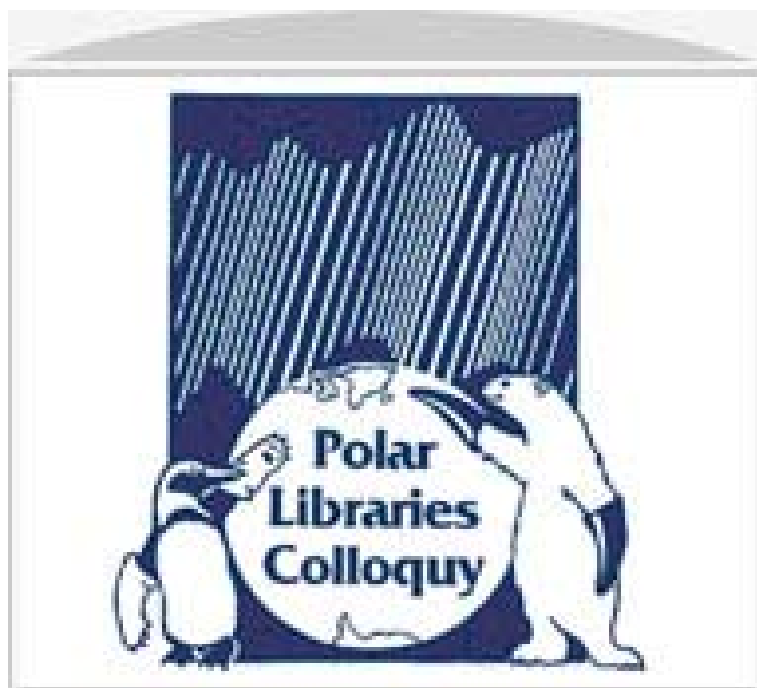


Proceedings of the 25th Polar Libraries Colloquy

Papers presented at the 25th Polar Libraries Colloquy, hosted by the
British Antarctic Survey and Scott Polar Research Institute,
Cambridge, UK, 30th June – 4th July 2014.

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Further information on the Colloquy, including
details of membership and upcoming conferences, is
available online at
<http://arcticcentre.ulapland.fi/polarweb/plc/>

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Group Photograph



Group photograph taken on the steps of the Scott Polar Research Institute. Courtesy Marcel Brannemann, AWI.

A New Polar-themed Reading Room and Book Collection at Victoria University of Wellington, New Zealand

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Abstract

Over the last few years the Library at Victoria University of Wellington, New Zealand, has been redeveloped with an emphasis on reconfiguring its collections and spaces to make learning and research easier for students and staff. The redevelopment involved the Library developing closer relationships and partnerships across the University with faculties, research centres and other units through consultation and collaboration.

Located within the School of Geography, Environment and Earth Sciences, the University's Antarctic Research Centre (ARC) is one of the centres of research excellence within the Faculty of Science. In addition to its contribution to teaching and research, the centre's staff also provide advice to a range of national and international organisations on Antarctic issues.

This paper describes two significant and interconnected collaborative projects between the Library and the staff of the Antarctic Research Centre (ARC). In 2010, the Library and the Antarctic Research Centre came up with concept plans for two key projects made possible through the generous donation by Singapore philanthropist, Dr Lee Seng Tee.

The first is the Colin Bull Polar Collection project and the second is the S.T. Lee Antarctic Reading Room project, each with its own unique value and significant contribution to polar research and scholarship. The objective of the Colin Bull project was to augment the University Library's polar book collection and facilitate access to polar literature for all students and researchers as an engaging teaching and research resource.

The Colin Bull project involved transporting, cataloguing and adding more than 1800 books on polar literature to the Victoria University Library's collections. The books were donated by the estate of the eminent polar scientist, Professor Colin Bull (1918 -2010).

The aim of the S.T. Lee Antarctic Reading Room project was to establish an Antarctic themed reading room in the University Library with a distinctive polar identity. The reading room was envisioned as a portal with visual aids highlighting the significance of Antarctica to New Zealand and Victoria University's Antarctic Research centre's contribution to polar research and scholarship. The project involved innovative use and design of Library space to showcase the centre's unique identity, significant work, and its contribution to the University's educational, academic and research excellence.

The collaborative efforts of the staff of the Antarctic Research Centre and the Library resulted in providing spaces that communicate and collections that inspire.

Victoria University of Wellington Hub and Library upgrade

Time was just right for these projects to come to fruition with the Victoria University Hub and Library upgrade, the University's major building project which began in 2010. This mammoth undertaking included refurbishment of all seven floors of the main University Library building at its Kelburn campus which is the largest Library campus among its five campus Libraries [see fig.1].



Fig.1

The development of the Campus Hub and the Library upgrade at the Kelburn campus was specially designed to facilitate student engagement. The people focused plan and student-friendly approach seamlessly connected the Library with the University Hub and created 3,400 square metres of additional space for use which included quiet and collaborative study, teaching, learning and social spaces with various models of flexible study and seating. This was achieved in part by a spectacular two-storeyed reading room which has become a highlight of the redeveloped Library [see fig.2].



Fig.2

Collaboration between the Library and the Antarctic Research Centre

In 2010 consultations started between the Victoria University of Wellington Library and the Antarctic Research Centre of Victoria University led by its former director Emeritus Professor Peter Barrett and its present director Professor Timothy Naish.

The purpose was to discuss the possibility to make Antarctic Research Centre's contribution visible and accessible to researchers and students in the Library. The concept was made possible by the generous donation given to the Antarctic Research Centre by Singaporean Philanthropist Dr Lee Seng Tee.

Dr Lee is known for his endowments established at renowned academic institutions in the world. Dr Lee's previous endowments at Victoria established through the Victoria University Foundation, support the S.T. Lee Lecture Series in Antarctic Studies and S.T. Lee Travel Award.¹

The ARC came up with two proposals to utilize the donation. The first proposal was to meet the costs to organise the acquisition and transportation of the Colin Bull collection of book donation from the estate of eminent polar scientist professor Colin Bull. The collection was gifted to Victoria University of Wellington, New Zealand by his family based in Seattle, USA. It was agreed that the Library would accept the Colin Bull collection donation in accordance with the Library collection development and management policy and the subject level collection policy.

The second proposal was to meet the costs of setting up a polar themed reading room space in the Library as an ARC "portal" through its design layout and display of a representative collection of material on Antarctica and Polar Regions. The room was envisaged as a visual and physical resource space for students and researchers in the University. It was agreed to convert the reading room space on Level 5 of the Kelburn Campus Library into an Antarctic themed reading room.

Colin Bull Book Collection and the VUW connection

The Colin Bull collection is a private collection of polar books gifted by Emeritus Professor Colin Bull's estate to the Friends of Victoria University of Wellington in the United States of America.

The gift was an acknowledgment of Colin Bull's role in the development of the Antarctic research programme at Victoria University in the late 1950s and his lasting relationship with the Antarctic Research centre since then.

Colin Bull took up the position of a senior lecturer in Physics at Victoria University from 1956 to 1961. He led the University's 1958-59 expedition to the McMurdo Dry Valleys helping establish the annual expeditions that continue to this day. In 1961 Colin Bull left New Zealand to assist in establishing the Institute of Polar Studies at Ohio State University where he held the positions of Professor of Geology, Dean of Mathematical and Physical Sciences. After an illustrious career Colin Bull retired as Emeritus Professor and Polar Bibliophile on Bainbridge Island near Seattle.

Colin Bull had a lasting influence on Antarctic research at Victoria University of Wellington.

Planning and the process

The final Colin Bull collection donation comprised 1819 items including 483 from Antarctic collection, 1139 from Arctic collection and 197 items covering studies of both Polar Regions. The collection included reports and books of early exploration, scientific discoveries, historical studies and novels. Emeritus Professor Peter Barrett of Antarctic Research Centre travelled to the United States in May 2012 to assist Colin Bull's widow Gillian Bull, son Andrew Bull and friends Doug Elliot and Mark Shaffer to organise the collection and pack it for shipment to Wellington, New Zealand. The task took 10 days to

¹ See <http://www.victoria.ac.nz/antarctic/about/endowments>

complete from May 29 to June 7, 2012. The shipment of 1819 items in 63 boxes was delivered to the Victoria University Library in July 2012. The boxes were stored in the Library.

The next step was to present a project business case to the Library Leadership team to determine the financial and human resources required to undertake the full project involving cataloguing, processing and shelving of the 1819 items. It was agreed that a pilot project should be run to determine the resourcing requirements of the full project. The pilot ran from 28 January to 2 February 2013. The pilot project report provided the Library with an estimate of staff time, resources required, interdependent team tasks, costs and timeframe.

Following this, the full Colin Bull project work commenced in April 2013 and was completed in July 2013. In November 2013 the collection was formally launched at the J C Beaglehole Room, the Library's special collections room, celebrating the completion of the project and integration of the collection into the Library.

The subject librarian worked collaboratively with several Library teams including the Library Communications and Promotions Coordinator and with the Antarctic Research Centre to complete the project within the estimated timeframe and organise the launch and promotion of the collection.

The launch was promoted through several channels including news releases in the University newsletter, information on the Library's and relevant School's Websites, subject librarian's newsletters to schools, thematic displays at the library new books display area and advertising on the electronic display screens near the Library and on the electronic display screens in the Faculty of Science.

ST Lee Antarctic Reading Room in the Library

From 2010 to 2013 the Library and the Antarctic Research Centre had several meetings to discuss the design of the ST Lee Antarctic Reading Room which would be located on level 5 of the Kelburn Campus Library following its upgrade in 2014.

Both teams discussed and agreed on principles which would inform the room's development integrating the requirements of the ARC and the Library's strategic directions. A design layout with concept drawings was developed with the following features [see fig.3].

- The reading room located in the Library on level 5 will be a portal to Antarctic work and research showcasing the centre's contribution.
- Level 5 is a quiet zone which needs consideration in the planning of the space where the reading room will be located.
- Furniture and layout would be designed to encourage individual study rather than group study as level 5 of the Library is a quiet study zone.
- The themed room would be accessible to everyone and offers flexibility in its design as an open and versatile space.
- The room could be used for special functions such as exhibitions, meetings and events.
- The colour scheme of the space would reflect the Antarctic theme (blues, greys and white).
- The room would feature two thematic tables laminated with images of the dry valleys and maps of Antarctica.
- There would be mobile book shelf units to display books from the Colin Bull collection and other books related to Polar Regions.
- There would be two lockable display cabinets to showcase Antarctic related artefacts and collections such as Antarctic fossils and drill bits.

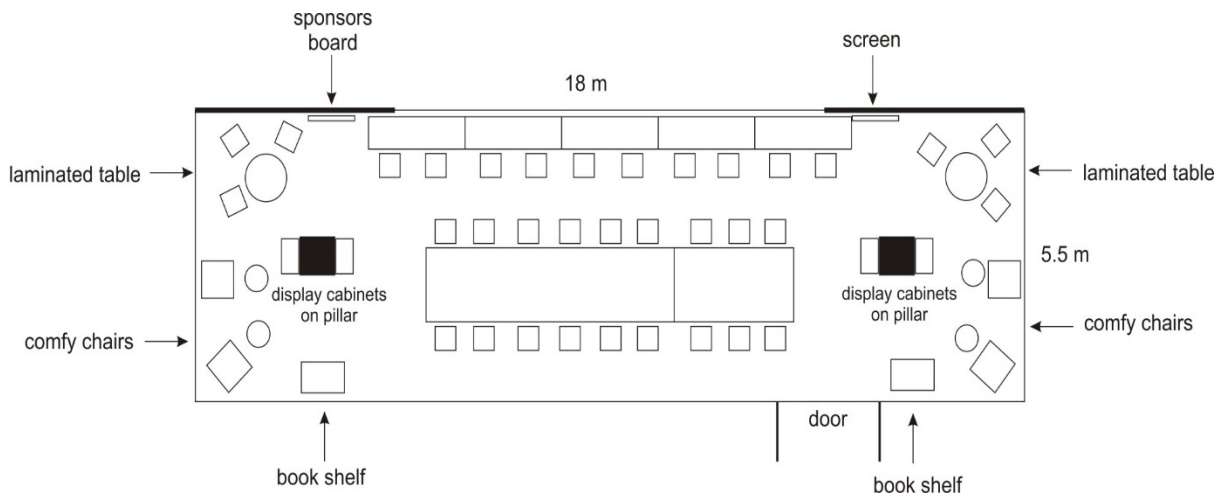


Fig.3

Future plans included setting up a large digital display screen in the room showing a collection of images from Antarctica, explanatory panels and photographs, notifications of forthcoming events, and the Centre's recent research activities and achievements.

A significant component of the design is the full length glass northern wall of the room on which will stretch the outline of the TransAntarctic Mountains and ice caps [see figs.4 and 5].



Fig.4

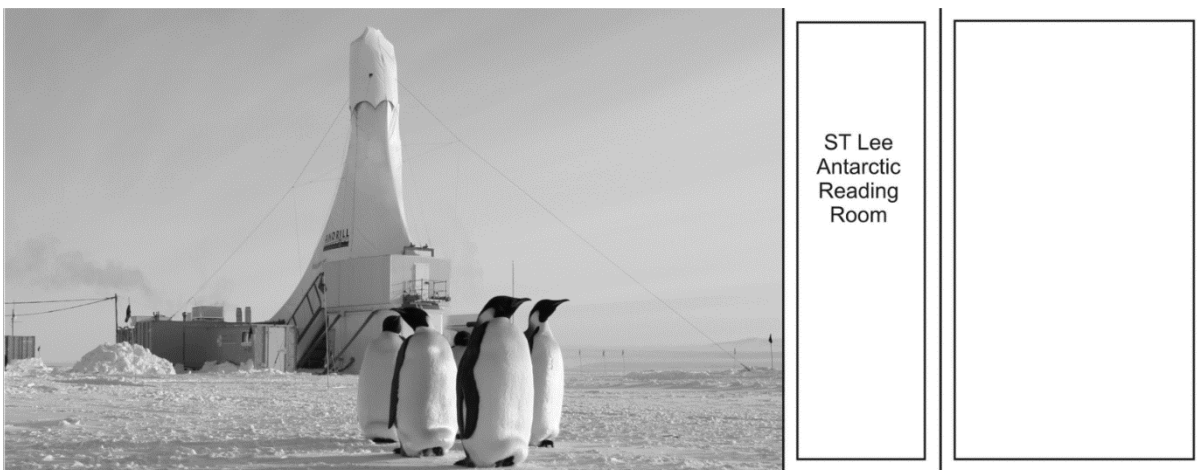


Fig.5

The wall would feature images of VUW expedition explorers, Peter Webb and Barrie McKelvey who accompanied Colin Bull in the University's 1958-59 expedition to the McMurdo Dry Valleys [see fig.6].



Fig.6

Another image on the wall would be that of Emeritus Professor Peter Barrett, who had been the centre's director for 35 years.² [See fig.7]



Fig.7

In order to make the images visible from both sides of the glass, a flexible design that could also be seen in the reverse was selected. The visual images were intended to draw the attention of the users to the significance of Antarctica to New Zealand and the Antarctic Research Centre's contribution to Antarctic research and scholarship.

Productive meetings continued through 2014 including discussion of issues such as time frames, processes for furniture procurement, costings, budgeting signage, naming of the room, and panels recognising the contribution of Dr Lee and Colin Bull. It was planned to put together an information package for Dr Lee to help him visualise how the room would eventually look.

The meetings also discussed the funding implications to develop the reading room. The Library would be providing for the basic layout of a standard reading room in the Library as part of the Library redevelopment and the ARC would contribute to the development of the themed design and layout and other design elements of the room utilising the donation of Dr Lee Seng Tee.

² See <http://www.victoria.ac.nz/antarctic/about/staff/peter-barrett>

It was agreed by the collaborating teams that there was a need to document the agreements reached, clarifying the responsibilities of the teams. It was agreed to draw up a Memorandum of Understanding including details such as naming rights for the room, the types of events which may be held in the room, the notice period required for allocation of the room, and the management of the events as the room was intended to be a quiet study space.

Building and refurbishment work started in February 2014 on Level 5 which became a completely refurbished level in September 2014. Official launch of the ST Lee Antarctic Reading Room and the acquisition of the Colin Bull polar book collection was scheduled to be in late October 2014 enabling the wider University community, ARC benefactors, alumni, overseas visitors and other stakeholders to attend the event.

Reflections

Both the projects had their beginnings in 2010 and came to a state of fruition in 2013 and 2014. It is now time to reflect on the key success factors and challenges and share some critical insights gained in the course of undertaking the projects.

Key success factors

The University's Kelburn Campus Hub and Library redevelopment was timely for envisioning the projects. This gave the Library an opportunity to redesign its physical spaces and reconstitute its collections.

The collaborating teams had a shared understanding of the issues and challenges related to the projects and associated matters and worked together to address them.

Choosing level 5 of the Library as the space for the themed reading room was a crucial decision to achieve the objective of connecting with non-science user groups. To a major extent, level 5 holds the Library's Arts and Humanities collections.

The subject librarian role at Victoria University of Wellington Library focuses on delivering a client centred experience to the faculties they are responsible for and work with. This entails knowledge of the culture of the discipline, patron needs, providing research and teaching support to the staff and the students in the faculties including working with internal and external stakeholders.

The significant role played by the subject librarian as the liaison between the Library and the Antarctic Research Centre involved working with interdependent teams for operational management of the projects. The projects required the skills of mediating, coordinating, and facilitating a two way communication.

Maintaining connectivity and consultations through a range of communication channels was effectively handled by the collaborating teams.

Both collaborating teams had a shared understanding of the projects and worked with a sense of joint partnership to achieve the project objectives.

A client centred approach understanding client needs and expectations with emphasis on ongoing consultations, communication and collaboration are critical to successful partnerships.

Challenges

Due to the long time span of the projects, the participating teams required to be adaptable, flexible and proactive to respond to anticipated and unforeseen changes.

Managing and prioritising realistic achievable expectations to give the projects a definitive shape was a challenge which was successfully achieved by the collaborating teams.

Balancing the costs and working within the budget constraints to make the optimal use of available resources was a challenge.

Relationships, record keeping mechanisms and risk management were critical factors in the planning and implementation of the projects spanning over a long period.

Where to from here?

- Plan and organise the formal opening of the ST Lee Antarctic Reading Room.
- Gather user experience and evaluation of the reading room space.
- Develop a subject level collection statement (a collection development, management and assessment statement created by the subject librarian) for polar studies.
- Develop a Library Antarctic studies subject guide enabling ease of access to polar studies information resources.

