse form, which he wrote to his sister. He begged his sister to share his letters only with the closest of friends, because he does not want a strange, more literate audience to ridicule his regional dialect or his mistakes.

The spirit of high adventure envelops the reader from the very first verse of the letter. In Seattle, the men boarded a small, scraggly ferry boat, which will carry them to Valdez, where they would continue their journey to Tanana, Fairbanks, Mt. St. Elias, and Nome and finally back to Seattle Rafaello wrote:

Foul weather, seasickness are our constant companions,, " as I watch the fellow in the next bunk be solidly drunk for all the days, I realize that I feel drunk as well, though I have not touched a drop.. And then ... a China-man dies, he made it to Alaska, but fate wanted him to be buried at sea, wrapped but in a piece of canvas, without a funeral. How terrible. It seemed all unpleasant, but I was still happy to be so far away.

At last, we reached Valdez, where we had to anchor 5 miles away, because all was frozen. We stayed there for days, until sleds could be brought up. There is no way I can express the despair we felt: frightened people, staring at one another, realizing that our food supplies were low, or maybe even nonexistent, we were thirsty, hungry and the only thing that sustained us was chattering among our new found friends. We had to use sleds to reach

Valdez and our lodging. ...Then, the bosses began selecting workers. Were they not men, like us? But, dressed in wolf skins… they seemed more like wolves, for in this ice covered land you must be dressed warmly. Here, all wear furs... And, you may live as you want, but if you have no money, you better leave!

Two died on the way...can you imagine our pain, the broken hearts, and misery: our bodies cold beyond description, as we bid the poor dead devils goodbye and left them behind. Marching on, we saw deer, and even a polar bear, the king of the North Pole, respected by all... A friend, too tired and cold, asks to be left behind, so I kept going, following my destiny, crossing thirty miles of a frozen lake, accompanied only by my saints and a gun. I was constantly watching my back, for it was easy to get lost and lose a sense of where you are. ...Your urine froze, your brain seemed trapped in cold, and everyone seemed to have lost their reasoning powers. It was very dangerous and every moment I lived in desperation.[6]

A bear crossed my path... There was no choice; I had to face my destiny: returning was useless but forging ahead was full of risk and uncertainty. ...In this whiteness and coldness I was determined to be tested to the extreme, knowing that I could not win against these odds, yet, realizing that the attempt to survive was enough to make me feel courageous and important, for no man could face as formidable of a challenge anywhere else. So, I continue holding my gun firmly. Trembling, I scared off the bear, which disappeared behind an almost invisible hill. Even today, as I think of it, I am still petrified. ... And then, the very next day, along my way I spied a weird shadow behind a tree ... what is that? A dangerous local, I think, perhaps a wild, Eskimo?[7]

But of course, I showed great courage as I continued my journey. At one point, I realized that the Eskimo was staring at me, so, as I got closer, I signalled him to let me pass, however, he did not move on and instead asked me for some tobacco. ... For a moment, I hesitated, then gave him some tobacco, keeping my distance from him at all times. I really did not trust him and kept my eyes on him as I was slowly walking away. Unexpectedly, he used his bow and sent an arrow my way, grazing me. Well, you can imagine that at that point, I pointed my gun, and sent three bullets his way. He fell and rolled down the hill. I was sure I killed him. Then, I absolutely knew I had to take off quickly, because he just might have other mates around. The rest of the journey was very difficult and cold, but I was determined to save my skin and ultimately I reached a lodge, where I could get some rest. When the Norwegians from our group arrived there, I shared my horrifying episode with them and all of them praised me for my fortitude and courage. Over and over they assured me that the natives in this land have to respect us according to the law, and they asked me to go with them tomorrow, so it would be easier.

Many large animals cross our path. The moose are huge, and in Alaska they are common food, but better tasting than ox in Italy. [8] *The mountain sheep we could keep away, but bears are different. As we walked for miles over frozen lakes, our misery increased by the hour as snow kept falling and it was over 30 below. It is at times like that when thoughts of my family came close to my heart. I remembered my hometown and my friends, my youthful schoolmates and the beautiful past. I could even clearly remember those nice moments spent helping my mother milk the cow...*[9] *what was I doing here? Others often asked the same question, and we could not find an exact answer. How fortunate were my brothers and sisters, spending time with mom and dad. I felt alone, far from them, and close to very big mountains known as St. Elias. As I walked next to it, I was so impressed with the giant; that I wanted to remember it forever. It must be my destiny to be here, the mountain seemed to be following me silently and calmly.*

Scraps of thoughts and images constitute the poetic fabric of Raffaello's record of his journey as he records these fragments "Why are all the roadhouses named in Alaska, why must we push forward so often and not rest? We did not care whether the food was good or bad, rest was the most important thing." Again, thoughts of love and youth seemed to be lost forever as he felt to be a prisoner of the ice, Indians and Eskimos. Italy is always there, in his heart. "From these great mountains my soul is wishing you the best... I close my eyes, and you, I see, my beloved country.[10] Over and over again he repeats to himself and others:

We must never lose hope, and whatever the destiny is we must face it and accept it ... For my family, I must endure and accept many things, famine and cold, lack of riches and illness. But I will never regret it, or coming to Alaska, with its small villages and Indians, cold of 60 degrees below, was this life? Wolves howling, the brilliant lights in the sky -- At that time I saw many signs of madness in people, but generally people became very slow in the cold -- we were all different, speaking different

tongues, but we tried to communicate in English. It was hard, I was only 26 years old, but everyone there was my boss and master because they were more experienced and older.

I found a good job in the mine, located in Tosina (Tozitna) valley... Ten hours of pushing the barrels, five days in a row... I hurt. My friend left... he wanted to leave before he died in the mine.[11] *He went to Fairbanks to wash dishes in a restaurant. He was ill. I stayed at the mine. During free time I performed many jobs of the cook and barber, just trying to make people feel happy. The mine was two hundred sixty two feet deep and four tunnels surrounded it where we used powerful machinery to separate gold; it was so impressive to see the shining mass at the end of the day. But, too often this working under ground took my breath away, it seemed almost insane, but I am a man and I have to use all my courage to keep the fear away.*[12]

More disasters ... this one happened because of polar bear. On the way to the mine, the Swede and I encounter a huge polar bear, it was standing to the left of the mine, on the side of my friend... 'Be careful with that beast,' I whispered, 'keep the gun in your pocket and let it pass.' He did not take my advice, he shot at the bear, and that was a very wrong move, he missed the bear, it attacked immediately ... and my friend was eaten in front of my eyes, leaving me breathless, almost paralysed with fear. Fear I do not know, I am brave, wise enough to be cautious. Yet, that bloody day I had no gun on me. I cannot describethe horror and the sorrow I felt, feeling helpless. I ran away. We found no traces of his body; the wolves took care of that.[13]

Lello's saga continued, though riches never land on his doorstep, even after his third voyage to America. Yet, what Raffaello took home is pride, for in the eyes of his people and his descendants, he was a brave hero. When he decides to leave America and finally reaches home, his stories were recounted endlessly. Though the mirage of riches vanished, hope in him never died, and he followed his quest tothe end, gathering the colourful scraps of his journey and became a true pioneer. He died of Parkinson's disease in May of 1952. In Massarosa, o n an anniversary in 1977, the town remembered and honoured its proud son, and his memoirs in verse were published.

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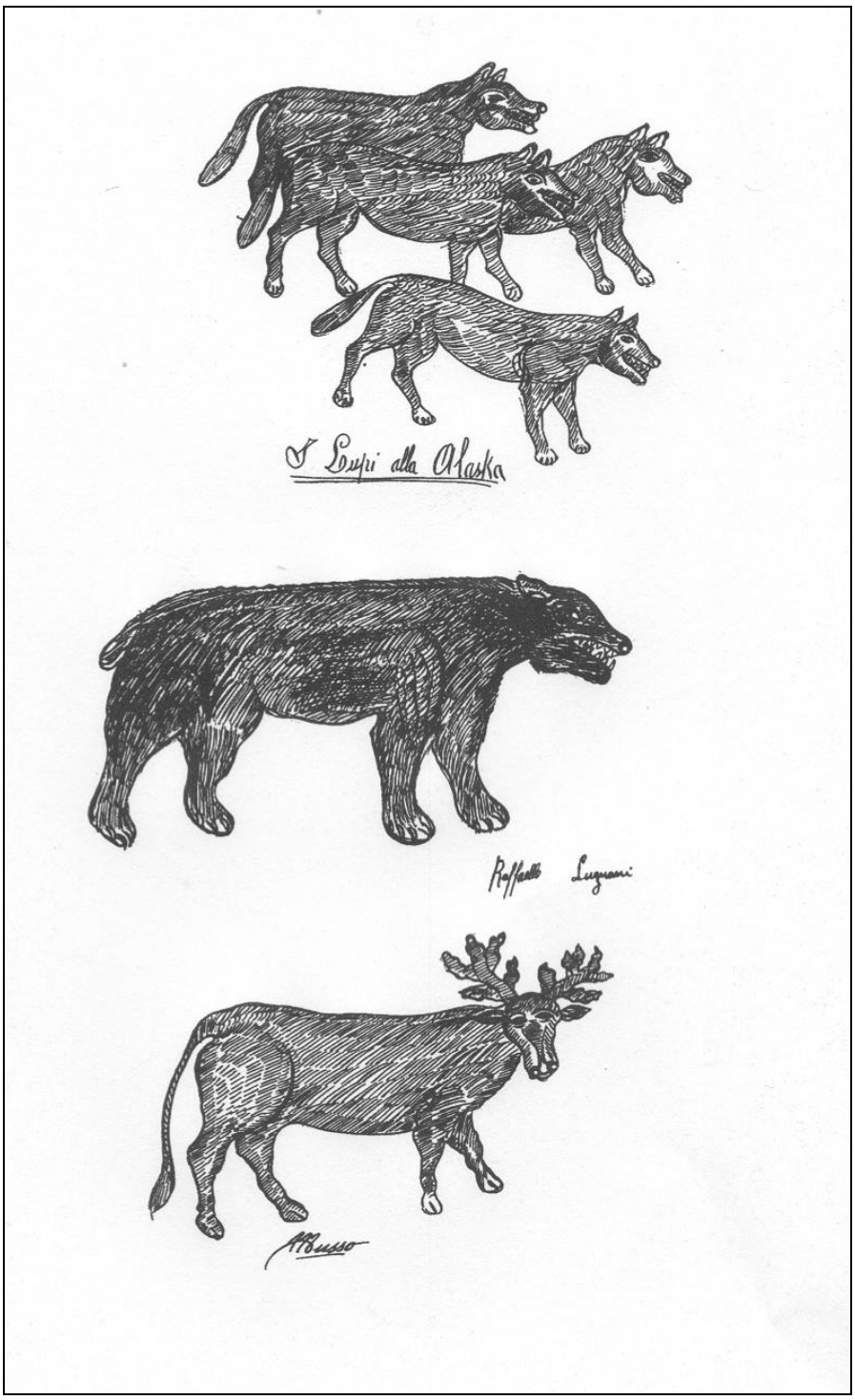

Sketches by Lugiani: Top: *Il lupi alla Alaska* (Alaskan wolves), Centre: *Primo incontro con l'orso* (First encounter with a bear, Bottom: *Un musso* (A moose).

Record, Memories and Stories: A Trip Round Jimmy Bell

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When I was first thinking of a topic for this Colloquy, a topic that would have to do with sharing, what came to mind was story-telling. Last September I started attending the meetings of a Winnipeg story-telling group called Stone Soup. At the first meeting someone asked me what I did for a living. On hearing that I worked in the Hudson's Bay Company Archives she said "Oh, there must be lots of stories in the archives." "Yes" I said, "there are." I didn't say that I hadn't thought of telling them at Stone Soup – at least, not until then.

I have since told two Hudson's Bay Company (HBC) stories at Stone Soup. Neither comes from records in the archives. They are both Arctic ghost stories told to me by Len Budgell. One was originally told to him by Scotty Gall. The other was based on his own experience of Jimmy Bell, whom he encountered both before his death and after.

Len worked for the HBC all his working life, as had his father before him. Len loved to tell and to write stories and he was very good at it. Many memories of his boyhood in Labrador are accessible in the Labrador magazine, *Them Days*.

Jimmy Bell was born on 17 December 1905 in Cromdale, near Grantown-on-Spey in the Highlands. He was the eldest son in a large family. His father was a gamekeeper. He completed his education at the Grantown Grammar School, a three-mile walk there and back every day. After leaving school he worked for a time as a bookkeeper in a local garage. At nineteen, Jimmy Bell was accepted by the HBC as an apprentice clerk in the Fur Trade Department. He spent all his career in the Eastern Arctic, nearly always at posts on Baffin Island. He became, as we shall see, a well-known Arctic character. In the spring of 1945, when Jimmy was 44 and stationed at Cape Dorset, it became obvious that he was seriously ill. Against his will, the HBC in Winnipeg was informed and it was decided that he be evacuated. A Canso Polar Bear flew from Winnipeg to Cape Dorset and brought him back to Winnipeg early in July. His mother and a brother came from Scotland to be with him. He died in hospital on 12 September 1945 and was buried in Winnipeg's Brookside Cemetery. The story that I told at Stone Soup went more or less like this.

Figure 1. Jimmy Bell at Frobisher Bay (now Iqualuit), May 1948.
HBCA 1986/45/679.

Some years ago I received a call at work from a writer for a Northern magazine – *Up Here* – saying he had heard that one of the HBC posts in

the Arctic was haunted and did I know anything about it. It was one of those moments that make reference work worthwhile. As it happens, I had just been reading the memoirs of an Arctic fur trader. "You mean Jimmy Bell at Arctic Bay?", I asked, I hope not too smugly. I went on to tell the writer that I could probably put him in touch with someone who had known Jimmy. I phoned Len Budgell to confirm this and he told me that he had known Jimmy both as a living man – and as a ghost. Naturally, I wanted to know about the ghostly manifestations.

I had built up a romantic picture of the solitary man who loved the Arctic so much. And not just anywhere in the Arctic but at Arctic Bay on north-western Baffin Island, the HBC's most northerly post. Jimmy's dying body may have been hauled by the Canso all the way to Winnipeg, he may have been buried in a prairie city which meant nothing to him, hundreds and hundred of miles away from his native Highlands and his beloved Baffin Island, but his spirit returned to the Arctic. Quite what his ghost did I wasn't sure – perhaps wander around singing melancholy Scottish songs like *Loch Lomond*. I wasn't prepared for what Len told me of his experience of Jimmy's ghost.

Jimmy, Len said, was a bachelor, and he liked things just so. If you did the dishes at night and hung the tea towel up, and it wasn't the way Jimmy would have hung it up, in the morning you would find it neatly re-arranged to Jimmy's preference. The thought of a man returning in spirit to the majesty of the High Arctic so he could fuss about tea towels strikes me as inexpressibly sad. It did get quite a laugh at Stone Soup, I have to admit.

This struck me as a good example of sharing. However much the records of the HBC could tell me about Jimmy Bell they are not going to tell me how he behaved after he was buried.[1] So I proposed as a topic:

Records, Memories and Stories

There are many ways of learning about people who lived in the past. While archivists place a particular value on the record, it is also a part of their professional task to interpret records and place them in context. This is where memories and stories come in. Archivists can create welcoming spaces for those with memories and stories to share.

The paper will present some examples of such sharing in the Hudson's Bay Company Archives, Archives of Manitoba. The final example will be that of the HBC Arctic post managers Jimmy Bell (1905-1949) and Len Budgell (1917-2000).

I had some idea that this might be part of a session where others could share ideas and experiences about making 'welcoming spaces' for memories and stories, whether by means of the Internet or inviting people into our institutions for story-telling sessions – whatever. An example would be 'Historical Greenland Online' of the Danish Polar Center, which we heard about at the last Colloquy.[2] Anyway, this didn't work out and perhaps it's just as well, since working on my presentation sent me off on a new angle. It's the word "Records" that did it. I thought I should put it in, being an archivist, and since it was there I then had to look at the written word.

As it happened, the first text I looked at I discovered through a kind of sharing. One day in late winter I got a call from a woman who wanted to arrange a tour of the archives for the seniors group of the Manitoba Naturalists Society. They're called the Grey Hares. At the end of our conversation I asked the woman, who is called Maxine Geller if she was related to Peter Geller, whom some of you know. (Conversations in Winnipeg tend to be full of "Are you related to?" or "I think you know my cousin" or "You went to school with my next door neighbour." We like to connect.) Maxine, it turned out, is Peter's mother. In preparing for the tour I thought I'd look at Peter's MA thesis so I could show the group a document that he had looked at in the course of his research. The thesis is entitled *Constructing Corporate Images Of The Fur Trade: The Hudson's Bay Company, Public Relations And The Beaver Magazine, 1920-1945*.[3] Our copy is inscribed by the author: "To the Hudson's Bay Company Archives. Thank you for your help and passing on your knowledge." In this instance it was Peter who was passing on his knowledge, for in chapter 5, "'A Magazine Of The North': Photography And Conceptualizations Of The Canadian Arctic", I found another source on Jimmy Bell. The chapter has two epigraphs. The second is from Elsie McCall Gillis, *en route* to Arctic Bay:

My favourites among the magazines [in the Nascopie's dining salon] were back numbers of The Beaver, the official publication of the Hudson's Bay Company. Their copiously illustrated pages I scanned eagerly for any pictures or stories, or for that matter any mention at all, of my Baffin Island home-to-be.[4]

This quote, according to the footnote, came from Gillis, as told to Eugenie Myles, in *North Pole Boarding House*. Gillis, I read, was the cook for the government weather station at Arctic Bay, and was accompanying her meteorologist husband, John on the journey. Arctic Bay – I bet she knew Jimmy Bell! We didn't have the book in our library, so I consulted the Advanced Book Exchange and discovered that Burton Lysecki Books in Winnipeg had a copy for sale. Though I had not been in this excellent store for a long time, earlier that week I had phoned them to place a couple of books on hold for me. So I phoned again and asked that *North Pole Boarding House* be added to the pile.

Every once in a while I went into our library and tried to find the book in which I had read about Jimmy's ghost. I've had no luck, perhaps because few of these fur trade autobiographies have indexes. Only last week, however, in The Beaver Library, which we acquired only four years ago from *The Beaver* magazine, I came across Ray Price's *The Howling Arctic: The Remarkable People who made Canada Sovereign in the Farthest North.* This does have an index. Moreover, Price devotes almost an entire chapter called "The Haunted Land" to Jimmy Bell. Just how Jimmy, in life or death, promoted Canada's Arctic sovereignty, is not explained.

I also, of course, looked for corporate records. I intended first to look at Jimmy's personnel file but was not able to find it. The lack of the file is somewhat of an inconvenience. On the other hand, it means that I have seen very little written by his superiors about Jimmy Bell in the corporate record. So there is not much to remind us that he was an employee of a big corporation. What we have are records written by Jimmy Bell – journals of daily events at the posts, annual reports, and monthly summaries. So he stands out as very much his own man

Mind you, he would have stood out anyway. When he joined the HBC he was 5'10" and weighed 12 stone (168 pounds or about 75 kilos.) He grew in size – estimates range from 250 pounds to 350 pounds to needing to be lifted into a boat with a block and tackle! The Inuit called him *Kweeniok*, which means "the fat one". Wally Buhr, who knew Bell at Lake Harbour in 1939-1941, remembered that Jimmy was called *Kwingik Koodluk* or 'Nice Fat Man'. (Jimmy's girth was one of the reasons for the title of this paper.) And he grew in fame as an Arctic character. He was a good cook and a good host. Those he liked thought he was wonderful. Those he didn't found him dour and reserved. He was noted for his efforts in providing health care to the Inuit, often extracting teeth or performing minor amputations.

As I read the books and the records I began to wonder where, as the phrase has it, I was going with this. Was I creating a biography of Jimmy Bell and weighing and comparing different kinds of evidence as I did so? Certainly it's fun to see the same incidents as recorded by Jimmy and as told in *North Pole Boarding House*, such as his pulling Elsie Gillis's tooth or his 40th birthday party. She baked him a cake with "Happy Forties" in icing on the top, a poignant message for a man who was not to reach the end of his forties.

But what does this have to do with story-telling? And then it came to me. It's all story-telling! Moreover, it's story-telling about a story-teller. In *The Howling Arctic*, Ray Price is really just telling stories about Jimmy, and appears to have relied heavily on Peter Murdoch, the young clerk at Cape Dorset. It was Murdoch who had to cope with Bell as he suffered the horrors of stomach cancer hundreds of miles from professional care. Murdoch is presumably the source for Jimmy's declaration, quoted in Price. "If I have cancer I want to die in the north. I want my spirit to stay in the north. When I die my spirit is going back to Arctic Bay. That's the place I really love most – Arctic Bay."[5]

Price also recounts stories about Jimmy's ghost and stories that must have originated with Jimmy himself, such as the time when newly arrived in Montreal he bought an enormous and seemingly luscious orange. Eagerly sinking his unsuspecting teeth into it, he encountered grapefruit for the first time. Other stories – such as the one that Jimmy and another employee planned to retire to Montreal and run a brothel seem to have generally circulated in the Arctic.

Elsie Gillis knew Bell, which Price did not, and she tells her own stories about him. He came to dinner every Sunday with "his huge bulk and fund of stories" like the one. When Jimmy was a new

young clerk, his post manager would set a cup of coffee before him every morning at breakfast. Jimmy hated coffee and would never so much as touch the cup. Yet day after day the post manager, equally stubborn, would continue to set down a cup of coffee for him. Jimmy hated coffee and would never so much as touch the cup. Jimmy also contributed to Sunday dinners by tutoring Gillis in Arctic cookery. She had come equipped with *The Joy of Cooking*, which remains a standard cook book in Canada and the USA. Her copy was a gift from a friend who had written on the flyleaf "This and the Bible will take you through life. But not if life requires you to cook polar bear…."

While the journals and reports Jimmy wrote are corporate records, they are infused with his own personality. The earliest journal I have seen written by him is from the Payne Bay outpost. Arriving there in August 1931, aged 25, he lost no time in proclaiming it the poorest-looking post he had ever seen – and then advancing reasons for why this would be so. Perhaps he sensed that the records he was obliged to keep for business purposes were a way of carrying on a dialogue – or at any rate, a solo performance for an audience of one – the District Manager whose job it was to read the journals. (His last District Manager, J.W. Anderson, much admired Jimmy's writing, and published some of it in *The Beaver*. See the end of this paper.) In the 1940s when he had to submit monthly summaries of his daily journals he took advantage of the narrative possibilities, as with the story of Kavavou's mother. This story also demonstrates the kindness and patience of the man, underneath the seemingly unsympathetic (and quite Scottish) humour. In February 1943 at Arctic Bay, Bell was told that the old woman was having fits and acting violently. She had so frightened the others at the camp that they had shut her up in an igloo and came to the post. Bell had her fetched to the post on February 2nd . On the advice sent by radio by the doctor at Pangnirtung he treated her with Epsom Salts and Bromide tablets. He wrote:

She is spouting religion by the yard, and informed me that if she dies she does not want to be put into a wooden coffin, as if buried in a wooden coffin she would not be able to get up when "Gabriel blows his trumpet for the last round-up". The natives say there is a devil in her and are scared to go near her. There may be a devil inside her, but if so he will be pretty lonely by to-morrow morning, as after the Epsom Salts…have done their work there will be little else inside her. After a few days at the post the crazy woman became more passive, but on the 11th. she went on a hunger strike, and as she had not the stamina of Gandhi she died on the afternoon of the 18th. and was buried the following day. We tried all kinds of bribes and schemes to make her eat, but with no avail.[6]

Jimmy had no qualms about referring to his fondness for eating and drinking, as in 1933 at Frobisher Bay:

Christmas day was spent in the store, where 83 foxes were traded. At night I celebrated Xmas by having a fire in the guardroom, [sitting room] *and having a better meal than usual. I also put up with the torture of a collar and tie, and toasted the health of absent friends in lime juice; not that it was necessary to do so, as I have three kinds of strong drink on the post, but there* is no *pleasure in drinking alone, although in company I can hold my own.*[7]

Dinner menus for Christmas and other occasions are lovingly detailed, whether he was host or guest. On New Year's Day 1945 at Arctic Bay Jimmy served a dinner of roast venison, the gift of Fr Cochard, preceded by cocktails of rum and port. He commented: "one member of the party will long remember why this smooth tasting concoction is aptly called thunder and lightning."

The whites (Jimmy's own term) -- traders, missionaries, Mounties, and other "transients" visited each other when they could, to eat and drink and play bridge and swap stories. When they were apart, as they often were, they exchanged letters. One of Jimmy's correspondents and friends was Canon Jack Turner. Turner, an Anglican missionary, was another well-known Arctic figure, who, like Jimmy, died before his time Once, writing at Arctic Bay in May 1946, Jimmy imagined Canon Turner's reaction to an event, as he if were taking part in a conversation the two might have had.

On the 13th Tonga died at Cape Cunningham. He was the oldest native in this territory and we believe the last of the "Angakoks". We presume Canon Turner will not mourn his passing as he was the last strong link with paganism. We think, however, that the old mans (sic) *brand of pagan religion was just as good as that taught by the Missionaries; at least Tonga was less deceitful than some of his brethren who have seen the "light".*[8]

Jimmy may also have been having a conversation between two parts of himself – the boy who was raised a Presbyterian in Scotland and the man who lived most of his life in the Arctic.

I can't resist quoting this comment made in May 1944 on the soon to be married Canon Turner "Only a few years ago the Canon used to boast that, if the R.C. Priests could do without women, he could also, but apparently sixteen years in the north has weakened him." [9]

The radio was another means by which Arctic friends kept in touch, as on New Year's Eve 1944:

On New Years (sic) *Eve the VCB staff* [radio station] *put on a concert for the posts, and although the singing was anything but harmonious, it was enjoyed by all. At midnight Bell broadcast New Years* [sic] *greetings to Bill Calder, Herb Figgures, Bob Cruickshank, Ken Hunt and John Stanners, and they all returned greetings. Some of them requested me to sing "The Road to the Isles", but informed them that although living on top of the world was not yet at the singing stage.*[10]

Appropriate to the circumpolar nature of the Colloquy is this account from November 1945:

On the 15th. We heard the first broadcast in Eskimo from Greenland and since that time have been listening regularly. At times reception has been rather poor, nevertheless the natives and myself have been able to understand part of the broadcasts. We believe that more of the talks would be understood if the announcer would talk slower.[11]

To conclude, for now –- I have come to think that stories are stories (or records are records), whatever medium they are in – written, broadcast, told over the dinner table. For example, the Cree story teller, Louis Bird is interested in finding references to his stories in the records of the Hudson's Bay Company.[12] The records are not viewed as authoritative in a way that the oral history is not. Both are considered as contemporary accounts of the same events, which have been recorded and travelled through time in different ways.

As an archivist I'd like to find more stories about Jimmy Bell. I'd also like to make his story better known to the people of his two countries – Nunavut and Scotland. These activities will support each other, as it is the natural tendency of stories to draw more stories to them. It would be a special pleasure to know Inuit stories about 'The Fat One'. Some years ago a woman working on the local history of Quaqtaq [Diana Bay] called to ask for information on an early fur trader, remembered only by his Inuktitut name 'Light Hair.' "He was probably blond", she said. "Or red-haired?", I suggested. "No", she replied, "That was another man. He was called 'Bright Hair'." It struck me that the fur traders, and indeed the other transients in the Arctic, all enjoy a kind of alternate existence in the memories and stories of the Inuit. With such stories, we could really go on 'A Trip Round Jimmy Bell'.

- **Epilogue**

While preparing this paper, I searched on the Internet for information on Cromdale, Jimmy Bell's boyhood home. I discovered that it is the home of the Cairngorm Sleddog Adventure Centre. Was this a coincidence, or was there any connection with the fact that someone who actually travelled by dog team had grown up in Cromdale? On my return to Winnipeg I e-mailed the kennel and the next day received a lovely reply from the owners, Alan and Fiona Stewart. They had not known about Jimmy Bell but would be happy to learn about him. [13] They have also volunteered to see if any relatives still live in the area.

- **Jimmy's Grave**

On a sunny late summer day I went with Judith Hudson Beattie, former keeper of the Hudson's Bay Company Archives, to visit Jimmy's grave in Winnipeg's Brookside Cemetery. Brookside is a beautiful place but one could see why it might not content Jimmy. Even if we had visited in a cold Manitoba winter with snow on the ground, Brookside has too many trees to resemble Jimmy's beloved Arctic.

The stone is a handsome piece of pink granite, with a floral design at the top. The inscription reads "In Loving Memory of James Bell of the Hudson's Bay Company. Born Cromdale, Scotland." Then come his dates and the following line of verse:

Here we leave our loved one sleeping.

As Jimmy's spirit is said to have been active in the Arctic rather than sleeping in Brookside, it was hard not to laugh at this sentiment. On reflection, however, I realized how poignant it was.

Jimmy's mother and brother came from Scotland to be with him as he was dying. They went back home knowing they were unlikely ever again to see his grave. So they were indeed leaving their loved one behind.

Jimmy Bell – Sources

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Shaping Public Memory: The Dr. Frederick A. Cook Society and Admiral Byrd's Antarctic Associates

Raimund E. Goerler
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In his book, *Remaking America: Public Memory, Commemoration, and Patriotism in the Twentieth Century*, John Bodnar defined public memory as "a body of beliefs and ideas about the past that help a public or society understand both its past, present, and by implication, its future."[1] Bodnar studied celebrating history in the United States, from Washington's birthday to Independence Day and Thanksgiving. He reviewed the rituals and memorials that marked those occasions and decided that public memory came from the conscious acts of community and cultural leaders -- politicians, school teachers, and others. They presented the past in ways that they thought suitable to their values, and in ways that minimized historical controversy. In other words, they tried to educate the public about the past by presenting their own views. Bodnar's book depicted the clash between their efforts and those who had experienced the past such as the Vietnam War and had their own points of view or who chose to ignore public celebration for private relaxation.

The focus here is on the efforts of two organizations in shaping public memory of two historic figures in polar exploration: Admiral Richard E. Byrd and Dr Frederick A. Cook. Both men had organizations – Byrd's Antarctic Associates and The Dr Frederick A. Cook Society -- that consciously sought to educate the public about their accomplishments. The two groups began near the time of the deaths of the explorers and continued for many years. In fact, the Cook Society is still active. This paper will review the origins, leadership, and accomplishments of each. The Associates and the Cook Society, shared similarities in their goals and strategies, but there were also many differences. Finally, the conclusion will comment on the impact of the organizations.

- **Admiral Richard E. Byrd and the Antarctic Associates**

For nearly four decades before his death in 1957, Admiral Richard E. Byrd was a national figure of heroic stature. After claiming to be the first to fly over the North Pole in 1926, Byrd added to his fame by becoming the third to fly from the United States to Europe in 1927. In 1928, he led the largest expedition to winter in Antarctica. That expedition featured the first flight over the South Pole in 1929. Byrd's second expedition to Antarctica in 1931 included radio broadcasts from his base in Little America to living rooms in the United States, and the dramatic rescue of Byrd when he attempted to winter alone in the interior of Antarctica. He organized the first expedition to Antarctica funded by the United States in 1939 and returned to Antarctica as "Officer in Charge" of the US Navy's Operation High Jump in 1947. Popularly known in the media as the "Mayor of Antarctica," Byrd also played a role as "Officer in Charge" in Operation Deep Freeze which set up scientific bases for US participation in Antarctica during the International Geophysical Year (IGY) of 1957. Fittingly, what became the Byrd Center at The Ohio State University started as a centre for processing scientific data after the IGY.