Conclusion

The Antarctic Research Centre made a significant contribution towards funding the Subject Librarian's attendance and paper presentation at the 25th Polar Libraries Colloquy which was co-hosted by the Scott Polar Research Institute and British Antarctic Survey in Cambridge, United Kingdom in June and July 2014. Attendance at this biennial event was an ideal place for networking with polar librarians from key polar institutions world-wide, as well as profiling Victoria University's Library and the Antarctic Research Centre's successful collaborative partnerships.

The two projects are a testimony to the value the faculties and researchers accord the Library in terms of its importance as a research, study, teaching, and learning resource both physically and virtually.

Acknowledgements:

- Dr Lee Tee Seng - <http://www.victoria.ac.nz/antarctic/about/endowments>
- Family of Late Professor Colin Bull
- Antarctic Research Centre, Victoria University of Wellington - <http://www.victoria.ac.nz/antarctic>
- Victoria University of Wellington (Images) - <http://www.victoria.ac.nz/>
- Victoria University Library - <http://library.victoria.ac.nz/library-v2/>

The Mercator Project: Innovative Enhancement of a Founding Document for Polar Studies

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Translated by Marie-Claude Plourde

Between 2010 and 2013, I had the pleasure of being involved, with a fellow librarian of Université Laval Library, in a project concerning the acquisition and promotion of an ancient geographic map of importance for Northern Studies, Gerard Mercator's *Septentrionalium Terrarum descriptio*. This article describes the various phases and components of the "Mercator project", including the publication of a book and the creation of an interactive Web platform online. Explanations are also given to help you understand this beautiful and mysterious polar map, engraved more than 420 years ago.

Université Laval and Northern Studies

Before going any further, here is some background information on Université Laval. Université Laval is located in Québec City, itself located in the French-speaking province of Québec, Canada. It was the first francophone university founded in America in 1852, and it now ranks among the top 10 research universities in Canada. It also earned a reputation for the wide variety of academic programs it offers to its roughly 48,000 students.

Northern Studies is one of the major areas of excellence at Université Laval, and this is reflected in the existence of a large number of northern research chairs, centres and institutes related to various disciplines of the natural sciences, health sciences, and humanities and social sciences. The scope of these organizations is very broad; they study the impact of environmental change on northern regions as well as the sustainable development of the North, and also ways to encourage Aboriginal participation in the social, economic and political life of civil society.

The Library of Université Laval

Université Laval's library contains just over 6 million documents. It acquires recent literature related to the development of Northern Studies. It also possesses a collection of ancient books, of which a little over 2,000 are related to the geography and history of the North. Original editions featuring accounts of expeditions conducted in the northern regions are part of this collection as well. However, this "Northern Collection" had so far not been developed in a structured way.

One of my goals when I took office was to start developing the collection in an orderly manner, so that its richness might possibly reflect the great interest for Northern Studies we observe at Université Laval. This goal is being facilitated by the support of Université Laval's Library management, who believes in the development of niches of excellence in our collections, as well as Stéfano Biondo, a map librarian colleague with an interest in this field who was my work partner throughout the implementation of the Mercator project.

The Acquisition of Mercator's Polar Map

The organized development of the "Northern Collection" began in 2010 with the plan to acquire mainly ancient documents, books or geographical maps that are important for the production and transmission of a knowledge base about the Northern regions. During our cartographic research work, we soon realized that one particular map was a very important document: the *Septentrionalium Terrarum descriptio* by Gerard Mercator, published in 1595. This is the first printed map devoted to the polar regions. But at the time, it was not common for the library to purchase maps of such a great value. In order to get an outside opinion on the relevance of this acquisition, we consulted Dr. Louis-Edmond Hamelin, Professor Emeritus of Geography at Université Laval and founder, in 1961, of the Centre for Northern Studies, one of the major research centres dedicated to the field at the university. Not only did he enthusiastically support our project, he even allowed us to develop it into a much more ambitious one than what was originally planned. I will touch on this later.

We thus started our hunt for Mercator's polar map. The goal was to purchase a copy of the first state of the map, in order to own the original work. After several unsuccessful requests, we had to circulate a "want ad" far and wide, sending an email to over 180 dealers around the world. An interesting offer finally came from a dealer located in Prague, Czech Republic, who informed us that he did possess the much sought-after first state. The quality of the document's preservation, the beauty of its colours and the price asked convinced us to acquire the map. It was with great enthusiasm that we received, some time later, the package containing this extraordinary purchase.

One of the first things we did after receiving the map was to have it digitized by a professional photographer. To this end, the map was positioned vertically on a grid and held in place by suction. The digitization allowed us to obtain a high-resolution image from which we would develop the web platform.

The dyes used for its colouring raised some questions which led us to seek the advice of a centre specializing in the restoration and analysis of heritage works, the Centre de conservation du Québec. The Centre concluded that the map was in a remarkable condition considering its age and that the colours added to the document had most probably been applied shortly after printing.



Picture 1. The digitization of the map, maintained by suction on a vertical perforated plate.



Picture 2. Specialized analysis of the map at the Centre de conservation du Québec.

Description of the Map

At this point, before we go any further, you may be interested in learning more about the polar map in question. First, let me say a word about the author. Of Flemish origin, Mercator lived from 1512 to 1594. He was one of the greatest cartographers in history. He produced maps, astronomical instruments, various treaties and a large world atlas, in which was published, one year after his death, the polar map *Septentrionalium Terrarum descriptio*, whose Latin title means “Description of the Northern Lands”. The map depicts the extremities of three continents—Europe, Asia and America—and shows the Arctic Ocean as well as a mysterious circular central area. In order to best represent the extremity of the globe, Mercator rightly used what is called a polar projection, which placed the North at the centre of the document. The Southern boundary of the map was set as the 60th parallel North. Mercator correctly located the Arctic Circle 6 degrees further north. Longitudes were traced in increments of 10 degrees. Finally, the cartographer added a latitudinal gradient, the *Gradus latitudinis*.

So much for the general layout. But what makes this map truly fascinating? One thing is the coexistence within the map of representations stemming from beliefs and myths along with depictions of geographical facts before their official discovery. It should be pointed out that Mercator worked from various sources. He was constantly searching for the most recent information collected by the sailors, explorers and adventurers of his time so as to be able to draw the contours of a world that was still described as a *Terra Incognita*³ at the time. However, sailors of the 16th century did not venture near the

³ Mercator cites some of his sources, including sailors Hugh Willoughby, Stephen Burrough, Martin Frobisher and John Davis. He draws information from maps already published, ancient texts (Strabo, Pliny and Ptolemy), and his correspondence with other scholars (Richard Hakluyt

North Pole. The only information available on this region, which Mercator would use, came from a book written in the Middle Ages, the *Inventio fortunata*. This narrative notably conveys an idea of the polar regions that had existed since Antiquity, and according to which the sea waters of the globe converge towards the North Pole, carried by huge rivers that divide four major islands. Should a vessel unfortunately engage in one of these sea outlets, there would be no turning back, the current being too strong. The waters surrounding the *Rupes Nigra et altissima*—the Big Black Rock in the heart of the North—are very turbulent, swirling, because they are drawn under the rock, towards the interior of the Earth and its central fire, which causes them to evaporate.



Picture 3. The first printed map devoted to the Arctic: *Septentrionalium Terrarum descriptio*, Gerard Mercator, 1595.

While this phantasmagorical vision captures the imagination, other representations that appear on that same map are surprisingly accurate. Take, for instance, the Mackenzie River, located in the Northwest Territories of Canada, which runs over 1,738 km and thus stands as the longest Canadian river. First, the cartographer represented the three tributaries of the river: the Mackenzie's western branch, called *Obila*, with the downstream section of the Peel River, the Arctic Red River, which bears no name, and the Mackenzie's eastern branch, called *Cogib*. Mercator depicted the huge Mackenzie Delta, which, as we know today, covers more than 13,500 km² and is in fact crossed by the Arctic Circle. As if that were

and John Dee). He probably also used sources that are not known to us today, such as information from churchmen (Greenland diocese), adventurers or political emissaries.

not enough, he drew a large body of water which seems to correspond to the Great Slave Lake as it is judiciously located at the end of the watershed, this lake being the source of the Mackenzie River.⁴ Isn't that impressive, especially if we keep in mind that the Mackenzie River was not officially discovered until 1789, nearly 200 years after the drafting of Mercator's map?⁵

The Book *L'Apparition du Nord*

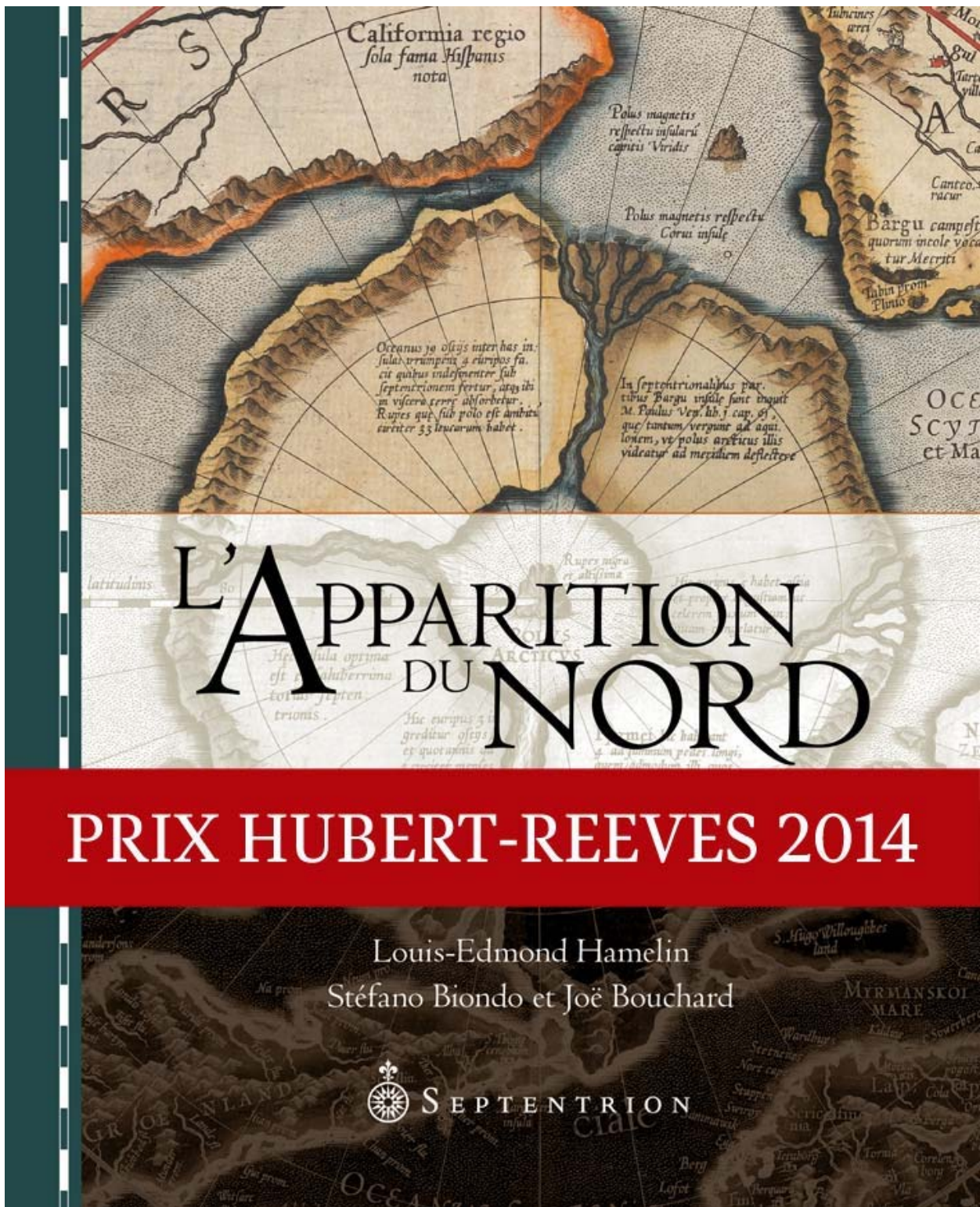
But let's return to our library research project. We received a great deal of support for the purchase of the map from Louis-Edmond Hamelin, who at the same time told us he had contributed to the preparation of a yet unpublished study of said map. The acquisition of the document thus became a great opportunity to develop and publish this study.

Reading the manuscript—which already contained the essential elements of analysis—enabled us to propose additions to turn this document into a book that would be truly approachable and appealing. After several months spent researching and writing, we had become authors in our own right as the manuscript went from 80 to 185 pages. We suggested a new structure, additional chapters, photographs, and reproductions of ancient and contemporary maps. In sum, the book discusses various topics related to Northern Studies, such as polar exploration, the myth of the North Pole, the first contacts with Aboriginal peoples, and Nordic terminology. It covers the history of the representation of polar regions and addresses the issue of climate cycles as well as the current warming in the Arctic. We were fortunate that a reputable publisher in Québec, Septentrion, agreed to publish and disseminate our work.

The publication of the book has been a successful first experience in promoting the collections of the Library. It has helped promote not only Mercator's map, but also other maps, globes and ancient books from our collections that were reproduced in the book. The book has received good media coverage, especially since we were granted an interview on national radio and reviews of the book have been published in the major French newspapers of the province. This publication has thus enabled us to reach a wide audience, a large portion of which was hearing about the collections of Université Laval's Library for the first time.

⁴ We notice what appear to be the names of settlements along the rivers, which could correspond to Aboriginal settlements and indicate contacts with First Nations that may have occurred several hundred kilometres inland.

⁵ The depiction of the Hudson Bay, though it seems less accurate than that of the Mackenzie River, nevertheless contains some interesting elements: the island in the delta seems to correspond to Southampton Island and the presence of the terms *Canadenses* (Canadians, back then used to refer to Aboriginals) and *Saguenaiensium*, referring to the Saguenay (a region that is now located in Northern Quebec, but that once referred to a much larger territory). These two terms were probably borrowed from the works of Jacques Cartier.



Picture 4. The book, *L'Apparition du Nord: Selon Gérard Mercator* [The Appearance of North: According to Gerard Mercator.]

The L'Apparition du Nord Web Platform⁶

A second initiative aimed at promoting the *Septentrionalium Terrarum descriptio* was made possible by the expertise of a geomatics professional working on our team, as well as an open-source content management system: this consisted of making an interactive map available online. This resource offers a new reading of Mercator's work – because it offers excellent resolution, it is easier to explore and analyze. It is an interactive and collaborative tool, since the user can move around on the map, zoom in and out, access excerpts of analysis from the book, view photographs, watch videos, and read and add comments on points being analyzed. Here are some details about the three sections contained within the interactive map.

Home and Topics Tab: First, the home page offers an almost complete view of the map. With a few clicks or using the navigation bar, the user can easily move around in the document and explore a region or an inscription in great detail thanks to a powerful zoom option. Then, from the Topics tab, the user can access 14 topics that are discussed in the book *L'Apparition du Nord* using visual tags that are integrated in the map or available in a list in the left-hand menu. For example, clicking on the title "Central Circular Area" lets you read excerpts of analysis from the book and access various videos by authors who talk about the region in question.

Terms Tab: The Terms tab allows us to use a search engine to locate the 300 terms inscribed on Mercator's map: terms referring to places, rivers, mountains, people, etc. Three filters make it possible to refine the search by region, quadrant and type of term (hydronym, geographic name and description). It is also possible to perform a search by entering the exact term you are looking for, the geographical area (e.g. North America) and the type of term (e.g. hydronym); in this example, the user will thus obtain the names of the polar rivers that were known at the end of the 16th century and reported by Mercator. Thus, by selecting *Obila flu*, the system zooms directly on the name that was then given to the Mackenzie River.

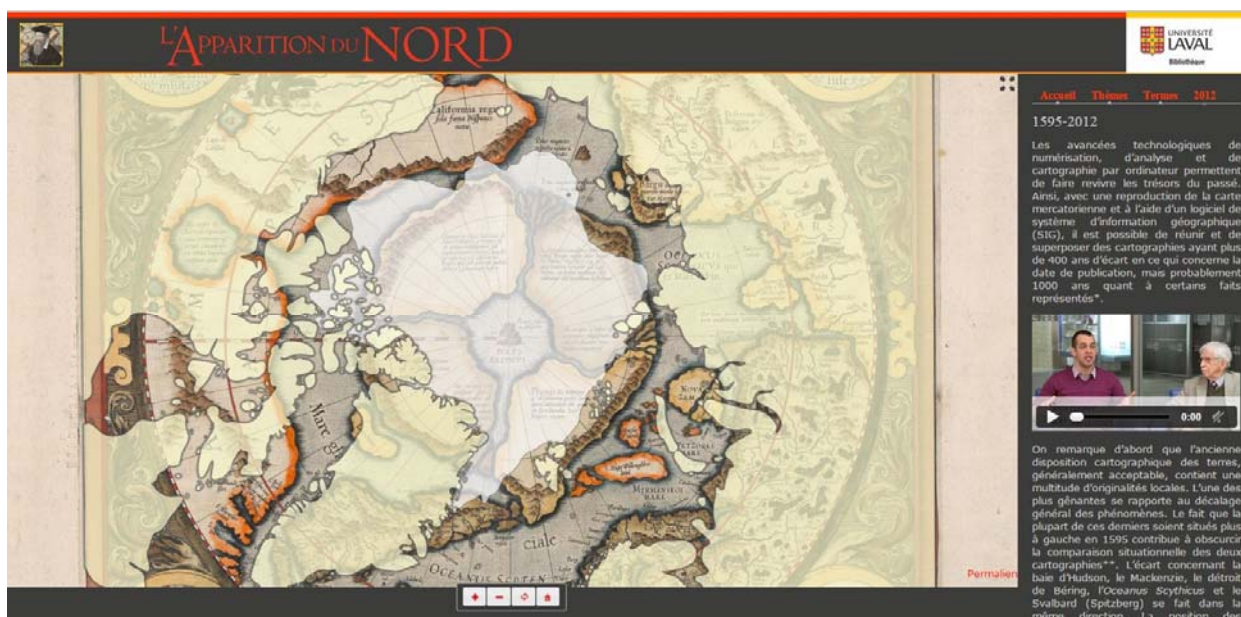
2012 Tab: Technological advances in the fields of scanning, analysis and computer mapping are put to use on the 2012 tab. Therefore, with a reproduction of Mercator's map along with geographic information systems software (GIS), it is possible to combine and overlay maps that were made more than 400 years apart. The beige layer that appears is a mapping of the Northern lands georeferenced onto Mercator's map.⁷ The white layer visible in the centre represents the average sea ice cover for the years 2007-2012, compiled using data from the National Snow and Ice Data Center.⁸ But why superimpose the contemporary boundaries of the sea ice with the central area drawn by Mercator? Because there are reasons to believe that the main source of information used by Mercator for his mapping of the Pole, the *Inventio fortunata*, did not contain only misinformation linked to beliefs and myths. This document is thought to also have included some substantiated geographic information on the Arctic territory stemming from observations made during the Middle Ages, specifically around 1360, and may thus have passed down knowledge about the shape and extent of the sea ice. The hypothesis put forward is that the boundaries of the circular area drawn by Mercator are linked to those of the polar ice in the Middle Ages, a period marked by significant global warming. The

⁶ Web address of the platform: <http://mercator.bibl.ulaval.ca>

⁷ We first notice that the ancient geographical arrangement of lands is generally acceptable but that phenomena are offset and located further to the left in 1595. This is due to the inability to perform accurate readings of latitudes at the time.