Curiously, the Antarctic Associates began during Byrd's lifetime as an organization established not to memorialize him but to help the Admiral maintain his active roles. In 1955 Byrd called on wealthy friends, especially those who had supported his privately-funded expeditions in the past, to join an organization called the Antarctic Associates. According to its charter and articles of incorporation in Massachusetts, its purpose was to provide support and facilities for future exploration and study of the Antarctic regions under the direction or guidance of Rear Admiral Richard E. Byrd. Secondly, the Associates were to provide for the analysis, preservation and publication for scientific and educational use of all the materials and records about past or future Antarctic explorations directed or guided by Byrd.[2] As Byrd's secretary David Martin explained to a prospective member "the Admiral is not interested in memorials but in the simple,

unadorned purpose of finding some assistance that will enable him to cope with the many non-official activities relating to the present expedition [Operation Deepfreeze] as well as to his four previous expeditions."[3]

Byrd hoped to use the Antarctic Associates to raise money to employ a personal staff that would help him in with public relations and educational roles related to his past accomplishments. In recruiting donors and participants to the Antarctic Associates, Byrd explained that his career had led to many continuing responsibilities, which he as a private citizen had difficulty keeping, and offered a "partial list" of thirty-six tasks. These included communicating with former expedition members and their widows, assembling scientific work, responding to requests for information and photographs from publishers and to numerous requests to write or correct articles for encyclopaedias. Other duties included requests to write articles about Polar regions and related subjects, answering thousands of letters from school children, reviewing advance copies of books, care and storage of films, preparation of speeches, and responding to requests to use films. Finally Byrd had to respond to frequent invitations to speak and to add to, and maintain his library of books and articles useful for polar exploration and investigation.[4]

Byrd's appeal for help arose from his wish and expectation to play a continuing role in the scientific investigation of Antarctica. In 1955, the sixty-seven year old Byrd was appointed as "Officer in Charge, US Antarctic Programs", without salary. The Secretary of Defense issued orders that Byrd was to be "the senior US representative charged with maintaining effective monitoring of those political, scientific, legislative, and operational activities which comprise the total US Antarctic Program." Byrd reported to the Secretary of Defense and advised the Operations Coordinating Board in preparing overall-plans for carrying out US Antarctic Policy.[5]

In addition, the orders directed that he:

will assist the Secretary of Defense and his assistants and the Secretaries of appropriate military departments in the development of necessary legislative programs, including the establishment in concert with other departments of the government of a permanent unit for Antarctic activity.

The responsibility for developing a permanent unit for Antarctic activity was to become a continuing concern for the Antarctic Associates.

Thus, the original purpose of the Antarctic Associates was to enable Byrd to have a private staff to handle requests from the public for his time, and from veterans of his expeditions. The US Navy provided support to Byrd while undertaking his official duties as Officer in Charge. In 1955 Byrd proposed the Antarctic Associates raise enough money to have an annual budget of $40,000 to pay the salaries of an executive director, an archivist, and two secretaries. In addition, the Associates would provide suitable space for offices and storage of his library, films, papers, and artifacts.[6]

The Antarctic Associates sent contributors a lengthy annual report of its activities after the first year. Financial support from the Associates had allowed for the showing of films of Byrd's first two expeditions to interested groups and several colleges. Byrd had sent historical reference works to newspaper correspondents, and to radio network representatives for Operation Deep Freeze. Meanwhile, Byrd's secretarial staff had reviewed articles and books about Byrd's expeditions and provided photographs as illustrations. More than a thousand letters were answered.[7]

However, the Antarctic Associates had only modest success in fund-raising. Byrd and his secretary did contact wealthy and influential people who had supported his privately funded expeditions. These included such prominent figures as Henry Ford II, Charles Wrigley, George Getz, and others. By June 30, 1956, the Antarctic Associates had raised $24,000, with the largest amount coming from the Henry and Anne Ford Fund. Meanwhile, expenses had reached nearly $22,000.[8] Direct and personal appeals to a few of Byrd's friends had failed to meet the ambitious expectations.

Admiral Richard E. Byrd died in March of 1957, and the financially struggling Antarctic Associates were challenged by his death. Firstly, it was not clear how the Associates could continue without the charisma and reputation of Admiral Byrd. Some of the leaders, such as George Getz, had joined because of personal ties to the Admiral.

Secondly, one purpose of the Associates was to aid Byrd in his continuing work for exploration and discovery in Antarctica, which of course, had ended with his death. Should the Associates continue the Admiral's work in Antarctica, including the establishment of a permanent unit? Or, should it focus only on memorializing the Admiral by tending his papers? Less than a month after the Admiral's death, Byrd's secretary submitted his letter of resignation and recommended the Associates change their name to the "Byrd Memorial Foundation". In addition, he suggested the Associates should move from Boston to Washington DC, where interest in Antarctica was more intense, and seek out foundations to develop and support an archival and museum program.[9] Although not specifically noted in the letter, one factor to consider was that the National Science Foundation had been given the mandate to carry out the scientific programs in Antarctica in 1957 that same year.

After the Admiral died, the principal leadership of the Antarctic Associates passed to his son, Richard E. Byrd Jr, and the Admiral's widow Marie Ames Byrd. Contrary to the advice of the secretary, the family decided to continue the ambitious program of the Antarctic Associates. They wanted to educate the public about Byrd and Antarctica, to influence the policies and undertakings of the United States in Antarctica and to create a permanent Antarctic Center, in the name of Admiral Byrd. In a letter to the Friends of the Admiral, his son Richard Byrd Jr. explained that

with Admiral Byrd's death in March 1957, the work of the Associates might have been considered finished. On the contrary, however, interest in the Antarctic and the implementation of "Operation Deep Freeze" and other phases of the American Antarctic program has not only continued but expanded the need of a permanent organization not only to carry on Admiral Byrd's work, but as a highly effective and practical form of memorial to Admiral Byrd himself. Antarctic Associates, Inc. is designed to cover areas either inadequately covered or covered not at all.[10]

As it had in the past, the leadership and clerical staff of the Antarctic Associates busied themselves in answering requests for information and in providing materials. They sent Byrd's films for showing to civic groups, and to educational television stations, and answered requests for information, from school children, as well as scholars. In addition, the Antarctic Associates lent items for temporary and permanent exhibitions, such as one at the Boston Museum of Science, and to buildings named in honour of the Admiral, such as the Richard E. Byrd Library of Springfield. School children and others received Antarctica covers. At the request of authors and publishers, the Associates reviewed manuscripts for accuracy. The Associates cooperated with the International Rescue Committee, which created a Richard E. Byrd award.

The Antarctic Associates also worked with government agencies in addition to the United States Navy by providing information about Antarctica, and about Byrd's expeditions. The report for 1959 noted that some nations had laid claim to land which Admiral Byrd and his men discovered, explored, and mapped. Finally, the report declared "the Associates also desire to contribute in the establishment of a permanent commission like the Scott Polar Institute to serve as a central group for Antarctic matters." In other words, the Antarctic Associates wanted to have all Antarctic activities -- logistical, diplomatic, and scientific within one agency.[11] In 1961, Samuel Carr, director of Antarctic Associates reported that

the Associates work with Admiral David M. Tyree, Commander of the present (7th phase) of Operation Deep Freeze; with the Chief of Naval Operations and the Chief of Information (publicity) in the Navy Department; with Congressional and other leaders relative to information requested to enable them to make objective decisions on Antarctic matters which are ever coming up. [He concluded that} *In this period of increased interest and activities in Antarctic matters, the Associates is serving a unique part. To date it remains the only overall permanent central unit in the country for Antarctic matters. It becomes more important than ever for the Associates to continue to serve, with additional help and facilities.*

Curiously, Carr did not mention the National Science Foundation, which had been responsible for the sponsorship and coordination of all scientific programs in Antarctica since Byrd's death in 1957.

In addition to responding to requests for information, the Antarctic Associates tried to assert and expand Admiral Byrd's historical legacy in Antarctica. Association leaders wrote letters to Senators urging the approval of the Antarctic Treaty to preserve Antarctica for scientific research which they believed represented the wishes of Admiral Byrd. The Associates continued to seek Congressional funding for a permanent Antarctic Center. When providing information to prospective authors, the Associates declared it had a right to seek a copy of any writings before publication to make certain of accuracy and also require statements of facts to be included.[12]

During a trip from Massachusetts to Washington, DC in 1962, Byrd Jr. recorded expenses and activities in a report. He wrote:

To get Secretary (of State) Rusk to visit New Zealand Memorial re US BNZ relations and recognition of Antarctic Treaty and significance for Peace. To get Nat.Geog.Soc. to stop criticism Adm. Byrd. To See Adm. Land re same. To see Radford, Carmichael re A.A. To mend fences. To get H.F. B. support re Byrd Polar Institute. New York to see TV companies re shows re Adm. Byrd. To see Raymond Fosdick and others re A.A. To mended fences re support, etc. for AA.[13]

Clearly, Richard Byrd Jr. and the Antarctic Associates served as a lobby for the interests of the United States and of Admiral Byrd's friends in Antarctica.

With assistance from the Antarctic Associates, public memorials to Admiral Byrd continued to be raised in the 1960s. Aside from the prominent memorial in New Zealand, the National Geographic Society, erected a statue of Byrd in Arlington National Cemetery. Vice President Lyndon Johnson spoke at the unveiling in 1961. Television producers assembled programs about Antarctica and Byrd. For example, in 1962, Wolper Productions released its *Biography of Admiral Byrd*. In all of these memorials the Associates provided information and encouragement.

But the most ambitious undertaking of the Antarctic Associates failed. In 1963, the Associates sought to raise money for a Byrd museum complex; a museum would provide shelter and access to the Admiral's papers and memorabilia. In the same plan, the Antarctic Associates proposed a building that would serve as a planetarium and library for the public. Another centre was to be devoted to scientific research. There were also plans for another building devoted to industries involved in Antarctica, a science administration building, and an edifice that served as a memorial for international peace. An ice breaker would also adorn the complex.[14] Thus, six years after the death of Admiral Byrd, the Associates still saw their work as not simply a memorial to the past, but as an instrument for continuing research and exploration. Yet such ambitions belied the weaknesses and divisions within the Antarctic Associates.

Raymond Fosdick, Admiral Byrd's attorney and a leader of the Rockefeller Foundation, had remained a friend and adviser to the family, and in 1962, he cautioned that the Associates had not given enough thought to their ambitions, or to a museum. Fosdick wanted to know why the family did not offer Byrd's artifacts to the Smithsonian Institute in Washington, DC and thought that the Associates would have a difficult time convincing foundations to support a separate building. For example, the promotional programs of the Associates -- the covers, the films, and the correspondence -- seemed to him inappropriate to the traditional educational and display purposes of a museum. Finally, Fosdick warned that their ambitious plans needed a leadership based on enough financing.[15]

Fosdick's remarks about leadership and finances proved astute. To carry out their goals, the Associates had to undertake a capital campaign that needed an executive with skills, public relations expertise, and support. Judging from the records, the Associates were really a small organization that depended upon a few donors and a board that met occasionally; Mrs Marie Ames Byrd herself provided a significant amount of the working cash. In 1963, the Associates sought to hire an executive director after Mrs Byrd offered to lend the Associates enough money to pay a salary for two months.[16] The Associates hoped to attract a director who was willing to accept partial funding or was able to raise a salary as well as enough donations to realize the museum and related buildings. In the end, those expectations proved unrealistic and the

Antarctic Associates continued to be a hand-to-mouth organization. Eventually, it could not even afford to rent storage space, let alone pay for offices and staff. The formal end of the Antarctic Associates remains a mystery. Receipts survive from as late as 1969 but minutes and annual reports end in 1965. More than likely is that the enterprise became largely the work of Richard E. Byrd, Jr. and his mother, who died in 1974.

Byrd's papers and some of his memorabilia came to The Ohio State University (OSU) and its Institute of Polar Studies in 1985. The family wanted the papers to go to an institution with an active research program in Antarctica. In this sense, the transfer of the papers to OSU did in the end fulfill the mission of the Antarctic Associates to link memorial activity such as exhibits and publications, with active scientific work in Antarctica. Meanwhile, a gift from the Byrd Family supports a post-doctoral fellowship in science at OSU's Byrd Polar Research Center and in Admiral Byrd's name.

But the ambitions of the family and the Antarctic Associates significantly hindered historical scholarship about Byrd. In 1968, Edward Hoyt published *The Last Explorer*, the first biography that appeared after Byrd's death in which he bemoaned that Byrd's papers were not available: "Some day, when the immediate family of Rear Admiral Richard Evelyn Byrd, releases the admiral's private papers, a definitive biography of him can be written." Near the end of his preface, Hoyt again notes "it was impossible to get at the facts, buried deep in the Byrd archives at 9 Brimmer Street." Full access to the papers was not possible until the transfer to OSU. In the late 1980s, Eugene Rodgers was the first to use the papers in his book *Beyond the Barrier: The Story of Byrd's First Expedition to Antarctic*.[17] Since then, research requests have continued each year, with two biographies currently in progress. While the family and the Associates did much to promote Byrd and for his public memory, scholarship based on full and equitable access to the papers suffered.

- **The Dr Frederick A. Cook Society**

The Cook Society and the Antarctic Associates had similarities. Both worked at keeping the memory of their respective explorers alive, but filtered or limited access to historic papers to independent scholars for decades. Both organizations had the support of enthusiastic families and the friendship of people who associated with the explorers. There were differences too. The Cook Society, unlike the Arctic Associates, remains viable and has significant financial assets. The focus was also different: the Antarctic Associates dedicated themselves to memorializing Byrd's role as an explorer and "Mayor of Antarctica". The Cook Society focussed on Dr Cook's historic reputation.

Dr Frederick A. Cook was himself a far more controversial figure than Byrd, and probably more so than any other polar explorer. Born in Hortonville, NY in 1865, Cook was the fourth of five children of an immigrant family. In 1887 Cook began his medical education first at the College of Physicians and Surgeons at Columbia University and the New York University and supported himself with a milk delivery business. Following graduation and after the death of his first wife and child, Cook sold the milk business and used the profits to open a medical office. His first polar experience was in 1891, when Cook volunteered for Robert Peary's expedition to Greenland. He served as Peary's ethnologist and photographer. Cook achieved fame as a polar explorer after 1897, when he joined the Belgian Antarctic Expedition as doctor and photographer. As a physician, Cook succeeded in saving the expedition from scurvy. He helped to rescue the ship from its prison of ice by leading the men in sawing leads in the ice to free the *Belgica*.. His book, *Through the First Antarctic Night*, made Cook a celebrity.[18] The next year Cook accepted a mission from the Perry Arctic Club to visit Peary and assess his medical condition during the explorer's unsuccessful effort to reach the North Pole.

Credentials proved as a polar explorer, Cook turned briefly to climbing Mt. McKinley whose summit had not yet been reached. In 1903 he led an expedition that successfully circumnavigated Mt. McKinley as part of an effort to find a route to the top. In 1906 Cook returned to Mt. McKinley and claimed attainment of the summit. Following his election to the presidency of the prestigious Explorer's Club in 1906, Cook turned his attention to reaching the North Pole which Peary had been trying to do for more than a

decade. Beginning in 1907, Cook started his adventure and led a small party of Inuit towards the North Pole. He returned from the North in May of 1909, and claimed that he had reached the North Pole in April of 1908. Seasonal changes and drifting ice had delayed his return and he spent the rest of the year in an ice cave.

Cook's claims to both Mt. McKinley and the North Pole soon sparked controversy. Robert Peary, who claimed to have reached the North Pole on April 8, 1909, denounced Cook as a fraud. By October of the same year, friends of Robert Peary secured and published the affidavit of Ed Barrill, who had been the only one to escort Cook to the summit of Mt. McKinley, that Cook had lied about that accomplishment. Meanwhile, Peary released an account of interviews with the Inuit in the region who claimed that Cook had never left land and therefore could not have reached the North Pole. Cook counter-charged that enemies, especially members of Peary's expedition, had stolen evidence which could prove his accomplishments.

For the next thirty-one years until his death in 1940, Dr Cook's claims remained controversial. Reverend Hudson Stuck reached the top of Mt. McKinley in 1913, and disputed Cook's version of the summit. Vilhjalmur Steffanson announced the discovery of Meighen Island in the Arctic Archipelago in 1919 and claimed that Cook should have seen it during his North Pole journey. Meanwhile, Dr Cook turned his energies to the booming oil business, first in Wyoming and then in Texas. From 1923 to 1930, Cook languished in federal prison in Leavenworth, Kansas. He had been convicted of using the US mails to defraud investors in his oil companies when he failed to prove his innocence.

Adversity only strengthened Cook's resolve to press his claims to fame for both Mt. McKinley and the North Pole. Even in prison he refused an offer of commercial reward in exchange for a confession. After prison, Cook completed his memoirs and searched for a publisher. In 1935, the discredited explorer filed a libel suit against the Encyclopaedia Britannica for its treatment of him. Four years later, Cook encouraged Sir Hubert Wilkins to plan a submarine trip along Cook's reputed route to the Pole and substantiate his claim. Finally, in May of 1940 Cook suffered a cerebral haemorrhage, from which he died in August.[19]

After his death, friends and family continued to speak for Dr Cook. Ralph Shainwald von Ahlefeldt, who was a friend of Cook and had been on the 1903 expedition to Mt. McKinley, remained a lifelong champion for Cook. (In fact, Shainwald successfully petitioned the Department of Justice and secured from Franklin D. Roosevelt a presidential pardon for Cook shortly before his death.) Cook's death inspired Shainwald to organize the Cook Arctic Club to support Cook's claims. Also a member of the Club was Anthony Fiala, commander of the second Ziegler Expedition. Shainwald and the Club tried to interest financiers, including Howard Hughes, in a project to fund Sir Hubert Wilkins to fly to the North Pole along Cook's route and find the Bradley Land that Cook had claimed, but the outbreak of World War II interfered with polar exploration and the Club itself never developed as a continuing organization. The Club became, in the words of Cook's daughter Helene Cook Vetter, a "committee of correspondence" that included Helene Cook Vetter, exploration mates, spouses, their children and writers and researchers.[20] Individually, they wrote and encouraged others to tell the story of Dr Cook and to challenge his critics, and especially Robert Peary.

Daughter Helene remained faithful to her father's accomplishments until her death in 1977. In 1950 she arranged for publishing her father's book *Return from the Pole*.[21] In 1955-56, she appealed to the Senate Committee on Constitutional Rights to reopen the 1915 hearing on Peary's claim and joined the Gonnason Expedition to Mt. McKinley in 1956. In that year, the renewed efforts on behalf of Dr Cook led to a reorganization of the Dr Frederick A. Cook Society in Buffalo, New York, where Cook had died. Leaders of the new society included Helene Cook Vetter, Mt. McKinley climbers Walt Gonnason and Hugo Levin, Italian geographer and Arctic Explorer Silvio Zavatti, and freelance writer Russell W. Gibbon.[22]

Cook's dramatic, tragic and controversial story continued to spur publications, and the work of the Cook Society. Andrew Freeman, who knew Dr Cook and had been a leader of the Society, published *The Case for Doctor Cook* in 1961.[23] Other books that supported Dr Cook

added to the controversy in the 1960s and 1970s including Theon Wright's *The Big Nail* and Hugh Eames's *Winner Lose All*.[24] Locally, the Society gained recognition for its namesake by erecting a historical marker to commemorate Cook's birthplace in Hortonville, NY in 1965, and by winning a resolution from the New York state legislature that recognized Dr Cook for his "two decades of service toward extension of geography and which have earned him an important place in polar history."[25]

As the controversies continued into the 1970s, the Cook Society located itself in Sullivan County, near the birthplace of Dr Frederick A. Cook. In 1974 the Society began holdings its meetings at the Sullivan County Historical Society in Hurleyville, New York. The historical society provided space for a room to display artifacts, photographs, and memorabilia depicting the career and accomplishments of Dr Cook, one of Sullivan County's native sons. Two years later, the Society became officially incorporated in New York State as a not-for-profit organization to gain official recognition for the scientific and geographic accomplishments of Dr Frederick A. Cook, with Russell W. Gibbons as president.

The death of Helene Cook Vetter in 1977 did not stymie the advocacy for Dr Cook nor the work of the Society. Her will transferred the files and the papers of Dr Cook to her daughter Janet Cook Vetter, who had been active in the Dr Frederick A. Cook Society. The Society arranged for a commemorative marker at Forest Lawn Cemetery in Buffalo, NY, where Dr Cook is buried. The marker reads "Dr Frederick Albert Cook, Recognized by many as the First discoverer of the North Pole." In 1979, Sheldon Cook-Dorough, an attorney from Atlanta, became president of the Society and undertook to write many articles about Cook, the North Pole, Mt. McKinley, Cook's enemies and the miscarriage of justice that resulted in Cook's imprisonment. The Society circulated its newsletter and an annual journal (which became *Polar Priorities)*, to writers, researchers and reference works, in order to champion Cook's claim.[26]

A major breakthrough for those supporting Dr Cook's cause occurred in 1983. *ITT Theater* of the Columbia Broadcast System, produced a television movie about the Cook and Peary controversy. Entitled "Cook and Peary: Race for the Pole," the film featured handsome Richard Chamberlain who played the role of Cook, and Rod Steiger the role of Peary. The producers had used the Dr Frederick A. Cook Society as one of its sources of information and as a whole the broadcast stirred more public sympathy and attention for Cook.

Janet Cook Vetter, the explorer's granddaughter, died in 1986. Her will directed that Dr Cook's papers, which she had received from her mother, go to the Library of Congress. The will also directed that the papers be available for research, but copying and publication needed the approval of the Dr Frederick A. Cook Society. The Society, according to the will, was to receive the extensive files that Janet and her mother Helene had kept in their advocacy of Dr Cook. These included correspondence with authors, research files, and documentation about the Dr Frederick A. Cook Society. Finally, the will provided that most of Jane Cook Vetter's estate go to support of the Dr Frederick A. Cook Society for promoting Dr Cook's claims and his papers. In 1990, four years after her death, the estate of Janet Cook Vetter had a value of slightly more than one million dollars.[27]

This largesse enabled the Frederick A. Cook Society to further strengthen the case for Dr Cook. The Society invested more in its newsletter and *Polar Priorities*. In addition, the Society arranged and paid for republishing Cook's exploration accounts, such as *Through the First Antarctic Night, To the Top of the Continent*, and *My Attainment of the Pole*.[28] It sponsored an expedition to the Ruth Glacier on Mt. McKinley to retrace Cook's route to the summit. In addition, the Cook Society arranged for educational symposia at which speakers discussed research and controversies about polar history and Dr Cook. One featured the controversy over the race to the North Pole, and another concerned the *Belgica,* and Antarctica. A third focussed on the relations of polar explorers to Native peoples.

The Society also turned its attention to the care of the papers it acquired from the estate of Janet Cook Vetter. As early as 1974 when the Society reorganized, the family and the Society had discussed the papers of Dr Cook -- Janet Vetter had indicated that the Vetter family wanted the papers preserved and secured "as in the National Archives."[29] After inventory, and the

transfer of Cook's papers to the Library of Congress as Janet Vetter required, the Society addressed the research files and correspondence created and received by Janet Vetter and her mother Helene. In 1990, the Society engaged Mary Allison Farley who had been an archivist at the Wagner Archives. However, in 1992, Ms Farley decided to make a career change and focus on librarianship. In 1993 the Society did officially accept Farley's "Policies and Procedures for the Records Library and Records Center of the Frederick A. Cook Society" and declared that there would be no limits on access, except as required by donor.[30]

To study the problem and recommend a course of action, the Society hired Robert Brice, a librarian in Maryland. Brice had been studying Cook for many years, and agreed to make recommendations about the papers.[31] Based on Brice's report and concerns that the records be in a better environment for preservation and closer to scholars, the Society asked for proposals from archival repositories. In 1996, the papers went from Hurleyville, New York to Columbus, Ohio to become part of the archival collections of The Ohio State University. The Society provided financial support for processing and cataloguing the collection, which was completed in 1997. The entire collection is available for research, without limits on access.

Today, the Frederick A. Cook Society is active, continues to publish, maintains a website and holds meetings at least once a year. Family members continue to have leadership positions, including a nephew of Dr Cook. However, the membership is aging, and the number of members is in decline. There are somewhat more than one hundred members and as noted by one member at a meeting, "Given the numbers just read to you and the amount of gray hair in this room, it is apparent that we need to solicit help from the general membership, to increase our ranks. We especially need to reach out to younger people, in order to ensure the continuity of the society." [32]

- **Conclusion**

Returning to the general topic of shaping public memory, what did the Antarctic Associates do for Byrd, and what did the Dr Frederick A. Cook Society do for Cook? Byrd's polar career spanned three decades until his death, and he attained an international reputation. So, the Admiral needed to do little to preserve name recognition. It is reasonable to speculate that the monuments to Byrd, the statue in Arlington National Cemetery, the film and television programs, and the ships and buildings named in his honour, would have been erected without the Antarctic Associates. The Associates simply provided help and responded to inquiries. Byrd, through his own accomplishments and with the assistance of publicists such as Charles Murphy, had secured in books, magazine articles, and motion picture films a place in history.

Of course, public memory had always been a secondary consideration for the Antarctic Associates. More important to them was to institutionalize Byrd's public memory in the form of a permanent Antarctic commission, with buildings suitable for both historical celebration and the continuing work of scientific research, geographical exploration, and foreign policy making. In this, the Associates over-estimated their potential and underestimated the power of existing institutions and professional organizations. The National Science Foundation, the Defense Department and the Department of State undertook the work that the Associates wanted to do in the name of Admiral Byrd.

It is also reasonable to speculate that without the Dr Frederick Cook Society and the efforts of its dedicated members, Cook would have been little more than a footnote in history. Cook's polar career in contrast had ended thirty-nine years before his death. Defamed by Peary and his influential supporters, his friends and family waged a persistent campaign to argue his claims to historical significance. The Society should take credit for the historic markers, the reissuing of Cook's out-of-print publications, and the continuing public interest in Cook through books and articles and even television films.

Access to historical evidence in both cases was controlled by the Associates (through the Admiral's son), and the Society (through Cook's daughter and granddaughter). In doing so, they used the papers as instruments of advocacy, as weapons in their efforts to shape public memory. Two anecdotes illustrate the extent to which emotions affected memory shaping. The first is that according to Byrd's grandson, Admiral Byrd's

final words to his son Richard Byrd, Jr, were "Dick, take care of my papers.[33]

In 2003 the Society appointed a Committee on the Future of the Frederick A. Cook Society. It was to concern itself with age of the leadership (only four of 11 members were below 60 in age) and the declining revenue from the Trust Fund. However, the Committee could not reach consensus and its work ceased. To renew the membership, to use the endowment wisely, and to develop projects to commemorate Cook's accomplishments, especially the centennial of his claim to the North Pole.

From St Helena to the Canadian Arctic: The Andrew Motz Skene Sketchbook

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This paper is dedicated to the memory of Mr William Mills, the late Librarian of the Scott Polar Institute, who was both very generous in showing me treasures in the Scott Polar collection and in encouraging me to propose this presentation to the Arctic Libraries Conference.

I would like to begin on another personal note. My interest in the arctic material is not only academic. I lived in Schefferville, Quebec, just below 55°N latitude for three years when I was a teenager. This first-hand experience of the North greatly increases my already profound respect for the arctic explorers.

The Library and Archives Canada has an outstanding collection of sketch books, watercolours, drawings, prints and photographs which is a mostly unpublished visual documentation of the exploration of the Canadian Arctic. The Skene sketchbook is one of these precious documents.[1] Half-bound in red morocco leather, it measures a very portable 23 cm x 19 cm and contains 67 folios most of which contain drawings in pencil, with a few in watercolour. There is evidence that some pages have been removed. It bears a RUMP 1812 watermark. Purchased 1988 from a dealer in Baltimore, it was repatriated with the assistance of a Canadian Cultural Property Repatriation Grant.

The author of the sketchbook, Midshipman Andrew Motz Skene, was present at three events of world altering significance. He was aboard the *Northumberland* which transported Napoleon to exile on St. Helena; he was a member of the 1818 Arctic voyage led by John Ross, which made contact with some Greenland Inuit who had never seen Europeans before and, finally, he was on the 1819-20 Arctic voyage led by Edward Parry which sailed to 113°W longitude, further west than anyone had gone previously and wintered-over successfully. The sketchbook bears witness to each of these expeditions and, in addition, contains drawings of a more personal nature.

Skene was born in 1797 in London.[2] The third son of Major Andrew Philip Skene and his wife Henrietta James, he belonged to an old Scottish family, which traced its ancestry back to the 13th century. His grandfather, Philip Wharton Skene served with the British military in North America and moved his family to Skenesborough, his estate, on Lake Champlain. However, because Skene remained loyal to Britain during the American War of Independence, the estate was confiscated.

Andrew Motz joined the Royal Navy as a first-class volunteer in 1808 when he was 11 years old.[3] This was the regulation age for entering the Navy: Horatio Nelson, and the better known Arctic explorer George Back, joined at roughly the same age. The Royal Navy offered better prospects for young men than staying at home and, unlike in the Army, the family did not have to purchase a commission.[4] Between 1808 and 1812, when Skene entered the Royal Naval College, he served on four different ships and participated in the Peninsular Wars at the defence of Cadiz in 1811. The life of a midshipman was perilous. "Falling from the rigging was a common cause of death, second only to dying from a tropical disease like yellow fever, and more frequent by far than being killed in battle."[5] Skene was lucky not to have been maimed or killed accidentally during the performance of his midshipman duties and not to have been taken prisoner by the French as Back had been. However, he did have some accidents. The one self-portrait in the sketchbook is entitled: “Myself the morning after my nose was broken Nov 7, 1816.”

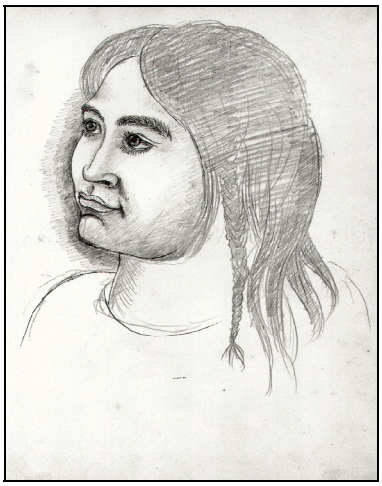
The personal part of the sketchbook consists mostly of portraits -- charming and delicate pencil drawings of his parents, his six siblings, friends and shipmates. "Beautiful Miss

Walmsley" in a fashionable dress and long gloves appears on the back page of the sketchbook. Rachel Jemima Walmesley became Skene's wife upon his return from the Arctic. He also drew his maiden aunt Mary Anne Margaret Skene's cottage, Springfield, in Buckinghamshire, where she entertained her nieces and nephews whenever they needed a place to stay close to London.[6] And somewhere he must have seen the *Draisienne*, the first bicycle which was patented in Paris in 1817 because he sketched that too.

Judging by their placement in the sketchbook, the family portraits were done between the St. Helena and Arctic expeditions. Portraits were a means to counteract absence and it is easy to imagine the 23 year old Skene gazing at these faces dear to him during his lengthy absences, and especially during the winter spent at Melville island in1820.

The other drawings are devoted to the three expeditions in which he participated. The book starts with views of St. Helena. The voyage aboard the *Northumberland* transporting Napoleon lasted from August to October in 1815.[7] Skene's obituary states that King George IV was shown Skene's sketches of Napoleon and of his residence when Skene returned to England in 1816.[8] However the portrait of Napoleon is missing from the sketchbook and has not been located at this time.

The Skene sketchbook marks a direct link between the end of the Napoleonic Wars and the beginning of Arctic exploration. As Pierre Berton wrote: "the Navy had to find something for its ships, its men, and most important, its officers, now that Europe was at peace. There were no wars left for the Royal Navy to fight. Its new enemy would be the elements themselves."[9] Since 1750, a direct route from Europe to Asia through the Northwest Passage was a highly desirable find, sought after not only by the British but also by the French and the Russians. As John Barrow Jr, the second secretary to the Admiralty noted, "it would be somewhat mortifying if a naval power but of yesterday should complete a discovery in the 19th century which was so happily commenced by Englishmen in the 16th."[10]



Portrait of and Inuit Woman, 1818. Pen and ink on paper. Library and Archives Canada, C-132841.

Upon returning from St. Helena, Skene was assigned to two Arctic expeditions in search of the North West Passage. The first one was led by John Ross in 1818 and the second by Edward Parry which lasted from 1819-1821. On the first voyage, Skene was on Ross's ship, the *Isabella,* was frequently mentioned in the published account and Ross named a group of islands off the west coast of Greenland after him. Several of his sketches were engraved for the official published account of the expedition. During the Parry voyage, Skene was on board the *Griper*, under the command of Matthew Liddon. His sketches were not used in the official account and he is rarely mentioned, although Parry did name a bay on Melville island after Skene. We do know that he took part in the theatricals which Parry and his officers organized to counteract the constant darkness and boredom of the Arctic winter. Skene sang songs between the acts of the play.

Although the Ross expedition was considered a failure because he turned back prematurely, it had a human dimension which the Parry expedition lacked. In preparation for meeting with Inuit, Ross hired a Greenlander, John Sacheuse, who had learned to speak English and acted as interpreter. Not only did they have conversations with the Inuit but there was dancing to Scottish reels (Ross had taken a musician along) with Sacheuse acting as Master of Ceremonies. They later encountered Greenland Inuit who had never before seen Europeans, and although Sacheuse's skill as interpreter was especially welcome, the Inuit were convinced that the expedition came either from the moon or the sun. Skene sketched both Mr Sacheuse and several of the Greenland Inuit. In fact portrait

making was so popular that at one point no less than four officers were drawing portraits at the same time of one Inuit visitor.[11] **(Centre page 108)**.

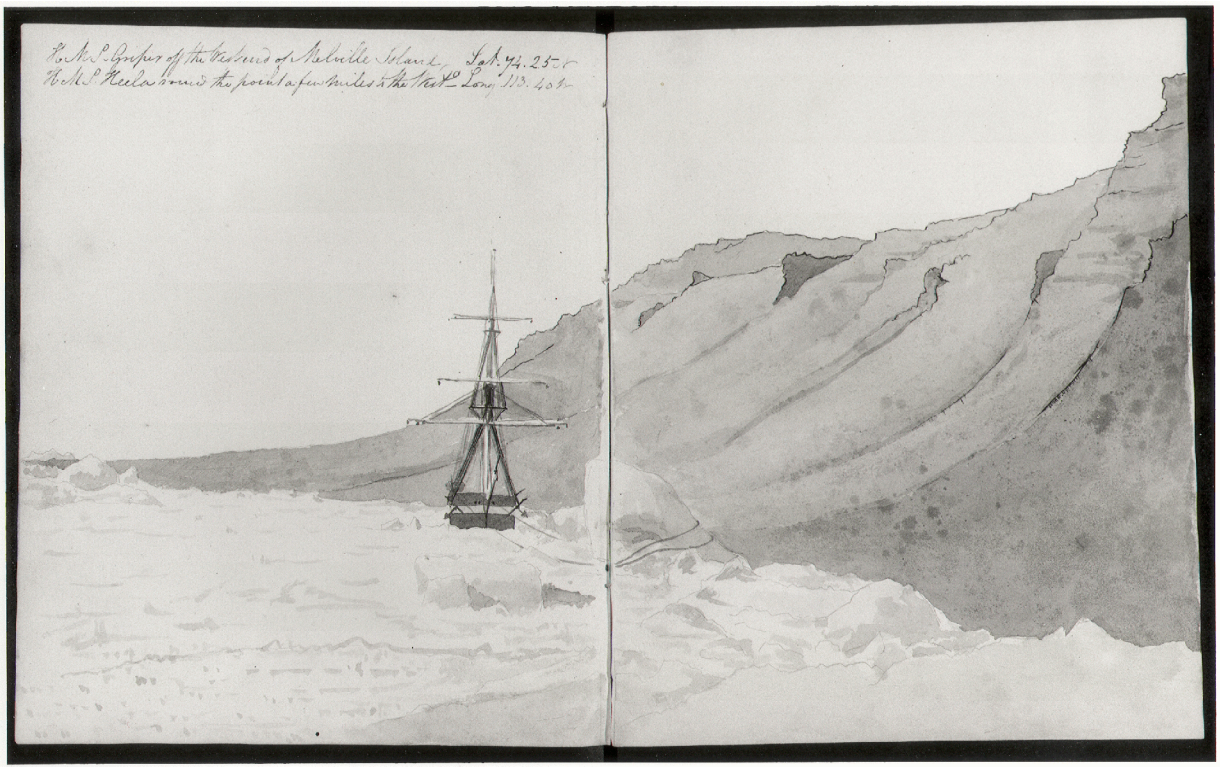
Skene lived in an age that had very high opinions of explorations. Finding new land masses and new peoples were the highest good that men could achieve.[12] It was also the beginning of empirical science with its assumption that the various forms of matter, animate and non, would yield their secrets after careful cataloguing and observation.[13] All expedition publications had Appendices, listing the measurements taken and the specimen collected. The instructions for both Arctic expeditions were- for the officers to collect and make drawings of natural history and other specimen.

The tradition of using drawings to supplement verbal descriptions and to supply illustrations to the published account of an expedition has a long history. The best known early recorder was John White who accompanied Martin Frobisher's second expedition in 1577. The more systematic and recorded appointment of artists to supplement the travel record began in England with Captain Cook who had professional artists on all his voyages. All the Arctic voyages took along artists whose on-the-spot drawings and watercolours served as the basis for the engravings which illustrated the published accounts of these expeditions.

Skene did several natural history sketches of fish, a whale louse, an arctic dog, a polar bear, and various birds. He also sketched the landscape although most of them are distant coastal views, with the exception of the watercolour *Cape Melville, Regent's Bay from Bushnan's Island*, Greenland, from the 1818 expedition which successfully captures the sparkle and colour contrasts of a bright arctic day. Another watercolour from the Parry expedition, *HMS Griper off the west end of Melville Island, Aug 1820* **(Page 110)** captures the awesome barrenness of the Arctic.

The 1818 expedition was cut short because Ross believed that he saw a chain of mountains, which he named Croker Mountain, in honour of the First Secretary of the Admiralty, barring the way west in Lancaster Sound. However, Edward Parry, who was the Captain of the second ship, the Alexander, did not agree with Ross and applied to the admiralty to lead an expedition the following year. This was Skene's second Arctic voyage. Geographically a highly successful voyage, the crew won the £5000 bounty which the Royal Society offered to the first explorer to reach longitude 110°W. They reached 113°W and spent the winter moored to an iceberg on Melville island.

At the completion of the expedition, the 23 year old Skene was promoted to Lieutenant and received part of the £5000 reward. He retired from the Navy on half-pay, married Rachel Jemima Walmesley and raised a family of four children. Skene died in 1849 at age 53. The sketchbook is a unique record of the of the life of an individual life as in intersected with great historical events.



HMS Griper off the west end of Melville Island, 1820.
Watercolour over pencil on paper.
Library and Archives Canada, C-132217.

Newly Revealed: Records of Three American Polar Archives in The Explorers Club, New York

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• Introduction

The Explorers Club is dedicated to the advancement of field research, scientific exploration, and the ideal that it is vital to preserve the instinct to explore.[1] Founded in 1904 and incorporated in 1905, the Club's mission today reflects its origins, that is to "encourage explorers in their work by evincing interest and sympathy, and especially by bringing them in personal contact and binding them in the bonds of good fellowship."[2] Academic archival and library-based research has played a small but growing part in the Club's recent history. The Explorers Club headquarters at 46th East 70th Street in New York City houses a 15,000-volume library (most of which is devoted to exploration) and approximately 200 linear feet (61 m) of membership files plus an additional 125 linear feet of more-or-less processed archival collections relating to members' expeditions and Club records. Jointly the library and archives comprise the Club's Research Collections, which are overseen at present by Clare Flemming, the Club's first professional archivist. Access to the Research Collections is by appointment only. This paper briefly describes three polar record groups that are of great significance to Club history, but appear to be largely unknown (or known only in part) to outside investigators.

• *Lady Franklin Bay Expedition, 1881-1884*

History.

Lieutenant Adolphus Washington Greely (1844-1935) was under specific instructions from the Headquarters of the US Army in 1881 to "establish a station north of the eighty-first degree north latitude, at or near Lady Franklin Bay, for the purpose of scientific observation, etc."[3] This expedition, officially named after an inlet on Ellesmere Island where the expedition would erect its base, is sometimes known as the Greely Expedition. The expedition christened its headquarters Fort Conger, named for an influential United States senator who endorsed the project. Its purpose was to represent the US in the first International Polar Year, a multinational effort to put national claims and heroics aside in favour of studying the arctic in a truly scientific manner. Greely's team, for example, was to conduct meteorological studies and record tides, auroras, lunar halos, ice conditions, game conditions, and to collect local flora and fauna.

Briefly, the Lady Franklin Bay Expedition of 1881 was made up of a 25-man team prepared to winter over at Fort Conger from 1881-1882 and conduct all of their appointed research. Orders specified that there would be a re-supply ship in July 1882, but the orders were not fulfilled. The relief vessel *Proteus* failed to reach anywhere near Lady Franklin Bay, thus committing the expedition to a second winter, 1882-1883. Then the summer of 1883 came and went, again without relief. This prompted Greely to break camp and order his men to march south to Cape Sabine, a prearranged rendezvous point that could, it was thought, be more easily reached by whalers or other rescue teams. The expedition literally abandoned Fort Conger. **Figure 1** depicts the extent of the expedition library and other records that Greely was forced to leave behind. They took only what they needed for the trip and perhaps a month or so of living at Cape Sabine where they expected to find a cache of food left by a previous exploration party. This relocation to Cape Sabine proved to be the worst of the many errors of judgement made at the time.

Ultimately nineteen of Greely's men perished between January and June 1884, mostly from starvation. One of these men – by then a quadruple amputee -- lived to be rescued from Cape Sabine, only to perish *en route* home. Greely himself wrote a popular account of the expedition in 1886[4] and an official report to the United States Congress three years later,[5] as did a fellow survivor, David Brainard.[6] An excellent modern account is Alden Todd's *Abandoned*.[7]

Sixteen years after Fort Conger was abandoned, arctic explorer Robert Peary used the relic camp for his own winter quarters. He found Fort Conger and its contents were mostly intact. There under the auspices of the Peary Arctic Club, Peary set about gathering what he considered important, including instruments, manuscripts, books, and personal items that were eventually shipped to New York. The Peary Arctic Club attempted to return personal items to survivors or relatives of the deceased, and to the United States Army. Materials unclaimed or otherwise unavailable in 1899 are now the records that comprise this important record group in The Explorers Club archives.

Highlights of the Collection

The collection includes a vast array of manuscript meteorological records, letters both written by, and received from, members of the expedition, sledging journals, photographs, daily logs, and other accounts of life at Fort Conger. Highlights include a number of beautifully prepared botanical specimens and even the pressed wing of a bird, quite likely a snow bunting. **Figure 2** presents a collage of selected items from this collection.

The Lady Franklin Bay (1881-1884) record group consists of nine five-inch document cases, three oversized manuscript log books, and one photo album. It is available by appointment in The Explorers Club as Accession Number 2003-007. For more information on this collection see *The Explorers Journal*.[8]

- ***Arctic Club of America, 1894-1913***

History

In the hot summer of 1894, New Yorkers waved farewell to a shipload of scientists, hunters, photographers, and students bound for northern waters on the grandly named "Dr Cook's Arctic Expedition of 1894". Frederick Albert Cook, MD (1865-1940), was a man of parts: surgeon to Robert Peary's 1891 expedition to Greenland, surgeon and ethnologist on the *Belgica* (the first ship to winter over in the Antarctic, in 1897-98), second president of The Explorers Club (1907-08), and according to himself, the first person, along with two Inuit companions, to stand at the North Pole on 21 April 1908. Cook's later life was fraught with humiliation and discredit. Except for his continuing role as an exemplar in tales of what happens when a good explorer goes bad, he and his real achievements are now mostly forgotten. But in 1894 it was not possible to foresee any of the strange twists that Dr Cook's life would take in coming years.

The Arctic Expedition of 1894 was a frank effort on Dr Cook's part to make some money. Although he had acquired a certain amount of fame by this time, his medical practice was derelict and he needed income. What better way to trade on his achievements than to offer an expensive cruise to the arctic with himself as expedition leader? In Europe, brief tours from Spitsbergen had been popular for some time, but there was no equivalent in the New World.[9] Dr Cook's Arctic Expedition of 1894 was intended to serve as an income-generating excursion to Greenland and Ellesmere Island, Canada.

Cook chartered the *Miranda* for this expedition. Soon after she began her cruise into arctic waters, she struck rocks and began to take on water. Rescue by the nearby *Rigel* was fortunately swift, with no loss of life. Perhaps somewhat surprisingly, the tourists were immensely satisfied with the outcome of their harrowing Arctic adventure: they had survived, they had bonded. How better to commemorate their adventure than to form a fraternity of like-minded men? Thus the Arctic Club was born as the men of the *Miranda* made their way back to lower latitudes in considerable comfort on board the passenger vessel *Portia*. Henry Collins Walsh, self-proclaimed "historian" of Dr Cook's Arctic Expedition, published a tale of their summer excursion, entitled *Last Cruise of the* Miranda,[10] with chapters contributed from sixteen of his fellow travellers.

The Arctic Club, although little remembered today, thrived for seventeen years, during which time its membership expanded to include northern explorers who were not passengers on the *Miranda*, and persons interested in exploration of Antarctica. In 1913 the Arctic Club and Explorers Club (itself nominally founded by H. C. Walsh in 1904) decided to merge, because of a substantial duplication in membership.

Highlights of the Collection

Among the records from the Arctic Club that have survived are two albums of photographs taken on Dr Cook's Arctic Expedition of 1894. These contain about a hundred prints that document life in Greenland at the end of the nineteenth century, as well as the more mundane aspects of the expedition.

Another group of records concerns the Arctic Club's effort in 1908 to locate Dr Cook who had gone north in 1907 and had not been seen since. The Club established a Cook Relief and Rescue Expedition, even printing a specially prepared letterhead for use in soliciting funds. However, Dr Cook was finally heard from before his intended rescuers got very far with their planning—by telegram, in which he announced to the world that he had been to the North Pole.

This announcement has kindled some controversy, because Robert Peary announced a few days later that he had just returned from the Pole, having claimed to reach it on 6 April 1909. Peary being Peary, there was no room for two "firsts", and he proceeded to do everything in his power to throw doubt on Cook's apparent achievement. Peary was able to use the willing members of his modestly named Peary Arctic Club to challenge Cook's record, and it was not long before the press took up sides in the ensuing debate. The files of the Arctic Club include correspondence concerning Cook's veracity and the Club's own position in the controversy: would it support Cook or Peary? Other records include Arctic Club dinner menus and programs, a complete run of its short lived periodical, *Bulletin [of] The Arctic Club of America*, membership rosters, and a collection of cabinet cards depicting Club members.

The Arctic Club of America record group consists of four five-inch document cases, Accession Number 2003-003. For more information on this collection see the *Explorers Journal*. [11]

- ***Peary Arctic Club, 1899-1910***

History

Morris Jesup invested heavily in the discovery of the North Pole. It was his intention, along with those of a number of wealthy New Yorkers, that an American – Robert Edwin Peary (1854-1920) – would be the first person to accomplish that feat. The Peary Arctic Club was formed in 1899 (incorporated 1904) by Jesup and other subscribers, each of whom donated thousands of dollars to outfit Peary's expeditions. Although often confused with the Arctic Club of America, the two organizations were completely separate.

In the summer of 1901, the Peary Arctic Club grew concerned over the lack of reports from its man in the north. Who better to lead a relief expedition, it reasoned, than Peary's former expedition mate and surgeon, Dr Frederick Cook? And so it was that Cook went north to rendezvous with Peary in order to ascertain the health of the latter and report back to the Peary Arctic Club in New York. A few friends of Cook's from the Arctic Club joined him in this excursion, each paying for the privilege. Cook found Peary at his base at Etah, Greenland, but not in good health: he was suffering from pernicious anaemia, the disease that would kill him less than 20 years later. There is some irony in all this: Cook may have helped to save Peary's life at this juncture, just eight years before Peary effectively destroyed Cook's.

Peary's later Arctic forays can be summarized briefly. After several expeditions in which he failed to reach his goal of 90°N, Peary made a plea to his backers to outfit him with a purpose-built vessel that would take him to the edge of the polar ice in Kennedy Sound. That ship was the *Roosevelt*, named for one of Peary's most popular supporters, and captained by renowned Newfoundland ice master, Bob Bartlett. The *Roosevelt* left New York harbour in July 1908 to carry Peary and his expedition on its final dash for the pole—and the Cook-Peary polar controversy which inevitably ensued. This was a battle that

Cook never could have won. Peary had many influential backers, none of whom it seemed was about to hand over "the prize of 3 centuries"[12] to another explorer. Cook had no one in his court, or at least no one with money or access to a convenient public forum, and Cook's character was destroyed in the newspapers, most notably the *Brooklyn Standard Union* which was owned by Herbert L. Bridgeman, Secretary of the Peary Arctic Club.

Highlights of the Collection

The collection includes correspondence, plans, minutes, photographs, accounting log books and cancelled checks, and other ephemera produced by the Club and its members, most notably by Peary himself.

The Peary Arctic Club record group consists of nine five-inch document cases, and three photo boxes. It is available by appointment in The Explorers Club as Accession Number 2003-008.

• Conclusions

The Explorers Club's Research Collections house three record groups that document American scientific and geographic exploration in the Arctic between 1881 and 1913. These archives total nearly ten linear feet of previously unprocessed, or little processed, polar material that offer insight into the Lady Franklin Bay Expedition, 1881-1884; The Arctic Club of America, 1894-1913; and the Peary Arctic Club, 1899-1910. None of these collections represents the complete documentation of the expedition or organization in question, but can contribute to future research on American scientists and explorers.

• Acknowledgements

We wish to thank Ryan Haley, MS, Assistant Curator at The Explorers Club, for his excellent work in identifying, preserving, and curating the records of the Peary Arctic Club. His finding aid (in prep.) to this collection is wonderfully detailed and expertly prepared. Thanks also must go to Professor Anthony M. Cucchiara, MLS, Head of Distinctive Collections, Brooklyn College Library, and Visiting Professor, Pratt Institute School of Information Sciences, for his vision to bring graduate-student interns in his archival management classes to work in The Explorers Club archives. Two of his students, Ms Karen Kleppe-Lembo and Ms Sarah Mandell, prepared the first draft of the finding aid to the Arctic Club records. Finally, the senior author expresses her gratitude for the support she received from The Explorers Club's Executive Director, Ms Nicole Young, MALD, to attend the 20th Polar Libraries Colloquy in Ottawa.

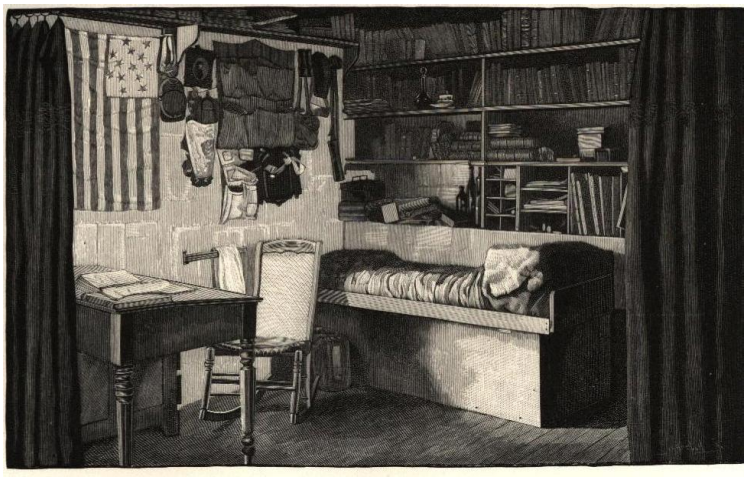

Figure 1. (Right). "Lieut. Greely's corner at Fort Conger. (From a photograph.)" The expedition library and other records that line the wall were largely abandoned by Greely in 1883 and recovered by Robert Peary under the auspices of the Peary Arctic Club in 1899. Image from Greely's *Three Years of Arctic Service,* (1886: opp 80).

Figure 2. (Left). Material recovered from and relating to the Lady Franklin Bay Expedition (1881 - 1884) now in the archives of The Explorers Club. Clockwise from top left: photograph of survivors as rescued from Cape Sabine (22 June 1884); sketch map of Cape Sabine upon rescue; manuscript sledge journal (1882); tintype photograph of Lilla Pavy, wife of expedition surgeon; tricolour flag of *Polaris*; volume from the expedition library (see figure 1), Robson's *An Account of Six Years Residence in Hudson's Bay* (sic)[13]; photograph of AW Greely taken about the time of his presidency of The Explorers Club (ca. 1906).

Photo by Craig Chesek. © The Explorers Club.

Reading and the Poles: Asking the PLC Experts

Deirdre C. Stam
Palmer School of Library and Information Science
Long Island University

The session consisted of the following description of a project, the planning of an exhibition of polar literature for New York in 2005, and of a call for help from the audience in refining plans and developing focus for the exhibition. Curators for the exhibition will be David H. Stam and Deirdre C. Stam. Most of the session consisted of audience participation.

- **The problem**

For an exhibition on the literature of Polar exploration, on display from December 2005 through February 2006, we need help with the selection of titles and materials. We also need help in categorizing these published works for distribution among twelve exhibition cases.

- **The exhibition setting**

The location will be the Grolier Club of New York City, a book collectors' club of long duration and distinguished history in bibliographic circles. The Club, though private, has a public (US "501 c3") exhibition program and facilities. The usual size for exhibitions is about 120-140 items. The hall is secure, fire-proof, and meets the standards for lending among major research libraries worldwide and by collectors who exhibit their materials at the site. The address is 47 East 60th Street, New York City, on Manhattan's upper east side. We expect to borrow mainly from institutions in and near New York City, and to use materials from our own collection.

- **The purpose of the exhibition**

Grolier exhibitions have the general purpose of presenting materials to satisfy public curiosity about printing and publishing history, and the vagaries and varieties of collecting. Although some ephemera and images on paper are often included, the emphasis is distinctly bookish in the analytical and bibliographical senses, that is, requiring attention to the physical properties of books and the history of their publication and distribution.

The subject matter is the "hook" that immediately attracts and appeals, but the emphasis is on publications that have made a difference -- aesthetically, historically, technically, and culturally. Typically, Grolier exhibits fine copies of first editions of major works in a field. Those criteria will be recognized in the selection process, but they may not in all instances be appropriate for this topic.

Our motivation begins with our enthusiasm for the literature of polar exploration. The idea for the exhibition, and for our collection of polar literature, began with our enjoyment of reading about Polar exploration. We later became aware of the patterns and circumstances of publication surrounding those tales of icy adventure. We are trying to strike a balance between a "book history" exhibit and a chronicle of the "most significant" works of polar exploration from the point of view of public and explorers. While we may include some scientific titles, we mean to emphasize those works that fired the imagination of polar explorers, of both the actual and the armchair variety.

- **What is the "literature of polar exploration"?**

In terms of subject, we mean to emphasize accounts of human efforts to penetrate the polar regions before 1940, ending with the first generation of air exploration. (The terminal date is still under discussion. We welcome suggestions on rethinking this matter. In terms of genre, we mean to include books in the form of published diaries and first-hand accounts, biographies, scientific publications with notable historical aspects, literature of the imagination, and histories. Included will be examples of printing done within the polar regions. We also mean to include printed ephemera such as instructional and technical booklets, advertisements, and announcements.

An interesting sub-genre are those volumes that spent time in the poles and came back with stories to tell of their own wanderings.

An example is the volume of Tennyson's poetry that travelled with Dr Wilson to the South Pole on Robert Falcon Scott's final, fateful journey.

- **We need your help with selection of titles and copies**

We are getting to know the literature, but we don't know what it means to look at this material from the point of view of the explorer. For that, we need your help since you are experts in the literature, the explorers, and exploration itself.

We list some of the prime candidates in the accompanying spread sheets. We would be very grateful to you for reviewing that list, noting your degree of enthusiasm for each of the titles, and suggesting interesting copies of these titles that we might borrow for the exhibition, and proposing other works that might be included.

- **Case titles**

Each of the twelve cases in the Grolier Club exhibition will have a title. **(See Appendix A)** We propose some titles that seem to group materials by a combination of chronology and "theme" (largely "place of exploration"). We would be grateful for suggestions to improve our organizational schema.

We must emphasize, again, that this exhibition is not mainly a history of polar exploration, but a presentation of the publications documenting that history. Sometimes the publications mirror the history, but often they reflect public interest more than they do the importance of a particular explorer's achievements in scientific terms. Scott and Shackleton are major examples of this phenomenon.

- **Finally, suggestions on titles for the exhibition**

We are currently considering this title: **"Books on Ice: The Literature of Polar Exploration"**. We would appreciate reactions to this, and/or suggestions of better titles.

- **Contact Information**

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APPENDIX A
Proposed Case Titles

1. **First Accounts - Men, Myths, and Maps**
Erik the Red to Mercator

2. **Arctic - Pioneers of Exploration**
Baffin, Fox, Bering, Hearn, Frobisher, Davis, etc.

3. **Antarctica - Pioneers of Exploration**
Weddell, Wilkes, James Ross, etc.

4. **The Franklin Phenomenon** *[Note: we are uncertain about characterizing cases 4 & 5]*
Franklin, Hall, deLong, Kane, Nares, Greely, etc.

5. **The Franklin Phenomenon, continued**

6. **North Pole Controversy - Cook and Peary**

7. **Robert Falcon Scott**

8. **Nordic Dominance**
Nansen, Sverdrop, Nordenskjold, Larson, Amundsen, etc.

9. **Ernest Shackleton**

10. **Antarctica - Exploration and Science**
Bruce, Bull, Larsen, Borchgrevink. Abruzzi, Drygalski, Mawson, etc.

11. **The Northern Regions - Anthropology and Politics**
Stefansson, Rasmussen, Freuchen, etc.

12. **Exploring by Air**
Byrd, Watkins, Nobile, Amundsen

"Ask a Librarian": User Education in the Experience of the Italian Antarctic Program Library

Sylvia Sarti
Librarian, *Programma nazionale di ricerche in Antaride (PNRA)*

When I started to write this paper, I began in the usual way: context analysis, aims, planning, and conclusion. But as I worked, two thoughts came to mind which influenced my thinking. I realized that the purpose and aim of our group was to provide a forum through which librarians and others with an abiding interest in the collection, preservation, and dissemination of polar information, could discuss issues of mutual concern and promote initiatives leading to improved collections and services. The title of *this* meeting, is "Sharing Knowledge about Polar Research".

So, I decided to change my aim slightly by offering to you my notes on a specific experience: that of the Italian Antarctic Program Library and its users. At the same time, I thought it was important to keep our similarities and differences in mind in order to find *ad hoc* solutions to problems, and possible common ways to proceed. Your views will be very useful to me in adapting to the needs of the users. It could also be useful for you, providing a different viewpoint of a problem common to all of us – building a good relationships with our users.

These same points have certainly been discussed in previous meetings of the PLC. For example, David Walton, William Mills and Christine Phillips in the Introduction to the Proceedings of the 15th PLC, held in Cambridge in 1994, posed a question apparently common to polar librarians: "Are library users capable of using the resources available to them? We heard about a wide range of tools and initiatives - but are the users able to find their way through the maze? Some evidence suggests that not all are equally able and a continuing and growing educational need was identified."[1] Are you worrying about user education? If so, why *are* you worrying about it?

The problem arose from the observation of how often a user for whom we provided a service asks how did you do that? And then asks if we by chance could look also for this because then I could also ask for this other document? We were not doing anything special: document delivery, inter-library loan, reference services, all routine activities in a library, but some users were surprised. With their new-found knowledge, they began using the library services regularly and began advertising their positive experience to their colleagues -- all new customers for us!

Instead of making us delighted for a good job being recognized, it worried us because our resources were being under-utilized. So we began to think about the situation.

One of the reasons for the under-utilization was that in past years, at least in Italy, libraries had a poor image: dusty, silent, prisons of information, not places where there was a circulation of culture, but places when the answer, when obtained, was always *NO*. In the last few years the situation has been much better and librarians are trying to regain the confidence of their users.

The tools for bibliographic research are increasing exponentially, with new technologies having high capabilities. Information retrieval is rapidly changing and expanding the field, and the users, especially the less expert, cannot always follow, particularly if they are not supported by a continuous activity of communication and information. They are not always aware of available resources, or do not know how to use them in the best way for their own needs. Furthermore, as far as our specific situation is concerned and notwithstanding our efforts, our library needs to "advertise" itself more because our patrons are scattered across Italy and, at least some of them, go off to Antarctica on annual expeditions. So, our first goal has been to communicate information about our services and the tools available for finding polar documents. We have also determined that our users need better education on how to look for information and how to ask for it.

Often we receive bibliographic requests

which are hard to decipher. There are missing details important for an accurate search. Sometime only after hours or days of patient work do we manage to find the correct publication. Obviously we have the most difficulties with grey literature or with material not available on the web. This requires very patient librarians. But when we manage to provide the requested information, I think we have done only a part of our work. Do you not believe that the librarian should provide to the users not only the full text, perhaps in electronic format in e-mail, as if it came from heaven, but also to let them know how the document was found, so that later the user could be able to do the research work alone?

Literacy in the 21st century means having the capability to make full use of the available information technologies in the best way. To be "information literate" is equivalent to understanding and using the best instruments for information retrieval, with the most complete data, best quality of results, in the shortest time at appropriate cost.

Ronald Inouye asked in a paper delivered at the 15th PLC if "libraries [were] becoming pit-stops on the electronic information highway, with librarians directing traffic to the ramps? Will librarians soon preside over dead collections while patrons go directly to the publishers for their materials via the Internet, credit card and faxes?"[2]

The answer to Inouye's question may come from Michael Gorman, director of the Henry Madden Library, California State University, Fresno. Gorman suggests that:

one of the most seductive and dangerous things about the Internet and the World Wide Web is what I call the illusion of access. More often than not one may believe the person sitting in front of the computer screen is not well clear on: a) if he has found what is relevant for his research, b) what is being missed compared with what he has found, c) if the information he has found is reliable and trustworthy. Never before now has there been such a strong need for the availability of guides who are well informed and well trained as reference librarians and research assistants."[3]

In this sense, the library must be a formative environment, and librarians must be an information intermediary.

Our aim at PNRA then, was making it possible for our users to answer two questions: what can I ask?, and how shall I ask it?. The primary goal was to teach our users to go to the library having already answered the two questions. We prepared a plan called "Ask a librarian". The first steps of this plan have included a comparison with other Italian experiences, a profile analysis of the PNRA Library user, and choice of the tools for user education. We decided at first to see what others were doing. Italian librarians belonging to the Italian libraries association have a discussion list. We wrote to the list for information from members who had already confronted the problem of programming user education in their libraries. We obtained a number of useful answers, mainly about general resources.

The answers gave us important methodological suggestions and were fairly uniform. In Italy, user education is performed mainly by academic libraries and a few advanced local administrations. These libraries have organised training courses for a limited number of users, have published a guide for library services, and have prepared web pages on the library site. In a number of cases, courses for user education are being planned for personnel, or have been made compulsory for the students of some universities.

In Italy, we have not found any other experiences like ours in terms of the type of the audience. Perhaps an exception is the National Research Council Library in Bologna, used by about 1000, working in a number of institutes. In this case, there are not only courses attended, but also information online with a discussion list and *ad hoc* tutorials on the web.

The biggest difficulty to overcome to achieve the planned objectives, however, is the actual Italian Antarctic library user, an audience difficult to reach. From an institutional viewpoint, the reference target is the researcher working with the Italian Antarctic Program. The relationship with university students attending the library on a regular basis is much easier relationship to maintain.

So, in order to plan formative intervention, we have performed an in-depth analysis of the Italian Antarctic Program structure. The resulting data, presented here in a generic but significant way, support what we already knew,

but provides us with the opportunity to plan our activities logistically.

There have been about 1500 PNRA researchers in the year 2002-2003, active in more then seventy different research institutes scattered all over the national area. In some cities there is a higher concentration of researchers, but it is mostly a remote audience. We have planned to put in the "Ask a librarian" project some intervention instruments, such as the following:

- a web page on the library site to be used as a guide to the library services
- the publication of a guide to the library b services on paper and distributed by mail to all researchers already listed, and given to the new ones during the training courses held before the Antarctic campaigns, to the four agencies which form the Consortium of Italian Antarctic Program, and to the three sections of the National Antarctic Museum. The guide to the library services will also be available on the website, and we would like to see it translated it into English
- a very useful instrument to provide a continuous contact with users would be a newsletter. This would be expensive and it is presently beyond our resources, but the library newsletter will start as soon as our resources will allow;
- a series of formative meetings with the users.

Two years ago in Copenhagen, Martha Andrews (from the Institute of Arctic and Alpine Research) suggested to her colleagues ways to change user behaviour which was a product of the new electronic resources in order to "improve interaction with users by scheduling regular seminars and open house opportunities at least once a semester".[4]

At PNRA, we think that we need to begin our program with the users who are the closest to us, like those working in the same research centre as the library, and later broadening the program to include all the major centres involved.

A suggested structure to these meetings might be as follows (of course subject to adjustments after the initial experience):

- Number of participants: 10-15
- Duration: half a day
- Contents: bibliographic citation (after agreeing on the language, propose a standard for citations, and teach how to verify national and international sources in the on-line catalogue the citations that have been proposed); the library website (on-line catalogues, e-journals, electronic services); polar resources (especially Polar web and Cold regions bibliography). This is the basic information that we would like to illustrate in depth through practical exercises.
- Electronic delivery. In Italy, some libraries are starting to use e-learning, for example the Mario Rostoni library and Carlo Cattaneo University Library–LIUC of Castellanza, and the Library of the Experimental Zooprophilactic Institute of Umbria and Marche. From Copenhagen, I recall "Aurora", the network of the twelve Lapland public libraries with the Olli project focussed on the co-operation and division of labour between libraries and schools in teaching information search.