⁸ The position of the sea ice cover boundaries was retrieved from the National Snow and Data Center website for the month of August, the period of the year when the ice cover is at its smallest, and compiled for the 360 degrees of longitude, for the years 2007 to 2012. An average of the 360 positions recorded over this seven-year span was then performed.

proposed comparison, which shows some interesting parallels between the two areas, possibly shows two states of the polar sea ice as observed during different climatic warming periods.⁹



Picture 5. The 2012 tab of the Web Platform *L'Apparition du Nord* combines and overlays maps that were made more than 400 years apart.

Conclusion

As we have seen, the Mercator project was not limited to the acquisition of a singular geographic map; it turned into an adventure that fascinated us for over three years. Today, users who come to the Library can, upon request, consult our original copy from 1595. The publication of the book *L'Apparition du Nord*, which was distributed in a very effective way, enabled us to reach a wider audience and to promote the collections of our Library. We were able to go even farther in this respect with the implementation of a Web platform, freely accessible online and created using open-source software.¹⁰ This mapping resource can be considered as a kind of Google Maps from 1595, since we have located and indexed the 300 terms it contains. We also created a bridge between the digitalized map and our book by giving interactive access to much of our analysis via the platform. Finally, I must mention that an exhibition related to the polar map was held at the Library, which helped highlight the hypotheses set forth in the book as well as the capabilities of the Web platform.

They say that librarians should increasingly act as journalists with regard to their collections in order to attract the attention of potential users (Dujol, 2010). This is, in short, what we wanted to do with the Mercator project: implement various access methods to enable students, researchers, or external users—people who are simply curious about northern issues—to discover this founding primary source for polar studies.¹¹

⁹On the back of his polar map, Mercator wrote: “having produced the document according to the information collected by an English mathematician monk from Oxford who, with a map and an astrolabe, is believed to have measured the areas circling the pole.” The measurements of the extent of the ice cover performed nowadays and those possibly conducted before Mercator quite obviously present a wide scientific gap, and some open-mindedness is required in order to consider our hypothesis. However, the mere fact that some calculations date back a few centuries should not be grounds for automatic dismissal.

¹⁰ Such as Drupal and OpenLayers, technology which makes it possible for libraries and museums to use such a system should they want to disseminate and provide an analysis of their cartographic documents (Palazzolo, 2011).

¹¹ The *Septentrionalium Terrarum descriptio* is the work of a pioneer in the process of acquiring and synthesizing knowledge on cold countries. Mercator is however not the only one who helped advance knowledge on the North; other individuals who had a profound impact on the field came before and after him—think for example of the stories of the great explorers. In the coming years, our task will consist of identifying those sources and, whenever possible, acquiring and developing them.



Picture 6. The exhibition *Gérard Mercator: Une Vision du Nord*, was held during 8 months at the Université Laval Library. © M. Robitaille

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Analyzing Published Health Research Related to Indigenous Peoples in Northern Canada: explorations using a sensitive search filter

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Abstract

Across Northern Canada, much research related to the health of Indigenous peoples has been done, however there has been few studies on the scope and nature of that research. A few studies have documented Indigenous health research either within the nation-wide context or within specific populations. Historically, it has been difficult to identify all of the relevant studies to be able to analyze them. This paper reports on tests done with a recently-developed, highly-sensitive search filter designed to comprehensively identify studies related to Indigenous peoples in Northern Canada in the Ovid MEDLINE database. Three analyses were undertaken. First, the complete retrieval of the filter was reviewed to identify the extent of the publication record and the change in the volume of publication over the last ten years. Second, the filter was used to identify the volume of Northern Canadian Indigenous materials within sets retrieved by searching Medical Subject Headings (MeSH) for Disease Classifications and Health Areas. Retrieval was then compared with total retrieval for the subject headings to determine whether or not there are anomalies present in the volume of Canadian Northern Indigenous publications. Finally, the use of the filter to identify non-medical publications was explored. Results showed that the filter can be used effectively for several different purposes in retrieving Northern Canadian Indigenous publications from the database, which can then be analyzed.

Keywords: Northern Canadian health research, Indigenous health research, MEDLINE, database searching, search filters, search hedges

Purpose of the Study

This study reports on initial explorations of the kinds of analysis that may be done using a highly-sensitive search filter designed to retrieve studies related to Canadian Indigenous peoples from Ovid MEDLINE. The purpose was to use the filter to explore a variety of metrics that reveal the extent and nature of Northern Canadian Indigenous health literature and to test the potential usefulness of the filter.

Background

Several works have provided overviews of health research, both related to Canada's Indigenous Peoples and Canada's North. In 2003, Young studied Indigenous health research across all of Canada by identifying works in MEDLINE (Young, 2003). Wilson and Young searched Web of Science, Social Science Citation Index, the Arts and Humanities Citation Index and Scholars Portal for 1995–2005, to study Canadian Indigenous health research, but restricted the study to the social sciences (Wilson & Young, 2008). In 2011, George and Armstrong surveyed "northern" child and maternal health research being conducted in Canada, by surveying practitioners and looking at research funding databases (George & Armstrong, 2011). Finally, in 2012, Sheppard and Hetherington studied research on Inuit children, youth and maternal health in Canada, searching only for the word "Inuit" as their method of retrieving relevant papers from MEDLINE, CINAHL and the Circumpolar Health Database (Sheppard & Hetherington, 2012). None of these studies attempted comprehensive review of the literature of Northern Canadian Indigenous health research.

Design of the Filter

The filter (Appendix A) is a merger of three filters previously created for Yukon, Northwest Territories and Nunavut (Campbell, Dorgan, & Tjosvold, 2014). The filter was then enhanced with terms to retrieve studies related to Indigenous people in the northern parts of the ten Canadian provinces. Place names were selectively included. The names of major centres (eg: Yellowknife and Whitehorse) are present, but qualified to terms that represent Indigenous people, because many health studies in these centres could be primarily about non-Indigenous subjects. Names of communities with medical facilities where research teams are likely to go to do research were included, as were names of communities where there are concentrations of health concerns (eg: *Helicobacter pylori* in Akalavik, NWT) (Carraher, Chang, Munday, Goodman, & CANHelp Working, 2013).

Analyses

1. Our first test was to determine how many publications related to Canadian Indigenous people could be identified in MEDLINE. On May 12, 2014 the filter was searched in Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) 1946 to Current, retrieving 3715 records. The distribution of publications over the past ten years (2004 - 2013) was plotted (Table 1), revealing more than a doubling of output (2004 = 118 papers and 2013 = 267 papers).

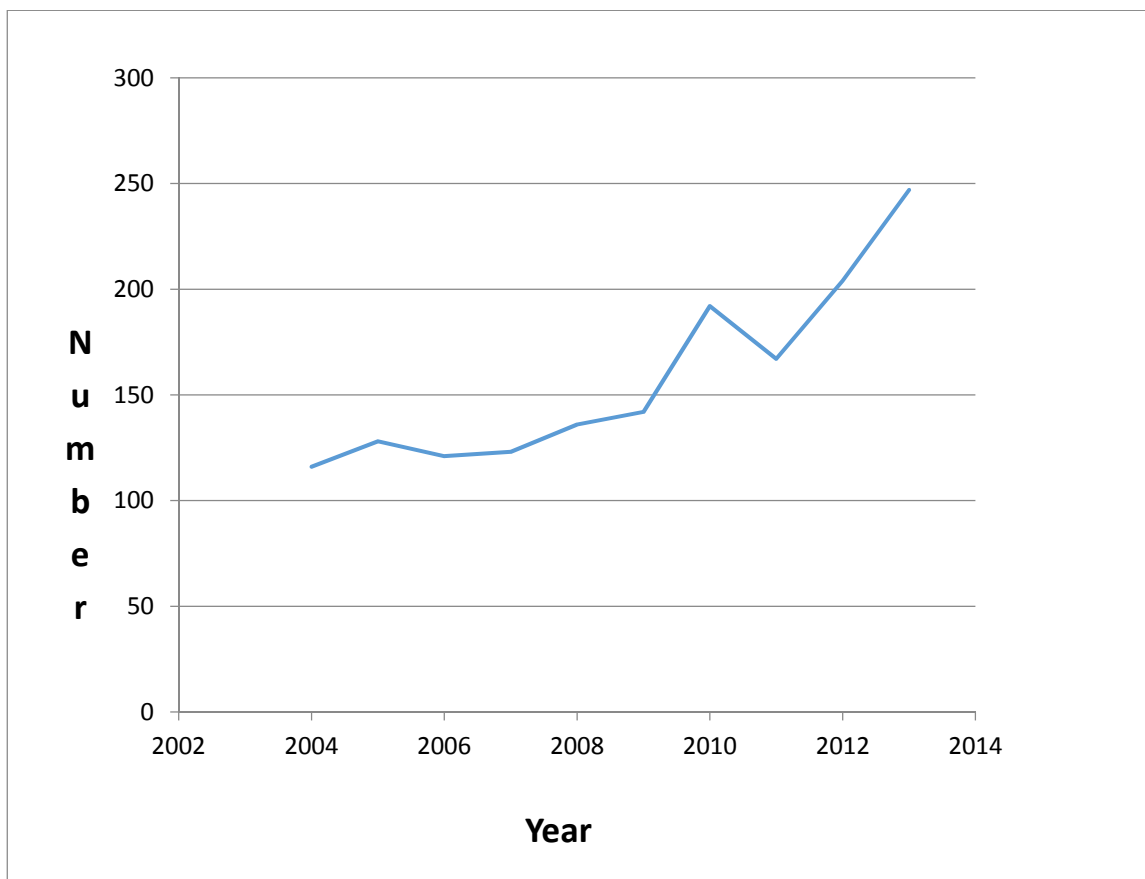


Table 1: Number of papers retrieved from Ovid MEDLINE by the Northern Canadian Indigenous filter for the years 2004 – 2014.

2. The second analysis using the filtered results was to determine whether or not there are any areas of Northern Canadian Indigenous health research that represent an unusually large or small percentage of the papers indexed in MEDLINE. Two sections of the Medical Subject Headings (MeSH) were selected for this test: Disease Classification and Health Area. On June 14, 2014, each Disease Classification subject heading was searched, revealing the number of publications in the whole database. Each subject heading was then searched with the filter. The results were noted (Table 2) and the number of Northern Canadian references for each subject heading was expressed as a percentage of the whole (Table 3).

Disease Classification	Number of Northern Canadian Indigenous References
Disorders of Environmental Origin	1
Occupational Diseases	9
Wounds and Injuries	51
Hemic and Lymphatic Diseases	52
Male Urogenital Diseases	58
Eye Diseases	72
Musculoskeletal Diseases	79
Parasitic Diseases	92
Skin and Connective Tissue Diseases	95
Otorhinolaryngologic Diseases	98
Congenital, Hereditary and Neonatal Diseases and Abnormalities	100
Immune System Diseases	101
Stomatognathic Diseases	101
Endocrine System Diseases	131
Chemically-Induced Disorders	136
Digestive System Diseases	139
Female Urogenital Diseases and Pregnancy Complications	158
Nervous System Diseases	162
Cardiovascular Diseases	166
Respiratory Tract Diseases	171
Neoplasms	185
Virus Diseases	209
Nutritional and Metabolic Diseases	279
Bacterial Infections and Mycoses	279
Pathological Conditions, Signs and Symptoms	438

Table 2: Number of Northern Canadian Indigenous References by MeSH Disease Classification. Searched June 16, 2014.

In the Disease Classification, the range of results (Table 2) was from 1 (Diseases of Environmental Origin) to 438 (Pathological Conditions, Signs and Symptoms). It must be recognized first, that some subject headings, such as Pathological Conditions, Signs and Symptoms cover a broader range of terms than do others. Further, subject headings are assigned manually, and individual indexers choose which subject

headings are applied. While this is a rule-guided process, indexers do have discretion, which may introduce inconsistency, in turn, influencing the numbers of references indexed under a particular subject heading.

Disease Classification	Number of Northern Canadian Indigenous References	Number of References in the Whole Database	% Northern Canadian Indigenous References
Male Urogenital Diseases	58	896249	0.006
Neoplasms	185	2559477	0.007
Wounds and Injuries	51	702582	0.007
Hemic and Lymphatic Diseases	52	739995	0.007
Nervous System Diseases	162	2052545	0.008
Immune System Diseases	101	1196561	0.008
Skin and Connective Tissue Diseases	95	1005287	0.009
Occupational Diseases	9	105655	0.009
Musculoskeletal Diseases	79	830849	0.010
Digestive System Diseases	139	1353268	0.010
Pathological Conditions, Signs and Symptoms	438	4240398	0.010
Congenital, Hereditary and Neonatal Diseases and Abnormalities	100	960317	0.010
Eye Diseases	72	442692	0.016
Respiratory Tract Diseases	171	1056115	0.016
Endocrine System Diseases	131	756289	0.017
Female Urogenital Diseases and Pregnancy Complications	158	1281648	0.018
Cardiovascular Diseases	166	1872724	0.019
Bacterial Infections and Mycoses	279	1153618	0.024
Stomatognathic Diseases	101	414499	0.024
Virus Diseases	209	735042	0.028
Nutritional and Metabolic Diseases	279	930820	0.030
Parasitic Diseases	92	309684	0.030
Otorhinolaryngologic Diseases	98	297547	0.033
Chemically-Induced Disorders	136	399552	0.034
Disorders of Environmental Origin	1	2059	0.049

Table 3: Number of Northern Canadian Indigenous references by MeSH Disease Classification, compared with all references by MeSH Disease Classification and percentage of all Northern Canadian Indigenous references. Searched June 16, 2014.

Comparisons of the Indigenous references to those in the whole database (Table 3) showed that for all subject headings the Northern Canadian Indigenous references represented less than .05%. Percentages ranged from 0.006% (male urogenital diseases) to 0.049% (disorders of environmental origin). No subject heading shows a disproportionately large or small percentage of Indigenous articles, when compared with the total number of articles indexed under that subject heading.

The same process was followed for the list of subject headings in the Health Area of the MeSH headings.

Health Area	Number of References – Northern Canadian Indigenous Filter
Social Determinants of Health	0
Suburban Health	0
Veterans Health	0
Holistic Health	1
Men's Health	1
Minority Health	1
Reproductive Health	1
Occupational Health	2
Physical Fitness	2
Urban Health	4
Oral Health	6
Family Health	6
Mental Health	10
Women's Health	14
Rural Health	23
Public Health	995

Table 4: Number of Northern Canadian Indigenous references by MeSH Health Area subject headings.

In the Health Area most of the subject headings produced very few results (Table 4). Social Determinants of Health, Suburban Health and Veterans Health all produced 0 references. There are few "suburban" areas in Canada's North and, while there are Indigenous veterans residing in Canada's North, there may not be sufficient numbers for them, as a group, to be the subject of a health study. The fact that other subject headings produced low numbers may reflect the fact that these are broad terms. For example the MEDLINE scope note for Men's Health defines the term as "The concept covering the physical and mental conditions of men". So while there are several publications in MEDLINE that are about prostate cancer in Northern Canadian Indigenous men, which is clearly a men's health issue, they are indexed to the more specific term Prostatic Neoplasms. We can see from the comparative data in Table 6 below that there are a proportionately low number of publications with the subject heading "Men's Health" for the whole database.

The notable anomaly in this chart is a high number of references (995) which have the Public Health subject heading. We can see in Table 5, below, that the number of publications in the whole database that are indexed to this term is also high, when compared with the other subject headings. However, when we look that the percentage of those that are Northern Canadian Indigenous materials, we can see that it is unusually high (1.675%) when compared with other subject headings.

Health Area	Number of References – Northern Canadian Indigenous Filter	Number of References – Whole Database	(%)Northern Canadian Indigenous in the Whole Database
Social Determinants of Health	0	91	0.000
Suburban Health	0	387	0.000
Veterans Health	0	273	0.000
Physical Fitness	2	21544	0.009
Occupational Health	2	24800	0.009
Holistic Health	1	6977	0.014
Oral Health	6	10117	0.019
World Health	7	29260	0.024
Urban Health	4	15169	0.026
Family Health	6	20116	0.030
Women's Health	14	21826	0.064
Men's Health	1	1109	0.090
Mental Health	10	21253	0.047
Rural Health	23	21308	0.107
Reproductive Health	1	738	0.135
Minority Health	1	377	0.265
Public Health	995	59389	1.675

Table 5: Number of Northern Canadian Indigenous references indexed to the Health Areas MeSH headings in the Ovid MEDLINE database, compared with the number of all references indexed to the Health Areas headings, expressed as a percentage.

There are several potential explanations for the disproportionately high numbers of Northern Canadian Indigenous Public Health publications. The first is the potential for indexer inconsistency, discussed earlier. Second, the population of Canada's North is sparse, so for many clinical studies, there may not be a critical mass of people with a particular condition in the North for researchers to study. Researchers wishing to study in the North may be channeled towards public health research because it can be done across populations. The third possibility is that most granting agencies for Northern Canadian health research require that the grant recipients work closely with local communities and involve them from the beginning of the study to ensure that it is relevant and inclusive. Many community members are most interested in having research undertaken that addresses health problems in their communities that affect many people, which would fall under the subject headings for public health. For example, a health research consultation with residents of Rankin Inlet, Nunavut, revealed research priorities in mental health and well-being, physical well-being, healthy family life, traditional and spiritual values, prevention, education, support and livelihood (Healey, 2007). The fourth possibility may be the presence within the Canadian public health research community, of several prominent researchers and research teams who take a particular interest in the Canada's Northern Indigenous people. The fifth possible explanation could be funding priorities, where funds are offered for research in some areas, but not others. An examination of the Canadian Institutes of Health Research granting history for Indigenous health research on Northern subjects for 2008 – 2014 (Table 6), does reveal that many of the grants do have a public health element to them.