But as far as the PNRA is concerned, we still have to refine our ideas, so that we can analyse the first answers from our users after the already defined formative plan.

I wish to conclude with a question and a proposal for the future. In 1994 at Cambridge, Ronald Inouye asked to the participants to the 15th PLC: "Are we marketing our wares effectively so researchers know where to find polar information?" I leave you with a proposal for the future and a subject for discussion, perhaps for the next Colloquy: co-operation in research and implementation of common strategies and tools in the field of user education for a single virtual polar library.

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Notes From A

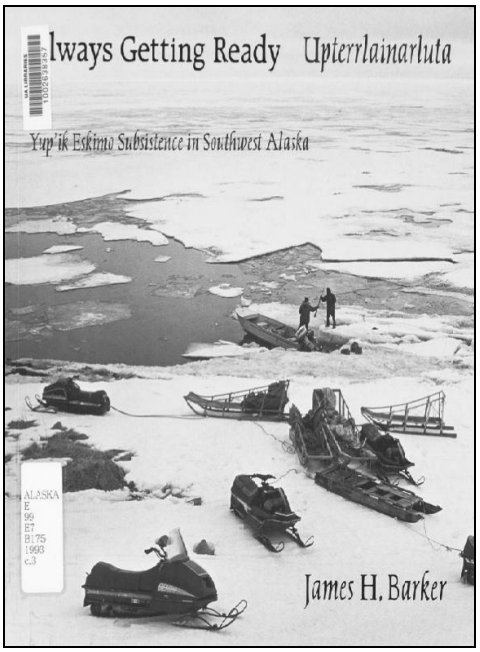
PANEL DISCUSSION

Traditional Ecological Knowledge

Notes on a Panel Discussion: Research and Information on Traditional Ecological Knowledge

Ronald K. Inouye
University of Alaska Fairbanks Rasmuson Library

Alaskan photographer James Barker has taken extensive images of the Arctic and Antarctic. His documentary photographs are not landscapes, but striking images of people within those environments. In 1993 he produced a delightful book entitled *Always Getting Ready: Upterrlainarluta -- Yup'ik Eskimo Subsistence in Southwest Alaska* His essays and photos provide insight on traditional Yup'ik ecological knowledge embedded in daily, seasonal, and spiritual life.



During a teacher education workshop, Frank G. Johnson, a respected Tlingit Indian elder in Southeast Alaska, told a personal story which also relates to this *Polar Libraries Colloquy* conference theme: "*Amiqqaaluta:* Let Us Share."

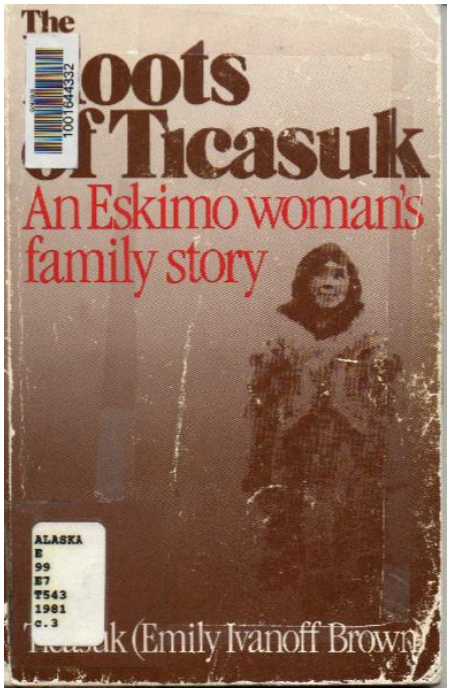
As a young boy Mr. Johnson frequently stayed with his maternal uncle and aunt as was their cultural tradition. When he awoke one morning Mr Johnson's uncle asked him to go outside and walk around the house. Later, during breakfast, his uncle queried him about the weather outside. Mr Johnson realized he was not very observant walking around the house because he had still been sleepy. Several days later, again before breakfast, his uncle asked him to go outdoors and walk around the house. This time, anticipating the question, the young boy noted the weather. However, his uncle asked not about the weather, but about the tide. Thus began this elder's experience in observing which was not limited to morning weather and tides; he learned to be "always getting ready".

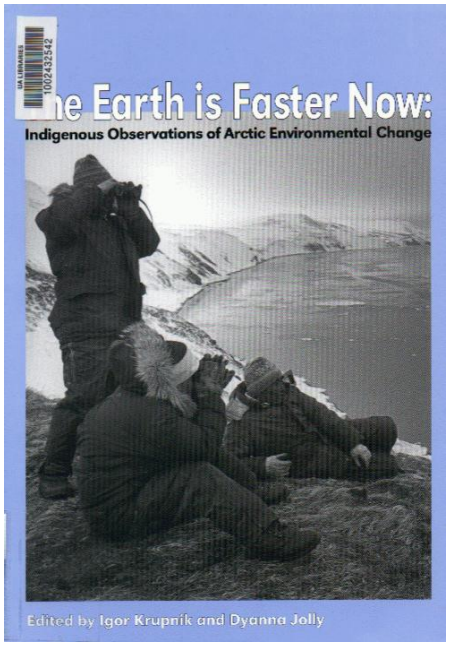
On the University of Alaska Fairbanks campus is a memorial, a traditional Inupiaq stone lamp cast in bronze and which is lit on special occasions. That lamp commemorates Emily Ivanoff Brown (1904-1982), an Inupiaq elder from Unalakleet who spent her last days in residence on campus, counselling Native students and writing stories about her northern Eskimo culture. Emily told a story about her name *Ticasuk*. *Ticasuk* she explained, is a depression or hollow in the ground, a name which greatly embarrassed her as a child. It was a place where leaves and other loose things gathered and accumulated; *Ticasuk* was not a name she liked. However, as she got older, Emily began to appreciate her Eskimo name as she found herself selectively gathering things: precious things which would otherwise be lost, and in time Emily became *Ticasuk*. After a career of teaching and raising her family, she came to the University and found a place at the *Alaska Native Language Center* to collect and record stories for posterity. She counselled young rural students, and documented things important to her Inupiaq heritage.

In the recently published book *The Earth is Faster Now: Indigenous Observations of Arctic Environmental Change* edited by Igor Krupnik and Dyanna Jolly, are essays by Canadian and American Eskimos and Inuit, and researchers. The topics illustrate traditional knowledge in the interrelationships between humans to the non-human world, and how science and traditional knowledge intersect. This volume juxtaposes the experience and knowledge of indigenous peoples with the methodology and technology of contemporary scientists to probe common concerns about Arctic environmental changes.

Today's *Polar Libraries Colloquy* panel offers us an opportunity to learn about this growing genre of "gray literature". Because many scientist believe the polar regions are the "canary in the cage" and the harbingers of global climate change, this research literature has value. Increased funding for national and international co-operative climate change research will add to that body of information for which libraries and archives have responsibility.

This panel will demonstrate how several libraries handle "traditional ecological knowledge". What has been learned? Where does this documentation reside? Do libraries deal with it?





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Traditional Ecological Knowledge: Information Resources Management of TEK in the Fisheries & Oceans Canada, Central & Arctic Region Library

Elva Simundsson
Regional Librarian, Central & Arctic Region
Fisheries & Oceans Canada

This presentation focuses on five points:

- What has been learned?
- How are our clients using it?
- How and where documentation collected?
- How is documentation managed?
- Why are we doing this?

Inuit Qaujimatuqangit, (IQ) is the Inuktitut word in Nunavut for traditional knowledge. The staff at Fisheries & Oceans Canada are very much aware of the need to use IQ, or traditional ecological knowledge (TEK) in their work in the Arctic regions. Staff in the Arctic Science Sector, Oceans Group, and the Habitat Management Division are cognizant of the requirements for incorporating traditional knowledge into their operations. The researchers, ecosystem managers and policy advisors in the department perform stock assessments of northern freshwater, anadromous and marine fishes, as well as Arctic marine mammals. They have responsibilities for observing aquatic biota, monitoring activities that could harm the aquatic ecosystem and upholding the regulations that govern the protection of the aquatic habitat. The Central & Arctic Region library is working with the various individuals and sectors to acquire, identify and manage the traditional knowledge information so that it can be easily identified and accessible for research and consultation purposes.

Our researchers, habitat managers and analysts know that the communities and groups both want to be, and need to be consulted, and want their information to be given fair weight in policy and decision-making. They want to see their traditional IQ being recognized and valued. The land claims agreements that have been signed by the northern communities and the Government of Canada require the department to work with the communities as equal partners in establishing co-management agreements for establishing harvesting quotas. Communities have not put demands on the department to conduct formal studies, but they require consultation. Not only do our policy-makers and researchers need to acquire and use the traditional knowledge but they also need to respect the value of the knowledge.[5] It needs to be treated as any intellectual property would be -- recognized and acknowledged in research papers, reports and departmental position documents. Communities are also insistent that the result of consultations be returned to the communities, and that they receive copies of the documentation and acknowledgements that have been generated from their contributions.

What has been learned from working with community groups in Canada's north is that traditional knowledge is an integral part of the community as a whole. Working with TEK involves commitment to a process which respects it as a knowledge system and not just a collection of factual or cultural information. Researchers who spend time in the field with local residents say there is a strong desire on both sides to acquire knowledge.[6] A researcher spends time with the community members learning what they know. In return, the departmental staff take the time to describe their projects to their guides and assistants in the field. Work is done with community members to define where information gaps exist. The community then participates in gathering and documenting the data required and working with an analyst to firm up co-management agreements or establish land use parameters. Researchers and analysts also attend community meetings to give presentations on their activities. This is done in order to give the people in the northern communities a better understanding of the need for scientific data gathering, explain the ways in which this data will be used to better understand the regions aquatic

ecology, and to give members of the community opportunities to ask questions and provide feedback to the department.

Information gathering is vital to any research activity; the aquatic science research being done in the Arctic is no exception. Researchers are keenly aware of the need for traditional ecological knowledge in the design and implementation of their data gathering projects. Where to go; when to go; what to expect in the way of environmental and atmospheric conditions; all these questions are readily answered by people who live in the region and have been harvesting the resources for thousands of years.[7] Scientific research, especially in the north can be incredibly expensive. If traditional knowledge can answer some of the researchers' questions, the value of the time spent in the field can be maximized. Going to the right place at the right time to gather data saves time and money. Knowing where to lay the net for fish sampling, knowing when the belugas migrate past a certain point or what rocky outcrops of the Arctic Archipelago are home to the walruses during what time of year, is essential knowledge for planning a field season or an aerial survey. Where to find the best shelter on the northern great lakes when a weather system blows through is not just cost effective, it can be life saving.[8] Fisheries & Oceans Canada science researchers frequently go into their northern field stations with a minimum of departmental staff. The field crews are augmented with local residents who integrate a TEK component into the research activity.

TEK is organic; it changes and evolves over time. Change is not necessarily a bad thing B it does not lead to destruction or assimilation of a culture, but it does lead to a convergence of lifestyles with other cultures and other ways of living. New technologies that come into the communities require new practices and methodologies that become part of the overall traditional knowledge package. It is part of the community inheritance; passing on TEK is a duty that is assumed by everyone in the community. Acquiring food resources from the land is a holistic process and is best learned by observation and experience through hunting, gathering, butchering, storing and handling. The community elders also pass along knowledge of the more intrinsic attributes of the resources. Resources from the land have many values: food, shelter, equipment, practical, medicinal and spiritual. The science and the social science of the knowledge are interrelated and it is important to have access to scientific and social knowledge as well as current and traditional knowledge in understanding the ecosystem being studied.

Community TEK belongs to the community and is often personal and guarded. TEK needs to be recognized and valued as intellectual property. Communities are very much aware of the potential danger of committing their traditional knowledge to paper. Because TEK is such an organic process, a one-time snapshot on paper can be misleading. If the community has to deal with a mining company at a later date for instance, the published document could be used in a hearing to prove lesser involvement in a region than is the reality.[9] This could affect claims or compensations relating to industrial activities. Regional hunters and trappers associations and the Wildlife Management Boards have collections of published and unpublished resource materials on regional TEK. Often the only copies of reports and transcripts in existence are held in the community. Researchers are permitted to view the reports or listen to the transcripts on site, and take notes, but none of the material may leave the community. Many communities are intensely protective of their traditional knowledge. Such community documentation on TEK may remain in a community or school resource centre and never be reproduced in bulk or distributed to a general audience. This view is very much the opposite of a traditional southern one where it is assumed all history needs to be documented on paper if it is to be preserved and valued. This makes it impossible for a library such as ours to collect material, but it is important to know of its existence so researchers can be directed to these sources.

The Central and Arctic Regional Library of Fisheries & Oceans Canada serves primarily the scientific and habitat management staff. The staff of the Central and Arctic Region are charged with the responsibilities for assessing stocks, establishing guidelines for managing the aquatic resources in the areas of the Yukon North Slope, the Northwest Territories and Nunavut and protecting the aquatic ecosystem in accordance with the laws of Canada. In order to assess needs and establish guidelines, they need to fill in the

gaps in the scientific data on the northern aquatic resources. They need to understand community concerns and incorporate them into policies on utilization of resources and the establishment of co-management agreements on these resources. It is also vital to take into consideration regional TEK in addressing requests for exploration permits and establishing land use parameters in agreements on mining, oil and gas exploration, road and pipeline construction and industrial development initiatives.[10]

A practical example of the department working with the northern communities is the recently designated Marine Protected Area (MPA) in the Beaufort Sea, called *Tarium Niryutait* [All Creatures in the Ocean]. The MPA was established in an area chosen by the communities as being truly representative of their link with the ocean. A major component of the documentation that was used in the designation of this MPA was a community-driven TEK study (Hart & Amos, 2004).[11]

In consideration of the requirements by Fisheries & Oceans Canada staff in the region, the library has undertaken to collect and manage regional TEK documentation whenever and wherever it can be found, and material collected is entered into the departmental libraries catalogue. Fisheries & Oceans Canada libraries share a catalogue (called WAVES) which is a central database for all the headquarters and regional libraries within the department. The catalogue is available at *www.dfo-mpo.gc.ca* and is accessible to the world via the Internet. All acquisitions with a TEK component are specifically tagged with the keywords Traditional Ecological Knowledge. WAVES is also set up so that an electronic version of a document can be linked to the catalogue entry.

The Central and Arctic Region Library is actively collecting TEK material relating to the aquatic resources of the Arctic. In addition to collecting printed publications, the library endeavours to acquire an electronic version of the documents and asks the author(s) for permission to link a PDF version of the report to the WAVES record. [12] (See Byers & Roberts, Cleator, and Hart & Amos.) These reports are available to the world in full-text electronic format and can be downloaded and used wherever needed by other interested parties as well as department staff. In addition to being cost-effective, this is a mechanism for providing maximum availability to a publication of which there may be only one or two print copies in existence.

The library maintains regular contact with staff throughout the region to monitor publishing activities. Whenever a report is produced, published or sponsored by Fisheries & Oceans Canada, the librarian reminds the staff member involved that the library is owed a copy. Often a study is undertaken by an independent contractor on behalf of the department and the results of the work are reported in an unpublished document of which there may be only a very few copies in existence. Library staff have to maintain constant vigilance in order to keep up with the production of these reports and to collect a copy for the department's library inventory.

Why the focus on Canada's Arctic now, more than before? The answer is that it is truly Canada's last frontier. Only in the last few decades has Canada's north revealed its wealth of petroleum and mineral resources. Rising oil prices make it economically feasible to spend the time and money required for oil and gas exploration offshore in the Mackenzie Delta/Beaufort Sea area. The Klondike Gold Rush was a blip in history and ran its course at the end of the 19th century, but gold mining is again a major contributor to the migration of southerners to the north at the end of the 20th century. The diamond mining industry exploded in the Territories in the 1990s and has quickly made Canada the new major player in the gemstone and industrial diamond business. All of this industrial development requires an infrastructure for transportation, housing and provisioning of work crews; construction of mines; building oil and gas pipelines. Additionally, global warming has brought increased shipping activity into the Northwest Passage. Canada needs to be ready to respond to the world when and if the Arctic Ocean offers up a viable transportation route between Asia and Europe.

Fisheries & Oceans Canada is charged with the duty to manage Canada's fishery and marine mammal resources, protect aquatic habitat and ensure that these resources are protected for the long-term. Developmental activities must take place while protecting the environment. Having traditional ecological knowledge of the resources in the north is vital for the department. In order

to make decisions on how best to protect the natural resources for long-term sustainability, the policy makers, scientific researchers and habitat management officers need to understand the whole picture. This picture is not complete without TEK as an integral component of the value of Canada's northern region. The regional library is doing its share in ensuring the traditional knowledge information resources are available and accessible.

- **Acknowledgements**

The author is grateful to those people who took time from their busy schedules to talk about their work in the north, especially W. Sopher, G. Low and T. Byers. Special thanks are owed to H. Fast who freely gave her advice and assistance in the initial creation of the presentation and also reviewed the resulting paper. Also, thanks to W. Sopher, Luna Technologies, Inc. and J. Orr of Fisheries & Oceans Canada for the pictures used in the oral presentation.

Traditional Knowledge

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Traditional knowledge is a relatively new field - the earliest use of the term traditional knowledge was in the late 1980s. According to Stephen A. Hansen and Justin W. VanFleet:

Traditional knowledge (TK) is the information that people in a given community, based on experience and adaptation to a local culture and environment have developed over time, and continue to develop. This knowledge is used to sustain the community and its culture and to maintain the genetic resources necessary for the continued survival of the community.

The term "traditional" used in describing this knowledge does not mean that this knowledge is old or untechnical in nature, but "tradition-based"

Traditional knowledge is collective in nature and is often considered the property of the entire community, and not belonging to any single individual within the community.[1]

Native elders have been observing natural history for generations; their knowledge is cumulative over long periods. Many researchers receive grants for projects – usually for short terms 2- 5 years – and hence miss the big picture of the cumulative knowledge. With global change affecting many facets of native life, the scientists and the Native community are beginning to work together in their analysis of information.

My interest is in the ecological aspects of traditional knowledge, and offering assistance to teachers and scientists to locate available information. One of the key new publications is the AAAS *Handbook on Traditional Knowledge and Property; a Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity* (available on the AAAS website). There are exercises to be used by communities to help them identify traditional knowledge, to identify who holds this knowledge, and the intellectual property options. Consideration is given to the cultural aspects of the issues which would be spiritual, subsistence, economic, traditional secret, medicinal and historic. The primary focus of this work is to identify plants to be developed for medicinal purposes by drug companies, but the evaluation system can be applied to other areas. Patent and copyright ownership are major issues. For example, who owns the primary medicinal information on plants: the researcher, the Native elder with the knowledge or their communities, or the pharmaceutical company researcher and developer. Similarly, the question arises as to the ownership of the traditional story: the Native elder, the community or the historic researcher. These are some of the questions addressed in the handbook.

Locating information about TK is not an easy task. As with any new field, the information appears in conference proceedings, later in journal articles and reports, then finally published in books. In fact, there were conferences on traditional knowledge this spring in Fairbanks and Barrow. Only a few books are available on the market and these primarily focus on legal issues. The majority of materials are being published by small presses, associations, or government agencies. How does a librarian find out about these? By word of mouth or libraries, bibliographies and accession lists. In Alaska, one copy of any publication is sent to the State Library but accessions by other Alaskan libraries are quite spotty. The large libraries are assembling fair collections, but the rural ones have very small collections.

The following is a list of representative titles:

- Dip nets, fish wheels, and motor homes: the Atna traditional ecological knowledge and resource management in the Copper River Fishery, Alaska
- Brown bears on the northern Seward Peninsula, Alaska: traditional knowledge and subsistence uses in Deering and Shishmaref
- Scoter life history and ecology: linking satellite technology with traditional knowledge
- Medicinal flora of the Alaska natives:

traditional healing methods using plants

- Traditional ecological knowledge of salmon along the Yukon River
- Village Science

Quite a smorgasbord. A number of organizations in Alaska and Canada are producing traditional knowledge in print, on CD and on the Web. These include the Minerals Management Service, Alaska Fish and Game, Yukon Drainage Fisheries Association, the Boreal Institute, the Pauktuutit Inuit Women's Association, and the Alaska Native Knowledge Network.

After finding and obtaining the material, the next challenge is the cataloguing so future users can find the information. There are no direct subject headings for the topic unless you use ethno-science, or ethno-botany. The majority have been catalogued under the topic as bears, fish or plant. The only way to find the traditional knowledge or indigenous knowledge is to count on the user searching these words in the title. Hopefully the title will include them.

Our role as librarians is to be informed about publication information, and select documents that might be of interest to our research staff. School librarians should alert teachers that this material is available and encourage them to incorporate it into their subject areas. In the Institute library, we have established a special section for teachers and we use the word TEACH in the call number. We have had this section less than a month and already are receiving requests to borrow the publications. Below is a list of the traditional knowledge publications at the Keith B. Mather Library, Geophysical Institute/International Arctic Research Center. These are available on inter-library loan.

Traditional Knowledge Publications at the Keith B. Mather Library, May 31, 2004

- *Alaska Cultural Standards and Guidelines (CD).*
Alaska Native Knowledge Network, University of Alaska Fairbanks, [2003]. Contains 7 booklets which are guidelines adopted by the Assembly of Alaska Native Educators between 1998-2003.

- *Alaska Standards for Culturally Responsive Schools.*
Alaska Native Knowledge Network, University of Alaska Fairbanks, 1998.

- *Bird Traditions of the Lime Village Area Dena'Ina: Upper Stony River Ethno-Ornithology.*
Priscilla N. Russell and George C. West. Alaska Native Knowledge Network, University of Alaska Fairbanks, 2003.

- *Curriculum Resources for the Alaskan Environment: Lessons Taught, Lessons Learned* -- V. I & II (CD).
Alaska Native Knowledge Network, University of Alaska Fairbanks, 1990. (v.1 and 2 are on one CD.)

- *Guidelines for Cross-Cultural Orientation Programs.*
Alaska Native Knowledge Network, University of Alaska Fairbanks, 2003.

- *Guidelines for Culturally Responsive School Boards.*
Alaska Native Knowledge Network, University of Alaska Fairbanks, 2002..

- *Guidelines for Nurturing Culturally Healthy Youth.*
Alaska Native Knowledge Network, University of Alaska Fairbanks, 2001.

- *Guidelines for Preparing Culturally Responsive*
Teachers for Alaska's Schools.
Alaska Native Knowledge Network, University of Alaska Fairbanks, 1999.

- *Guidelines for Respecting Cultural Knowledge.*
Alaska Native Knowledge Network, University of Alaska Fairbanks, 2000.

- *Guidelines for Strengthening Indigenous Languages.*
Alaska Native Knowledge Network, University of Alaska Fairbanks, 2001.

- *Gwich'in Native Elders: Not Just Knowledge, but a Way of Looking at the World* by Shawn Wilson.
Alaska Native Knowledge Network, University of Alaska Fairbanks, 1996.

- *Handbook for Culturally Responsive Science Curriculum* by Sidney Stephens.
Alaska Native Knowledge Network, University of Alaska Fairbanks, 2003.

- *Indigenous Education Around the World.*
Workshop Papers From the 1996 World Indigenous People's Conference: Education. Albuquerque, New Mexico, June 15-22, 1996 Center for Cross-Cultural Studies University of Alaska Fairbanks, 1999, 1 volume with various pagination. Compiled by Ray Barnhardt.

- *Inuksuk: Northern Koyukon, Gwich'in & Lower Tanana, 1800-1901* by Adeline Peter Raboff.
Alaska Native Knowledge Network, University of Alaska Fairbanks, 2001.

- *My Own Trail* by Howard Luke.
Alaska Native Knowledge Network, University of Alaska Fairbanks, 1998.

- *Nutemllaput: Our Very Own* (DVD).
Alaska Native Knowledge Network, University of Alaska Fairbanks, 2003.

- *Old Minto Camp* (DVD).
Alaska Native Knowledge Network, University of Alaska Fairbanks, 1997.

- *Passing on: Working With Elders As They Pass*
on Their Knowledge to the Next Generation (DVD).
Alaska Native Knowledge Network, University of Alaska Fairbanks, 2000.

- *Science Fairs Are Fun* (DVD).
Alaska Native Knowledge Network, University of Alaska Fairbanks, 2001.

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Traditional Ecological Knowledge

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Manager, ASTIS Arctic Institute of North America
University of Calgary

Please let me begin by saying that I am no expert on traditional knowledge (TK). I am not a TK researcher, and what I know about the dissemination of TK information is largely based on work that ASTIS did on a TK bibliography for the Canadian Polar Commission in 1993 and 1994. The working title of that bibliography was *Indigenous Knowledge in Northern Canada: An Annotated Bibliography*.[1]

After working on that bibliography, ASTIS has the following advice for others working on TK bibliographies:

- It is essential to have an advisory committee of TK experts, although they will not always agree with each other.
- There will probably be problems in defining the scope of the bibliography. How much of the anthropology and ethnology literature should be included? Some of our advisors thought much of that literature should be included, while others thought that only those publications written by, or with the active participation of indigenous people should be included.
- There are ten publications written *about* TK for every one publication that actually *contains* any original TK. We did not implement, and still do not have, any method of distinguishing between those two types of publications in our database.
- Much of the TK that has been recorded is in the form of tapes that have not yet been transcribed, or that have been transcribed but not yet translated, or that have been translated but not yet organized, or that have been organized but not yet published. The problems of dealing with this material are more archival than bibliographic.

Our bibliography was built in the ASTIS database and went through several printed drafts. The last of those, in April 1994, contained 609 citations. At that time the bibliography was still far from comprehensive, and the money that the Canadian Polar Commission was willing to invest in it had run out. Although the final draft had been very favourably reviewed by some TK experts, ASTIS and the Commission thought that it was best not to publish it.

All of the records created for *Indigenous Knowledge in Northern Canada: An Annotated Bibliography* are available in the ASTIS database. ASTIS received so many queries from people who had heard about the printed drafts of the bibliography that an ASTIS record was made for the final draft just to let people know that it had not been published.

There are currently about 1300 records in ASTIS describing publications about TK, more than twice as many as there were in 1994. There are also about 350 records describing research projects that have a TK component. The research licensing system in Canada's three northern territories encourages researchers to use local TK in their research projects.

TK records in ASTIS can be found by using the subject term Traditional knowledge, or the narrower terms:
Ethnobotany

Traditional land use and occupancy studies

- Traditional clothing
- Traditional native spirituality
- Customary law

or the related terms:

- Oral history
- Elders
- Rites and ceremonies
- Sacred sites
- Co-management

Publications and research projects about traditional knowledge remain one of the most interesting and important components of the ASTIS database.

Making Resources Go Farther: A Resource Sharing Project in Nunavut

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- **Foreword**

This paper is a work in two parts. The tenure of the two librarian authors neatly reflect the two phases of the resource sharing project known as the Nunavut Wildlife Resource Centres Coalition (NWRCC). Part of this paper, which describes the development phase of the project, is a revision of an article written by Yvonne Earle, a portion of which was originally published by the Canadian Library Association in *Feliciter*.[2] In the second part, Rae-Lynne Patterson looks at the subsequent enhancement phase of the project, and notes issues that have an impact on its success.

- **Development: 1998-2002**

In Nunavut, Canada's newest territory, geography has been a key factor in fostering resource sharing. Our 25 communities are far flung over approximately two million square kilometres (about one fifth of Canada's land mass) above the tree line with no connecting roads. Our population is small (approximately 27, 000), our budgets are limited, and our location north of 60° places us far away from research libraries.

These elements, when combined with forward looking people, co-operative spirit, a changing telecommunications environment, and library expertise can be stimulating. Such was the case in 1997 when the Nunavut Wildlife Management Board (NWMB) hired L&B Consulting of Ottawa to do a needs assessment and advise them on how best to organize their growing collection of materials. Nunavut Land Claim and their implementation contract. During the consultation process, co-management NWMB was required to make this information accessible to the public under the partners in Iqaluit, which included federal and territorial government departments that would potentially use NWMB's collection, were brought together: the Department of Fisheries and Oceans (DFO) had a resource centre which was catalogued in Procite and maintained as staff time permitted; the Nunavut Research Institute (NRI) had a collection, including Nunavut licensed research reports, which was uncatalogued; and the territorial Department of Sustainable Development, Wildlife Division (DSD) had no central collection. A plan was hatched to organize their materials, to create a central catalogue of wildlife related resources found in Iqaluit, and to share use of collections among the partners.

Many such plans founder on the rocks of financing but NWMB took the lead; they paid the costs for catalogue design and for librarian Yvonne Earle in January 1998 to manage the project and to begin assembling their resource centre. In April 1998, in an exemplary show of co-operative cost sharing, each of the other three partners signed a contribution agreement with NWMB, paid 25% of the librarian's salary (which NWMB administered), and agreed to pay the cost of software and possible hardware in their individual workplaces. This agreement was renewed for 1999 to 2000, and from 2001 to 2002, y while a technician trainee position was funded by the other partners. The total number of partners rose to five in 2000, when the Canadian Wildlife Service (CWS) joined the project.

It was a daunting task to set up three new resource centres, revitalize a fourth, work with multiple hardware configurations and set up authority files for subject areas far outside my expertise. It had also been decided to use MS Access 98 and not library software, so the catalogue does not have Machine Readable Cataloguing (MARC) coding, Anglo-American Cataloguing Rules (AACR2) standards, or ACR2 standards, Library of Congress (LC) subject headings or LC/Dewey classification.

Initially, the NWMB collection was catalogued and organized. The database was on their hard drive and copied to the NWMB server

daily. When that collection was "finished," work moved to DFO at which point the database was copied onto a floppy and downloaded at the second workstation. "Offsite backup" became the librarian's backpack. On weekly visits to NWMB, the latest version from DFO was first downloaded, NWMB's new materials catalogued, and the floppy updated at the end of the session.

By the fall of 1998, work had moved to the third partner, NRI, and an Inuit beneficiary technician trainee was hired. With a second person involved, and an increasingly very large file, we needed to look at central access for the database. NWMB was already a client of the local ISP Nunanet, and we were able to put the database on the Nunanet server at no extra cost. Downloads and uploads were then done through modem connection. This was often an exercise in frustration; because of satellite logistics, data from Nunanet bounced to a Yellowknife server then back to Iqaluit and none of this was at high speed. Uploads and downloads usually took more than an hour, subject to broken links, and therefore placed significant limits on daily cataloguing time.

Cataloguing had been ongoing at the fourth location, DSD, for several months, when the Government of Nunavut upgraded their software to Office 2000. Our technical consultant advised a global change for all the resource centres and in another display of co-operation, managers at the other agencies paid for the necessary software upgrades without a quibble. The catalogue conversion to MS Access 2000 went smoothly but making CWS a full partner was delayed until their national operating system could support the upgraded version. This demonstrated the weaknesses in being governed by software and operating system variations in five agencies. NWMB was designing its website concurrently, and the coalition partners agreed to study the cost putting the catalogue on the Web.

Other factors influenced our discussions about moving to the Web. The librarian and the trainee could not work in the catalogue at the same time, and so there were scheduling constraints. Additionally, the problems with the data transfer link required that at least two hours of each work day be allocated for downloading and uploading. Most importantly, staff outside Iqaluit, and other users, wanted access to the catalogue and our requests for searches, particularly from consultants increased. With these factors in mind, NWMB included the resource centre catalogues in their web contract and in 2000 consultations began with a programmer to convert the database to MySQL. We moved to cataloguing on the Web in 2001. Because there was no high speed link in Nunavut, the trade off for wider access was that data entry and searches took were slower. The new communications technology which allowed for the rapid evolution of the project has a territorial "speed bump" and we await the outcome of Nunavut broadband initiatives.

With the move to cataloguing on the Web, we were able to bypass Canadian Wildlife Service's software limitations and librarian Rae-Lynne Patterson was contracted to add their Iqaluit collection to the catalogue. She also took on the technician's duties in the other resource centres when he went south for studies.

Organizing the CWS collection in a cabinet was the fifth unique variation on the "resource centre" in the coalition. At the Research Institute, we started by shelving materials in the cupboards of an unused laboratory; the lab has since been renovated and standard library shelving installed. But twice a year it is also the reception area for people and pets visiting the vet who comes from Montreal. At Fisheries and Oceans, we moved the coffee room and installed bookcases; we share this space with the much-used scanner. At Sustainable Development we renovated the old, uninsulated mechanical room on the floor; there is no problem with floor loads, but in winter fingers can go numb while shelving. Combining the resource centre and the boardroom at NWMB puts some limitations on accessibility for the manager and clients.