Traditional Food/ Country Food / Food Security/ Food contamination	23
HIV/AIDS	10
Sexually Transmitted Diseases	9
Suicide/Suicide Prevention	9
Pollution	7
Childbirth/Infant Mortality/Infant Outcomes/Pregnancy/Fetal Health/Mortality-Neonatal	7
Climate Change and Health	6
Physical Activity	5
Alcohol Addiction/Substance Abuse	4
H. Pylori	4
Cardiovascular Health/ Cardiac Illness	2
Respiratory Illnesses/Asthma/Allergies	2
Cancer Screening-Cervical	1
Accidents	0
Stroke	0

Table 6: 2008 – 2014 CIHR Grants for Research on Northern Subjects (Canadian Institutes of Health Research - CIHR,). The presence of Northern content was identified by keywords such as specific place names, Northern, Arctic, sub-Arctic, Inuit and Dene in the title, abstract or keywords of the grant record.

3. The final exploration using the filter was to determine whether or not it could be used to mine the database for subjects that are not health related, such as the fine arts. A search for the subject heading "Poetry as Topic" or the text word "poetry", filtered with the Canadian Northern Indigenous filter reveals two works: *I am but mad North-northwest: when the wind is southerly I know a hawk from a handsaw* (Potter, 2008), a study of Canadian poets in the Northern context, and *McGee, Samuel: consultation report from the marge of Lake Lebarge* (Smith, 1998), a mock psychiatric analysis of Robert Service's famous character.

Conclusion

These three simple explorations of the use of the Northern Canadian Indigenous filter show that it allows easy extraction of bibliographic sets from the Ovid MEDLINE database that were previously not readily available. Access to this information will allow a broader range of future analytical research on the state and nature published studies related to Northern Canadian Indigenous people. Access to these new metrics may be used by researchers to identify areas in which more research needs to be done. Improved understanding of the research record may also supply evidence to support health policy decision makers in their work.

Work is ongoing at the John W. Scott Health Sciences Library to create similar filters for other databases and other database platforms.

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Appendix 1: A Filter to Retrieve Studies Related to Indigenous People of Canada's North OVID
MEDLINE Database

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((exp Indians, North American/ or exp Inuits/ or exp Medicine,
Traditional/ or exp Shamanism/ or exp Ethnopharmacology/) and (exp
Yukon Territory/ or exp Northwest Territories/ or exp Nunavut/ or
Yukon.mp. or NWT.mp. or Northwest Territories.mp. or (Arctic Regions/
and Canada.mp.) or Nunavut.mp.)) or (Inuit* or Eskimo* Inuvialu* or
Inuinnaqtun or Inuvialuktun or Innu or Innus or Inuk or Esquimau* or
Nunavik or Qikqtaalumiut* or Uqqurmiut* or Nugumiut* or Akuliarmiut*
or Qaumauangmiut* or Sikusilaamiut* or Oqomiut* or Talirpingmiut* or
Qingaumiut* or Kingnaitmiut* or Saumingmiut* or Itivimiut* or
Sanikiluarimiut* or Tarramiut* or Netsilik or Dogrib* or Gwich'in or
Gwichin or Gwitchin or Sahtu or North Slave or Deh Cho or South Slave
or Yellowknives or (Hare adjl (boy or boys or girl or girls or men or
man or woman or women or people* or persons* or band or tribe* or
native* or indigenous* or aboriginal* or Indian*)) or Chipewyan or
Kaska or Kaskas or Slavey* or (Tagish* not meteorite*) or Tanana or
Tananas or Tlingit or Tlicho or Tli Cho or Tutchone* or Denesuline or
Gwichin or Kutchin* or Tahltan or Yukon or MacKenzie Valley or Aklavik
or Old Crow or Upper Liard or Watson Lake or Eagle Plains or Keno City
or Carcross or Teslin or Fort Selkirk or Beaver Creek or Pelly or
Destruction Bay or Carmacks or Haines Junction or Dawson City or
Whitehorse or Inuvik or Norman Wells or Fort Smith or Hay River or
Fort Simpson or Pangnirtung or Cape Dorset or Arviat or Rankin Inlet
or Chesterfield Inlet or Whale Cove or Baker Lake or Coal Harbour or
Repulse Bay or Gjoa Haven or Igloolik or Pelly Bay or Umingmaktok or
Kugluktuk or Cambridge Bay or Talouyoak or Hall Beach or Kimmirut or
Clyde River or Qikiqtarjuaq or Pond Inlet or Nanisivik or Arctic Bay
or Resolute Bay or Devon Island or Alert Bay or Baffin Island or
Victoria Island or Sachs Harbour or Ulukhaktck or Tuktoyaktuk or
Paulatuk or Aklavik or Fort McPherson or Tsilgehtchic or Colville Lake
or Fort Good Hope or Tulita or Deline or Wrigley or Fort Liard or
Trout Lake or Fort Providence or Behochoko or northern Saskatchewan or
northern Manitoba or northern Quebec or northern Alberta or northern
British Columbia or northern Ontario).mp. or ((Metis or First Nation
or First Nations or Indigenous* or Indian or off-reserve or country
food* or tribe or tribal or Autochton* or Aboriginal*) and (subarctic
or arctic or Canad* north or Yukon* or Northwest Territories* or
Whitehorse or Nunavut or Yellowknife or north* Canad* or tundra)).mp.)
not (geology* or stratigraphi* or volcan* or magma* or lava or
Holocene or Pleistocene or glacier* or glacial or lepus).mp. not ((exp
Greenland/ or Greenland*.mp. or exp Alaska/ or Alaska*.mp.) not ((exp
Canada/ or Canad*.mp. or Yukon*.mp. or Northwest Territories.mp. or
Nunavut*.mp. or Yellowknife*.mp. or Whitehorse.mp.) and (exp
Greenland/ or Greenland*.mp. or exp Alaska/ or Alaska*.mp.)))
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References for filter:

Campbell, Sandy, Tjosvold Lisa, Dorgan, Marlene and Behn-Smith, Daniele. Finding Canadian Polar Indigenous Studied in Medline, in Sommer, Shelly and Ann Windnagel, eds.: Cold Regions: Pivot Points, Focal Points: Proceedings of the 24th Polar Libraries Colloquy, June 11- 14, 2012, Boulder, Colorado p. 88 – 95, <https://nsidc.org/pubs/gd/gd-34/PLC-24-proceedings-GD-34.pdf> Accessed February 8, 2016.

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Northwest Territories. Health and Social Service Careers. Aboriginal Culture. <http://www.practicenorth.ca/index.php?page=aboriginal-culture-en> Accessed February 8, 2016.

Cite filter as:

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University of the Arctic Liaison Report, 2014

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The University of the Arctic (UArctic) is a cooperative network of northern universities, colleges and other organizations dedicated to education, research and the promotion of indigenous and local capacities and sustainable development in the circumpolar North.

<http://www.uarctic.org/SingleArticle.aspx?m=536&amid=3731>

Since the 2012 Colloquy, as PLC liaison to the University of the Arctic, I have attended two meetings with University of the Arctic, and taken part in ongoing virtual conversations.

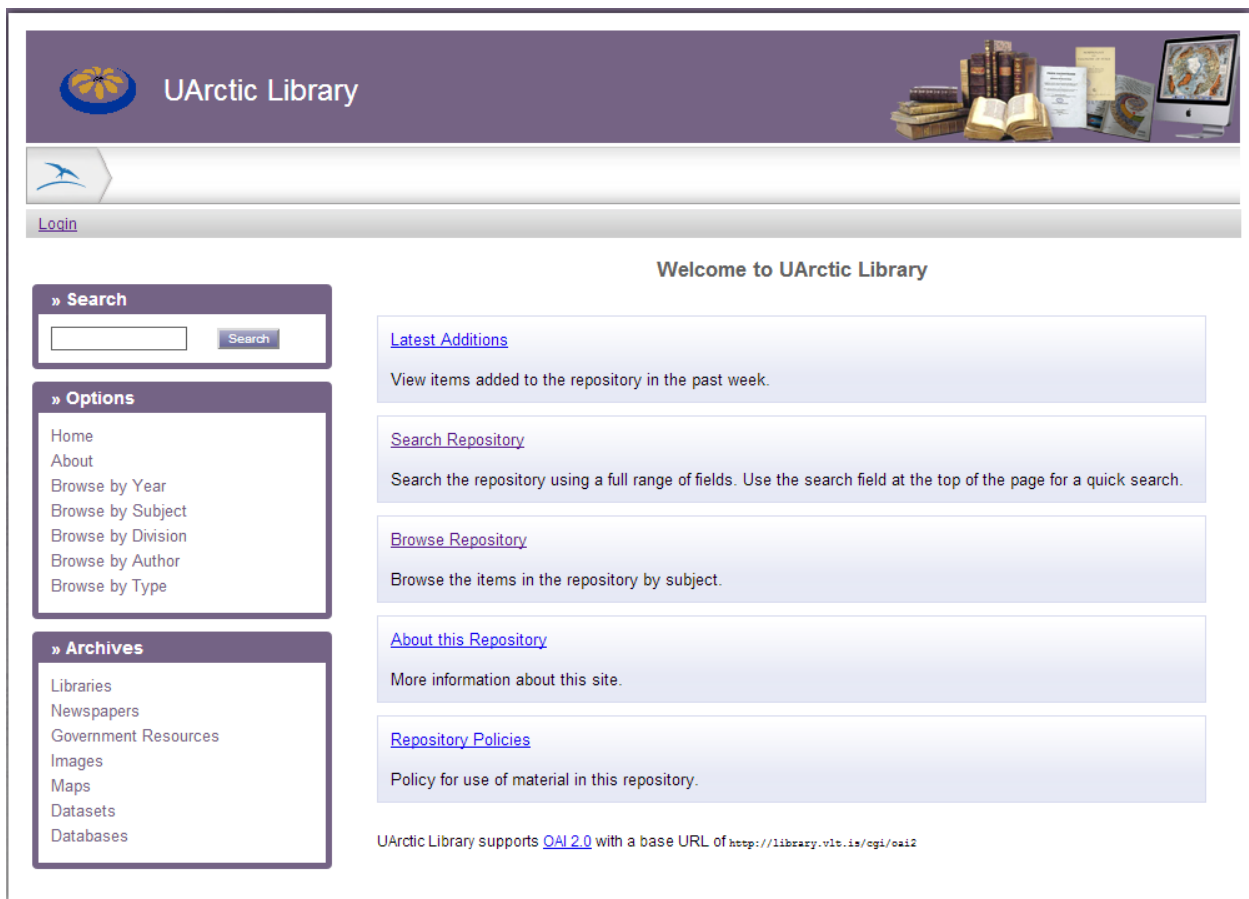
University of the Arctic Digital Library Team January 24, 2014

The first meeting was in Tromsø, Norway in January, 2014 and was a working meeting of the University of the Arctic Digital Library Team. The participants were Leif Longva and Stein Høydalsvik (University of Tromsø - Norway), Haldor Jóhannsson (Arctic Portal - Iceland), Kirsi Lakota (University of the Arctic - Finland), Elaine Maloney (Canadian Circumpolar Institute – Canada) and Sandy Campbell (PLC - Canada). The team considered the broad scope of information needs for University of the Arctic, but focused primarily on two projects. The first of these was the virtual archive for University of the Arctic, which has been established as a project in the Arctic Portal. The second was the further development of the High North Research Documents project¹², which is the subject of a paper by Stein Høydalsvik found elsewhere in these Proceedings.

The University of the Arctic Library¹³, which is resident within the Arctic Portal, has not had much development since the loss of key staff in 2012. However, Haldor Jóhannsson brought to the meeting, a commitment that Arctic Portal should continue to be the repository for the University of the Arctic. Since that time, a new staff member has been assigned and University of the Arctic members can add materials to the repository. The repository is designed to house materials related to the University of the Arctic, as well as materials published by University of the Arctic members who do not have an institutional repository into which they can place their materials. The Team had considerable discussion around the metadata that should be submitted with each document, as well as how University of the Arctic publications should be identified in the database.

¹² <http://highnorth.uit.no/>

¹³ <http://library.vlt.is/>



Picture 1: The University of the Arctic Library interface.

The team held productive discussions about the High North project, in particular, focusing on refining metadata descriptions and parameters for inclusion. High North extracts metadata related to Northern publications from the Bielefeld Academic Search Engine (BASE)¹⁴ metadata harvester. If sites are not structured to be compatible with the BASE harvester, their information cannot be collected and therefore their publications will not appear in BASE or High North. Committee members were charged with recommending additional sites that should be harvested. The geographic definition of the interests of the University of the Arctic are much broader than the current geographic definition of High North, particularly in Northern Canada. Committee members were charged with recommending additional geographic terms to be searched.

The VLT team recognized that these two projects address only a part of the continuum of University of the Arctic's members' information needs. In addition to having a place to search and link to northern open access materials (High North) and a place for the University of the Arctic and its members to permanently archive open access materials, the University of the Arctic still needs to address leveraging the network to supply access to print materials and the inequities of access to priced materials across Arctic members. To address this issue, three University of the Arctic libraries will be proposing a University of the Arctic Print Network (Appendix 1)

¹⁴ <http://www.base-search.net/about/en/>

University of the Arctic Council Meeting May 18 – 21, 2014

The second meeting that I attended was the University of the Arctic Council Meeting held in Prince George, British Columbia at the University of Northern British Columbia (UNBC). This was something of a homecoming for the University of the Arctic because the development began at a meeting at UNBC. The Council met for two days in advance of the 8th ICASS (International Congress of Arctic Social Sciences) meeting.

The University of the Arctic Council Meeting is a business meeting, where the Council directs the future of the organization, enacts changes to the constitution, and admits new members.

This year, the most important change to the University of the Arctic Bylaws was a change to membership categories. In the past, there were "Full Members" and "Associate Members". These categories have been changed to "Arctic Members" and "Non-Arctic Members". On August 19, 2014, PLC received a letter of Confirmation of University of the Arctic Membership, stating that PLC is now a member in the Arctic Member category.

The Council received 18 new members this year, bringing the total membership to 172.. The growth in the Associate Membership category is notable. Belgium, France, Japan and Mongolia each have 1 member, United Kingdom, 2 and China 8.

During the Council Meeting, there is time set aside for Breakout Sessions, which gives participants the opportunity to meet in small groups to discuss specific issues of interest. This year the following subjects were discussed in Breakout Sessions:

- Session A: Thematic Networks: Introductions to current and to proposed new Thematic Network
- Session B: UArctic as a Member Organization
- Session C: UArctic and Education
- Session D: Indigenous Issues
- Session E: UArctic Research
- Session F: UArctic Mobility and Future Plans

After the Breakout Sessions, representatives from each group return and report to the Council.

The Council Meeting is an opportunity to meet representatives, often senior administrators, of the member institutions. In this venue I was able to speak to many of the new members about the benefits of the Polar Libraries Colloquy and to encourage them to support their librarians in joining PLC.

Of course, The Council Meeting always includes social and cultural events to allow members to get to know each other and local cultures. At this meeting there was a joint reception with the ICASS participants, who are Arctic researchers in all social sciences disciplines. During the breaks, we were treated to a display of West-Coast Indigenous artefacts, as well as some, Sami drumming. At the banquet, an Indigenous drumming group performed a series of drum-songs.

To attempt to meet the need for a UArctic Print network, three members will be proposing A UArctic Virtual Print Library Network. The core of this proposal is to create a network of libraries at UArctic institutions that would act as permanent depository libraries for UArctic library materials and interlibrary loan these materials regionally to other members. In the future, this network may grow to include many UArctic member libraries. The initial three members making this proposal are:

- North-Eastern Federal University named after M. K. Ammosov in Yakutsk, Sakha Republic (Yakutia)
- University of Lapland in Rovaniemi
- University of Alberta

Rationale

- UArctic has produced print materials
- UArctic has received print materials
- How do UArctic members know that they exist? How do UArctic members get access to them?

The benefits to University of the Arctic include:

- This would formalize another network among UArctic members.
- UArctic members would have regional sites at which they would be assured that UArctic print materials would be permanently kept.

The benefits to the Libraries are:

- Participation in an international collaborative project.
- Low cost to the institutions much because the libraries are already doing the activities.
- The volume of materials will be minimal (5 – 10 /year?)
- The libraries will probably collect the materials anyway
- Libraries respond to inter-library loan requests anyway
- The libraries profiles among the 172 members of UArctic would be enhanced.

Next Steps for this Project

The three sites would have to agree to the project. (There is now agreement from all three sites. – August, 2014)

The three sites will jointly draft a joint proposal (there is a form on the UArctic website) to present at the next UArctic Council Meeting.



Map of the proposed UArctic Print Network locations.

The polar library of the Istituto Geografico Polare “Silvio Zavatti”: an issue of book classification

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To introduce you to our Polar Library I would like to briefly talk about our Istituto Geografico Polare, dedicated to its founder, Professor Silvio Zavatti.

Professor Zavatti was a teacher and writer, passionate about the polar regions, when at the age of 27 he founded the Istituto Geografico Polare. The place was Forlì, his birthplace near Bologna, and the year was 1944, when that area of Northern Italy had been already liberated by the Allied troops. A year later the polar bulletin *Il Polo* was founded, to inform the Italian public about events in the polar regions. In a way, Zavatti had been inspired by the Scott Polar Institute and its journal *Polar Record*, which in its early days was very much a bulletin of polar events. Later Silvio Zavatti moved to the Marche region, in Central Italy.

Silvio Zavatti was very interested in the life of the people of the North, and the Canadian Inuit in particular. He considered it his last chance to study their life and habits, before too much westernization took place.

These were his 5 Arctic expeditions:

- 1961, Rankin Inlet, Canada;
- 1962, Lapland, to study the reindeer herders;
- 1963, Angmagssalik, East Greenland, a different story from Arctic Canada, since it had been colonized by Denmark since the end of the 19th Century;
- 1967, Rankin Inlet again, where he detected the first signs of ‘Eskimo Power’, and great changes towards self-determination;
- 1969, Repulse Bay, Canada, a very new settlement located exactly on the Arctic Circle.

In 1969 Silvio Zavatti became Director of the newly established Civic Library, where he could display the items he had acquired during his five expeditions. This was the beginning of the Polar Museum. Books and journals, mainly obtained in exchange for *Il Polo*, formed the first nucleus of the Polar Library.