Resource sharing often begets sharing and such was the case with the wildlife coalition. When the regional Department of Indian and Northern Affairs library in Iqaluit was dismantled, their wildlife materials were donated to NWMB. These included many eastern Arctic surveys and reports from the 1950s, '60s and '70s which are currently being used by biologists. The DSD library received donations of duplicate reports and out of print publications related to the Nunavut area from the librarian at Department of Resources, Wildlife and Economic Development, Government of the Northwest Territories. This retrospective depth is much needed in Nunavut

where so much research has disappeared into file drawers, never to surface, or gone south, never to come back.

Another much needed resource in Nunavut is personnel with information management skills – librarians, library technicians, records managers. The wildlife coalition capitalized on available librarian expertise by setting up the administrative structure and finances through NWMB. By sharing one full time position, five agencies directly benefited and participated in a much larger whole. When all the retrospective cataloguing was finished and the project no longer needed a full time librarian, DSD took up the initiative. The department had already made the decision to expand their wildlife collection to a departmental library and to hire a librarian or library technician. They added the management of the coalition project to the new job description and in 2001-2002 supported time spent providing technical and reference service to their partners. Early in 2003, organizational and personnel change at DSD resulted in project management being returned to NWMB, and being funded through five contribution agreements. Since then, the separation of the management position from DSD has proved to be a blessing to the coalition. After the territorial election in 2004, DSD was divided into two new departments and the transition has raised questions about the status of the resource centre there as well as the staff position that was linked to it.

- **Enhancement: 2003 - P resent**

Again, the coalition members showed flexibility in order to take advantage of Rae-Lynne's interest and expertise as they invited her to carry on as project manager after Yvonne left DSD in the spring of 2003. The change in management was significant in that it would now be operated on a part-time basis, mostly during non-business hours.

The shift to part-time management was accompanied by a few challenges. The most significant (and obvious) challenge is that with part-time instead of full-time staff, less work gets done. The librarian's 5-8 hours of work per week are divided between managerial and general upkeep tasks at four different locations. The fifth, DSD, is presently maintained by a casual staff person who works at the location for one day a week. With this situation, priorities need to be set for tasks, and all parties need to understand that the project's potential is not being fulfilled at present due to minimal staff hours.

In addition, it is a challenge to establish relationships with the staff at each agency when working outside of regular business hours. The librarian communicates mostly through e-mail and scribbled notes left on desks, and rarely sees the employees at the coalition locations. The issue is exacerbated by high staff turnover rates in Nunavut.

Furthermore, the librarian's hours make it difficult to keep informed of, and involved in, workplace activities at each location. Her lack of presence occasionally results in the resource centres becoming over-run by other users and functions, and decisions that affect the libraries get made without consultation or even notification of the library staff. For example, a large donation was received on behalf of the coalition at one of the locations. Several hundred dollars were spent on shipping the donations to Iqaluit. But upon evaluation by the coalition manager, very little of the material was found to be appropriate for any of the collections, and several more hundred were spent on sending it away. Had the manager been around to consult when the decision was made, the waste could have been prevented. A further challenge to note is the length of time it takes to get things done with the current arrangement. The same donation, for example, took up a considerable amount of space in the library for months because a coalition staff person was not available during weekdays to expedite the shipping process.

Despite the challenges presented by the new staffing situation, the project's second phase has been marked by progress and initiatives to improve the coalition. A number of ideas were sparked during the development stage of the project, and with each site operational, there became more opportunity to explore these ideas. The project manager has so far focussed on three new ventures in particular: the possible addition of a new staff member, the creation of a new website, and an increased level of project awareness.

The first task of the new coalition manager was to address the interest of Parks Canada in joining the coalition. Faced with a collection that was once organized but had fallen

into disorder and disuse, Parks Canada staff took notice of the CWS resource centre that was housed just down the hall. After consultation, it was proposed that Parks hire a short-term contractor to catalogue the collection into the coalition system. Once the collection was catalogued, it would be maintained just as any other member's location. In joining the coalition, there would be no need to develop a new organizational scheme or database, and ongoing maintenance of the resource centre would be provided. The coalition proposal appealed to Parks staff, but in the end they opted for a national Parks library system. Despite the outcome of this situation, it is hoped the work done with Parks might prove useful should the coalition be approached by other agencies in the future.

Another opportunity to enhance the project arose when NWMB announced it would be changing its website, and the coalition's online catalogue would be removed from the site to stand on its own. Previous meetings had stimulated "wouldn't it be great if our website could" conversations between member representatives. With this wish-list in hand, the coalition approached this change as an opportunity to expand the capabilities of our online catalogue and an Ottawa-based company, Compulite, was contracted to do the work. It was necessary to balance our wish-list and technological possibilities with the reality that we are a small operation in scope and funds. The new site went live in the spring of 2004 and key new features that were added included: text in French and Inuktitut as well as English; a registration system that allows us to gain information about how the database is used; the ability to keep track of borrowed items through the catalogue; and the capacity to generate labels for processing directly from the website.

Finally, the coalition librarian has sought to further the project by focussing on user education and publicity. Yvonne had created user guides for each site and made herself available to provide instructions for coalition member staff, but with high staff turnover, it became clear that steps had to be taken again to teach members how to use their resources and to raise awareness about the collections. This need was demonstrated in a number of ways: the catalogue and collections were used infrequently, new submissions for the libraries were lacking at some sites, and misplaced materials indicated confusion over the organization system. Promotion of the coalition has been relatively slow because of the face-to-face contact that is required and the difficulties with arranging such meetings given the librarian's hours of work. Furthermore, frankly, the prospect of increasing an already too-large workload by encouraging more library usage is intimidating. However, increased publicity for the project has begun, with the development of an information flyer that will be distributed at the five locations. Instruction sessions for all of the staff at each site is also forthcoming. The presence of an informed contact person at each location will strengthen coalition advocacy as well. It is clear that these efforts must be ongoing and coalition staff should make use of the previously developed resources as well as document new contributions so as to facilitate continued project awareness and understanding.

Today the Nunavut Wildlife Resource Centres Coalition (NWRCC) project can be summarized as consisting of five locations, two part-time staff, and an online catalogue containing over 7,000 records. Each of the five sites has its own character and history, but all came together in a co-operative and flexible spirit. Through the coalition, participants were able to maximize the resources at hand in terms of personnel and materials and were able to gain increased access to information on a local level, rather than being limited to their own collections, or having to turn to institutions based in the south.

- **Author's Note**

Yvonne Earle thanks Joyce Kelsall for the donation of John Kelsall's papers and books to the coalition in response to the publication of Yvonne's initial article about the project.

She further acknowledges the technical support of Wayne Johnson (L & B Consulting) and Fred Jensen (Nortext) with phases of this project.

Virtual Polar Reference: A Think Paper

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- **Background**

Reference service in the virtual environment is evolving rapidly. At the University of Alberta, we now have several years' experience answering reference questions through a virtual reference service. This service is delivered to authenticated University of Alberta users through 24X7

The service involves both a synchronous chat function and the ability to co-browse with users, guiding them to the resources they need to use. Often, the user will be taken to the catalogue to locate books or to a database to locate journals and then guided out to electronic journals. Increasingly, standard reference tools are becoming available in electronic format, allowing reference staff to guide the user to the electronic equivalent of a dictionary, handbook, directory, encyclopaedia or dataset.

The ability to deliver reference service electronically to any user, mimicking the face-to-face interaction that occurs at a reference desk opens up many possibilities. Among the most interesting is the possibility of supplying reference service to our users 24 hours per day, by sharing questions with similar institutions in other time zones.

In fact, the University of Alberta has undertaken two such experiments. The first collaboration was with the University of New Brunswick in Fredericton, three time zones ahead of Alberta. Recently, the University of Alberta joined a consortium of 27 North American academic libraries that span the continent. In this environment, a librarian at any of the 27 institutions may answer a question posed by a user at another institution. (see Appendix I) Each institution commits to monitor the "global queue" for five hours per week, and during that time may be called upon to answer questions from users at any institution. Some institutions monitor their own queue consistently during business hours, some monitor only for the five global hours to which they must commit. The 24X7 employees also monitor consistently.

Many of the questions received though the "global queue" are straightforward and are more often related to procedure and policy at the user's library than they are to specific subjects. To answer these questions, each library supplies "policy pages," which describe local information and guide the reference provider to library catalogues and web pages.

However, like the traffic at any reference desk, some of the questions are complex research questions. The libraries supplying the consortial reference services range from small two-year colleges to major research institutions with subject librarians. The individual answering the question may be a student, with general reference knowledge, or may be a librarian with highly specialized knowledge in a narrow field. In any case, a highly technical or specialized question may have to be referred on to a subject specialist, because the responder cannot answer it. That referral process is usually by e-mail. The person receiving the question may be available to answer almost immediately, but more often the response may take hours or days.

Users want to be connected in the most efficient manner to the information that they require. The fewer the number of mouse clicks, the better. The fewer the number of referrals, the better. Given the option, users with complex subject questions will go directly to the subject source where they will find the answer. It makes sense then to anticipate the users' growing sophistication in virtual reference and supply them with subject-entry points into virtual reference services. Within this context, I propose that the PLC develop a "Polar Virtual Reference Service," and share our reference services across our network.

- **A Polar Virtual Reference Service**:

The PLC is well placed to develop such a service. The members of the PLC have a strong and enduring network in place. Many members have previously worked together. Through the biennial meetings, many members have had the opportunity to visit other members' libraries and workplaces. The meetings have also allowed members to showcase their collections and services, so many members have a good sense of the strengths of other members' collections. Further, most members of the PLC have well developed web presences which make their collections and services easily accessible.

- **Challenges**:

What challenges would the PLC face in building a collaborative virtual reference service?

- Language of communication

If librarians from around the globe were to be answering questions from users around the globe, we can predict that language will be an issue. To incorporate many languages both of users and librarians, I propose that we give librarians signing on to the system the option of selecting the languages in which they are able to respond and then offer those languages to the user as he or she signs in. Inevitably there would be mis-matches, and in those cases, the user would simply have to return to ask the question at a time when someone speaking his or her language was available.

Figure. 1. Sample language selection page from Librarian Sign-on Process

Figure . 2 Sample language selection page from user interface.

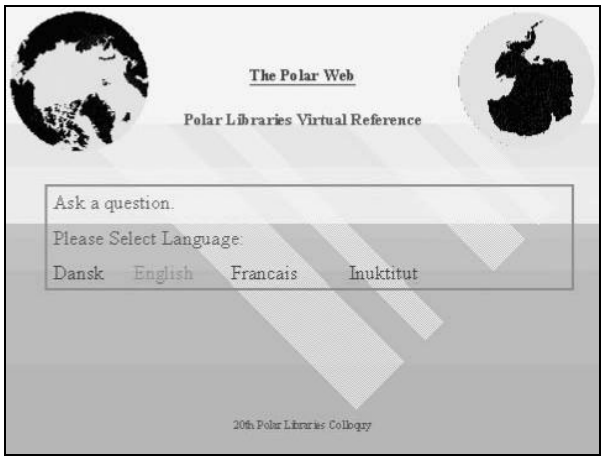
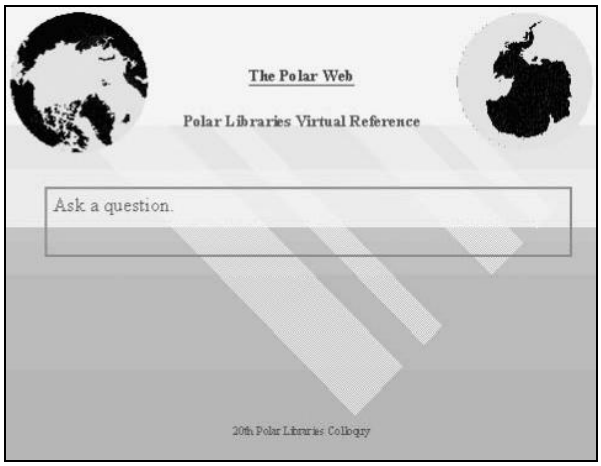


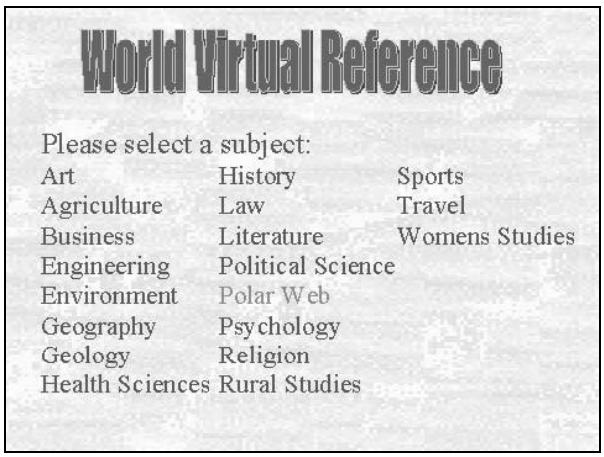
Figure. 3 Sample question box from user interface.



- **How would users get connected with the Polar Virtual Reference Consortium?**

Links from member library home pages would guide users of polar materials to the virtual reference service. However, as the availability of subject-based virtual reference consortia grows, one can imagine a general entry page, as currently exist for other kinds of services, in which Polar Virtual Reference would be one of the choices

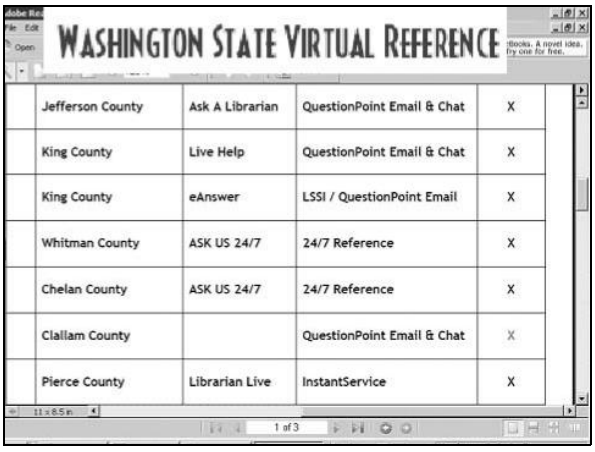
Figure 4. Mock-up of a global virtual reference list.



- **Would all PLC members have to purchase expensive software?**

Here is at least one virtual reference consortium that operates with a variety of software packages **(Figure 5).** Over time the availability of consumer-level software which includes both chat and the ability to co-browse will probably increase. There are several commercial screen sharing software packages available including Glance and VNC (Virtual Network Computing)[1] So, members may not need to have a common software.

Figure. 5 Washington State Virtual Reference employs several kinds of software.



- **How would I know who my user really is?**

If it is important to limit the user population to members of particular institutions, this can be done using a sign-on and password system.

- **How would we deal with questions which require a lot of research?**

This is an issue with which librarians have always had to deal in the face-to-face environment. Different kinds of libraries do more or less research for users, depending on their mandate. The consortium would need to establish some minimum levels of service.

- **What if the questions were not "polar" in nature?**

As in the face-to-face reference environment, referral is a normal part of the reference process, when someone else can better answer the question. Scope of the service would need to be defined and published.

- **What if the questions were politically sensitive or threaten national security?**

The consortium would need to develop guidelines for dealing for this kind of question, as well as those that are inappropriate. It is reasonable for any librarian to decline to answer questions that are not appropriate, or to refer questions of a highly controversial nature to a source that is skilled in answering them.

- **Would libraries be "swamped" and not able to cope with the volume of questions?**

Ideally, in a consortium spanning many time zones, there would be several librarians available at any time, so that the load would be shared. There would also need to be a mechanism for a librarian busy with a user to temporarily turn off their "availability" until they were free to respond again.

- **Would there be a large enough number of questions to make the service viable**?

We do not know what the demand for such a service would be, so a pilot project would have to be developed to test user response.

- **Who would coordinate a Polar Virtual Library Service?**

This is a challenge that could be taken up by the members of the Polar Libraries Colloquy.

- **Conclusion**

A service of a virtual reference consortium offers many advantages to the members of the Polar Libraries Colloquy. In addition to extending the hours during which all of our users could have their questions answered in real time, it also offers the opportunity to strengthen the PLC network and allow all PLC members to take advantage of the strengths of the network.

There are, of course, challenges to the development of any such project. However, PLC members working together, have the capability to meet these challenges.

Bibliographic Reference

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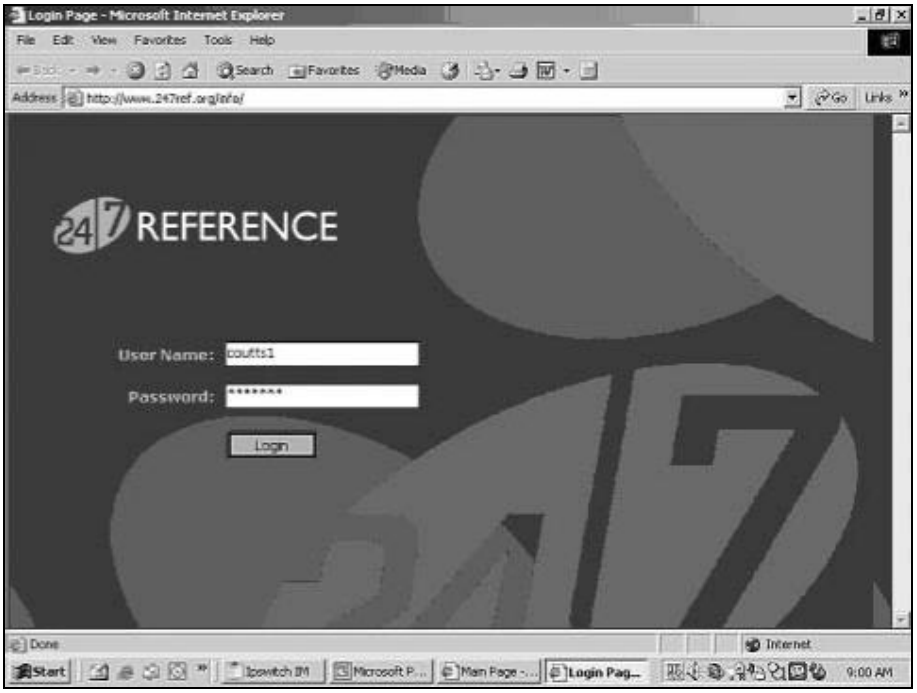
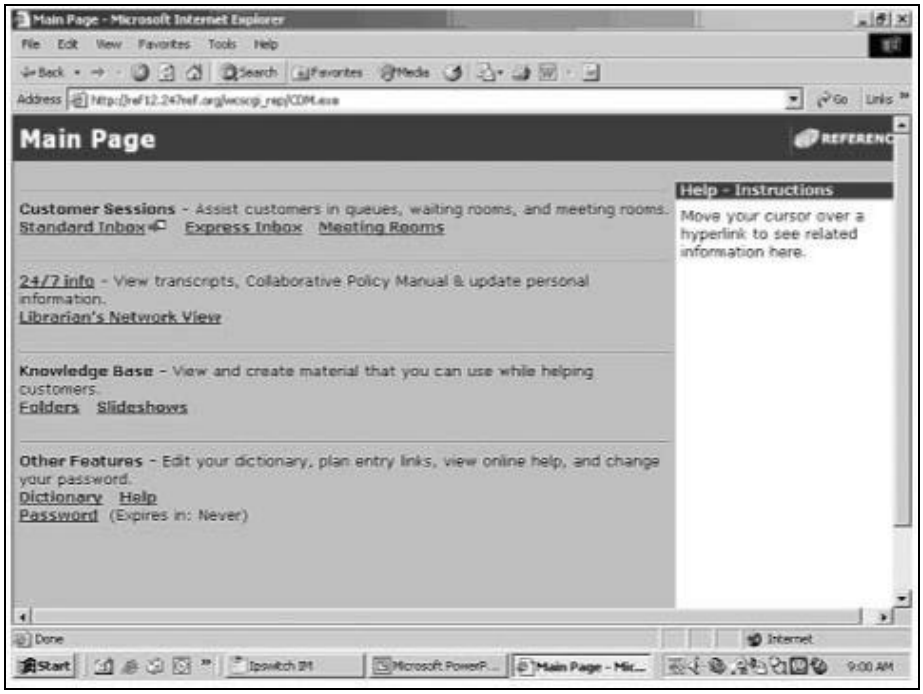
Appendix A: Sample "Global" Virtual Reference Interaction

1. Librarian sign-on page.

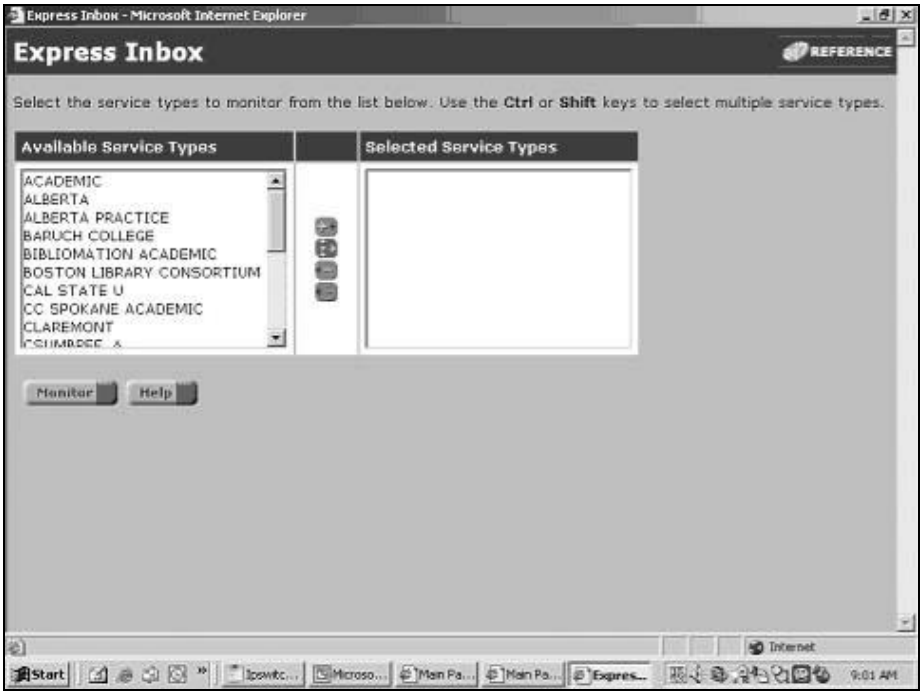


2. Select the in box

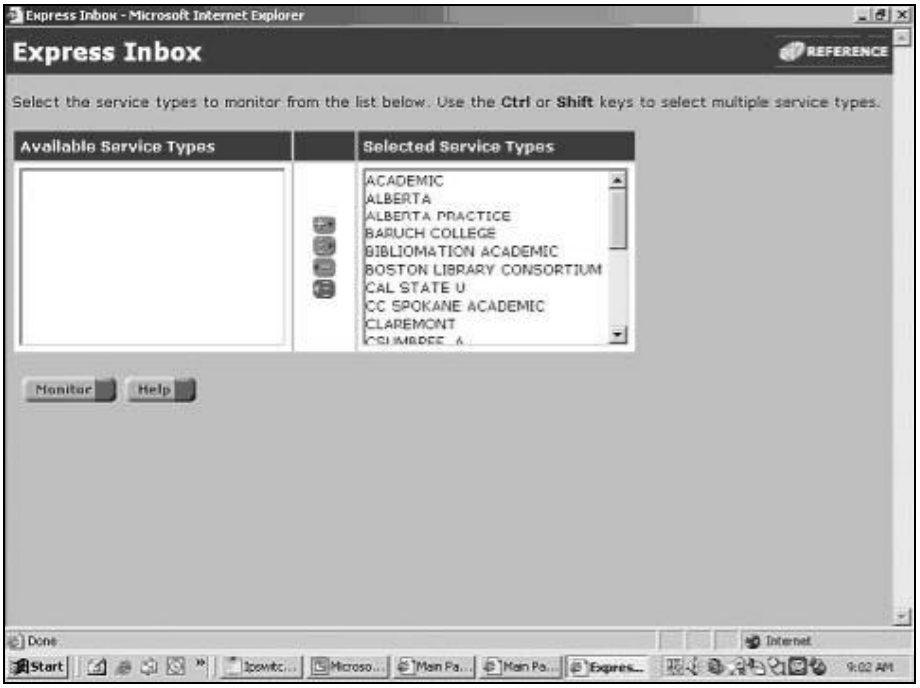


3. Select the Main Page

4. Select the libraries to be monitored

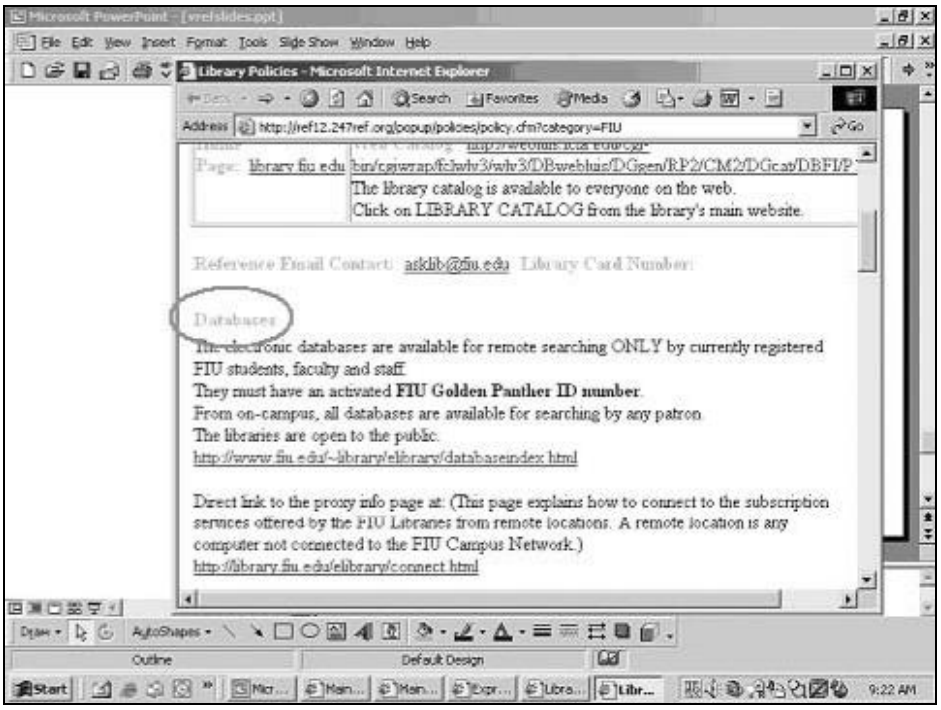


5. Begin monitoring

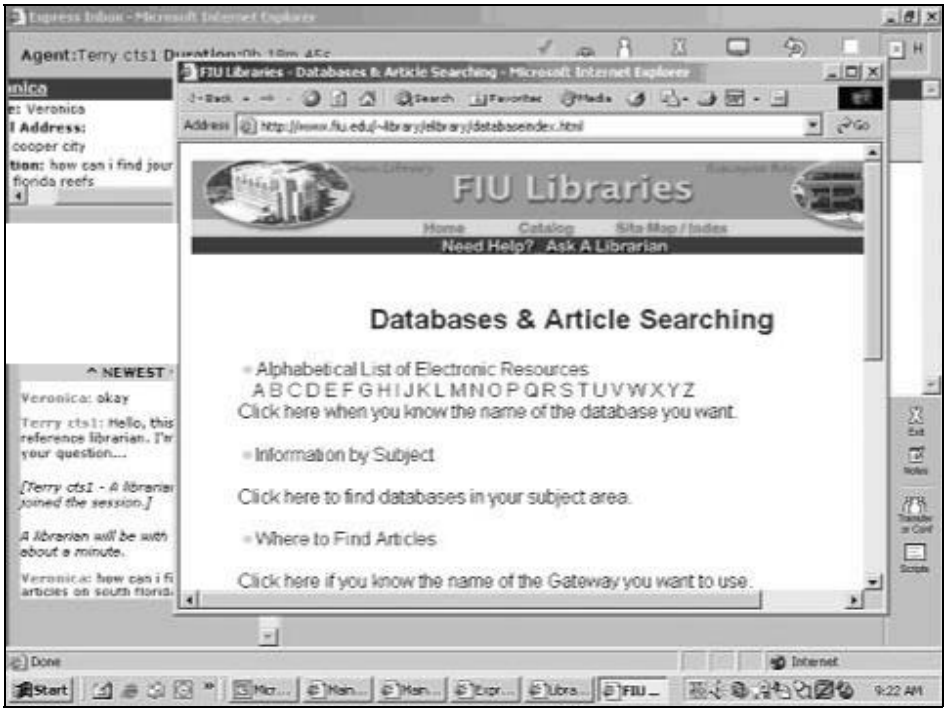


6. Click on the policy page link to connect to the user's home library.

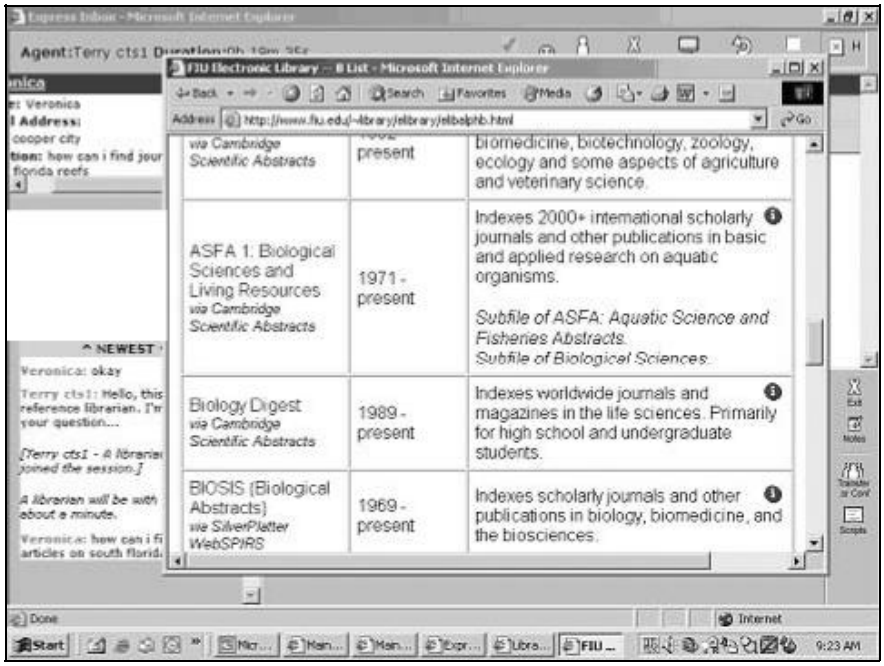
7. Local policy page



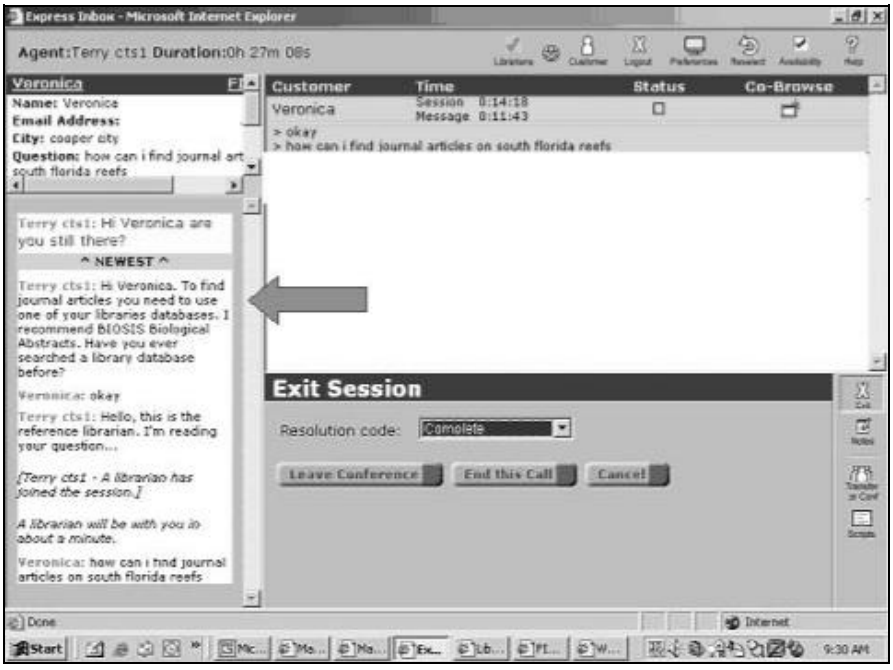
8. Locate locally held databases



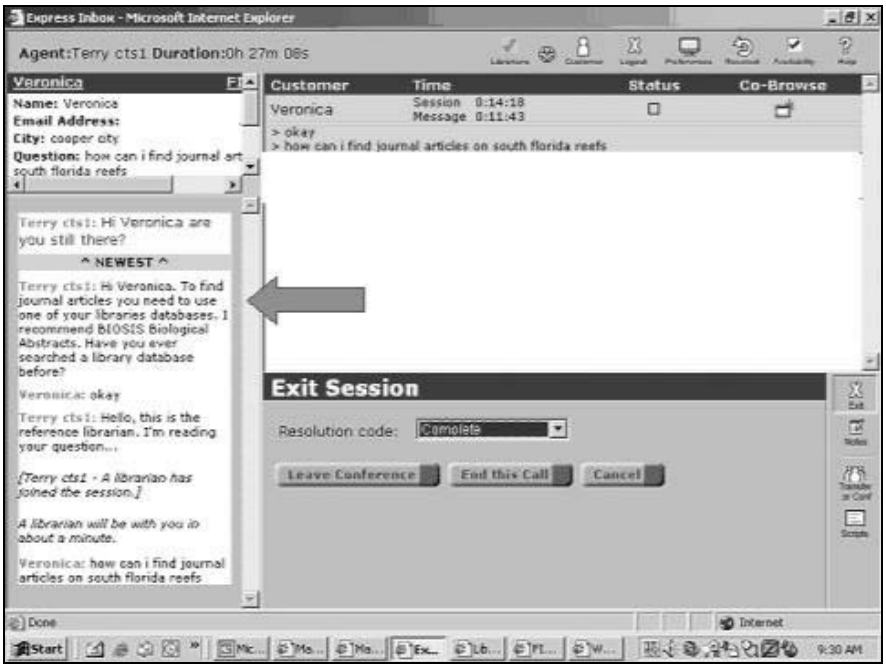
9. Search for an appropriate database at the user's home library.



10. Identify the appropriate database.



11. Refer the user to the appropriate resource.



The Arctic Health Website: Lessons Learned & Future Directions

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- **Update**

In 2002, we presented information on plans for the Circumpolar Health Information Center. Now, almost two years later, those plans have been realized in the **ARCTIC HEALTH** website *(www.arctichealth.org).* The website is a portal to information about human and environmental health in the Arctic, and is a collaboration among National Library of Medicine (NLM) Specialized Information Services (SIS), University of Alaska Anchorage (UAA) Health Sciences Information Service (HSIS), and UAA Institute for Circumpolar Health Studies (ICHS). It is the first in a series of websites planned by NLM to meet the health information needs of special populations. Other sites focus on Asian American Health and American Indian Health, with future plans for sites targeting Hispanic American health, African American health, and Pacific Islander health.

Organized around themes such as traditional healing, telehealth/telemedicine, and health topics important to Alaska Natives and other residents of the circumpolar north, the website provides information from a distinctly Alaskan/Arctic perspective. Content is drawn from a wide range of local, state, national, and international agencies as well as professional societies, universities, Alaska Native health corporations, and recognized subject matter experts. Most important, there is an active Users Council whose members help identify and develop content and ensure the website is responsive to the health information needs of users.

The "Library" section of the website includes a database of publications, government reports, grey literature, and non-print media. Many of the database records will link to full-text versions of the documents which users will find especially valuable given how difficult it is to locate some of these more esoteric materials. Special interest collections from distinguished researchers and health care providers will be highlighted resources. For example, the bibliography Health of the Inuit of North America[1] is the foundation of the database. Materials from the National Science Foundation's *Social Transition in the North* (STN) project will be added next.

The US National Science Foundation (NSF) funded the research behind the STN collection. This research studied the indigenous peoples in sixteen Russian and Alaskan communities during 1993-1995. The project ended abruptly when the principal investigator and other members of his team died in a tragic accident. The research materials were given to the Institute of Circumpolar Health Studies in late 2002. The analysis and organization of this collection is nearly finished. Key documents and data will eventually be posted on the ArcticHealth website.

We know that other special interest collections exist, such as the Mills collection on cold injuries, the Milan collection which just last month was delivered to the UAA Archives, and the Merryman collection on physiology and cold injury re-warming. Our goal is to mine these collections and make pertinent materials accessible through our website.

- **Lessons Learned**

Now that the **ARCTIC HEALTH** website is up and running, we can take a step back and think about some of the lessons learned over the last couple of years. One revelation has been just how many people it takes to build and maintain the website. On the NLM SIS side of the equation there is a project officer who provides active project oversight, a high level project champion, and, of course, the fiscal office staff. UAA staff involved include the two co-Principal Investigators from the HSIS/Consortium Library and the ICHS and a Research Associate/Librarian from ICHS, all of whom spend considerable time in content development, website design, usability testing, and marketing. Other Consortium Library staff

contribute to different aspects of the website, including server and software support, materials selection, document scanning and indexing, and budget tracking. A visual diagram of this virtual organization appears at the end of this article.

As a collaboration between NLM and UAA, and with the active involvement of an attentive and vocal Users Council, another factor we have learned to incorporate into the mix is the sometimes surprising amount of time required to complete some initiatives. Matters ranging from the complex (website design and layout, collection development policy, metadata descriptors) to the relatively mundane (poster colours, search box placement) can take from several weeks to months to complete. But the input and guidance provided by the diverse group that comprises the project staff and Users Council are invaluable, and the time invested in the process clearly strengthens the website.

Finally, over the course of the last two years, objectives for the **ARCTIC HEALTH** website have continued to evolve. What has emerged is the need to focus on a content/collection development approach that sets the website apart from other comparable efforts. This value-added model is based on our ability, with the help of the Users Council, to identify and provide access to little known, but important, materials, for example grey literature, that would otherwise be unavailable to most users.

The value of usability testing of a website was discussed as part of our presentation at Copenhagen. For anyone following the life cycle of this website, it is clear that significant design elements have changed – all based on test results with Alaska Natives and other users of the web pages.

Over the past two years objectives for the website have evolved and priorities have changed. Funding limitations are behind some of this, but so too, is the time commitment required by specific objectives. Being flexible is a must!

Communication is critical. This is true for any endeavour we have discovered that written communication is not always the preferred method for keeping up with decisions and progress. Actually having separate tele-conferences with key personnel at our funding agency works better.

- **Future Directions**

We have two objectives for the coming year. We will be working with one of our partners, the Alaska Native Health Board, to expand the publications database. They download regular updates from the Pubmed database, review the new citations and choose those relevant for Alaska Natives. They do not have the ability to share this online, but we do. So, beginning this summer, they will share this data with us.

We will also develop the first phase of our research database. The intent is to have a minimal record of research occurring in Alaska, or focussed on Alaska Native health issues. Carl Hild, the co-PI for this project is taking the lead on this initiative.

And of course, we are most interested in any links you can suggest! We have made baby steps in creating links to key resources from other countries, for example, the Arctic Council page, and links to major university pages that have an Arctic focus. What are we missing?

Please visit our work-in-progress at *www.arctichealth.org*.

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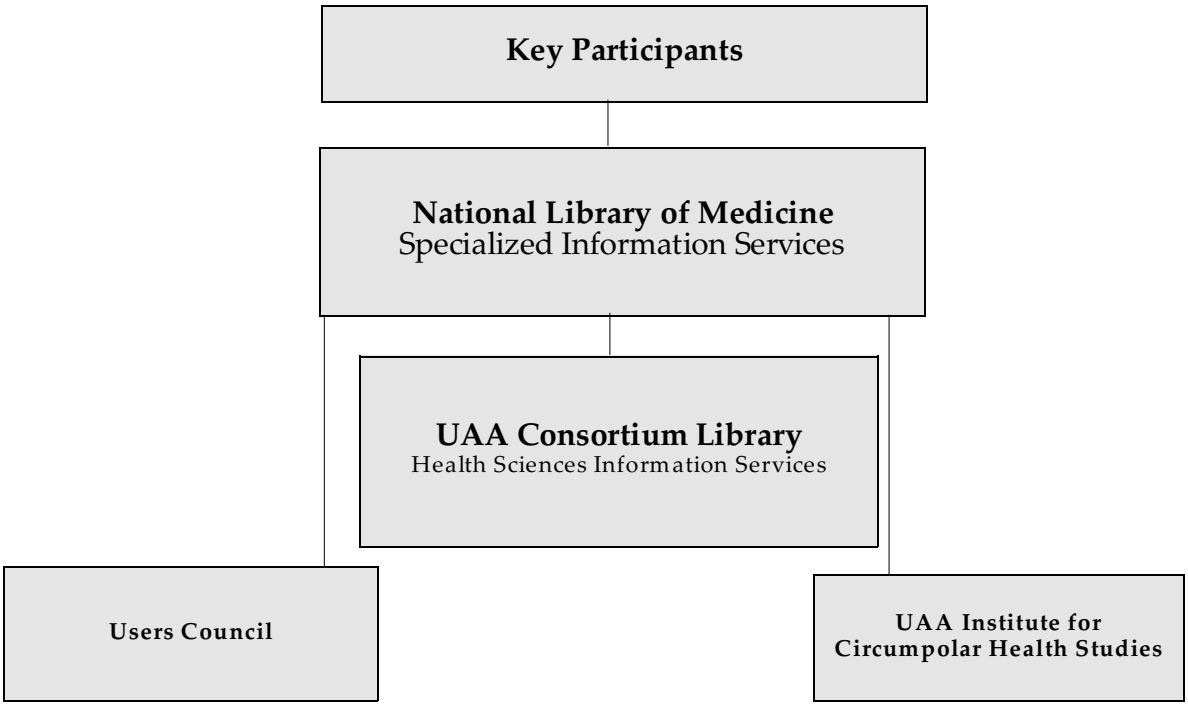
Key Participants
National Library of Medicine
Specialized Information Services
UAA Consortium Library
Health Sciences Information Services
Users Council
UAA Institute for
Circumpolar Health Studies

PolarInfo: Moving Indexing into the 20th Century

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Providing access to polar information can be a challenge for libraries, primarily because the range of research spans a diverse number of subject areas. A number of polar libraries have dealt with this problem through the in-house development of indexes and databases to provide enhanced accessibility to their collections. These databases usually focus on the holdings of the institution from which they are built, and may not necessarily take into account that the sources are covered in other indexes. However, duplication of effort is undesirable. Limited by financial constraints, libraries must always consider the best use of their resources to avoid covering sources that are easily accessible elsewhere.

At the 15th Polar Libraries Colloquy in 1994, Martha Andrews asked, "How much indexing duplication is occurring?"[1] The University of Alberta Libraries sought to answer this question with respect to the database developed by the Libraries, PolarInfo.

- **History**

In the early 1970s, polar research increased, but few centralized resources existed for the field. Librarian Nita Cooke undertook the development of the Boreal Northern Titles Keyword-in-Context Index (BNT KWIC Index) in 1972.. Cooke recognized that easy and immediate accessibility was required for the wealth of materials being published in polar studies, and therefore chose the Keyword-in-Context indexing system. This model used all words in the item title (except for prepositions) as indexing terms, using no controlled vocabulary. It was also very straightforward for indexing staff.

Over the next 30 years the index moved from a print format to an electronic SPIRES format (an early bibliographic citation database). In 1995 the University of Alberta Libraries transformed the BNT KWIC Index into an online database available through a telnet system, renaming it PolarInfo. In 2003, the database entered the Internet age, gaining a web interface. At that time, PolarInfo became freely available online. To the present day, the index has continued to use the KWIC theory, with title keywords as access points. While no controlled vocabulary is used, indexers use article abstracts or text to supplement these title keywords where appropriate. Expediency and currency remain key concerns with PolarInfo: records are available for the user as soon as they are saved by the indexer.

At the same time as the index was developed, the indexing process and workflow underwent continuous improvement. Indexers at the library have significant experience with the database (for example, index creator Nita Cooke has continued to work with the database), and a comprehensive indexing manual has been created for quick reference.

- **Content**

PolarInfo has been a major contributor to the National Information Services Corporation database, Arctic and Antarctic Regions (AAR). AAR is the largest collection of international polar databases and a key resource within the field of polar information, and PolarInfo has provided approximately one-third of its content. Out of one million records, 355,000 have come from the University of Alberta Libraries. As the NISC website notes, the content provided to AAR is often unique and not covered in other databases (other than the database from which the content originates). PolarInfo records are also uploaded to the PolarPac series of CD-ROMS when they are periodically released.

In 2001, the library completed a study of PolarInfo, looking to answer Andrews' question regarding indexing duplication of northern resources. The study reviewed the overlap of indexing sources and content between PolarInfo and three other major indexes: the Scott Polar Research Institute (SPRI), the Arctic Science and Technology Information System (ASTIS), and the Alaska Bibliography.

The review revealed that PolarInfo is the only index containing polar and northern materials with a Canadian focus. Fifty-two percent

of titles that PolarInfo indexes are not covered in any of these three major databases. Further, most of the titles indexed in other databases are in the sciences. With these facts in mind, it was determined that the bulk of the titles unique to PolarInfo are Canadian grey literature. Examples of these items with respect to PolarInfo are industry and corporate annual reports, small regional newspapers, non-governmental organization reports, technical reports, and newsletters. Some of these materials, such as annual reports, are indexed only once, while details of corporate activities (such as earnings) may change, annual reports tend to maintain the same structure and general content over the course of their publication. This approach will allow user access without spending unnecessary time on fairly static

Further analysis of the sources in PolarInfo determined a breakdown of types of publications. Out of 536 publications, including those titles indexed only once, 60.6% were academic or research journals and included government publications. 17.9% were of general interest with a Northern focus, 12.3% was non-northern Canadian First Nations material and 9.2% was Northern First Nations material. These statistics point to one of the unique elements of PolarInfo. The Canadian Circumpolar Library, from which PolarInfo content comes, has a broad mandate to collect not only northern materials, but also Canadian First Nations materials, regardless of geographic scope. This mandate has also been adopted by PolarInfo. However, it is surprising that the non-northern First Nations material is of a higher proportion of the sources as compared to its northern counterpart.

Out of the total sources indexed, 281 are periodicals, 71 are conference proceedings which are often single conference, and not necessarily annual, 45 are newspapers, and 139 are serials including documents such as annual reports.

- **Current Issues and Challenges**

Over the 32 years that the database has been maintained, a number of changes have taken place. PolarInfo has been maintained by University of Alberta Libraries staff, with Science and Technology personnel completing the indexing, and Information Technology Services staff managing the technical aspects of the database.

The content of PolarInfo has been tied, to a certain extent, to the development of the Canadian Circumpolar Library collection, for which the purchase of resources has been supported in part by the Canadian Circumpolar Institute. However, the acquisition of standard published material is fairly straightforward; the acquisition of grey literature is less so. Material and research on polar regions has continued to expand, and the explosion of the Internet has created a major publishing and delivery mechanism for grey literature. The ephemeral nature of both the Web and of grey literature itself has meant that constant monitoring of the web has been necessary to locate material. All of this has resulted in the commitment of increased time and resources to the development and indexing of the collection. While PolarInfo expanded, the staffing complement and fiscal resources at the library has either decreased or remained static. As a result of these pressing concerns, the University of Alberta Libraries decided to cease indexing polar material after June 30, 2004.

Although the decision was made to cease maintaining the database, it was important to complete the review of PolarInfo's functionality and scope. Acknowledging the University of Alberta Libraries' fiscal limitations, and that PolarInfo is an internationally-recognized resource, it is possible that another institution may wish to continue. Alternately, if the Libraries were able to obtain support from outside funding, a review would be pertinent in order to understand both PolarInfo's strengths, and its needs for improvement. Either way, it was a timely opportunity to assess the database.

- **Comparison Testing**

In order to compare PolarInfo's precision and recall with that of other databases, three sets of search terms were chosen: Inuit and self-government, AIDS and the north, and Caribou and pipeline.

The range of subject matter was chosen in light of PolarInfo's inter-disciplinary nature. Databases used to compare search results were chosen from lists compiled by University of Alberta Libraries' subject specialists of primary electronic resources for the subject area.

PolarInfo resulted in more hits for the terms "Inuit and self-government" than the

Canadian Business and Current Affairs (CBCA), Bibliography of Native North Americans, the Canadian Periodical Index, or the First Nations Periodical Index; searching the term 'self-government' alone, only CBCA displayed more hits (3237 to PolarInfo's 653). For the terms "AIDS and the North," PolarInfo was compared to Medline only. Medline provided many more search term hits (438 to 5); however, an examination of the records in Medline revealed that the records seldom referred to the circumpolar north, rather indicating areas such as North America, North Carolina, and the "northern blot technique". In this example, the term 'north' was truncated to widen the search. In attempting this process, it was noticed that PolarInfo does not present any 'help' information for the user; truncation functionality was confirmed through a trial and error process. Clearly, there is room for improvement here from the point of the user who required additional information when searching.

In the search for the terms "caribou and pipeline," PolarInfo did not emerge as the better database, showing only five hits where CAB Abstracts, Zoological Record and Web of Science showed between four and 24 hits.

Noting the high content of material by and about First Nations peoples, a search was performed on various synonyms, to determine which terms are used most frequently. There was 5065 hits for Aboriginal, 4631 for Native, 2294 for Indian and 2697 for First Nations.

These results demonstrate a more surprising range than expected. While certainly the argument can be made that over time, different terms for First Nations peoples exhibit varying degrees of respect or acceptability, PolarInfo has only existed in its current format since 1995; this range of terms is from the previous eight years of indexing. The use of these different terms in this example may create points of potential confusion for users, particularly considering there is no additional help information available in the database interface.

- **Database Strengths**

In some cases, PolarInfo showed both greater recall and greater precision than other major databases. As well, PolarInfo is the largest index focussing specifically on northern Canadian content, and is a major contributor to the AAR database. PolarInfo provides access to much Canadian polar grey literature and information, which are difficult to find in other sources that are commercially available. The specific parameters of the index also means that users are assured that the great majority of PolarInfo's content is directly related to northern regions, saving some time in terms of having to narrow a search geographically.

In terms of programming functionality, the database allows immediate access to new records, thus continuing to fulfill the aspects of the currency and expediency for which it was founded over thirty years ago. And PolarInfo's long history at the University of Alberta has allowed for an excellent track record of good indexing practice; indexers supplement title keywords with other terms, provide alternate access for some terms such as the spelling out of abbreviations, and have developed and maintained an in-house indexing manual that would be shared if another institution chose to continue the database.

- **Recommended Changes**

Reviewing the results of both the database review and testing of search terms, the following changes are recommended:

- a further review of indexing sources duplicated elsewhere
- the determination of whether PolarInfo should focus specifically on Canadian grey literature
- a general database and help information within the interface, including information on sources indexed, truncation, etc.
- the determination of whether certain terms should always be used, for example: 'Aboriginal' should always be an indexing term for First Nations content?

- **Conclusion**

In conclusion, PolarInfo has been a major inter-disciplinary resource available to researchers. Limited resource availability has meant that the University of Alberta Science and Technology Library has had to stop support of the index. The library would welcome another solution to this problem. Perhaps another institution could assist with either taking over the index, or with funding

to support it. This review has determined a number of PolarInfo's strengths, as well as areas still to be addressed. Should the index be continued, there are several simple improvements that can only enhance user access to northern Canadian grey literature.

NOTE: After the presentation of this paper, the Polar Libraries Colloquy voted unanimously in favour of a resolution to encourage the Canadian Circumpolar Institute to assist the Polar Libraries Colloquy in finding the means to allow continuation of the index, as well as urging the University of Alberta Libraries to reconsider the cessation of the index, and to pursue all available avenues to allow its continuation.

The Spitsbergen Database

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• Introduction

The Spitsbergen Database, currently being compiled, exists as a research facility in its own right which will eventually be made available to interested researchers via the Internet. It also exists as the foundation for my PhD research at the History Institute of the University of Tromsø in Norway. The working title for that dissertation is *Persuasion, Perception and Power: Spitsbergen Texts Published in European Geographical Journals, 1895-1920*. To date, The Spitsbergen Database has received financial support from *Utenriksdepartementet* (the Norwegian Foreign Office) and *Framkomitéens polarfond* in Oslo.

The database aims to offer comprehensive coverage of specialist published items relating to Spitsbergen, including books, pamphlets and items published in specialist journals. No attempt is made to provide full details of newspaper items relating to Spitsbergen, though these are included if there is a specific link to a published item listed in the database. The scope of The Spitsbergen Database extends back to 1870, when international interest in Spitsbergen as a no-man's-land was revived, and ends in 1925, five years after the decision to award sovereignty over Spitsbergen (subsequently known as Svalbard) to Norway. In theory, the database's scope could be extended as far back as 1596 when this Arctic archipelago was first discovered, or forward to the present day; there are, however, no plans for this extension at present. The database will offer a comprehensive list of items published in Norwegian, Swedish, English, French and German. Publications written in other European languages are included on a selective basis; at present there is no facility to include items published in Russian.

Information sources referred to in the compilation of The Spitsbergen Database include eleven international library databases, fifteen specialist journals, fourteen specialist bibliographies, and eight other miscellaneous sources of reference (details are provided at the end of this paper). The principal topics discussed in the publications listed in the database include exploration, scientific expeditions and commercial activity on Spitsbergen, as well as the question of the region's sovereignty and issues of nationalism raised by the authors. The publications listed in the database are of potential relevance in the research fields of history, literature, politics, geography, history of science, bibliometrics and the use of languages.

Free access will be offered to all researchers via the Internet when the database is complete, probably in December, 2006. Website details are not available at present; information will be circulated once these are finalized.

• Overall Database Content

When it is completed, The Spitsbergen Database will contain information concerning an estimated 5,000 published items, presented in forty fully searchable and interlinked information fields. The current structure of the database incorporates three principal tables and nine supplementary tables, plus a "link" table to connect all the tables together. It should be emphasized that every individual category of information may be accessed and considered in conjunction with any or all of the other categories of information contained in the various tables and information fields. The principal database tables offer information on the following topics. Details are supplied in the next section.

- Bibliographical details
- Thematic content
- Textual characteristics

This basic information is enhanced by more detailed information on a number of topics, supplied in the supplementary database tables, as follows:

- Person
- Expedition
- Map
- Picture
- Place-name

- Publisher
- Reprint
- Review
- Translation

Principal Database Tables

Table 1: Bibliographical Details

For the most part, this table contains information fields that supply items of information generally found in a standard library catalogue or published bibliography:

- A unique database code for each published item (also included in Tables 2 and 3)
- The author name(s), as printed in the text
- The title of the published item; in the case of a journal item, its volume and issue numbers
- The total number of pages; in the case of a journal item, the first and last page numbers
- The title of the journal in which an item is published (if applicable)
- The ISSN number (if applicable)
- The month and/or year of publication)
  The database(s) from which information concerning a published item has been sourced (if applicable)
- Any other source from which information concerning a published item has been obtained

Table 2: Thematic Content

This table provides objective information of a type one might expect to find in a specialist bibliography:

- A unique code for each published item (Table 1)
- Polar region(s) referred to (Polar, Arctic, Antarctic)
- Spitsbergen place-names and other location references
- The year(s) in which event(s) occurred
- Text references to person(s)
- References to specific topics within a text (for example, arc of meridian, oceanography, hunting)
- Expedition references
- Transport references (names of ships, balloons, sledges)
- Maps, diagrams and illustrations included or referred to in a text
- The citation of other published item(s) listed in The Spitsbergen Database
- The citation of other published item(s) not listed in The Spitsbergen Database

Table 3: Textual Characteristics

This table provides highly detailed information that would generally not be available, even in a specialist bibliography:

- A unique code for each published item (Table 1)
- Whether the published item constitutes a primary or a secondary source of information relating to events that are referred to in the text
- Whether the text describes Spitsbergen events, supplies information, relates the region's history, or provides a combination of these
- Whether the text was published before, during or after an event
- Whether or not the text is a work of fiction
- Whether the text provides a principal, significant or incidental focus on Spitsbergen
- Type of publication: whether the item is a book, pamphlet or journal item. In the case of a journal item, whether it is an article; a small article; a news item; a map or chart; a book review; a published letter; a bibliographical reference; a map or chart reference.
- The language of publication (such as Norwegian, Swedish, English, French, German)
- The author's native language
- The nationality of an expedition, personnel, etc. referred to in the text
- Is this a reprinted or republished item?
- Is this a translated item?
- Has this item been reviewed?

Supplementary Database Tables

From the above summary of the first three tables and their contents, it is evident that supplementary information is also needed 'behind the scenes', to contextualize the principal information fields in The Spitsbergen Database. This is provided by

means of nine supplementary database tables, the contents of which are outlined below.

Table 4: Person
Authors and individuals referred to in the texts:
- A unique code for each person
- Name
- Author status (is the individual the author of a text listed in The Spitsbergen Database, or of a Spitsbergen text published outside the scope of the database?)
- Nationality
- Gender
- Miscellaneous notes

Table 5: Expedition
Text references to expeditions to Spitsbergen and elsewhere:
- A unique code for each expedition*
- Expedition nationality*
- Expedition type (commercial, scientific, etc.)*
- Arctic region(s) visited by an expedition*
- Expedition leader(s)*
- Expedition vessel(s)*
- Year(s) in which an expedition took place*

*Using codes and other information obtained from Clive Holland, *Arctic Exploration and Development c.500 b.c. to 1915 an encyclopedia*, (New York and London, Garland, 1994).

Table 6: Map
Maps included in the texts, and text references to maps of Spitsbergen:
- A unique code for each map
- Date of publication
- Type: map, survey, chart, plan, globe, sketch-map, etc.
- Country of publication
- Author and title of map
- Related publication (for example, if published within a journal article)
- Spitsbergen location(s) shown on the map
- Related Spitsbergen expedition(s) (if applicable)

Table 7: Picture
Illustrations included in the texts:
- A unique code for each illustration
- Type: (such as black and white photograph, table, engraving, line drawing,)
- Artist/photographer
- Title
- Book or journal page reference
- Related Spitsbergen expedition(s) (if applicable)

Table 8: Place-name
Spitsbergen place-names referred to in the texts:
- Spitsbergen place-name
- Place-name's language of origin (for example, "Point Looke Out", a seventeenth-century English place-name)
- Place-name's language of reference in the text, (for example, "Sydkap", a nineteenth-century Swedish/Norwegian place-name for "Point Looke Out")

Table 9: Publisher
Publishers of Spitsbergen texts:
- A unique code for each publisher
- Type of publisher: (such as book, journal, newspaper, map/chart, report)
- Name of journal
- Whether or not a journal is affiliated to a society or organization
- Name of publisher
- Country of publication
- Place of publication

Table 10: Reprint
Republished books and articles, and their original publication details:
- A unique code for each reprinted item
- Original publication details
- Connection with any published item listed in The Spitsbergen Database (if applicable)
- Type of publication: republished book, republished article, second or subsequent edition, extra copies supplied to author, second or subsequent issue of an edition

Table 11: Review
Details of contemporaneous book reviews of database published items:
- A unique code for each review
- Publication details of the journal in which the review was published
-

Language in which the reviewed item was published

- Language in which the book review was published

Table 12: Translation

Books and articles published in translation, and their original publication details:

- A unique code for each translation
- Publication details of the text in translation
- Publication details of the text in its original language
- Connection with any other item listed in The Spitsbergen Database (if applicable)

- **Information Sources**

The Spitsbergen Database derives information from a wide variety of sources, including international library databases, specialist journals, specialist bibliographies and other sources of reference, as listed below.

International Library Databases

- **France** – *Bibliothèque nationale de France*, Paris
- **Germany** – *Die Deutsche Bibliothek* (Deutsche Bücherei Leipzig)
- **Norway** – BIBSYS
- **Sweden** – LIBRIS *(Det nationella bibliotekdatasystemet*); REGINA *(Kungliga biblioteket, Sveriges national bibliotek)*
- **UK** – COPAC (Consortium of University Research Libraries, including the British Library); National Library of Scotland, Edinburgh; Scott Polar Research Institute, University of Cambridge
- **USA** – Library of Congress, Washington D.C.; NISC BiblioLine (BiblioLine www.nisc.com)

Specialist Journals

- **France** – *Compte Rendus des Séances* (La société de géographie, to 1899); *La Géographie* (La société de géographie, from 1900)
- **Germany** – *Dr A. Petermanns Mitteilungen*
- **Norway** – *Det Norske Geografiske Selskabs Aarbog*; *Naturen*; *Norsk geologisk tidsskrift* (1910-1919); *Skrifter utgit av Videnskapsselskapet i Kristiania* (from 1911); *Turistforening* (from 1901)
- **Sweden** – *Bulletin of The Geological Institute of the University of Upsala* (from 1901); *Det kongelige svenska vetenskaps-akademiens handlingar*; *Nova acta regiae societatis scientiarum upsaliensis* (from 1901); *Sveriges geologiska undersökning årbok* (from 1907); *Ymer* (Svenska sällskapet för antropologi och geografi)
- **UK** – *Geographical Journal* (Royal Geographical Society); *Scottish Geographical Magazine* (The Royal Scottish Geographical Society)

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Distribution of Source Materials for the *Antarctic Bibliography* and the *Bibliography on Cold Regions Science and Technology*

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• Introduction

The compilation and dissemination of the *Antarctic Bibliography* and the *Bibliography on Cold Regions Science and Technology* were transferred to the American Geological Institute (AGI) from the Library of Congress in July 2000.[1] At the time of transfer these bibliographies were recognized as the primary bibliographic source for researchers studying cold regions of the world which combined, contained approximately 224,000 references. As part of its cooperative agreement with the US National Science Foundation, AGI's goals include maintaining the comprehensiveness of the bibliographies at a level equal to the excellent coverage of the bibliographies when they resided at the Library of Congress. An overview of the changes in coverage in recent years provides insight into both evolving research interests and changes that may have occurred as a result of the transfer of the project. Coverage can be considered from several aspects. For the purposes of this preliminary evaluation, quantity, subject, country of publication and type of publication were considered and compared using data from the period 1992-1993 and 2002-2003. Areas for further evaluation were identified and some future plans for the bibliographies proposed.

• Project Overview

The Cold Regions Bibliography Project (CRBP) to compile and disseminate the bibliographies, is jointly funded by the US National Science Foundation and the US Army Corps of Engineers, Cold Regions Research and Engineering Laboratory (CRREL). As part of this project, AGI produces two separate bibliographies, the *Antarctic Bibliography* and the *Bibliography on Cold Regions Science and Technology*. Both bibliographies are currently available by subscription at *http://www.coldregions.org*. In addition, the bibliographies are part of Arctic and Antarctic Regions suite of databases available through NISC.

The *Antarctic Bibliography* is intended to provide bibliographic coverage of the entire Antarctic region including the continent of Antarctica and the surrounding areas of the Southern Ocean. The following scientific disciplines and topics are considered for inclusion: biological sciences, cartography, expeditions, geological sciences, ice and snow, logistics, medical sciences, meteorology, oceanography, atmospheric physics, terrestrial physics, political geography and general topics (including tourism). Publications in any language and from any country are accepted with an emphasis on formal, and government publications. Maps, news stories, K-12 education materials, and meeting abstracts are generally excluded from the bibliography. Any materials covered for the bibliography must be available to the staff of AGI in case future users need to obtain copies. Where necessary, AGI digitizes uncopyrighted or non-copyrighted materials to provide continued access for the future.

The *Bibliography on Cold Regions Science and Technology* covers worldwide cold regions, and focuses on scientific and engineering research including the study of materials subjected to cold temperatures , the impact of cold on activities and facilities, cold-related environmental problems, and the nature of snow, ice and frozen ground. Publications in any language and from any country are accepted with an emphasis on formal and government publications. News stories are generally excluded from the bibliography except where CRREL is the focus of the news. K-12 education materials that cover ice, snow, and frozen ground are accepted and meeting abstracts are occasionally included especially where the abstracts are extended and well documented

with references. Any materials covered by the bibliography must, as in the case of the *Antarctic Bibliography*, be available to the staff of AGI in case future users need to obtain copies, and AGI digitizes uncopyrighted materials to provide continued access for the future.