Silvio Zavatti died in 1985, happy to know that his legacy would continue in the town of Fermo, with the support of the Municipality. This is where we are now, in the beautiful Villa Vitali, where the Zavatti Institute has been since 1993. The Polar Museum occupies 7 rooms: the historical room; the Inuit and Sami room, where the very valuable Inuit art, mostly acquired by Zavatti during his expeditions, is displayed; the natural history room; the Jean Malaurie room, dedicated to the famous French ethnographer who gave a generous donation of polar items; and the Ainu and Siberian room.

Then we get to the Library, which is the largest in Italy, with over 4000 books, a good collection of foreign journals, maps, pamphlets, and the Archives.



Picture 1: Villa Vitali. Headquarters of the Istituto Geografico Polare “Silvio Zavatti”



Picture 2: Partial view of the Polar Library

This brings me to the main point of my talk, which is partly a request of advice from the best group of experts in the world. The subject is how the books in the Zavatti Library should be classified.

The first nucleus, started by Zavatti himself, was classified by its place in the shelves. Thus A-1-11, for example, would be the 11th book on the top shelf of bookcase A. Each new addition would carry a progressive number.

When the Library was rearranged in Villa Vitali, a new classification was implemented, but still according to the Zavatti method. When I started my job as Director, one of the first things I planned was to overhaul the Library classification. After over 30 years of using the Scott Polar Library, the most logical step was to introduce the UDC Polar classification. In 2011 the Librarian, Heather Lane, sold us the dvd – although we were warned that an update to incorporate new categories was due. However, I haven't yet applied the UDC Polar to our collection because it would cause a major disruption, since the entire library content has been put on line as part of a regional initiative (OPAC Sebina). A change in our classification would imply a complete revision of the information given in the website.

This byzantine way in which the Zavatti library is arranged means that no book can be found according to subject matter. Even a duplicate copy of a book would be found at a different location. Recent books follow the same pattern.

My thought for improving the situation would be to classify each book according to UDC Polar, and to compile a catalogue where the UDC polar classification would show the subject division. Then each book would stay in its present place, but with an extra tool to help find books related to a specific subject.

I would like very much to hear your views on this issue.

I have two more points to make.

By talking to a number of the people present, I have noted that there is a tendency to eliminate paper items as they get digitized and available on line. As we still follow a traditional route, I would be happy if we could be the recipients of your discarded items. We would be prepared to pay postage.

The other thing that I would like to bring to your attention is that since 1945 we have been publishing // *Polo*, the only Italian polar journal, now bilingual in Italian and English. For some time I have considered publishing a series on polar libraries of the world, so I'm asking you if you would like to contribute a paper illustrating your own polar library.

This meeting has been a great experience and an illuminating crash course in librarianship. Thank you.



Picture 3: Close up of a library shelf, showing the classification adopted.

Open access to polar research: encountering new audiences?

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What is open access?

Put simply, open access is a publishing system by which material is made available publicly on the internet, with wide rights of access and few limitations on how it can be read, distributed, or reused.¹⁵ In the research context, this usually means (but is not limited to) the distribution of journal articles and similar works.

There are a wide range of positions and approaches on open access, but in general the research community has settled on two complementary methods:

- Green open access, where a copy of a traditionally published article is deposited in a publicly accessible repository. This may be the final article, or a draft/manuscript version; it may be immediately available, or may be restricted for a set period of time (an “embargo”).
- Gold open access, where the journal publishing the article makes it immediately and publicly available at no cost to the reader. Usually (but not always) gold open access involves a permissive copyright license. In many cases a set fee (an article processing charge, or APC) is paid by the author or their institution to cover the costs of publication. The journal may be entirely gold open access, or may be a subscription journal which offers open access for individual papers (“hybrid gold”).

The experience of open access at the British Antarctic Survey

In 2012, the UK research councils (RCUK), the main public bodies for funding scientific research, began a new open access policy. From April 2013, a set proportion of all research publications funded by research council grants were required to be open access, rising from an initial 45% in 2013/14 to 100% in 2017/18.¹⁶ Institutions were to be given a block grant to support this expense, but individual grants would no longer be able to claim funding for publication costs.

The policy attracted some comment and criticism due to the emphasis it placed on gold over green open access; most comparable policies had an opposing preference, and concerns were raised about whether smaller institutions with less funding would be able to comply with the policy.

A number of amendments and clarifications followed, giving a policy which required:

- open access through either the gold or the green approach, with a preference (but not a requirement) for gold;
- for gold open access, the article to be immediately available with a Creative Commons Attribution (CC-BY) license;
- for green open access, the accepted manuscript to be available through a repository after a six-month embargo period (twelve months if funding was not available for gold open access)¹⁷

¹⁵ <http://www.budapestopenaccessinitiative.org/read>

¹⁶ The full policy is available at <http://www.rcuk.ac.uk/research/openaccess/policy/>

¹⁷ Biomedicine papers had a hard six-month limit for embargo periods, while arts, humanities, and social sciences were allowed up to twelve months (twenty-four if no funding available).

The British Antarctic Survey (BAS), as a subsidiary institute of one of the research councils (the Natural Environment Research Council, NERC), was covered by this policy; for the avoidance of any doubt, we decided to treat apply the policy to all our research, including any funded by non-RCUK grants.

We had previously operated a shared repository (“NORA”) with three other NERC institutes, and between depositing papers there and the use of some open access journals, an estimated 20-25% of our papers had been made open access in 2012/13, the last year before the policy kicked in.

Through the year, we monitored new publications on a rolling basis, contacting authors shortly after publication to try and obtain manuscripts and financial details. We did occasional sweeps of papers with no responses after a few months (particularly useful for papers published during the field season) and a comprehensive sweep in March, when we compiled the previous year’s publication list. This was relatively labour-intensive but productive.

Between April 2013 and July 2014, BAS researchers were authors or co-authors on 428 papers. Of these, 148 (35%) were made available as gold open access, and 196 (46%) as green open access through the repository – a total of 81%. A further 69 (16%) were in theory allowed to be made available as green open access, but we did not have a suitable copy of the manuscript, while 15 (4%) would not have been allowed to be made available as open access in any form.

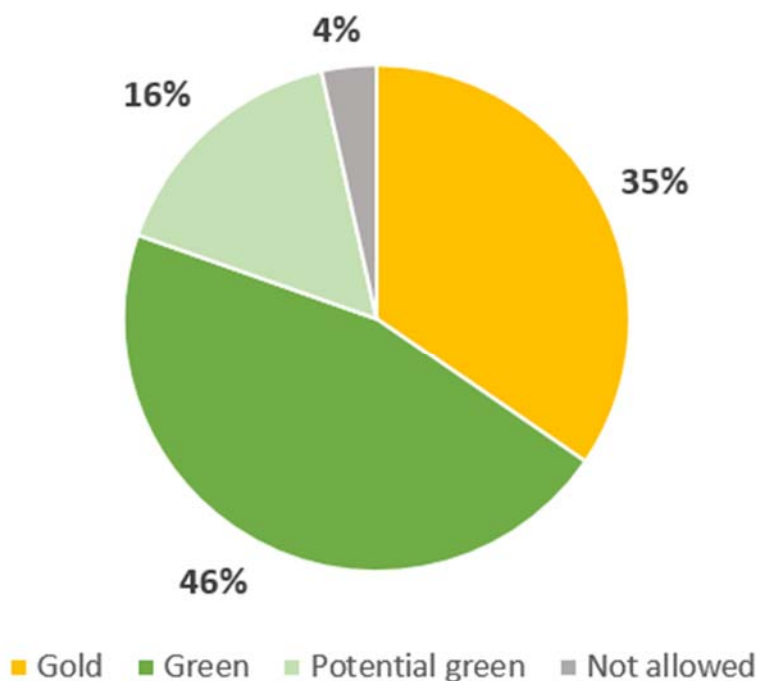


Figure 1: overall open access rates in 2013/14.

Lessons learned

The most immediate lesson learned was that ensuring a high level of open access deposit does take substantial work. In most cases, we needed to correspond directly with the author after publication, discuss exactly what version of a paper was required (and permitted by the publisher), and then ensure that was placed in the repository with the correct metadata. Deposit is substantially smoother for gold open access, but paying the APC is itself a time-consuming process, meaning that overall the process takes longer. A recent study at British universities suggested that it takes around two hours to ensure an article is made available as gold open access, when the time taken for financial processing was included, and slightly under an hour for green. The majority of this work falls on librarians or administrators

rather than researchers.¹⁸ While we did not record our time taken to make material open access, these figures do seem plausible.

However, this level of work is not insurmountable, particularly for a small institution, and the results do seem worthwhile. As open access becomes more routine for authors, and they become more familiar with the issues, it is likely that the time taken will drop. A number of initiatives are underway in the UK to simplify the processes involved, such as pre-payment schemes and centralised publication tracking; this will again help reduce the burden.

A more direct concern for many institutions is cost. Over the first sixteen months of the policy (ie, to the end of July 2014), BAS spent around £50,700 on APCs and £36,800 on other publishing costs (page & colour charges) – equivalent to around £38,000 and £27,500 per year respectively. The page and colour charges would likely have been levied in a ‘business as usual’ context, but the gold APC spend was still very substantial. Had we not had the block grant, this would have been a noticeable cost to our science budget. In keeping with standard practice at most other institutions, we adopted a policy that the lead author’s institution would pay any charges.

We encountered little resistance from researchers; most were broadly supportive of open access, and indeed one or two were concerned that the RCUK policy did not go far enough. The largest systematic problem we encountered was the difficulty in finding a suitable version of the article to deposit – most publisher copyright policies explicitly restricted this to the “author’s accepted manuscript” or “postprint”, the final version after peer-review but before the publisher had copyedited and produced proofs. In many cases, this simply was not available; in one or two cases, authors noted that the journal’s particular workflow did not mean there was an easy point at which such a document could be identified. This, understandably, sometimes caused frustration.

One continued minor irritation was around the issue of copyright licenses. The RCUK policy required the use of a Creative Commons Attribution license for gold open access.¹⁹ The majority of gold papers fell into this category, but around a fifth had an unsuitable Creative Commons license, or were simply “free to read” with no stated copyright license. In many cases this was due to journal defaults,²⁰ and when considering the journals as compliant with policy, we took the pragmatic position that open access with a notionally insufficient license was substantially better than no open access.

Usage of open access material

The most dramatic discovery was that open access really did have an impact on the volume of material being read. During 2012, the repository averaged around 1,000 downloaded papers per month.²¹ In 2013/14, this rose steadily to average over 2,000 papers per month, peaking at around 3,500 in May 2014.

¹⁸ <http://www.researchconsulting.co.uk/wp-content/uploads/2014/11/Research-Consulting-Counting-the-Costs-of-OA-Final.pdf>

¹⁹ This is one of the least restrictive licenses available. An outline of the various CC licenses is available at <https://creativecommons.org/licenses/>

²⁰ For example, *Polar Research* has a standard Creative Commons Attribution-Non-Commercial license

²¹ All download figures here are for BAS alone. The repository is shared with a number of other institutions and total download rates in the period will have been substantially higher.

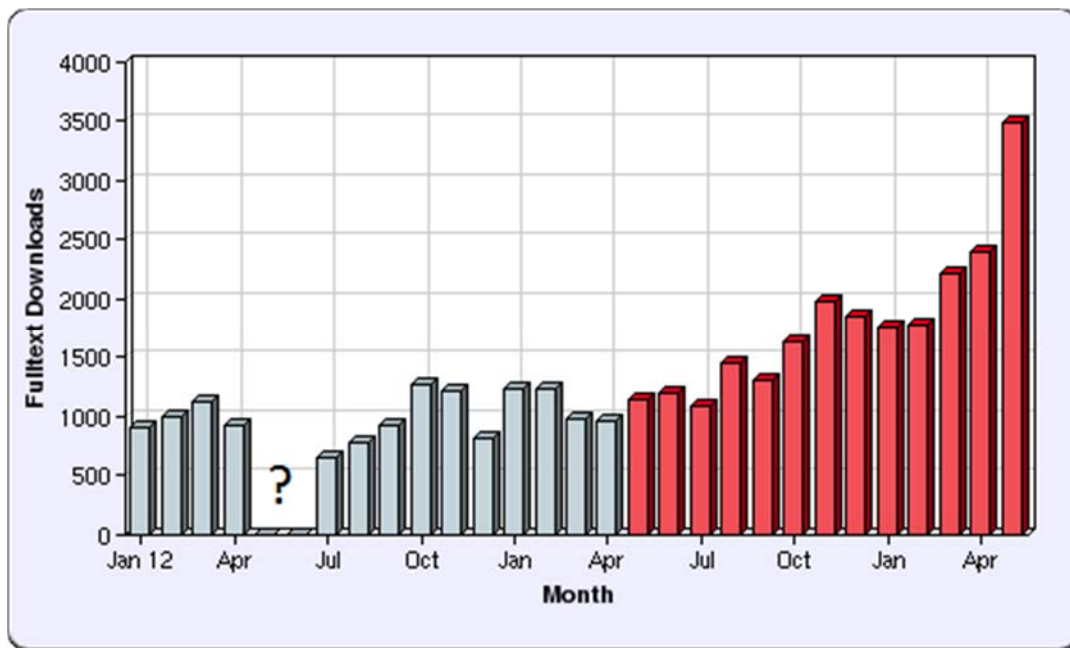


Figure 2: the effects of a push for open access on repository download rates. Months marked in red show the period after the policy came into effect. Data for May-June 2012 is not available

Over the one year period April-March, we recorded around 18,000 full-text downloads of papers. During the same time, only 154 people used the “request a copy” function for material not available on the repository. As the number of items without full-text documents available was substantially more than that with full-text, this strongly suggests that removing the barrier of having to request a paper can produce dramatically increased usage.

The most popular material was to do with climate change – unsurprisingly – but covered topics as diverse as environmental protection, geology, mapping, and policy issues. Some historic material was also well-used – a 1988 technical report on decomposition in soils was in the top 20 downloads. This highlights the breadth of the user base and the advantages of opening up older content.

We were also able to make some provisional observations about our readers. Due to the way in which the repository is shared among institutions, we could not produce any analytics relating only to the BAS material. However, we did have 154 emails from people requesting copies of papers, and it is reasonable to assume that in some way these were a proxy for the downloaders – both were seeking copies of our papers.

Demographically, these were split into the general public and researchers (including sometimes undergraduates) from institutions without access to the relevant journals. Public interest was wide-ranging but most strongly focused on climate science, and sometimes came in bursts – in one case, we had three requests for the same paper within a couple of days – which suggests it may be driven by news stories or online discussions.

The majority of emails came from researchers with an obvious institutional affiliation, but who, presumably, did not have institutional access to the papers. At least 32 countries were represented in these emails,²² and the most active ones (the United States, United Kingdom, India, Argentina, China, Brazil, and France) were all, unsurprisingly, countries with active Antarctic research communities.

However, there were also requests for papers from as far afield as Vietnam, French Polynesia, or Zimbabwe – none of which are areas that might immediately be associated with polar research.

²² Not all correspondence came from a national domain, or included an institutional affiliation, so the number may have been higher.

Future implications for polar research

Our experience with open access highlights a number of issues that are particularly relevant for polar research.

Firstly, polar research starts from a difficult position with regard to the journals system. This is a very heterogenous field, covering academic disciplines as varied as geology, biochemistry, and space physics, and the majority of research is published outside of explicitly “polar” or regionally-focused titles.

As a result, institutions with a polar focus may find it particularly difficult to support the wide range of journal subscriptions needed to support the diverse interests of their researchers, especially when they only have a relatively small group working in a particular field. An institution with only two or three geologists, no matter how wealthy, will find it difficult to justify the expense of paying subscriptions to a range of geological titles for just this group.

Secondly, polar research – particularly Antarctic research – is unusual in its global distribution. Antarctic scientific output is perhaps unsurprisingly dominated by a small number of relatively wealthy Western nations – over the period 1980-2004, 50% of scientific papers came from the US, UK and Australia²³ – but there are active Antarctic research and policy communities in a wide range of non-Western countries. This is particularly true in Latin America, where Argentina and Chile are particularly active in the Antarctic Treaty System – indeed, second only to New Zealand in the number of ATCM working papers when adjusted for GDP.²⁴ Overall, there are 50 states party to the Antarctic Treaty, of which around half would be regarded as “developing countries” by the International Monetary Fund.²⁵

The problems of access to the scientific literature in the developing world are well reported; many commercially published journals are simply inaccessible to researchers not affiliated with wealthy institutions. Open access publication has been often suggested as a solution to both the access problem, and the corresponding problem of increasing the visibility of publications from these countries.²⁶ As polar research involves a larger proportion of non-Western researchers than many other fields, it may correspondingly benefit more from the shift to open access.

Taken together, it seems that polar research is in an interesting position as regards open access. Because it is multidisciplinary, the existing systems for providing journal access, even when well-resourced, do not always provide the level of access that might be required. Because it is geographically diverse, a large proportion of the community cannot access material published in subscription journals. Both of these can be mitigated or resolved by the use of open access, and polar science may benefit from it more than many other scientific fields.

Finally, as noted earlier, polar science is inherently multidisciplinary. Research can often have implications or applications in a wider context, and is often of substantial public interest. The use of open-access methods increases discoverability and accessibility, and can help make this research visible to readers outside the existing polar science community – we saw hints of this with the diversity of enquiries for papers. Open access offers the opportunity to make all research visible to all scientists and to the general public, helping break away from a niche mentality within fields. For a field like polar science, with a seemingly narrow remit, this openness can help integrate it further into the multidisciplinary approach needed by modern earth systems science.

²³ Dastidar 2007 - <http://www.polarresearch.net/index.php/polar/article/view/6229>

²⁴ Dudeney & Walton 2012 - <http://www.polarresearch.net/index.php/polar/article/view/11075>

²⁵ Three more have since been added – Iceland, Mongolia, and Kazakhstan all ratified the Antarctic Treaty in 2015. Including these would maintain the approximate 50:50 split.

²⁶ See, for example, Chan et al 2005 - <https://tspace.library.utoronto.ca/handle/1807/4415> ; Suber & Arunachalam 2005 - <https://dash.harvard.edu/handle/1/4725025> ;

Strategic Environmental Impact Assessment of Development of the Arctic

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(Adam Stępień now at Arctic Portal, Akureyri, Iceland)

The EU Arctic Information Centre initiative

The EUAIC initiative is based on a long line of European Union Arctic documents, starting from 2008. The European Parliament resolution (March 2014) on the Arctic Strategy for the EU supports the establishment of the EU Arctic Information Centre as a networked undertaking with a permanent office in Rovaniemi and urges the Commission to proceed swiftly on the establishment of the EU Arctic Information Centre after the results of the Preparatory Action project on the Strategic Environmental Impact Assessment of Development of the Arctic.

The ultimate vision is to contribute to the sustainable development of the Arctic by creating an active pan-European network of institutions that represents a substantial Arctic knowledge base. Rapid development of the Arctic, together with complicated political, socio-economic and environmental processes, will demand an effective use of science-based information and pro-active work by relevant communication and research centers to guide the decision- and policy-makers to swift and coherent actions.

The basic idea of the initiative is to enhance use of information regarding the Arctic by improving access to information, by improving outreach and communication, by enhancing dialogues between the EU institutions, Arctic stakeholders and the general public and by producing requested information materials. The means for such communication are popularization and translation of materials, mediation, facilitation and moderation of communication.

Strategic Assessment of Development of the Arctic - an Assessment Conducted for the European Union

In December 2012 the European Commission approved preparatory project for EU Arctic Information Centre for a consortium led by the Arctic Centre, University of Lapland (Rovaniemi, Finland) to carry out an one million euro project to produce a “Strategic Environmental Impact Assessment of development of the Arctic”. The project lasted eighteen months during 2013–2014.

The project was implemented by the European Union Arctic Information Centre (EUAIC) initiative – the international network of 19 leading Arctic research and outreach institutions from the various European Union Members States, and the EEA countries.

The network included members from Belgium, Finland, France, Germany, Iceland, Italy, the Netherlands, Norway, Poland, Sweden, the United Kingdom as well as Sámi. Additionally, three international Arctic organizations based in Europe (European Polar Board of European Science

Foundation, GRID-Arendal and the University of the Arctic Thematic Networks) constituted important members of the partnership.

The project aimed at enhancing understanding of EU's role in the region. So the focus was in the European Arctic (Greenland to the Urals).

The aim of the project was to establish dialogues and a true application of information and knowledge for sustainable development in the Arctic. This was achieved by identifying and accumulating relevant high quality scientific information and data in applicable formats and by securing stakeholders' ownership and inclusion in the project. Therefore the aim was to **bridge Arctic knowledge into action**.

The feasibility of this approach was tested and demonstrated by implementing an **integrated impact assessment through a consultancy process** based on a compilation and integration of already existing information and data. The project identified the users' needs, assessed if scientific and policy information is relevant and legitimate for its users, and if not, recommended how to improve the processes in order to produce the required information.

Efficient use of information is central for the implementation of sustainable development. By distributing the information efficiently and engaging different interest groups in the production of knowledge, the **knowledge base of decisions** can be enhanced. At the same time awareness, understanding and trust towards different perspectives and values is increased, which can also increase the acceptance of certain decisions.

This project was not aiming at new research. Instead, the goal was to compile the existing latest information related to impacts on development in the Arctic into popularized formats, use it in consultation meetings and prepare reports from the results of the consultations followed by recommendations.

The Preparatory Action project was a first step to strengthen communication and outreach within the EU and between the EU and the Arctic community about the contribution the EU is making to address issues raised by the rapid development of the Arctic region. It was a case study to test the effectiveness, functionality and sustainability of the proposal by the consortium to establish an EU Arctic Information Centre.

The project also enhanced the use of impact assessment and raised its importance as a tool and a channel to put together information for the use of decision- and policy-makers and the related legal processes. The key idea of the Preparatory Action project was to create an efficient application of science-based information and its fulfillment with views and perspectives of stakeholders both inside and outside of the Arctic.

This project provided an opportunity to:

- Increase awareness, understanding and knowledge about the Arctic and its changing political, socio-economic and environmental landscape
- Comprehend the impact of the EU policies on the future of the Arctic region
- Participate in and benefit from multidimensional dialogue and information exchange between the EU and civil society
- Test the effectiveness and sustainability of the network and assess the European Union Arctic Information Centre initiative

Project organization

The Preparatory Action project was implemented by a number of experts from all 19 partner institutions. The operational core of the project was **Implementation Group (IG)** of 4 experts (Project Leader, Senior Communication Expert, Senior Impact Assessment Expert, Impact Assessment Expert, Project Manager) serving as the ultimate decision-making body at the executive level. Each expert was responsible for a separate Work Package and Team assigned:

WP 1 EU Arctic Information Centre Feasibility Study – *Project Leader*

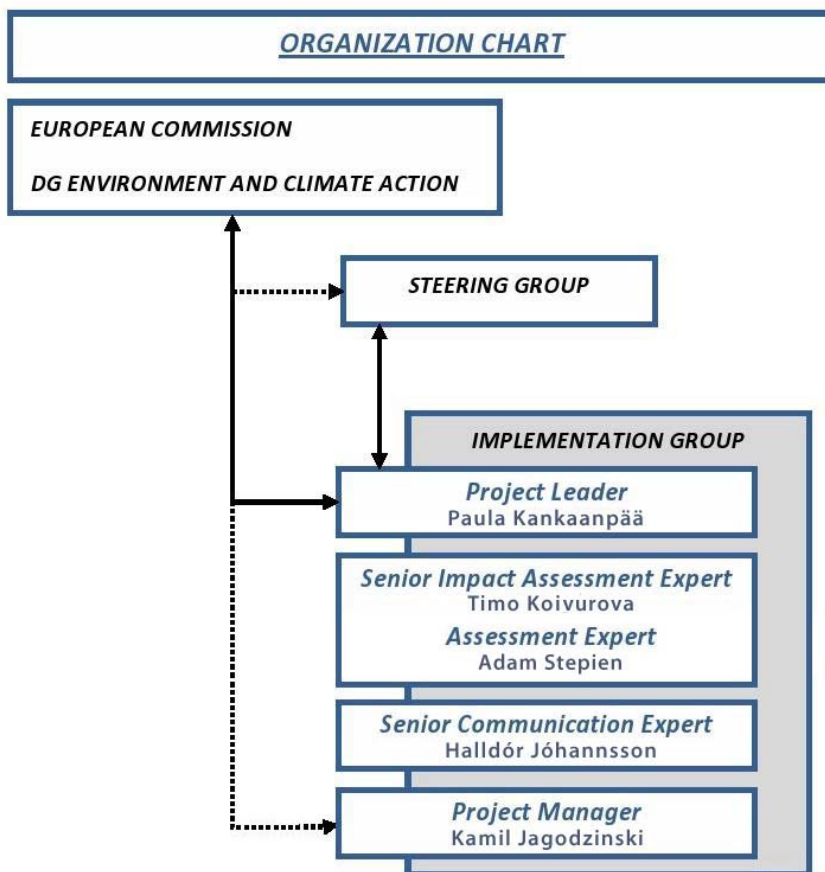
WP 2 Impact Assessment Process – *Senior Impact Assessment Expert, Impact Assessment Expert*

WP 3 Outreach & Communication – *Senior Communication Expert*

WP 4 Project Management – *Project Manager*

Implementation Group was supported by **Steering Group (SG)** that monitored the implementation of the project plan and controlled the operation in accordance with the Service Contract. SG ensured the availability of broad expertise and therefore contributed to the overall success and high quality of the intervention.

The organization chart shows the structure of the project



WP 1 - EU AIC Feasibility Study

Project Leader: Paula Kankaanpää, Arctic Centre

The feasibility study was fundamental for the next steps towards the establishment of the EUAIC. The gained experiences in this respect are unique and of the highest value for the EU institutions in figuring out the function of such a network.

WP 1 was designed: to consolidate information on the EU and its Member States' activities in the Arctic; to utilize and test the effectiveness and sustainability of a network of leading communication, policy, research centres and universities specializing in Arctic issues; and to assess the feasibility of establishing an Arctic Information Centre based on this network.

Furthermore, WP1 identified potential providers, users of the information in the EU and in the Arctic, needs of the general public regarding information on the Arctic, and gaps in the existing provision of information.

Main activities

1. Developing Arctic Initiatives Compendium

Led by Björn Dahlbäck, Swedish Polar Research Secretariat and implemented by Scott Polar Research Institute - University of Cambridge, European Polar Board of European Science Foundation, Alfred Wegener Institute, Tromsø Centre of Remote Sensing.

2. Performing Gap Analysis

Led by Elizabeth Tedsen, Ecologic Institute and implemented by Sámi Education Institute, National Research Council of Italy, Tromsø Centre of Remote Sensing.

3. Network feasibility analysis

Led by Paula Kankaanpää & Kamil Jagodziński, Arctic Centre and implemented by all partners together with the Steering Group.

4. Performing a Workshop in Rovaniemi

Led by Paula Kankaanpää & Kamil Jagodziński, Arctic Centre and supported by all partners.

WP 2 - Impact Assessment

Senior Impact Assessment Expert: Timo Koivurova, Arctic Centre

Assessment Expert: Adam Stępień, Arctic Centre

The project assessed the chosen impacts of development in the Arctic and of EU policies affecting the Arctic region and provided information on such impacts for use by decision- and policy-makers including the role of impact assessments.

The Work Package also aimed at strengthening information exchange between EU institutions and Arctic stakeholders, including civil society, and contributed to the assessment activities of the Arctic Council.

Main activities

1. Developing Preparatory Action Impact Assessment Methodology & Report

The methodology work was led by Timo Koivurova & Adam Stępień , Arctic Centre and implemented by Ecologic Institute, GRID-Arendal, Ecorys, Tromsø Centre of Remote Sensing, Fram Centre.

2. Carrying out impact assessment process

The first part of the assessment process was developing [factsheets](#) of the seven themes that were chosen for the assessment. The factsheets were produced as a background material for consultations with Arctic stakeholders:

- Climate Change in the Arctic
- Changes in Arctic Maritime Transport
- Changing Nature of Arctic Fisheries
- Developing Oil and Gas Resources in Arctic Waters: The Final Frontier?
- Activities Affecting Land Use in the European Arctic
- Mining in the European Arctic and Social
- Cultural Changes in the European Arctic

In the process, a series of factsheets had been produced by the project experts (still available at www.arcticinfo.eu), basing on which stakeholder consultation in the form of hearings, workshops and online questionnaire were conducted.

The second part of the assessment process was carrying out stakeholders consultations.

3. Concluding impact assessment process.

The concluding work was led by Timo Koivurova & Adam Stępień , Arctic Centre and supported by Fram Centre.

4. Performing Final Workshop in Brussels, under leadership of Joseph Cheek, International Polar Foundation and supported by all partners.

WP 3 - Outreach and Communication

Senior Communication Expert: Halldór Jóhannsson, Arctic Portal

Work Package 3 - Outreach and Communication, for the Preparatory Action was developed to increase the awareness and dialogue of the project, and to identify the most efficient communication tools and channels for accessing and disseminating information and data on the project to and between EU policy makers, Arctic stakeholders and Arctic experts.

Main activities

1. Developing outreach and communication plan

Led by Halldór Jóhannsson, Arctic Portal and supported by Arctic Centre, International Polar Foundation, Ecologic Institute, Sámi Education Institute and GRID-Arendal.

2. Producing and operating project website www.arcticinfo.eu

The web site is an information site, a base for information access for the future EUAIC –initiative and an online forum for the dialogues as part of the assessment

The website production was led by Halldór Jóhannsson, Arctic Portal and supported by Sámi Education Institute and all partners.

3. Developing publicity materials

Led by Halldór Jóhannsson, Arctic Portal and supported by Arctic Centre, International Polar Foundation, Ecologic Institute and Sámi Education Institute.

Work Package 4 - Project Management

The project management supported the implementation of the scheduled activities and contributed to achieving the objectives of the project. The process of project management and coordination of the network was designed to ensure timely and effective implementation according to the given budget. Compared to many other projects this project was much more complex with multitude of information, wide network, many outputs and a large number of actors: experts, decision-makers and stakeholders both in the Arctic and in Europe.

All activities were led by Kamil Jagodziński, Arctic Centre, executed by Implementation Group, and Steering Group, and supported by all partners.

Role of stakeholders

Stakeholders were seen as a source of information to challenge expert understanding, to identify critical issues that need to be taken into account in decision-making and to expose the assessment experts (and the policy-makers) to diversity of views and values.

Stakeholders gave direction to assessment work by proposing ideas for recommendations for EU policy-makers.

Assessment was a space for dialogue between various groups of stakeholders and between stakeholders and policy-makers.

Over 1200 individual stakeholders were identified on the basis of assessment themes.

The stakeholders attended to the **structured thematic workshops** in Rovaniemi, October 2013 and Tromsø, January 2014. Those workshops focused on initiating discussion and acquiring collective inputs, common understandings.

The project also produced an **Online questionnaire**, that was open from October 2013 to February 2014. The questionnaire was designed to collect insights and ideas rather than for quantifiable data. The questionnaire focused on individual inputs to the themes.

Conclusions: Strategic Assessment of Development of the Arctic Report

The chosen key “thematic” findings of the project are

- **Climate Change:** In the Northern Fennoscandia, changes in snow cover, lake and river ice conditions are the most pronounced, rather than sea ice loss. There is increased need for adaptation actions.
- **Arctic maritime transport** remains dominated by internal and destination traffic, highly interlinked with extraction of Arctic resources. This is likely to be the case also in the next decades.
- **Fisheries**, a vital economic activity in the Arctic, are characterized by fluctuations that may be exacerbated by climate change.

- **Oil and Gas:** In the recent decade, the actual developments in offshore hydrocarbon exploitation have been slow and limited throughout the Arctic, with great differences between regions.
- **Socio-cultural development** in the North is characterized by tension between innovative and growing Arctic cities and thinning-out rural areas, experiencing demographic challenges.

The report shows that while it is clear that Arctic environmental and socio-economic changes are driven primarily by the demand for Arctic resources and climate change, the crucial role of regulatory frameworks and policy choices should not be overlooked. For instance, it is often forgotten that current hydrocarbon exploration is not a result of retreating sea ice but of administrative and political decisions. Similarly, the perceived mining “boom” in Fennoscandia, while primarily driven by global demand for minerals, is facilitated to a great extent by industry-friendly and stable regulatory and political environment that Nordic national and local governments wish to create. These developments need to be seen against a variety of social trends in the North, including the interconnections of growing Arctic cities and thinning-out rural areas, gender and age imbalances, increasing tensions between various activities taking place in the Arctic landscape as well as environmental impacts.

Despite the often stated claims, it is far from certain that opportunities connected with climate change – in terms of maritime transport, fisheries or resource extraction – will balance out or even outweigh the climate impacts and risks. While climate change already adversely impacts Arctic environment and landscape, it has a restricted role in triggering Arctic economic developments.

The report accentuates that EU policies and actions play a major role in the Arctic, particularly in the European Arctic. It is often forgotten that the scope of the Arctic-relevant EU policies goes well beyond much discussed EU Arctic policy documents and includes both external and internal dimensions. EU regulatory framework is applicable to Finland and Sweden, but also partly to Norway and Iceland owing to the European Economic Area Agreement. Some Arctic actors seem to overlook the fact that the overwhelming influence the EU exercises in the European Arctic and the broad scope of Arctic-relevant internal policies makes its position in the region very different from that of powers such as China or India. Moreover, to appreciate fully the EU’s standing in the region, one needs to take into account numerous EU cooperation and research programmes, policies which shape the EU’s Arctic environmental and economic footprint as well as the EU’s influence on international processes of relevance for the Arctic (for example the Polar Code or CITES).

One must keep in mind that there is a comparatively limited interest in the Arctic affairs within the EU. Taking into account the EU’s role in the region, sustaining an ongoing long-term commitment of the EU to the Arctic affairs and sensitizing the EU policy-makers to Arctic particularities is in fact in the interest of Arctic communities, nations and stakeholders and should be encouraged rather than discouraged.

It seems inevitable that the EU policy-makers will have to keep balance between the internal and external aspects and look for golden mean between the extremes of artificial coherence and failure to coordinate. However, what is also important is that the EU communicates clearly when its actions refer to EU’s internal or external affairs and to the European Arctic or circumpolar level. That is not always the case in the current EU policy documents.

Building on ideas coming from stakeholders, the report offers a number of recommendations for the EU policy-makers. The EU is encouraged to continue and strengthen investing in knowledge and better understanding of Arctic change. As the diversity within the Arctic region needs to be taken into account, the EU should pay special attention to the European Arctic, where it has the greatest leverage and the capacity to make a difference. Owing to this direct presence in the European Arctic, the EU’s position as an Arctic actor is very different from that of China’s or India’s. Especially in the circumpolar context, the

EU should continue to see cooperation with Arctic partners as a key priority and the Arctic as a continued space for international and regional co-operation, despite emerging challenges elsewhere.

Apart from suggestions regarding overall EU policy, the report provided a number of recommendations for each of the themes. For instance, the EU is urged to develop instruments specifically addressing the needs of Arctic cities. Although relatively small in size, northern towns play a role similar to that of major population centres in central Europe. The policy-makers should also continue to facilitate entrepreneurship and innovation (including social innovations) in the region, but with increasing focus on women and dynamic indigenous youth. A greater attention to intra-regional connectivity rather than only North-South links is needed, as it contributes to building northern knowledge- and entrepreneurship-based economies.

A separate chapter in the report analyses various activities relevant for the land use in the European Arctic, highlighting cumulative impacts as well as both tensions and synergies between developments. In the light of these tensions, properly designed mechanisms for resolving conflicts are crucial, as the social capital is founded primarily on trust both within and between communities. Improved and integrated impact assessments, especially if they include a strong social dimension, as well as participatory mechanisms are among the key suggested responses.

Publications of the project

- European Arctic Initiative Compendium
- Gap Analysis Report
- Assessments in Policy-Making: Case Studies from the Arctic Council
- Network Feasibility Analysis
- Strategic Assessment of Development of the Arctic

All reports are available at www.arcticinfo.eu

Stępień, Adam, Timo Koivurova, and Paula Kankaanpää (eds). *The Changing Arctic and the European Union: A Book Based On the Report "strategic Assessment of the Development of the Arctic : Assessment Conducted for the European Union"*. Boston: Brill Nijhoff, 2015. 335 p. ISBN 9789004303171

Reference

Part of the text has been retrieved from: Stępień , Adam (2014). Strategic Assessment of Development of the Arctic: Assessment Conducted for the European Union – *The EU-Arctic Nexus and a More Balanced Picture of Arctic Developments for the European Audiences. Arctic Yearbook 2014.*

Altmetrics: A New Way of Looking at Research Impact

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Introduction

With the advent of social media, researchers and funding agencies are turning to altmetrics to gauge the impact of scientific research. As with all new ideas or processes, questions of trust, authority, and accuracy arise. Other questions include exactly how to gather these metrics, whether to use them in conjunction with traditional metrics and if so, how, and finally, how to persuade funding agencies, university faculty, and even other researchers of altmetrics' validity. However, this paper will not answer these questions, but it will discuss various aspects of tracking metrics to measure research and science impact

Last year one of the product owners at the National Snow and Ice Data Center requested a list of research papers which referenced a specific group of data sets. The scientists and primary investigators needed the information for a meeting with their funding agencies. Using keyword searches in Google Scholar and Web of Science, the librarian gathered a list of papers which mentioned the data sets in question over the last twelve months. After receiving the compiled list, one of the primary investigators complained that a paper that he knew had used his data was not included. He had learned of the author's use through social media; however, the author had failed to cite the use of the data in the published paper. Without proper mention or even an inclusion in the text, there was no traditional method to know about the use of data.