- **Sources of Publications for the bibliographies**

The US National Science Foundation provides about 25% of the materials for the *Antarctic Bibliography*. These materials come to the Foundation as gifts from various publishers, authors and government agencies. Similarly, CRREL provides about 40% of the materials that are included in the *Bibliography on Cold Regions Science and Technology*. The CRREL library contains an extensive collection of the literature of the cold regions of the world.

In addition, the AGI staff visits libraries in the Washington, DC area, including the Library of Congress, the US Geological Survey library in Reston, Virginia, the National Oceanic and Atmospheric Administration library in Silver Spring, Maryland, and others. Other library collections throughout the US are mined by AGI, both by onsite bibliographers and through inter-library Loan.

A growing trend for bibliographic services is to obtain data directly from the publisher. Many commercial and society/association publishers provide information on their publications directly to AGI for entry into the bibliographies. This includes the American Association for the Advancement of Science (AAAS), Wiley, Elsevier, and others.

A primary means for extending the coverage of the bibliographies is the development of international co-operative agreements with institutions like Scott Polar Research Institute (SPRI) that have an interest in the bibliographic coverage of the cold regions. AGI entered into an agreement with SPRI beginning in 2000, and now receives approximately 600-800 references per year for incorporation into the *Antarctic Bibliography*. AGI continues to pursue similar arrangements with other institutions and organizations.

Coverage analysis

- **Quantity**

The AGI was given the task of compiling at least 2000 references per year for the *Antarctic Bibliography* and for eliminating the 3000-item gap in coverage that existed due to the hiatus in the project that began in 1998. At the end of June 2004, AGI will have completed a four-year period of compiling the bibliography. During that time, AGI will have exceeded the original expectations, and will have added approximately 16,800 items. These items consist of approximately 3000 references for the 1998-2000 gap, close to 9000 references for current materials, and a special addition of around 4800 references for the *Antarctic Bibliography 1951-1961*. SPRI provided this addition to AGI, which was the result of a digitization project undertaken by SPRI funded by the British Antarctic Survey.

For the *Bibliography on Cold Regions Science and Technology*, AGI was given the task of adding at least 5000 references per year. This part of the project began in October 2000, and the first four-year period will be completed in September 2004. During the first year, AGI added 5200 references. The annual number increased to 5700 references in the second year, and to 6700 references in the third year. The current year is projected to close with a total of approximately 8200 references making the four year total more than 25,800 references. This total reflects growth in the literature as well as an expansion of the coverage to include more extraterrestrial ice and more geoscience in the Arctic region.

- **Subject**

The *Antarctic Bibliography* makes use of a subject classification scheme and each publication is assigned to one of thirteen categories. The equivalent of roughly a twelve-month period was selected from the bibliography for the 1992-1993 period and for 2003, and the number of items assigned to each category was tallied. Note that the totals for each period vary so it is not possible to make a one-to-one comparison. Comparison by percentages of subject was attempted, however, given the relatively small number of items, in the end a tally of total

numbers within each subject category was studied. **See Figure 1.**

The atmospheric physics, expeditions, general, geological sciences, logistics and oceanography categories have grown considerably when total numbers for 2003 are compared with 1992-1993 during this time but there was a decrease in the ice and snow, political geography and meteorology categories. A preliminary evaluation shows that there are various causes for any changes. The category of atmospheric physics has grown because researchers have recognized that the Antarctic atmosphere provides a good location for observation, and for astronomical study. The number of publications assigned to expeditions and general topics have increased because of public interest in exploration, general environmental studies and tourism. Because of GeoRef, AGI maintains thorough coverage of the geological sciences and probably sees a larger number of geological articles than were formerly seen, so the category geological sciences has grown. The focus on the geosciences by AGI staff also makes it likely that staff will more often assign interdisciplinary papers to geoscience rather than another category. This is especially true for studies of snow with ice cores, frequently listed under geological sciences rather than ice and snow. The decline in the number of meteorology publications is at first glance likely to be the result of a change in the assignment of categories. In the 1992-1993 period, papers on ice in the oceans surrounding Antarctica or measurements in the atmosphere were assigned to meteorology. In the 2003 papers, these papers were often assigned to oceanography and atmospheric physics, respectively. Further investigation of the totals including an analysis of a re-assignment of categories is needed to point toward possible areas for improvement in subject coverage.

The *Bibliography on Cold Regions Science and Technology* does not include subject categories so no subject coverage analysis was attempted.

- **Country of Publication**

To study the coverage by country of publication, 10,000 references from the early '90s were chosen from the combined bibliographies and compared with 10,000 references from 2002-2003. Forty-three countries were covered during 1993-1994, while forty-seven countries were covered during 2002-2003. The number of items published in the United States decreased overall, while those from Russia, Germany, Poland, and New Zealand grew. One possible explanation for the decrease in publications from the United States is the use of a new publisher category entitled International which was available in 2002-2003 and includes the publishers that are multi-national in nature. A growing trend in the consolidation of publishers has occurred over the last decade and that trend may account for some of the decrease in United States numbers. Publications from Greece, Lithuania, Nepal, Uruguay and Peru were examined in 2002-2003, while there were none in 1993-1994. No Bulgarian publications were found for the period 2002-2003. There were some Bulgarian publications in 1992-1993.

- **Types of Publications**

To study types of publications, 10,000 references were chosen from the early '90s and compared with 10,000 references from 2002-2003. Little could be gleaned from the preliminary evaluation of these tallies. A comparison to check for complete coverage of individual meetings, and an examination of the 'Other' category for details would seem appropriate. See **Figure 2.**

- **Areas for further study**

Coverage in terms of quantity have exceeded expectations, however, more extensive evaluation of subject and country of publication categories is needed to provide guidance and future focus for compilation of the bibliographies.

For the *Antarctic Bibliography*:
The following subject coverage areas need to be explored

- Category assignments in geological sciences, oceanography, meteorology, snow and ice
- Category assignments of global change
- Further exploration of coverage of categories showing a decline

The Country of Publication data needs to be evaluated as follows:

- Literature distribution by country – is the literature of the various treaty countries being located?
- Look for Bulgarian publications in particular.

For the *Bibliography on Cold Regions Science and Technology*:

- Need to devise a means to study subject coverage.
- Need to look at Russian coverage – increase may be deceptive given dearth of Russian materials in early 90s.
- Examine web-based resources for possible inclusion in the bibliography – including data sets and online meeting publications.
- Examine conference publications to assess continuing coverage of appropriate conferences.

- **Additional Future Plans**

In addition to the expansion of international cooperative arrangements like that with SPRI, AGI will continue to expand the pursuit of information directly from publishers in an effort to cut costs and prevent duplication of effort. Appropriate metadata supplied by publishers helps guarantee the accuracy of bibliographic information, and helps decrease the lag time between publication and listing in the bibliography.

- **Acknowledgements**

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Figure 1. Subject Coverage - Antarctic Bibliography

Subject Categories	1992-1993	2003
Atmospheric Physics	67	146
Biological Sciences	568	638
Cartography	25	38
Expeditions	4	94
General	119	257
Geological Sciences	495	842
Ice & Snow	232	170
Logistics	21	71
Medical Sciences	26	18
Meteorology	210	53
Oceanography	170	221
Political Geography	16	3
Terrestrial Physics	48	32

Figure 2. Types of Publications - Combined Bibliographies

Type	1992-1993	2002-2003
Meeting	3555	3091
Journal	4996	5379
Map	1	190
Monograph	607	432
Other	166	???
Report	544	781
Thesis	???	231

The Arctic Science and Technology Information System: Subset Databases as a Method of Improving Comprehensiveness

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• Introduction

The Arctic Science and Technology Information System (ASTIS) is an abstracting and indexing service that describes publications and research projects about northern Canada. ASTIS is a project of the Arctic Institute of North America at the University of Calgary, and has been in operation since 1978. The ASTIS database currently contains almost 54,000 records.

ASTIS has no core funding from the Arctic Institute or the University, and is financed entirely through contract work and donations. The ASTIS database is available for free from a bilingual (English and French) website at *www.aina.ucalgary.ca/astis.* ASTIS is also available as part of National Information Services Corporation's *Arctic & Antarctic Regions* database.

• Subject and Geographic Scope

ASTIS covers all subjects, including the earth sciences, the life sciences, engineering and technology, renewable and non-renewable resources, co-management, politics and government, economic and social conditions, land use, indigenous peoples, archaeology, history, art and literature.

ASTIS covers all of Canada north of the southern limit of discontinuous permafrost, as well as adjacent marine areas. Coverage therefore includes the northern parts of seven of the provinces (British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec and Newfoundland), the three territories (Yukon, the Northwest Territories and Nunavut), part of the Arctic Ocean, the Canadian part of the Beaufort Sea, the waters within the arctic archipelago, the Canadian half of Baffin Bay - Davis Strait, Hudson and James Bays, and part of the Labrador Sea. In practice, our coverage of the three territories is more complete than our coverage of the northern parts of the provinces. ASTIS contains only a small amount of information about non-Canadian polar regions.

• Coverage of Research Projects

The ASTIS database contains about 12,800 records describing research projects conducted in Canada's three northern territories during the past 30 years. These records begin with the words "RESEARCH PROJECT" to distinguish them from citations to publications. Research project descriptions are prepared using information collected by the organizations that licence all northern field research. It is the co-operation of these nine organizations that makes our research project coverage possible. The Canadian Polar Commission is using research project statistics from ASTIS as one of their indicators of the level and direction of research efforts in northern Canada.

The amount of information in a research project record depends on the amount of information collected by the particular licensing organization in the year that the licence was issued. All records contain at least a project title, the name of the principal investigator, the investigator's affiliation, and ASTIS subject and geographic codes and terms. Many records also contain abstracts, the names of additional investigators, the names of organizations that funded the research, and the principal investigator's address, telephone number and e-mail address.

• Coverage of Publications

The coverage of publications in ASTIS emphasizes gray literature, including reports from government agencies, industry, indigenous peoples' organizations, and universities. ASTIS also includes journal articles, conference papers, theses and books. Most of the publications described in the database were published since 1978, but a some older material is included.

ASTIS records describing publications contain a complete bibliographic description, an abstract, detailed subject and geographic terms and, in most cases, a library symbol indicating

where the document is available on interlibrary loan. If a publication is available on the World Wide Web, the ASTIS record for that publication links directly to the full text of the publication. Subject and geographic terms are chosen from our own subject and geographic thesauri that are maintained, with cross-references and scope notes, in accordance with international standards for thesaurus construction.

ASTIS's coverage of publications about northern Canada is far from comprehensive, and users are warned to consult other sources of information if they are doing an exhaustive search.

- **Searching Capabilities**

ASTIS uses the MINISIS database management system. MINISIS was developed by the International Development Research Centre, a Canadian crown corporation, from which the MINISIS group was recently separated as a private company. MINISIS was chosen for its reasonable price, excellent programming flexibility, multilingual capabilities, thesaurus support and Web support. MINISIS runs under Microsoft Windows Server on Intel-based hardware.

The ASTIS website provides both Simple Search and Advanced Search pages. The Simple Search page allows free-text searching of words in titles and abstracts, searching by author using truncation, and drop-down lists for searching record-type (publications or research projects), subject and geographic codes, and year. The Advanced Search page allows full Boolean searching of a much larger number of fields. Although not all of its capabilities are described on the website, you can do anything on the Advanced Search page that you can do in the native MINISIS query language, except for the automatic storing and numbering of search sets.

The searching and documentation pages of the ASTIS website are available in both English and French. MINISIS's excellent language capabilities allow the French side of the website to use French field names, French logical operators and French error messages. When displaying records, field tags and the contents of some fields are displayed in the language that the user has chosen for searching. When searching in French, for example, French abstracts are displayed if available.

While viewing an ASTIS record you can click on personal and corporate author names, subject codes, subject terms, geographic codes and geographic terms to search for other records that have the same name, code or term. MINISIS has the capability to make the ASTIS subject and geographic thesauri available for browsing on the Web, although we have not yet had the time to implement that feature.

Hyperlinks in other websites can contain predefined ASTIS searches. This Profile Search capability allows, for example, a link on a research licensing agency's website to automatically do an ASTIS search for the last two years of research licences from that agency. The capability can also be used to obtain an individual ASTIS record based on its record number, which allows links to ASTIS records from records in other databases.

- **Subset Databases**

ASTIS began to develop subset databases about five years ago, soon after starting to use MINISIS. Potential ASTIS contract clients are often more willing to support a bibliographic project if the results of that project can be made available for searching from a separate website. The MINISIS software makes it very easy to make a subset of the ASTIS database available from its own website as if it were a separate database.

Contract clients agree to support subset databases about particular geographic regions, subjects or projects by providing funding and by helping ASTIS to identify relevant publications. When creating a new subset database for a client, ASTIS provides existing records for free, and charges only for the creation of new records and for the construction of the website. As the ASTIS database grows, ASTIS is able to provide more records for free to new subset databases, thus improving the economics for clients. One of the major benefits to ASTIS of working on such projects is the opportunity to work with clients to identify and index publications of which we would otherwise be unaware. Improving the coverage of subsets of ASTIS makes the whole ASTIS database more comprehensive.

Subset databases are "views" of the ASTIS database, not copies, so records changed or added in the main database are accessible automatically and immediately in subset databases if they meet the criteria that have been specified for those

databases. The subset websites can be unilingual or bilingual, can have simple or complex search capabilities and can be designed to stand alone or to look like part of another website.

The following sections describe eight existing, and four planned subset databases. Only one of these subset databases provides comprehensive coverage of its defined scope. All of the rest are incomplete to a greater or lesser degree, and most are growing rapidly. Remember that all of the records in all of these subset databases are available in ASTIS and in *Arctic & Antarctic Regions*, so if you are searching either of those larger databases you are benefiting from the work that went into creating the subset databases.

- **Nunavut Environmental Database**

The Nunavut Environmental Database, available from the Nunavut Planning Commissions website at *www.npc.nunavut.ca*, describes 17,500 publications and recent research projects about Nunavut. The pages of the Nunavut Environmental Database website are designed to look like part of the Nunavut Planning Commissions website, although they are being generated by the ASTIS server. The search interface has been kept very simple. One interesting feature of this website is that the library symbols in Nunavut Environmental Database records are translated into library names which are then presented as hyperlinks to library websites. MINISIS made it easy to provide this capability, using a small database of names and URLs for the 80 library symbols used by ASTIS.

- **Nunavik Bibliography**

The Nunavik Bibliography is a co-operative long-term project to build a comprehensive bibliographic database about Nunavik. The database is available from a bilingual website, with both Simple and Advanced Search pages, at *www.aina.ucalgary.ca/nunavik.* The database covers Nunavik (Quebec north of 55°), the nearby Nunavut islands including the Belcher Islands, Labrador north of 56°, and adjacent marine areas. The aim is to capture all publications, both current and historical, in any language, and in all fields of knowledge. The Nunavik Bibliography is a joint project of Makivik Corporation (including the Nunavik Research Centre), Indian and Northern Affairs Canada (the Office of the Chief Federal Negotiator for Nunavik and the Departmental Library), the Canadian Circumpolar Institute at the University of Alberta and the Arctic Institute of North America at the University of Calgary. Additional partners are welcome. At present, the Nunavik Bibliography describes 2500 publications. Although far from comprehensive, it was made available at this early stage to improve the dissemination of information about Nunavik. The collaborators in this project are seeking partnerships with other groups in Canada with the objective of making the bibliography as comprehensive as possible. To obtain more information, or to provide comments, please contact Elaine Maloney *<elaine.maloney@ualberta.ca>.*

- **Hydrocarbon Impacts Database**

The Hydrocarbon Impacts (HI) database is available from a bilingual website, with both Simple and Advanced Search pages, at *www.aina.ucalgary.ca/hi.* HI was created with financial support from Indian and Northern Affairs Canada, and contains more than 5300 records describing publications and research projects about the environmental impact, socio-economic effects and regulation of oil and gas exploration development and transportation in northern Canada. A Key Publications page provides an overview of significant environmental, socio-economic and regulatory publications, including a chronology of past development proposals and a list of publications that contain useful background information.

- **NCP Publications Database**

The NCP Publications Database is a subset of ASTIS that describes more than 750 publications that have been published as a result of Canada's Northern Contaminants Program (NCP). The NCP was established in 1991 to reduce and, wherever possible, eliminate contaminants in traditionally harvested foods, while providing information that assists informed decision-making by individuals and communities in their food use. The NCP Publications Database is funded by the NCP and is made available from a bilingual website at *www.aina.ucalgary.ca/ncp.* NCP publications are being identified with the help of NCP researchers and are being added to the NCP Publications Database in priority order. Please see the contents

page of the NCP Publications Database website for details or our progress. Because of the subject scope of this database it was possible to use a large number of drop-down lists on the search page, including lists for contaminants, animals and communities.

- **AES NWT Water Bibliography**

The AES NWT Water Bibliography at *www.aina.ucalgary.ca/aes* is the only ASTIS subset database that is completely comprehensive. It allows users to search 218 publications reporting the results of research carried out between 1991 and 1997, under the Northwest Territories Action on Water Component of the Arctic Environmental Strategy, on all aspects of fresh water in the Northwest Territories and Nunavut.

- **Mining and the Aquatic Environment**

The Mining and the Aquatic Environment website at *www.aina.ucalgary.ca/mae* allows users to search an ASTIS subset of more than 450 records. This website, prepared for the Water Resources Division of Indian and Northern Affairs Canada, lists publications about the effect of hard rock mining on the fresh-water and marine environments of Canada's three northern territories.

- **Northern Granular Resources Bibliographic Database**

The Northern Granular Resources Bibliographic Database at *www.aina.ucalgary.ca/ngr* is a bilingual website prepared for the Land and Water Management Division of Indian and Northern Affairs Canada. It contains more than 1250 records describing publications about granular resources (gravel, sand and crushed rock for use in construction) in the three territories and adjacent waters. A Key Publications page describes important publications and websites on granular resources and the regulations governing their use.

- **Arctic Contents Page**

The *Arctic* Contents page of the Arctic Institute of North America's website is different from all of the other ASTIS subset databases, in that it is only "searchable" by journal issue. It will soon provide access to all 2200 articles that have appeared in the Institute's peer-reviewed journal *Arctic*. Summaries of issues are provided through Profile Searches of the ASTIS database, and include papers, notes, commentaries, editorials, guest editorials, profiles, obituaries and InfoNorth essays. Book reviews, news items and letters to the editor are not included. English abstracts are provided for all items, and French abstracts are provided for papers and notes since 1993. The *Arctic* Contents page is a work in progress. Journal issues are shown as hyperlinks once it has been confirmed that all of their items have been cited and abstracted in ASTIS. Issues are marked with a pdf icon when all of their items are made available as pdf files, three years after publication.

- **Other Subset Databases Coming Soon**

The following new subset databases should be available within the next year:

- The Yukon Biodiversity Database is being prepared for the Yukon Biodiversity Working Group, and will initially describe 2400 publications and research projects about the biology of the Yukon.
- The Inuvialuit Settlement Region Database is being created by ASTIS and the Joint Secretariat of the Inuvialuit Renewable Resource Committees, with financial support from Shell Canada. It will describe between 7000 and 9000 publications and research projects about the Inuvialuit Settlement Region, including the Canadian Beaufort Sea.
- The Kluane Lake Research Station Bibliography will initially describe about 400 publications, out of the more than 1000 publications that have resulted from research at this Arctic Institute of North America research station in the southwest Yukon.
- The Northern Canadian Theses website will allow former graduate students and their supervisors to check that ASTIS describes their theses. Under a project funded by the Canadian Polar Commission, and with the assistance of ProQuest Digital Dissertations (PQDD) and the Theses Canada project at Library and Archives Canada, ASTIS is attempting to identify all theses about northern Canada produced in 1998 or later. Help from researchers is required because not all theses are described in PQDD, and because there is no completely effective way of finding those that are.

Other ASTIS News

A few recent ASTIS developments that do not involve subset databases are worth mentioning:

- Three years ago ASTIS hired a third Information Analyst, which has significantly increased the rate at which information is being added to our database.
- Individual geographic codes for the Canadian provinces were made available in ASTIS in late 2003. Until then, ASTIS used a single geographic code, G082, on all records about the provinces. Recent work on projects that have included large numbers of publications about the northern parts of the provinces, as well as the increasing size of the ASTIS database, made individual codes for the provinces desirable.
- ASTIS continues to work on a series of contracts from the Canadian Polar Commission to select, index and gather statistics on peer-reviewed journal papers with at least one Canadian author about northern Canada, and about the Antarctic. This work provides data for one of the indicators that the Commission is using to measure changes in the amount of research being done in northern Canada and in the Antarctic by Canadians. Papers have been selected from 57 journals for the years 1996 and later, and coverage has been extended back to 1990 for some of the journals. Not all of the selected journal papers are in the database yet. Statistics are being gathered about the subjects and geographic regions covered by the papers, and about the affiliations, gender and locations of authors. We hope to put a list of the journals and some overview statistics on the ASTIS website in the coming year.
- One area in which ASTIS has specialized has been the research and engineering literature of the northern Canadian oil and gas industry. During the past four years, ASTIS has finished abstracting and indexing the Canadian Marine Drilling Ltd. (CANMAR) Library, bringing the number of industry reports described in the database to more than 6500. In this area, ASTIS has been funded by industry, the National Energy Board, the National Research Council, the Program on Energy Research and Development and the Environmental Studies Research Funds.
- ASTIS has recently installed a publications server, to make full-text pdf files available on the Web. The server currently hosts 117 publications, about half of which were published by the Arctic Institute and half by ASTIS contract clients. The number of publications on this server will rapidly increase in the coming years. There are currently 335 records in the ASTIS database that have links to full-text publications that are available free on the Web. (A much larger number of the publications described in ASTIS are available on the Web on a subscription basis, but we do not provide a link unless a publication is available to all of our users.)

The last four years have been very busy and interesting ones at ASTIS, and I expect the coming years to be even more exciting.

- **Acknowledgements**

I would like to thank the many organizations listed on the Acknowledgments page of the ASTIS website that have supported ASTIS financially and that have provided publications and research project information. I would also like to thank the ASTIS staff, Lynne Howard, Lynda Howard and Pam Scowen, for their dedication and support.

Rethinking Policy for the Film and Video Collection at the University of Alberta's Canadian Circumpolar Library

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- **Introduction**

When a sizeable collection of educational film and video was offered to the Canadian Circumpolar Library (CCL), the lack of a film and video collection policy was keenly felt. The collection contains one hundred and fifty 16mm films and VHS videos that meet the geographic and subject criteria of the CCL collection. Because the CCL collection attempts to be a comprehensive and exhaustive Level 5 collection, these films and videos are a welcome addition. However, there are currently only 93 videos and one DVD in the CCL, so this addition represents a major change in terms of format and the size of the CCL audiovisual collection. In order to manage this change, a policy was created to address collection development of film and video in the library. The creation of the policy was informed by a review of the current literature in caring for film and video collections and a survey of online film and video policies from other institutions. **Appendix A.**

The current literature and the online policies surveyed identified the key issues of preservation, format and access as needing particular consideration when writing policy for a film and video collection. While an overall collection policy exists for the CCL collection, it fails to address the special needs of film and video. To create the new film and video policy, sections of the general policy that applied to the film and video policy (such as subject coverage and geographic coverage) were copied directly over to the film and video policy. Then the new policies on preservation, format, and access were added to more specifically address the needs of film and video.

- **Preservation**

Much of the literature on film and video is about preserving film in order to slow or stop damage and deterioration. Film and video are subject to biological, mechanical, and chemical damage. Biological damage is usually in the form of mould and occurs when the film or video gets wet or is stored in humid conditions. Mechanical damage, usually in the form of tearing or scratching, is caused by improper handling, or by playing the material on uncleaned equipment. Biological and mechanical damage can be avoided for the most part with care in handling and proper storage. It is chemical deterioration that poses the biggest archival problem, as it is inevitable.

Chemical damage in acetate film usually occurs as a result of the base of the film reacting with water particles in the air to release acetic acid. This causes shrinkage and brittleness of the film, making it fragile and unusable. Colour film is additionally subject to fading when exposed to light and warm temperatures. At room temperature and 50% Relative Humidity (RH) a film will begin to deteriorate in fifty years.

Videotape chemically decays faster than film. The polyurethane binder, which cements the magnetic particles that contain the image information to the base of the videotape, reacts with water, resulting in a powder or gummy substance on the tape that makes the tape unplayable. This is called sticky shed syndrome. High humidity and temperature also increase signal loss, tape pack stresses, distortion, and tightness, all of which can contribute to tracking errors. While the life expectancy of video is not well documented, it never lasts longer than film stored at the same conditions.

A best practices preservation plan includes funding for the program, evaluation and inspection of the collection, proper maintenance, storage, and selective restoration. Preservation is an expensive undertaking. It is not something that can be done properly without funds specifically allocated for this purpose.

Prior to being added to the collection, film and video should be inspected for signs of damage, and any necessary repairs and cleaning should be carried out. The level of deterioration in film can be measured using A-D strips, which indicate the amount of acetic acid that is off-gassing. The materials with the highest levels of deterioration

should be prioritized for copying or for being placed in cold storage.

Once in the collection, regular maintenance should be done for film and video. Ideally, films should be regularly cleaned and carefully projected. It is recommended that they should be cleaned at least after every ten projections to ensure the longest life possible. Videos do not usually need to be cleaned, but video machines should be cleaned regularly. A heavily used video player should be cleaned weekly. Video players and film projectors should also be serviced once a year by a technician. If a video is showing signs of sticky shed syndrome (gumminess or white powder) it should be cleaned or carefully heated by an expert, so that it can be played safely.

Film and video should be stored somewhere fireproof, with no carpet, good ventilation to prevent the formation of mould, and should have a large drain. All materials should be stored away from the floor. Film should be stored on archival cores in archival film cans. These are usually made of inert plastic but may be coated metal or acid free cardboard. However, if the film will be needed often, it may make more sense to leave it on a reel than to transfer it onto a core. The cans should not be airtight unless they are frozen and should be stored horizontally and only a few cans high to allow for airflow. Video should be stored in containers made of acid free materials. Molecular sieves, which absorb water, acetic acid and other contaminants from the air, can be placed around film and video to slow deterioration.

Current best practices indicate that the key to successful preservation is cold and dry storage because it significantly increases the life expectancy of both film and video. Life expectancy estimates of film vary widely. The most pessimistic estimates suggest that colour film stored at about 0°C and 20% RH should last for at least ninety years, but some studies indicate that it could last ten or more times that Video may last as long as fifty years if it is stored at 20% RH and 8-20°C (Below 8°C is not recommended for video.) However, extremely cold and dry storage does not solve all preservation issues. If a film or video will be accessed regularly, it is not worthwhile to store at freezing, or below freezing, temperatures. The impact of very cold temperatures will be less the more time a film is out of cold and dry storage. Cool temperatures, that is 10°C, will be almost as effective and there will be less likelihood of damage from condensation forming on the film as it thaws.

Restoration of film or video usually means copying it to new film or video stock, but can also include expensive operations such as digitally re-mastering a film. It is not recommended to copy film to another format for preservation purposes because no other appropriate format is *known* to last longer. Archives absolutely do not recommend transferring to digital format such as DVD for archival purposes because DVD is not a proven archival format. It is not known how long information on DVDs will be preserved without corruption, nor is it known how long DVD players will be available. However, it may become necessary to transfer VHS video to a new format if it becomes obsolete. DVD has recently overtaken VHS in the entertainment market and the VHS format may be phased out completely in the future. Best practice does recommend copying either film or video to another format if it needs to be accessible, for example, copying film to video/DVD because video equipment is easier to find and use.

- **Preservation policy at CCL**

The new policy for preservation of film and video at CCL, guided by best practice, is intended to identify those materials most in need of preservation and then preserve those materials as best as CCL's limited available resources will allow.

It was decided early on that CCL could not take responsibility for preserving all of the film and video in its collection. Instead, those films and videos produced in Alberta, which are unlikely to be preserved elsewhere, and films or video in which we have a unique copy will be the only ones designated for long-term preservation at CCL. For the rest, the focus will be on providing access rather than preservation.

All used or donated material will undergo an initial inspection, repair and cleaning as dictated by best practices. Unfortunately, continuing maintenance will be extremely limited because there is no staff available for this project. Film canisters will have a note on them encouraging users to report dirt or damage to staff. The same request will be made for videos that do not work. The CCL does not own any playback equipment for film or video, and the maintenance

of equipment falls under the responsibility of other libraries and departments at the University of Alberta.

Video that is not not marked for long-term preservation will be stored on the regular library shelves for the easiest possible access. All film, and video designated for preservation will be stored in an off-site storage facility that maintains a constant 20°C and 40% RH, not ideal conditions for film or video, but still the best atmosphere for preservation available to the University of Alberta Libraries. If demand warrants, an access copy of the material will be made and placed on library shelves.

If those materials that are not designated for long-term preservation do deteriorate or are damaged, then CCL will attempt to purchase a new copy from a supplier. The format of the new copy will preferably be the dominant format of the entertainment market in order to ensure the greatest ability by users to view the material. For materials designated for long-term preservation, it is a priority of CCL to copy these materials to new stock before the material deteriorates completely or the format becomes obsolete.

Materials marked for preservation may also be donated to an appropriate archive if it will better ensure the material's preservation. For instance, the University of Alberta Archives will store all films made at the University of Alberta or that have an affiliation to the University of Alberta in its cold and dry vault. Before donating to an archive, and if demand of the item warrants, the CCL would likely have two copies made. One copy would then be stored on the library shelves and a preservation copy would be stored in off-site storage.

- **Formats**

Deciding which formats a library should collect was also identified as an issue for a collection policy. Libraries need to think carefully about what formats they will actively collect and which formats they will accept as donations. The more formats that a library collects, the more formats that it needs to preserve and to determine how to provide acceptable access.

Collecting all audio-visual formats is undesirable for most libraries because there are simply too many of them. Film comes in 35mm, 16mm, 8mm, and Super 8, for example, and video has even more varieties, many of which are obsolete. Formats that have current market dominance are the preferred format for most of the institutions whose online collection policies were surveyed for this paper. They make the most sense to collect because they are easier to purchase and users generally prefer them. However, limiting a library collection to market dominated formats may mean missing out on unique and valuable material only available in less common format. Some of the most valuable content for polar libraries will not be available on VHS or DVD, which are the current dominant formats. In deciding which formats to collect, it is also a good idea to consider the predicted life expectancy

- **Format Policy at CCL**

CCL will actively select and collect only VHS videos and DVDs because of their market dominance. However, 16mm films will be accepted as donations if the content is only available in that format, or if the item is of significant enough interest to acquire, but not significant enough to purchase a new copy in VHS or DVD. Other formats will be considered for collection if viewing equipment for the format is available to University of Alberta library users.

Access

Access is an important issue to consider for film and video policy because preservation needs and viewing equipment can both form barriers to access. Libraries need to decide whether or not to provide viewing equipment for all formats in the collection. Again the prevalence of the format needs to be taken into consideration. It can generally be assumed that all patrons can get access to DVD or VHS players themselves; however, the same is not true for film projectors. It is little help to a user if the content is available to them, but there is no straightforward way to view it.

The preservation of items in cold and dry storage means that patrons cannot access the material themselves and must also wait for the material to be conditioned to room temperature and humidity and then retrieved from storage. Another barrier to convenient access is not allowing important materials to circulate for preservation reasons. Libraries need to decide how they will balance the needs of preservation of the materials against the users' need to access the materials.

The needs of off-campus users should also

be considered when writing film and video policy, as this is a contentious issue in many library policies. Many libraries do not allow inter-library loans of their film or video. There are a number of reasons for this. Libraries cannot guarantee that their film and video is being used according to copyright restrictions. They also lose control of the type and quality of the equipment that material is played on and how the materials are handled. Also because video, and especially film, can be much more expensive to replace than books, some libraries do not want to lend them. However, because of the expense and the limited availability of many films and videos, audiovisual collections are usually small and non-comprehensive. Sharing between institutions becomes a powerful way of improving inadequate collections.

- **Access Policy at CCL**

CCL does not own any playback equipment for any of the formats that it collects. However, film projectors, as well as DVD and VHS players are available at other libraries at the University of Alberta. The majority of the collection will be on the library shelves rather than in cold and dry storage, so it is immediately accessible to users. For material marked for long-term preservation, access is still possible, but it willbe delayed. The material will need to be retrieved from offsite storage and depending on thefragility of the item, an access copy may need to be made. Because there is no onsite use, all of the materials in the collection will freely circulate, unless it is the only copy of a material marked for long-term preservation. In that case, it can only be used under supervision at a library in the system that houses the proper playing or projecting equipment.