This event triggered a discussion with the product owner, who in turn discussed it with others on the product team including the funding agency manager. The final decision was to continue to use only citations to demonstrate the impact of data sets and not include altmetrics. It seems, however, that counting citations is now "old school." The age of using social media to measure research impact is here, and those who have a vested interest in measuring data impact must find a way to persuade those who will balk.

In the last four years, altmetrics has rocketed its way to the top of the "hot" information topics. About three weeks ago, the National Information Standards Organization (NISO) sent an email to the various list serves with a white paper on altmetrics and the possible need for standards. In June, 2014, a panel of experts from Altmetric.com and NISO provided attendees at the American Libraries Association conference with information on article level metrics and how they might be used. Altmetrics is no longer a new idea coined by social media savvy information specialists; instead, it is a serious concept rapidly developing an impact in research and academia. While traditional methods continue to populate the reports to the tenure committees and funding agencies' approval committees, altmetrics is gaining in acceptance and respectability.

Traditional Research/Scientific Impact Measures

Traditionally, researchers, students, academic institutions, and librarians (on behalf of these) have used various methods to determine the impact of published scientific results on new research. These methods include journal impact factors, the h-index, and citation counts.

The Journal Impact Factor measures the number of times a journal's articles have been cited. If your paper is published in a journal with a high impact factor, the assumption is your paper has more authority than if it was published in one with a lower impact factor.

The h-index, or Hirsch index, measures the impact of a scientist's publications. Having an h-index of 6 means that the scientist published 6 papers, each of which received 6 citations from other authors. The major citation databases calculate a scientist's h-index; however, you might have to look at more than one database to get an accurate idea of a particular researcher's index number.

One of the most commonly used methods is citation counts. As with trying to find the h-index, searching multiple databases is key, whether you are trying to find the number of citations for a specific article or a specific person. If you do search multiple databases, you will find duplicates, which will need to be removed from the final analysis.

No matter the method you use, determining the possible impact factor of a journal article is basically straight forward, but for other products of research, i.e. data sets, videos, programming code, slides, etc., these methods are quite limited and time-consuming. Perhaps altmetrics can provide a better option for these types of scientific results.

Altmetrics – Definition & How They Work

The term altmetrics was coined in 2010. There are various definitions, but simply stated, the term refers to an alternative impact measuring tool using social media to garner article-level metrics. Wikipedia defines altmetrics as:

*... new metrics proposed as an alternative to the widely used journal impact factor and personal citation indices like the h-index. The term altmetrics was proposed in 2010, as a generalization of article level metrics, and has its roots in the twitter #altmetrics hashtag. Although altmetrics are often thought of as metrics about articles, they can be applied to people, journals, books, data sets, presentations, videos, source code repositories, web pages, etc.*²⁷

According to the altmetrics manifesto by Jason Priem, et al. established in 2010, the current methods of determining the impact of research, i.e., citation counts and the journal impact factor, are slow, easily manipulated, and don't work well with research outputs like data sets, code, video, experimental designs, etc. Altmetrics have a much faster turnaround than citations, and they apply to all types of research results, not just published papers.

What types of output are counted in altmetrics? Tweets, Facebook likes, and blog posts are the most common, with bookmarks included in some of the tools' searches. Researchers are using social media to communicate information about their research to a global audience. They create blogs or Facebook pages about their work where anyone interested in the research has access, including scientists, students, and the general public. Other researchers find these blogs or Facebook pages and comment or like or send a tweet to still other interested individuals, but how do information specialists collect all of these posts, likes, and tweets? Once collected, how do these specialists analyze and share that analysis with their user base?

The Tools

In the short four years since altmetrics came onto the scene, publishers, librarians, and scholars have developed several tools to gather and understand the research impact indicated by altmetrics. These

²⁷ <http://en.wikipedia.org/wiki/altmetrics>

various tools generally work in the same manner: they search the Internet for the keywords supplied by the analyst and then they produce a report based on the search results. Where these tools differ is in the types of metrics gathered and the formats of the reports they generate. The following is a list of tools and a description of each found on altmetrics.org.

- ImpactStory²⁸ is a Web-based application that makes it easy to track the impact of a wide range of research artifacts (such as papers, datasets, slides, research code). The system aggregates impact data from many sources, from Mendeley to GitHub to Twitter and more, and displays it in a single, permalinked report.
- ReaderMeter²⁹ is a mashup visualizing author-level and article-level statistics based on the consumption of scientific content by a large population of readers. Readership data is obtained via the Mendeley application programming interface. Reports are available both as HTML and in a machine-readable version as JavaScript Object Notation and are released under a Creative Commons Attribution-ShareAlike 3.0 license.
- ScienceCard³⁰ is a website that automatically collects metrics (citations, download counts, altmetrics) for a particular researcher. All the researcher has to do is provide a unique author identifier such as AuthorClaim or Microsoft Academic Search ID.
- The PLoS Impact Explorer³¹ allows you to browse the conversations collected by altmetric.com for papers published by the Public Library of Science (PLoS).
- PaperCritic³² offers researchers a way of monitoring all types of feedback about their scientific work, as well as allowing everyone to easily review the work of others, in a fully open and transparent environment.
- CrowdoMeter³³ is a web service that displays tweets linking to scientific articles, and allows users to add semantic information. CrowdoMeter uses a subset of the Citation Typing Ontology (CiTO), an ontology for the characterization of citations, both factually and rhetorically. The results of this crowdsourcing effort are displayed in real-time.

Besides the above, other tools and applications such as Altmetric.com, Plum Analytics, and PeerEvaluation also provide help with using altmetrics.

- Altmetric.com³⁴ is a recent start-up that offers several products to publishers, institutions, and researchers to help them measure the impact of their scholarly research and papers. Their products are Altmetric Explorer for Institutions, the Altmetric API, Bookmarklet (free), Altmetric Explorer, and Altmetric Badges. All of these help you track metrics on current research articles. Altmetric.com provides three types of licensing plans: Academic, Commercial, Data or embeds. Altmetric.com may not help track tweets, blog posts, etc. for alternate research outputs.
- Plum Analytics³⁵, part of EBSCO Information Services, gathers and reports on metrics for over twenty research artifacts, including datasets, books, blog posts, videos, etc. Although similar to ImpactStory and other tools, Plum Analytics has a definite market advantage due to its acquisition by EBSCO. Pricing information is available through the publisher.

²⁸ <http://impactstory.org/>

²⁹ <http://readermeter.org/>

³⁰ <http://sciencecard.org/> [no longer in operation as of 2016]

³¹ <http://altmetric.com/interface/plos.html>

³² <http://www.papercritic.com/>

³³ <http://crowdometer.org/> [no longer in operation as of 2016]

³⁴ <http://www.altmetric.com/>

³⁵ <http://plumanalytics.com/>

- PeerEvaluation³⁶ is an organization that advocates Open Access to data, articles, and media. They provide a forum for reviews and discussions by peers. Altmetrics is a smaller part of their focus, but it is a part of what they do. Registration is required to learn more.

These are to name just a few. There are a number of tools and products that are subject-specific, focusing on altmetrics in just one or two fields of study.

Pros and Cons

Understanding altmetrics requires a knowledge of what is good and not so good about them. One of the biggest pros is the speed of gathering the data to prove (or disprove) research impact. Other positive aspects is the diversity of the types of measurements (TWEETS, blog posts, etc.), and the variety of research artifacts included in the results: papers, videos, data sets, etc. One might also argue that altmetrics is a better tool for measuring research impact because of the wider audience and all of the different formats. When scientists put their research on the internet, anyone can find, comment upon, and use the research. Published papers are often restricted to those who subscribe (or whose institution subscribes) to the journal in which the paper is published, sometimes limiting other scientists' access to the data and process in the research paper. One last pro for using altmetrics are the tools developed to gather and determine the impact research might have on continued scientific endeavors. According to Sud & Thelwell (2014),

Similarly, if it [is] mostly the public that tweet about articles in a particular subject (e.g., health or astronomy) then Twitter-based altmetrics for this subject may indicate the societal impact of articles to some extent (see also Desai et al. 2012). Hence, altmetrics indicating a type of impact ignored by traditional citation metrics would be particularly valuable to those seeking to assess the quality or utility of research as broadly as possible.

So why not use altmetrics to determine research impact? Paradoxically, some of the above reasons work against altmetrics.

If your focus is strictly on the scientific impact of research, having metrics that mostly indicate educational or societal impact fail to fulfill your needs. Due to the nature of the internet, altmetrics could easily be manipulated or gamed, thus invalidating the impact measurement. Another negative for using altmetrics to determine research impact is the lack of authority or relevance as seen by funding agencies and universities.

As with any metrics, there is the chance of manipulation, false hits, and skewed numbers, and one just needs to apply common sense and professional judgment when reporting the numbers from altmetrics or citation counts. An example of how easily metrics are skewed or manipulated occurred a few years ago when peer-reviewed open access journals published by Copernicus Publications entered the scientific world. Each journal has two titles, one a discussion journal where submitted papers are first published and the final journal where the reviewed paper appears. If you search for citations in Google Scholar, you find two separate citations: one for the discussion version and the final, reviewed version. We could easily record both citations, doubling the numbers for a given data set, skewing the impact factor. Something similar can (and probably will) happen with tweets, Facebook likes, etc.

One of the biggest stumbling blocks, besides choosing which tool to use, is convincing funding agencies or promotion committees or others that these metrics are valid and represent actual research impact. However, as more publishers, universities, and professional organizations use altmetrics, their validity and value in measuring scientific impact increases, improving the chances that government agencies

³⁶ <http://peerevaluation.org/>

might accept this type of measurement in the future. Until altmetrics becomes a valid resource for measuring research impact, funding agencies will continue to prefer the standard methods: citation counts, h-index factors, and journal-impact numbers.

Finally, it's just hard to gather the metrics and harder still to analyze them, even with the tools available.

Who's Jumping On Board?

The altmetrics movement has quite a few adherents from diverse organizations, universities, and publishers.

University libraries are providing information on altmetrics, usually included on citation analysis guides. These pages include links to the tools, to the relevant web sites, and sometimes to the Altmetric.com Bookmarklet tool. Three examples are the University of Michigan Library,³⁷ Johns Hopkins Sheridan Libraries,³⁸ and La Trobe University Library.³⁹

Publishers are also approaching altmetrics in a myriad of ways: using Altmetric.com tools, working with various universities, organizations, and publishers to help establish standardized metrics and best practices, and providing information on altmetrics on their web sites. Two examples are Elsevier⁴⁰ and PLoS.⁴¹

National professional organizations are addressing altmetrics as well. Both the Association of College and Research Libraries (ACRL), a division of the American Library Association (ALA), and the Association for Information Science and Technology (ASIS&T) have published research papers on altmetrics, as well as produced webinars and presentations. The National Information Standards Organization is working on standards for altmetrics and have written a white paper detailing the steps they have already taken and plan to take.

Conclusion

More and more, funding agencies want to know that the data they paid a researcher to gather is being reused and the science of the research is beneficial to the advancement of knowledge and future scientific research, and institutions and data centers want their information specialists to track that usage.

At NSIDC, the librarian has traditionally tracked all citations for its data set products. Over the years, how she finds those references has changed. With the advent of scientific collaboration occurring more often through social media, compiling a complete list of data set usage becomes even more complicated. In the last ten years, counting citations takes about a third of one FTE annually and is labor intensive. The time already spent searching for mentions of the data in acknowledgements, citations, data set names buried within a paper, that adding to the types of metrics and the number of places to search seems overwhelming. However, as the use of altmetrics spreads through the scientific and academic world, reporting those metrics might become more vital to the funding agencies, etc.

³⁷ <http://guides.lib.umich.edu/content.php?pid=98218&sid=3571800>

³⁸ <http://guides.library.jhu.edu/altmetrics>

³⁹ <http://latrobe.libguides.com/content.php?pid=460592&sid=3813630>

⁴⁰ <http://www.elsevier.com/journal-authors/authors-update/issue-3/altmetric-for-scopus>

⁴¹ <http://article-level-metrics.plos.org/alt-metrics/>

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On the Road with Richard E. Byrd: the films of the “Discovery” Lecture Tour

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Abstract

In 1933-1935, Richard E. Byrd went to Antarctica for the second time. Buoyed from the success of his first expedition of 1928-1930, Byrd returned to Antarctica with an expanded scientific agenda. Many branches of science were represented including biology, meteorology, geology, geography, aerial exploration, oceanography, seismology, and terrestrial magnetism. Many “firsts” in the history of Antarctic exploration were achieved by the Second Byrd Antarctic Expedition. While still reliant on dog sleds, this was the first Antarctic expedition on which long-distance automotive transport proved to be of practical use. The first radio broadcast from Antarctica to the rest of world was on February 1, 1934. This expedition was the first to make seismic investigations of Antarctica, providing evidence as to the extent of whether the Ross Ice Shelf is aground or afloat. Byrd’s status as a national hero was reinforced upon the conclusion of BAE II, and Byrd was highly sought on the public lecture tour circuit.

The Ohio State University acquired the Papers of Admiral Richard E. Byrd in two accessions, the first in 1985 and the second in 1990. Prior to the repository receiving the collection, the materials had been housed in a variety of places, including several warehouses and a barn, and had been moved periodically, resulting in disorganization and a hazardous preservation environment. OSU received a grant from the U.S. Department of Education for the processing of the Byrd Papers, which took place over a two-year period from November 1, 1992 through October 31, 1994. Due to limitations of the funding, the primary focus of the processing was on the paper documentation and still images. Films received only cursory attention, and were inventoried according to information on the canister or contained within the canisters. No cleaning, repair or rehousing of film elements was undertaken at this time. Consequently, films in advancing stages of deterioration continued to deteriorate, many beyond the point of preservation. Despite the odds, some film elements survive.

A thorough analysis of the film elements in the Byrd collection was undertaken from May – July 2012. Unfortunately, the news was not good. We found that many of our films, both nitrate and acetate, were in the advanced stages of decomposition, with no possibility of preservation. The *Discovery* Lecture Film Series was originally comprised of a total of 28 reels of film. Of these 28 reels, only ten film reels have survived. In 2013, the Byrd Polar Research Center Archival Program was awarded a \$32,160 grant from the National Film Preservation Foundation for the preservation of these ten remaining films.

This paper will discuss the project from inception to completion, and will include details about the collaboration between the Polar Archives, New York University, The Ohio State University Libraries, the National Film Preservation Foundation, and the film lab, Cinema Arts. By the end of 2014, scholars, students, polar enthusiasts and the general public will have an opportunity to view the films – 79 years after their last showing in 1935!

Introduction

In 2011, Indiana University Bloomington (IUB) conducted a survey among its peer institutions. Home to at least 3 million sound and moving image recordings, photos, documents and artifacts, IUB collected information on the status of audiovisual holdings and digitization among other repositories in the country. In order to complete the IUB survey, it was necessary for the Byrd Polar Research Center Archival Program (BPRCAP) to conduct one of our own. This was a good opportunity to gather information in a more formal way about audiovisual holdings of the BPRCAP.

Our internal survey revealed a clear lack of progress in the digitization of our audiovisual holdings. Our largest and most frequently consulted collection, The Papers of Admiral Richard E. Byrd, includes 204 films and 529 audio recordings, in various formats. Twenty-four of the film items have been digitized, though these were produced from VHS viewing copies, not from the original film elements. While this improved access to these 24 items, this method of digitization does not result in a high quality reproduction, and is certainly not a preservation quality digitization. Of the 529 audio recordings, only six had been professionally digitized, amounting to about 1%. Meanwhile, the original media continue to deteriorate.

This problem is not unique to the BPRCAP. The CIC⁴² Preservation Officers Group drafted a document in November 2013, stating, "Our universities have large holdings of audiovisual media that reflect the entire history of recorded sound and moving images. Many are unique, documenting the history of our institutions and the research and scholarship upon which we stake our reputations; others were commercially produced but are not available in digital form." In the case of analog media, several challenges exist, not the least of which is the obsolescence of the media itself. Even if the film or audio has survived, for example, the equipment and expertise required to preserve it may be obsolete. It is most certainly expensive. Thus, digitizing the entire collection would not be feasible in the majority of situations. Given the general lack of good information about the film elements in our collections, we decided to focus our efforts in that area.

The meta-data about our films was scant, if at all. There are certain basic elements that are important when describing films, such as title, gauge (35mm, 16mm, 8mm) and composition of the medium (safety or nitrate). A shot list or other brief description of the content of the film is important. Our records rarely included all of these elements. The irony is that without these kinds of basic details, it is impossible to get funding for film preservation. Yet, most archivists and librarians are not trained in film preservation. Film work also requires specialized equipment. Film winders, viewers, splicers and take-up reels in the various formats are but some of the necessary items. Thus, archivists find themselves in a difficult place: no knowledge, skills or equipment to view and describe the film elements in our collections, yet no possibility of grant funding for film preservation without this basic information.

It was fortuitous that Lisa Carter, The Ohio State University Library's Assistant Director for Special Collections, Archives and Area Studies, had been a film curator early in her career. Lisa suggested that I contact the Moving Image Archiving and Preservation Program (MIAP) at New York University Tisch School of the Arts. Students enrolled in this 2-year program are required to complete a total of three internships: two semester-long part-time internships and one full-time summer internship. Quoting from the MIAP website, "Internships complement classroom learning by giving students the opportunity to develop their skills in practical settings and experience the culture of organizations, analyzing and comparing how different types of institutions approach the following: division of responsibilities between job functions titles, workflow considerations, user/client relations, financial strategies, day to day operations and long term planning." Further, "internships should fulfill the following requirements:

⁴² Headquartered in the Midwest, the Committee on Institutional Cooperation (CIC) is a consortium of the Big Ten member universities plus the University of Chicago. See: <http://www.cic.net/about-cic>.

collections management, restoration/preservation and/or vendor relations; video, and film.” A film intern placement at the BPRCAP seemed like a mutually beneficial solution.