The University of Alberta has a liberal system-wide inter-library loan policy and is willing to loan most materials. Film and video is covered under this policy and easily borrowed. Only those materials that are marked for long-term preservation will not be lent on inter-library loan.

- **Conclusion**

While the new collection development policy at the Canadian Circumpolar Library reflects a compromise between recommended best practice and what the library's limited resources can afford, it ensures rare and unique materials in the collection will be preserved. To serve the needs of our users, the policy commits the library to collecting in popular formats and in continuing to ensure easy access to the majority of the collection. Bring on those 150 films and videos; we are prepared for them now!

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Wheeler, Jim. *Videotape Preservation Handbook*. Hollywood: AMIA, 2002. http://www.amianet.org/publication/resources/guidelines/WheelerVideo.pdf

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Appendix A

URLs of Online Film and Video Collection Development Policies Surveyed for this Paper

University of California at Berkeley. Aug 18, 2003
http://www.lib.berkeley.edu/MRC/about.html

Florida International University Libraries. Oct 3, 1996.
http://www.fiu.edu/~library/collections/policies/libav.html

Fondren Library, Rice University. Oct 12, 2001.
http://sparta.rice.edu/~keckker/policies/audiovisual.html

Indiana University. Oct 3, 2000
http://www.indiana.edu/~libreser/media/media-col-dev-policy.html

Institute for Regional Studies, North Dakota State University. Sept 18, 2003.
http://www.lib.ndsu.nodak.edu/ndirs/about/Collection/FilmAV.htm

Lilly Library, Duke University. Durham NC. Jan 14, 2004.
http://www.lib.duke.edu/lilly/filmvid.htm

National Library of Australia
http://www.nla.gov.au/policy/cdp/11filvid.html

Northwestern University Library. March 18, 1999.
http://staffweb.library.northwestern.edu/cm/policystatements/RadioTVFilm.pdf

Queen's University Library. 1997.
http://library.queensu.ca/webcoll/film.htm

Wellesley College Library. Feb 2 2004.
http://www.wellesley.edu/Library/pol-av.html

ScreenSound Australia. July 2002.
http://www.screensound.gov.au/AboutUs.nsf/Sub+Pages/Publications+Corporate+Policy+Collection+Development/

University of Auckland Library. Jan 2003.
http://www2.auckland.ac.nz/lbr/acquis/cdpaudio.htm

University of Louisiana, Layafette. Aug 8, 2003
http://library.louisiana.edu/Tech/policy_audio_visual.shtml

University of Michigan. Nov 7, 2003.
http://www.lib.umich.edu/filmvid/collection.html

University of Texas at Austin. Aug 26, 1998.
http://www.lib.utexas.edu/admin/cird/policies/subjects/audiovisual.html

University of Toronto. April 30, 1999. (Audio-visual is just a small part of total)
http://www.fis.utoronto.ca/library/libcolpt.htm

University of Wisconsin – Milwaukee Libraries. 2003
http://www.uwm.edu/Libraries/CollPolicy/u-media.html

University of Wyoming Libraries. Mar 21, 2000.
http://www-lib.uwyo.edu/cdo/cpolicy/cp4-2-0.htm

Wong Audiovisual Center, University of Hawaii. Dec 2000.
http://libweb.hawaii.edu/uhmlib/collection/wong/main.html

Report on a Panel Discussion

Open Access Publishing

There is at present a great deal of international discussion about how the present system for publishing academic papers might be opened up for general public access at no charge. The rapidly increasing costs of journal subscriptions and the restrictive contracts for electronic access used by some of the principal commercial publishers had stimulated the scientific community to see if there were new methods of funding and managing access to peer reviewed literature.

David Walton gave a talk based on material provided by the Public Library of Science (PLoS). This PLoS initiative arose in the USA in response to what was seen as excessive profiteering by a small number of scientific publishers who dominate the global market. A group of leading US scientists decided that this was not only disfranchising the science community, as libraries were forced to cancel journals they could no longer afford, but the public, who had paid for much of this research through government grants, were unable to access the results of their investment. The new system proposed was one in which the author met all the costs of publication and the paper was then free to view by all via the Web (Open Access). Public Library of Science was established with a US$9 million grant from the Sloan Foundation to establish new journals on this principle and to convince the science community that this would be a better future route for publication. Its first journal was *Biology* and was free on the Web but required an at-cost library subscription if a paper copy was required.

Some institutions had already decided on a parallel approach, establishing institutional depositories through which they could make all papers published by their scientists freely available on the Web as well as being published in the normal way via an established journal. The most well known of these initiatives had been the Preprint Server established by Los Alamos Laboratory but the number was increasing. Access to these institutional depositories relies on the ability of the existing search engines (such as Google) to find the key terms the researcher used amongst all the material available. In addition it relies on existing journals waving the original copyright agreements to allow this second form of publication.

Both of these approaches require changes in the current systems for publication to make them acceptable to all. In particular the shift to Open Access would require the granting agencies outside of the USA to recognise that authors needed funds for page charges included in their grants. In the US existing page charges are clearly inadequate to support the whole cost as US journals still charge subscriptions. So even here changes in funding would be necessary. Library budgets would shrink and grant budgets would grow. How would publication funds be determined if different journals charged different amounts? What would be the outcomes in the short- and long-terms?

There were considerable concerns expressed over this new model, and not only by the commercial publishers. Learned societies gained considerable income from publishing some of the key scientific journals and relied on the profits from these to fund research and education in their disciplinary fields. Cameron Macdonald, the Director for the National Research Council Research Press, put forward some of these concerns.

Electronic Library Program and Access to its Resources from Provincial Universities

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• Introduction

The New Role of Universities in Research

Russian science has an excellent track record for world-class scientific research conducted in the research institutes under the umbrella of the Academy of Science of the USSR (now the Russian Academy of Sciences - RAS). As historian of science Prof L. Graham noted in his book that the Soviet Union, like all modern countries, had large universities, all supported by the state in the Soviet Union, and a majority similarly supported in the United States. While there is a superficial resemblance between the two systems, one should not be blind however, to the enormous differences. In the United States, universities are the home of most of the fundamental research conducted in the country. In the Soviet Union, the universities had a much narrower pedagogical role. There were two exceptions: historically, the universities that had a greater research focus were the Moscow State University and the St. Petersburg State University.

Universities, higher education institutes, and academies (not to be confused with the RAS) are presently the three types of agencies involved in the higher education system in Russia; throughout this paper they are referred to as universities. Recently published results of comprehensive research devoted to research and development (R&D) in post-Soviet Russia funded by Technical Assistance for New Independent States (TASIS), emphasized that the process of restructuring R&D in contemporary Russia has been a slow one. (See **Figure 1: Distribution of Respondents by Age.**) The role of provincial universities (PU) in R&D and the changes taking place within them have been overlooked in the literature, And it is impossible to evaluate evolving trends in R&D in Russia without tracing simultaneous changes in higher education institutions.[1]

The socio-political changes that were a result of the Soviet Union's dissolution had a profound impact on the Russian science community. Before 1992 the government was the only source of R&D funding in Russia. Since 1992, however, opportunities to submit competitive proposals to domestic and foreign agencies have become available. In addition, the Russian Foundation for Basic Research (RFBR), established in 1992, became the main research-funding body operating in Russia. The RFBR is a governmental organization whose primary goal is to support the most promising research initiatives in all fields of fundamental science on a competitive basis. As a result of the Russian transformation to a market economy a new model of R&D emerged within the university R&D environment. The development of research in higher education institutions and the involvement of the younger generation are considered as important factors for the future prosperity in the provinces, as well as in Russia as a whole.

As the higher education system goes through important changes, it has been able to attract financial resources for its transformation from the population. In 1993 the Russian government started to co-fund regionally oriented education programs, funds which currently amount to 0.3% of the federal R&D budget.[2] Since 1995 special regional programs funded equally by the RFBR and the governments of 41 of Russias 89 geographic regions emerged. In 2002, an additional sum of more than US$1.7 million (about 50 million rubles) was assigned to support basic research in the regions. These joint programs focused on research areas that could be important for the local economy. As a consequence of the new government funding policy, particularly the multi-channel system of competitive funding, provincial universities are becoming serious players and viable partners of traditional

research institutions and industry, both inside Russia and beyond its borders.

As these structural changes were taking place in science and R&D, in the provinces new local elites became aware of the necessity of science for stability and prosperity in the region. Life in the provinces is much harder and their universities face greater financial constraints than their colleagues in the metropolitan areas. Few young people migrate from the provinces due to the high cost of living in Moscow or St. Petersburg; they have to live and study in the area in which their family lives. Professional teachers do not move from Moscow or St.Petersburg to the provinces, so the number of skilled teachers in the provinces is limited. In addition, salaries of scientists are quite low and grant money is essential for the support of scientists' families.

- **Access to Internet, Remote Databases and Electronic Publications**

Another aspect of change in Russian science concerns the recognition of regional and international collaboration as important factors in the sustainability of provincial communities. Computer mediated communications, and emerging information and communication technology (ICT) have been accepted by the global scientific community during the last decade. Clearly, this has affected the conduct of scientific research. It is recognized that advancement in electronic networks and the availability of Internet service are important factors in successful research.[3] Russia has now begun experiencing a growing "Adigital divide and information discrimination following the tech (provincial university) ological revolution, after it lagged significantly behind the western world. According to a survey conducted by the *Obshchestvennoye Mnenie* (Public Opinion) Foundation, 10.3 million Russians (or 11.3% of the population) have access to the Internet at work, at their home or at the home of their friends. The web remains somewhat of a capital phenomenon, however, as Moscovites make up one fourth of all users.[4] But interest in the Internet is growing in the major cities in the Ural, Povolzhe and North Caucasus economic-geographical regions. We emphasize that access to the Internet has a special meaning for people who live and work far away from the metropolitan area. Access to the Internet helps those working in provincial communities to feel more confident and less isolated from the rest of the world.

It is understood that free and unhindered access to humanities knowledge resources is crucial for science. To facilitate access to the world flow of information and remote databases, the RFBR has operated the special Electronic Library Program (ELP) since 1998. The Electronic Library (EL) provides free on-line access to the full text of some 2,000 electronic journals and databases such as *Web of Science, Derwent Innovation Index* and other important resources. In addition, the Library includes approximately 18,000 final reports of RFBR grantees since 1994.

In order to study the use of the EL, special software to collect user statistics was created and implemented in September 2001. Between 1 September 2001 and 2 May 2004, more than 112,294 Russians and more than 23,800 foreign researchers from 61 country became EL users. The distribution of EL users and organizations by region is displayed inFigure 2. The share of users from the eleven most represented countries was about 95.4 %. Ukraines share was 47.7 %, followed by Byelorussia at 18.0 %, Kazakhstan with 5.8 % and Israel and Uzbekistan with 2.9% each. To make the picture clearer, Ukraine is excluded from the chart. The distribution of users by country from the top eleven countries accounted for about 95.8 % of use (see **Figure 3)**. The share of Canadian users was equal to the share of all Scandinavian users -- about 0.4 % for each. From the chart it is obvious that EL users were primarily from former Soviet Republics -- not New Independent States nor from Israel or the US. It can be assumed that the users know the Russian language well and are able to use the valuable material from grantees final reports.

- **Study of PU Grantee Survey**

This paper describes the results of a survey conducted among RFBR grant-holders that work at a provincial university (PU). The survey was undertaken to supplement statistical analyses of data on grants and grantees stored in the RFBR database and to help interpret the data. The RFBR supports a comprehensive database on PU, which includes information on approximately 9,800 applications, 1,950 research projects, 19,981 individuals, and more than 29,600 publications for the period 1996-2001.

This paper is part of the project where the main goal was to trace the profound changes taking place in R&D and their role in enhancing the sustainability of Russian science in the provinces.

- **Method**

To assess the role of various factors in research sustainability in the regions, a questionnaire was developed. A preliminary questionnaire was tested in 30 interviews. Each interview was preceded by intensive and detailed preparation by the investigators. The interviews produced a variety of data on the researchers' opinions about research activity, international collaboration and the impact of new information technology (IT) on research in Russian provinces. After discussion of the interview results the questionnaire was revised. The combination of interviews and questionnaires gives a fair and general picture of cross-country and international collaboration and IT availability in the provinces.

Questionnaires were distributed by mail among 1,500 researchers randomly selected from the PU database. The questions were designed to gather information about the following: (a) the sources of each respondents' funding from domestic and foreign agencies; (b) the cross-country collaboration with special attention to students and young researcher involvement in basic research; (c) the scope of international collaboration taking place in the provinces and the way in which this collaboration started; (d) the impact of IT on research and availability of electronic information resources; (e) information about the respondent's profile.

All returned questionnaires were entered into MS ACCESS and analyzed. The response rate was 32.7% (489 questionnaires). This relatively high response rate demonstrated researchers desire to interact with the RFBR. It is of note that interviews and questionnaires were not developed in order to be analyzed as statistical data, but to contribute key information for the interpretation of the data collected during this research project.

- **Results and Discussion**

The survey generated valuable information about the respondents personal experiences in interaction with funding agencies and the scope of the respondents knowledge about the activities of domestic and foreign agencies.

The respondents are highly qualified scientists: 48.2% hold a professor degree; 45.5% hold a candidate degree; 3.5% have no degree and 2.8% are graduate students. The distribution by age confirmed our findings that researchers in PU are younger than in the whole RFBR pool: 26.3% of them had not yet reached the age of 40 (the share of this age group in the RFBR pool was only 6%). **(Figure 3)**. The distribution by field of science shows that the share in Mathematics and Computer Sciences[5] was higher (37%) than in any other field of science. (We divided all fields of sciences according to INTAS classification: M -- mathematics and computer sciences; P -- physics and astronomy; C -- chemistry; LS -- life sciences including bio-medicine; ES -- earth sciences and environmental science) About 18% of the respondents did not win a grant from the RFBR. The question arose as to whether they got financial support for research from any other funding agency. An important finding of the survey was that researchers who did not get an RFBR grant were not discouraged, and later applied for a grant from another funding agency. About 50% of them did so successfully.

Researchers from the provinces were very active in looking for funding opportunities. About 85% of the RFBR grantees received grants from foreign sources and 82.3% of them from domestic funding agencies. It should be noted that since 1993 the Ministry of High Education of Russia (MHER) has had a special program to support basic research conducted at the universities. A dozen respondents were awarded funds by MHER. The list of foreign funding agencies contains more than 50 institutions and companies. Provincial researchers are incredibly creative, it seems, in identifying potential funding sources.

That the new multi-channel funding system was adopted in the provinces as well as in metropolitan areas suggests important implications for R&D policy. 83.2% of the respondents invite students to participate in research. Recruitment of students for effective knowledge transfer is an important factor of stabilizing life in the provinces. 69.5% of the responding grant holders stated that grant money improved the financial situation in their family. However, about 20% of them underscored that the RFBR money was just a small additional income and did not have an impact on the financial stability of the family.

Many respondents stressed in their comments that foreign grants had a significant impact on their financial situation and allowed them to buy a computer. Of additional importance is that grants allocated to a person by a foreign charitable organization for R&D are not subject to personal income tax. The governmental tax on the amount of money assigned to a researchers' salary (as is the case for grants from Russian funding agencies) is 35.6%!

Nevertheless, about 80% of the respondents ranked a grant as the most important "recognition of their achievement", a kind of moral support and improvement of their social status. Next in importance came an opportunity to study an early-conceived idea. Only 19% of the respondents believe that science does not have an influence on city life. About 79.9% of the respondents published internationally co-authored articles.The distribution of the respondents' output by country was compared with the total PU collaborative output (**Figure 3)**.

There is good congruence between the respondents' output and the total collaborative output by leading countries. Only 32% of respondents' collaborative output were related to a project funded by the RFBR (70.5% of respondents answered this question). 83% of the respondents answered the question related to the starting point of collaboration. A personal encounter was ranked number one as the main starting point for international collaboration through a trip abroad or a visit by 75% of the respondents. About 60% of respondents gave second ranking to scientific literature. About 35% of the respondents ranked "advice of their friends" as a starting point. Only 10% of the respondents named the Internet as their primary source of initial contact for international collaboration.

Access to the Internet only appeared on the scientific stage in Russia at the beginning of the 1990s. In 1993, the International Science Foundation funded by American philanthropist George Soros started to develop its Communication Technology Program. In all eighty-nine geographic regions of Russia, centres were set up to allow the public access to the Internet. Later, the Russian government, the RAS, and the RFBR developed a special Telecommunications Program to enhance the scientific community's access to Internet resources. Nevertheless, the national scientific community is not homogeneous in its adoption of, and access to, new technology. PU researchers did not have the same priority access to electronic resources as researchers working in institutions affiliated with the RAS. However, 85% of the respondents do have access to the Internet. This finding corresponds well with our respondents' high level of qualification and ability to obtain funds for their research. Only half of them have Internet access from their home because the fees for Internet access are high in relation to researcher's modest salaries. Many respondents pointed out in their comments that e-mail is the most popular type of network service. Our data are similar to the results of Dr E.Mirskya[6], who studied computer communication among the elite group of institutes affiliated with the RAS.

As previously mentioned, the ELP gives free access to its resources. EL user statistics confirm that researchers from urban centres such as Moscow and St. Petersburg were far ahead of their provincial colleagues in using its resources (shares are about 28.2% and 8.9% correspondingly).

76% of our respondents knew about the special ELP, funded by the RFBR. Only 50% of them were actually able to use this valuable source of information. Data confirm that PU researchers did not have the same priority access to electronic resources as researchers working in institutions affiliated with the RAS. A correlation between the age groups and the use of electronic resources indicated that young researchers were more active **(Figure 4)**.

About 24% of the respondents had never heard about the ELP. Many respondents called or sent an e-mail to find out how to get access to the Electronic Library, demonstrating to the provincial scientific community an additional usefulness of our survey.

• Conclusions

The new multi-channel funding system was adopted in the provinces as well as in metropolitan areas and has important implications for R&D policy.

The Russian Foundation for Basic Research and foreign funding agencies, particularly the International Science Foundation (ISF),the International Association for the Promotion of Cooperation with Scientists from the New Independent States of the Former Soviet

Union (INTAS), and the Civilian Research and Development Foundation evaluated Russian scientists performance: about 85% of RFBR grant-holders were awarded a grant from foreign agencies.

Survey findings revealed that about 85% of the respondents have access to the Internet. Only 50 % of them have this access from home. E-mail is a very popular type of network service for PU researchers.

Access to distant databases via the ELP was mostly unknown to PU researchers. As a practical matter, the present findings are being used to inform potential users of the ELP. The RFBR must enhance its activities in the dissemination of information about the ELP to provincial universities.

• **Acknowledgments**

This research was supported by INTAS under grant no. 00-0654.

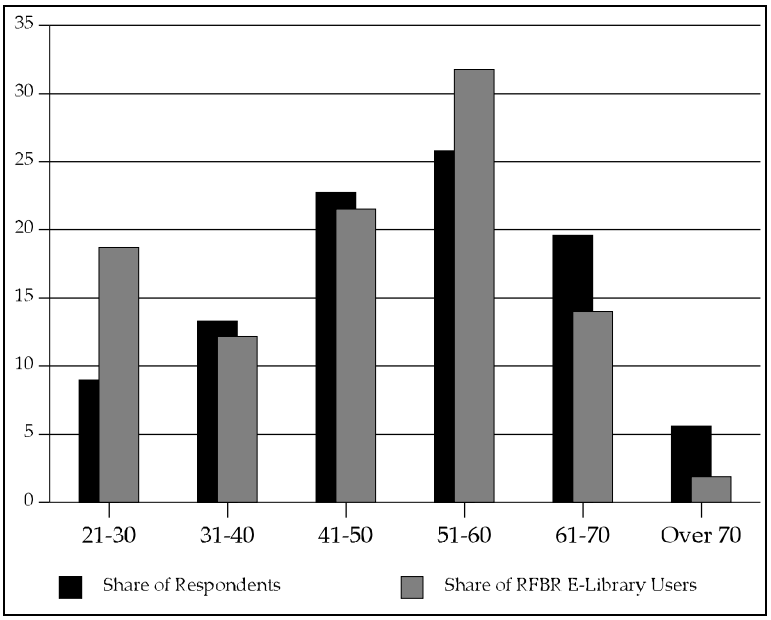

Figure 1. Respondents by Age

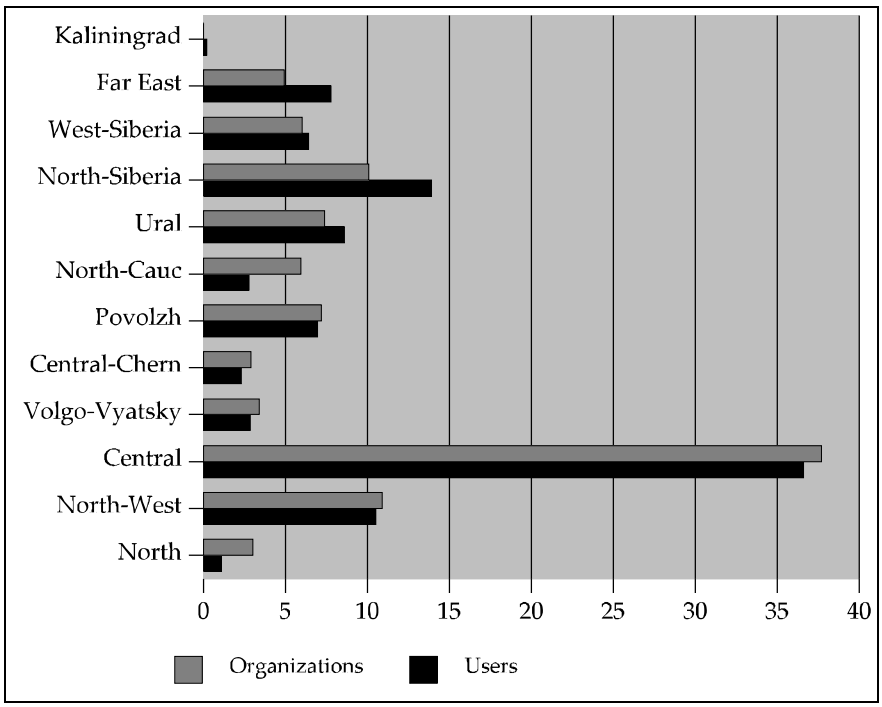

Figure 2. Distribution of EL Users by Organization and Region

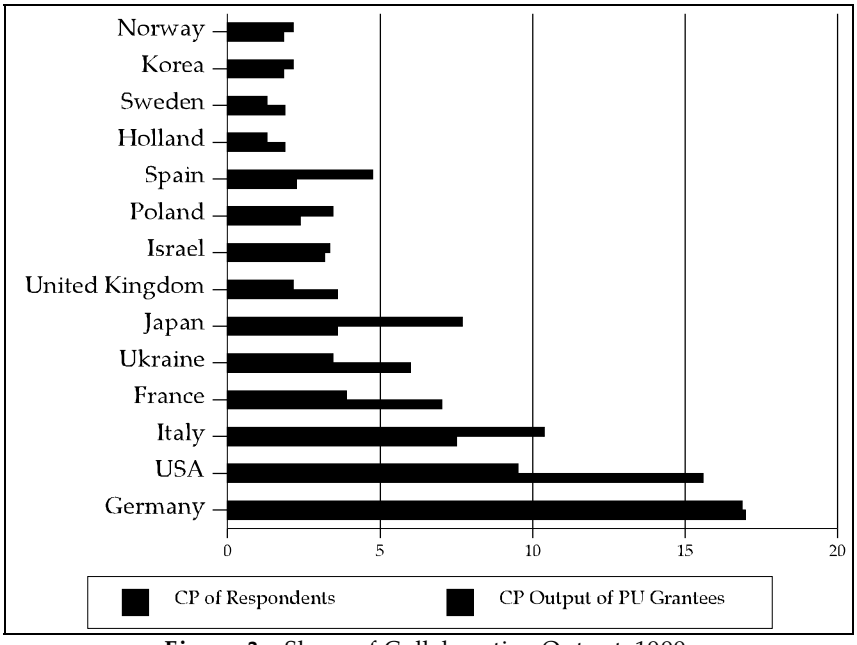

Figure 3. Share of Collaborative Output, 1999

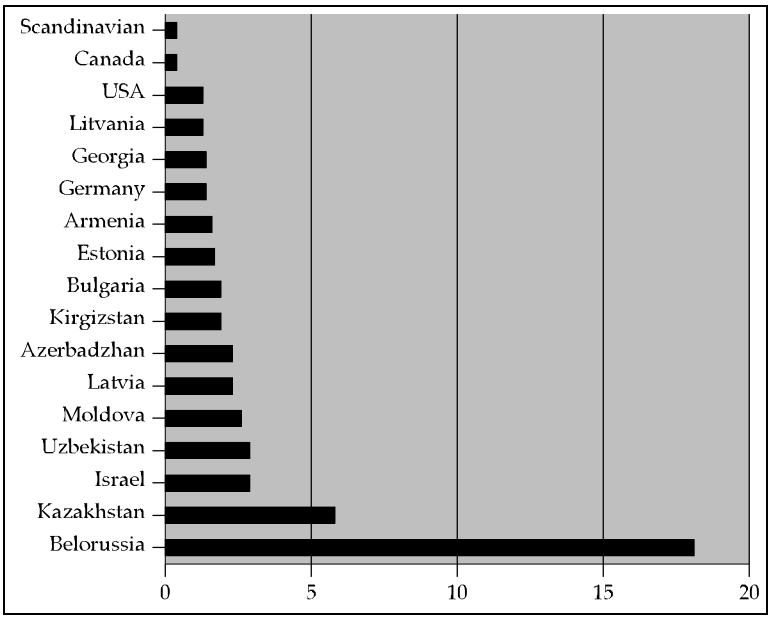

Figure 4: Distribution of Respondents by Age

A Virtual Reference Library for the University of the Arctic

David Walton

David Walton introduced an enquiry to the PLC from Dr Lars Kullerund, Director, University of the Arctic, asking if a dialogue could be established on a proposed initiative to establish a virtual reference library.

The proposal for this virtual research library came from Thorsteinn Hallgrimsson in Iceland, who recognizes that even an institution wholly dependent on distance education needs to have a reference facility to support its students and researchers. The wealth of material available digitally should be the basis for a virtual reference library accessible over the Web. In order to manage and identify what is available, he suggested that the Open Archives Initiative (OAI) Protocol for Metadata could provide a means to develop an inter-operability framework between libraries (see *http://www.openarchives.org* for more information).

The proposed Virtual Arctic Research Library (VARL) would serve the students and members of the University and act as a facilitator for scholarly communication and dissemination of information between universities and research institutions within the member countries of the Arctic Council.

Building the collection is the central task, and one for which OAI technology is suitable. The range of essential subjects is as wide as in any university library, but at first may need to be prioritised to make it manageable.

The initial step would be to define and establish a consortium involving a range of universities and research institutions. A principal role for the consortium would be to design and implement a common portal for searching across all participating libraries. A user interface in a variety of languages will be necessary. Whilst it is envisaged that a central server will collect the metadata from all the libraries, each library will be responsible for the operation, development and maintenance of its own OAI repository. This project requires long-term commitment for its success.

The PLC was asked if it would wish to take part in the development of this initiative and work with the University of the Arctic to realise a 21st century facility for all Arctic countries.

Poster Displays – Abstracts

1. Geocryological Map of Russia and Neighbouring Republics. English Version, 2nd. Edition.

Peter J. Williams and Isabella M. T. Warren.

The nearest western equivalent to this Russian atlas - the Map has sixteen sheets - is the single-sheet permafrost map of Canada. The Russian map, however, contains more information relating to the effects of freezing temperatures on the ground and ground surface, the distribution of seasonal and perennial frozen ground, including depths and geocryological origin; ground temperatures; related geological characteristics as well as the vegetation; soil characteristics; and geohydrological information, all presented in a form suitable for engineers, earth scientists, ecologists and others. The map as a whole is important for planning and development and thus highly topical.

Preparing the English version was challenging. Terminology and concepts for geocryology are not entirely comparable in English and Russian, largely because there was substantial development of the subject during the Cold War when international exchanges were limited. Bringing together the necessary linguistic and geocryological expertise was possible through the staff and contacts of the Scott Polar Research Institute at Cambridge University. The format is a folio volume of translated legends, technical explanations, and glossary, which accompanies an original set of the Maps. The Second Edition includes refinements of terminology and the translated legends are associated directly with the colours on the map sheets. Samples of the sheets and more information on the Map can be seen at *www.freezingground.org/map.*

2. Russian Information Transfer Programme of the Scott Polar Research Institute

Peter J. Williams, Isabella M.T. Warren and Shirley Sawtell.

A project of University of Cambridge, Scott Polar Research Institute; Moscow State University, Department of Geocryology; Russian Academy of Sciences, Siberian Divison; and GSL Network, Canada.

Half of the world's permafrost is in the Russian Arctic and Sub-arctic and a significant proportion of the world's potential resources, especially oil and gas, are found there. These resources require special expertise to exploit them, and though the Russian expertise in the cold regions is unrivalled in many respects, little of this expertise currently reaches the West. The world energy situation has increased the significance of the cold regions worldwide. It is unfortunate that the flow of information between Russia and the rest of the world has remained limited since *glasnost*, not because of politics as was earlier the case, but by language. Much research is only reported in small circulation Russian-language journals, monographs and technical reports sometimes not easily obtained in Russia, let alone elsewhere. Sharing of information is essential to the collaborative and sustainable development of the resources of the cold regions.

The Russian Information Transfer Programme addresses these problems with a team of specialists and linguists in Russia, the United Kingdom and Canada, with advisors from other countries. So far the Programme has produced an English version of the standard Russian graduate level text on permafrost science and engineering (published by Cambridge University Press), a specially-designed volume for interpretation of the Russian map of permafrost and related features,

and a trial issue of the Russian language journal of geocryology. The first two items are now available in a second edition. Other translated works are planned, especially in the area of oil and gas development, geotechnical, and environmental studies. The Programme will undertake funded translations which are made to high technical and linguistic standards. The translations in the Programme also serve to illustrate the correct usage and correspondence of technical terms in Russian and English.

Further information: *www.freezingground.org/RITP*

3. The Nunavik Bibliography

Elaine Maloney
University of Calgary

The purpose of the Nunavik Bibliography is to improve the accessibility of publications about Nunavik (Northern Québec), as there is no comprehensive bibliography of the research literature about Nunavik. This makes it difficult for researchers working in Nunavik, for all levels of government delivering programs in Nunavik, and for the people of Nunavik to make effective use of existing knowledge about the region. This problem is particularly acute for the information contained in the "grey literature" unpublished reports sponsored by government programs, consultants' reports to industry or unpublished studies by universities. These reports cover a wide range of subjects in the life, earth and social sciences. People requiring information about Nunavik have to expend considerable effort to find it.

The overall objective is to make all publications about Nunavik available on a priority basis to federal departments and agencies delivering programs and services to Nunavik, or involved in the Nunavik Self-Government Project. The Arctic Institute of North America's Arctic Science and Technology Information System (ASTIS) is Canada's abstracting and indexing service for northern topics. The ASTIS database describes 52,700 publications and research projects about northern Canada, covers all subjects, and is available free from a bilingual website. The ASTIS software takes full advantage of the capabilities of the World Wide Web, providing links to the full text of publications that are available on the Web, and allowing specialized subsets of the ASTIS database to be made available for searching from their own websites.

ASTIS contributes all its records to the international Arctic & Antarctic Regions database, making information about northern Canada readily available to polar researchers worldwide. Between April 2000 and March 2001, the National Research Centre (NRC) and ASTIS worked together, with funding from Indian and Northern Affairs Canada (INAC), to create a Nunavik Bibliography as a subset of ASTIS, and to improve the organization of the NRC library. At a meeting in Ottawa in April 2003, several organizations decided to work together to create a comprehensive Nunavik Bibliography from the initial subset. The initial participants were Makivik Corporation, the INAC Chief Federal Negotiator for Nunavik, the INAC Departmental Library, the Canadian Circumpolar Institute (CCI) at the University of Alberta, and the Arctic Institute of North America's Arctic Science and Technology Information System (ASTIS) at the University of Calgary. More recently, researchers with the *Centre interuniversitaire d'etudes et de recherches autochtones* (CIERA) at Laval University, and the AVATAQ Cultural Institute have joined the consortium. More participants, including additional aboriginal and regional governmental organizations, are being approached to join the project as the bibliography develops. The Nunavik Bibliography, as at 30 June 2004, describes 2600 publications, and continues to grow as records are identified and added.

Access the Nunavik Bibliography at: *www.aina.ucalgary.ca/nunavik.*

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