The process to arrange an intern opportunity with MIAP was straight forward. I submitted a brief proposal outlining the project. It was approved by the administrators at MIAP and circulated among their students seeking summer internships. Consequently, an intern was placed with the Byrd Polar Research Center Archival Program. Kristin MacDonough joined us in May 2012 for a ten-week summer internship.

The Lifecycle of Film and Deterioration

Kristin’s first task was to examine all of the films in both the Byrd and Wilkins collections. The goal was to assess the physical condition of the films, with an eye toward determining what films were in the worst state of decomposition. Kristin looked at each and every reel of film in these two collections – 289 items!

There are some excellent resources available that can help in assessing the physical condition of film. We relied heavily on *The Film Preservation Guide: the Basics for Archives, Libraries and Museums*. Produced by the National Film Preservation Foundation in 2004, the guide is free and can be requested by mail, or downloaded from NFPF website (<http://www.filmpreservation.org/preservation-basics/the-film-preservation-guide>). Geared toward professionals in archives, libraries and museums without training in film preservation, the guide is written as a straightforward and practical tool.

Kristin prepared a thorough document in which she detailed the physical condition of the films, identifying many concerns. Working with film requires an understanding of the lifecycle of film and how it deteriorates. The following details were excerpted from the *Film Collection Assessment* prepared by Kristin MacDonough, June 2012.

Storage

Ideally, films should be stored on cores and lay flat in archival quality film cans. Similar to other media, best practices for the microenvironment include storage in archival quality boxes to limit the amount of moisture within the container. Regarding the macro-environment, materials should be stored cold with a maximum RH of 50%.⁴³ The Ohio State University Archives/Book Depository has a state-of-the-art stacks area with climate control. The temperature is kept at a constant 60 degrees F, and the humidity level is kept at 45%. Though films would benefit by even colder storage, this is an acceptable environment for long term storage.

Nitrate and decomposition

The International Federation of Film Archives (FIAF) has identified a five stage process of nitrate deterioration. In the first stage, decay begins with the fading or bleaching of the image. In stage two, the emulsion begins to soften. In stage three the nitrous acid starts to decompose the cellulose in the film base, causing the film to become sticky, and increasingly noxious odors are emitted from the film. At stage four, the film congeals into a solid mass; at stage five, the film reel begins to disintegrate into a brown and rust colored powder. When nitrate reaches the third stage or beyond, it cannot be duplicated.⁴⁴

⁴³ Peter Z. Adelstein. *IPI Media Storage Quick Reference*. Image Permanence Institute, 2009.

https://www.imagepermanenceinstitute.org/webfm_send/301

⁴⁴ “Base Polymer Decomposition.” *National Film and Sound Archive Australia*. Accessed May 29, 2012.

<http://nfsa.gov.au/preservation/handbook/base-polymers-and-decomposition/base-polymer-decomposition/>

Nitrate based film goes back to 1893, when Thomas Edison used strips of 35mm nitrate film for the kinoscope. The 35mm format was soon adapted for theatrical projection, and remains the industry standard today. Over time, manufacturers improved camera and projection equipment, but used the flammable cellulose nitrate plastic as a basic component of film stock until 1948, when the industry started phasing it out. Since 1952, no nitrate film has been manufactured in the United States.⁴⁵

Acetate and decomposition

After the fire hazard of nitrate was discovered, companies began producing films with an acetate base around 1909. These films were labeled "safety" or "safety film" along the edge and subsequent nitrate base films produced thereafter were labeled "nitrate" or "nitrate film." In 1923, Kodak introduced the 16mm format, which was primarily produced with an acetate base and later polyester base.⁴⁶ 16mm was never produced on nitrate.

In early stages of acetate decay, a chemical change occurs where the acetate in the plastic base of the film reacts to the moisture in the air and begins to separate from the cellulose. This occurs most often in heat and high humidity, which accelerates the chemical process. The acetic acid released produces a vinegar smell leading to the nickname of vinegar syndrome. Again, this is in the first stages of deterioration and in many cases, the film can still be preserved. Advanced deterioration of acetate is demonstrated by different forms of warping described as curling, buckling, fluting, twist, spoking, and embossing.⁴⁷ The film becomes brittle and the emulsion starts to separate from the base and begins to crack or flake off.

Vinegar syndrome is contagious. The acetic acid in the environment will affect other films nearby and increase the rate of deterioration. This makes small and enclosed spaces more detrimental to the film within.

Polyester film

Polyester film was released in the early 1950s, and it has also indicated signs of mechanical damage over time, though oft times the damage is minimal, and in some cases non-existent. This is because the inherent strength of polyester is greater than acetate or nitrate. If the film is stored coiled in the same direction for a long period of time, it will develop a high degree of curl in this direction. This can be adjusted by alternating the wind every so often. Similar to acetate and nitrate though, deterioration of the emulsion and base does increase when the film is stored in high temperatures and high humidity.

Mold, Mildew, and Fungus

When mold, mildew, or fungus is present, it is first apparent as small white spots along the reel. The mold starts on the outer rim of the film and works its way into the emulsion. If recognized early on, the growth can be removed by cleaning and proper storage. Advanced mold growth is seen as a web-like pattern on the reel. At this point, the organisms have likely begun to consume the emulsion, leading to irreversible image loss.

Unfortunately, our collection had films displaying all types of the above described decomposition. 29 reels of film were so badly deteriorated, they could not be saved and were deaccessioned from the collections and disposed of. Many of the damaged reels were nitrate based. Due to its flammable nature, nitrate film is considered hazardous waste, so disposing of it is not as simple as throwing it in

⁴⁵ National Film Preservation Foundation. *The Film Preservation Guide*, 2004, pp. 6-7.

⁴⁶ "Chronology of Motion Picture Films." *Kodak*. Accessed May 29, 2012.

http://motion.kodak.com/motion/products/chronology_of_film/index.htm

⁴⁷ "Technical Information: Handling of Processed Film." *Kodak*. Accessed May 29, 2012.

http://www.motion.kodak.com/motion/Support/Technical_Information/Storage/storage_handling.htm

the dumpster; thus, the proper authorities on campus were contacted and came to get the decomposed film in order to dispose of it properly.

Detailed inspection, repair and rehousing

After the general assessment was completed and the films with no possibility of preservation were disposed of, the detailed inspection of the films in the Byrd collection began in earnest. Kristin developed a film inspection sheet that she completed for each film. Based on the sample Print Condition Report provided in the *Film Preservation Guide*, Kristin customized the document for this project. See Appendix A. for the film inspection sheet.

The work involved placing the film on a manual film winder and viewing it, frame by frame, by running it over a light table and viewing it with a loupe. Pertinent details about each film element were recorded on the inspection sheet, and included such things as film base, location, edge code information, condition notes, projectable (yes/no), and a content description (shot list). As she reviewed each film, Kristin performed minor repairs, such as splicing, or adding leader or tail to each reel, and she cleaned each film with a specialized product developed for that purpose. Most films were incredibly dirty, having received no attention for decades. If the film still remained on the projection reel, it was rewound onto a core. All films were then transferred to new, archival film cans, made from polypropylene. These cans are vented, which allows for air circulation and helps protect against vinegar syndrome.

A note about supplies: This project required an investment in equipment and supplies necessary for film inspection, repair, cleaning and rehousing. While the OSU Library system has a very robust preservation department, film preservation requires a different set of skills, supplies and equipment. Aided by the *Film Preservation Guide* and her own experience, Kristin compiled a list of needed supplies and equipment. This represents an investment by the Ohio State University Libraries in the long-term preservation of the films in our collections. We are now well equipped with all of the needed equipment and supplies, enabling us to continue to care for our films on an ongoing basis.

We were also fortunate in the donation of a Steenbeck editing table from Scene Savers in Kentucky. No longer of use to them, they donated it to us, even arranging to have it delivered and set up. Though we do not use the Steenbeck for film editing, we do use it to view 16mm films safely. The Steenbeck is safer than projecting film, which subjects the film to high temperatures and can create further damage.

Next step: A film preservation grant

Kristin's ten-week internship resulted in an enormous amount of information about the films in the Papers of Admiral Richard E. Byrd. Though Kristin could not complete detailed item level assessments on all of the films in the Byrd Collection, she got through an enormous amount of film in only ten weeks, completing detailed inspections of 43 films in addition to the 29 reels that had to be discarded. Armed with all of this new knowledge, I began to research the options for further preservation. It should be stressed that Kristin's work in cleaning, repairing and rehousing the film will add years to the life of these films. It should also be noted that the preservation standard for film is not digital – it is film. Thus, film preservation is very expensive. Most (all?) library/archives budgets do not allow for this kind of work. There are, however, grant funds available.

I had worked with the National Film Preservation Foundation (NFPF) in 2003, when we secured funding to have two films preserved. At the time, the lab cost for those two films was just under \$6000; this served as a good bench mark for estimating potential costs. The NFPF gives three types of grants: basic preservation grants, matching grants and Avant-Garde Masters Grants. Awards for the basic

preservation grants range from \$1000-\$18,000. Given that two films cost \$6000 in 2003, I was looking for a larger sum of money, in an effort to get more films preserved. The matching grants award \$18,001-\$40,000. The grantees must “match” the NFPF support with outside cash equal to one-fifth of the award.

I reviewed the information compiled by Kristin, and found that one of the series showing an excessive amount of decomposition was the *Discovery* Lecture Series. Originally comprised of 28 reels, only 10 reels now survived. In other words, of the entirety of the 29 reels that could not be saved in the Byrd collection, 18 of these were from the *Discovery* Lecture Series! It seemed clear that the 10 reels remaining should become a priority.

The Importance of the Discovery Lecture Series

The *Discovery* Lecture Series documents Byrd’s Second Expedition to Antarctica in full. Early scenes show the departure of the expedition’s ships *Ruppert* and *Bear*, including life aboard the ships, as they travel from Boston through the Panama Canal and on to Dunedin, New Zealand and finally to Antarctica. In Byrd’s lecture scripts, he states that not a lot of time will be spent on the “getting there,” as life in Antarctica is the really exciting part! The films do show life on board the ship for both men and dogs, including scenes of the ships in storms, as well as some beautiful images of icebergs. Maps of the route are used as graphic illustration to show the progress of the ships over time.

Once the ships arrive in Antarctica, there are many scenes devoted to unloading the supplies and setting up camp. Given that Byrd planned for a two year expedition, an incredible amount of supplies had to be moved from the ship inland to the camp. Scenes show the men moving supplies via dogsled, including the hazards of avoiding crevasses en-route.

The *Discovery* Lecture Series next provides the viewer with an overview of daily life in the subzero environment of Antarctica, including a view of the bunks where the men slept and cooked. Expedition members are engaged in scientific studies, using microscopes and beakers, and working with radios. There are also some entertaining scenes of the “Knights of the Grey Underwear,” a group formed by members of the expedition playing instruments and singing.

Finally, the *Discovery* Lecture Series documents Byrd’s stay alone in the remote weather station on the interior of Antarctica, called Advance Base, and his ultimate rescue by the men. During this time, Byrd was poisoned by carbon monoxide fumes. In the lecture scripts, Byrd has minimized the event, though he would later go on to write an entire book about the experience.⁴⁸ Though the lecture tour was a vehicle for Byrd to sell his books and raise money for his expeditions, throughout the lecture scripts, Byrd emphasizes the importance of the entire expedition as a team, while often minimizing his own role. In fact, in the introductory material of one script, Byrd writes, “This pictorial record will show better than any words of mine could, the sacrifices my men made and the credit they deserve.”

It is believed that John L. Herrmann, a cameraman for Paramount News who accompanied the expedition, shot these films. Documentation in the Byrd Collection indicates that Herrmann won top honors for his work in filming the expedition, in the form of a fellowship in the Royal Photographic Society of Great Britain. At the time (1935), he was the only newsreel cameraman in the United States to hold the award.

In total, there is 8875 feet of 35mm film on ten reels, both nitrate and acetate, black and white positive and negative elements.

⁴⁸ The book is called *Alone*, and was published in 1938 by G. P. Putnam’s Sons.

The NFPF grant process

The NFPF web site gives very detailed instructions for their grant application process. Grants are available to “public and 501(c)3 nonprofits in the United States, targeting orphan films made in the US or by American citizens abroad and not protected by commercial interests. Materials originally created for television or video are not eligible.”⁴⁹ After determining this basic eligibility, the first step is to register with the NFPF, via e-mail, including a short overview of the proposed project. The NFPF will then contact the proposing institution to discuss the project. If all of the basic criteria are met, the NFPF will invite the proposer to submit a formal letter of application.

Writing the grant itself is very straightforward; the NFPF specifies what information to include, such as research significance, uniqueness of the archive’s film copy, physical description of the film, and a description of the preservation work and cost estimate. In order to get a good cost estimate, there are a whole host of factors to consider. The NFPF provides a Preservation Assessment Checklist⁵⁰ () to guide archivists in their assessment of the film. Kristin’s detailed film inspection sheets were crucial to this step. One lab estimate is required as a part of the grant request. The *Film Preservation Guide* provides a selected list of film preservation laboratories. Cinema Arts, located in Pennsylvania, was chosen after a brief conversation about the *Discovery* Lecture Series and proposed project. Cinema Arts had a proven track record with the NFPF, and they were in geographic proximity to Ohio. This made the shipping costs more reasonable, and also was convenient from a communication standpoint, since many of the labs are located in California, which means a 3 hour time zone difference.

In order to get a lab quote, I sent the inspection sheets for the ten reels to Janice Allen, at Cinema Arts. She was able to give me a quote for the preservation work, based on these detailed documents. This was preferable to shipping the reels to her for a hands- on assessment for several reasons. My chief concern was the complexity of shipping nitrate films. One of the worst things to do to film of any kind is subject it to variations in temperature and humidity. It was important to keep the film in a stable environment as long as possible. I was also reluctant to spend money shipping ten reels of film for an estimate, when there was no guarantee that we would get the grant. Without Kristin’s detailed condition reports, shipping the films would have been required in order to generate an accurate quote for the preservation work. Appendix B. is the completed grant proposal sent to the NFPF, and includes the Cinema Arts quote for the work.

The grant request to the NFPF was submitted mid-February 2013. In the months that followed, Rebecca Payne-Collins of the NFPF contacted me with a few questions of clarification. This was encouraging, as it was an indication that the NFPF was seriously considering the proposal.

In May 2013 the Byrd Polar Research Center Archival Program was notified that we had been awarded a \$32,160 grant from the National Film Preservation Foundation to preserve the ten reels of film of the *Discovery* Lecture Series. I notified Cinema Arts and made arrangements to ship the films to their lab in Pennsylvania. Working with the OSU UPS representatives, we completed appropriate documents indicating that we were shipping hazardous materials. The shipment was delayed once in the Columbus UPS facility, but then proceeded without incident to Pennsylvania.

Current status of the project

As of this writing, the work on the films has just been completed. We have not yet received the original films or new film elements as of today (June 17, 2014), but the DVDs and digital beta versions were

⁴⁹ NFPF website, accessed 06/17/2014: <http://www.filmpreservation.org/nfpf-grants/basic-preservation-grants>

⁵⁰ <http://www.filmpreservation.org/nfpf-grants/preservation-assessment-checklist>

received this morning. We anticipate at least one public event to screen the *Discovery* Lecture Series. One idea would be to do a "lecture tour" here on campus, and screen the footage in a variety of campus venues. Possibilities include the Wexner Center for the Arts, Thompson Library, and the Byrd Polar Research Center. The original films, as well as the newly created film elements will be stored in the climate controlled stacks of the OSU Book Depository, where the conditions will allow them to exist for at least another 100 years. The digital versions provide enhanced access to the film content, and will be made available to researchers, students, and the general public.

Conclusion

"Film is history. With every foot of film that is lost, we lose a link to our culture, to the world around us, to each other and to ourselves."

-Martin Scorsese, filmmaker and member of the NFPF Board of Directors⁵¹

Movies have documented our history for more than one hundred years, yet the nature of film – created on plastic – is inherently a perishable medium. Many resources were marshalled in this project to preserve ten films. Particularly important are programs like that at New York University, where students are trained in the area of film preservation. The work by intern Kristin MacDonough was essential in positioning us to apply for the National Film Preservation Foundation grant. The commitment to this project by The Ohio State University Libraries in the investment in film equipment and supplies was a critical component. The willingness of Cinema Arts to work with us remotely to come up with accurate estimates for the required work on a short time frame was essential. And of course, grant funding from the National Film Preservation Foundation made preserving these ten films possible.

We have many more films in our collections. I am hopeful that we can engage another intern to help us continue the work that Kristin started in cleaning, repairing and describing our film holdings. We will continue to seek external funding to preserve this piece of the history of polar exploration.

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⁵¹ NFPF website, accessed June 18, 2014. <http://www.filmpreservation.org/preservation-basics>

Appendix A – Film Inspection Sheet

TITLE: _

Accession #: _ Date of Element Production, if known (yyyy/mm/dd):

Location #: (For Byrd/Wilkins Material) Box #: Item #:

Film Base <input type="checkbox"/> Polyester <input type="checkbox"/> Acetate <input type="checkbox"/> Nitrate	<input type="checkbox"/> Color <input type="checkbox"/> B & W	Type <input type="checkbox"/> Negative <input type="checkbox"/> Positive <input type="checkbox"/> Reversal	Gauge <input type="checkbox"/> 8mm <input type="checkbox"/> Super 8mm <input type="checkbox"/> 16mm <input type="checkbox"/> 35mm other ____	Perforations <input type="checkbox"/> Single <input type="checkbox"/> Double	Generation Choose an item.
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Aspect Ratio <input type="checkbox"/> 1.33:1 <input type="checkbox"/> 1.66:1 <input type="checkbox"/> 1.78:1 <input type="checkbox"/> 1.85:1 <input type="checkbox"/> 2.35:1 <input type="checkbox"/> Other: ____	Soundtrack <input type="checkbox"/> Silent <input type="checkbox"/> Mono <input type="checkbox"/> Variable Area <input type="checkbox"/> Optical <input type="checkbox"/> Dual Mono <input type="checkbox"/> Variable Density <input type="checkbox"/> Magnetic <input type="checkbox"/> Stereo
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Edge Code Information		
Edge Code Print through	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Head leader Spliced Information	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Tail Leader Spliced Information	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Container Information		
Footage length	Measured:	From Container:

Below: Mark on a scale of 1 to 4 and describe if necessary. 1 = Slight 2 = Fair 3 = Moderate 4 = Heavy

1 – 4 Notes:

Emulsion Scratches	Choose an item.	
Base Scratches	Choose an item.	
Perforation Damage	Choose an item.	
Perforation Repair	Choose an item.	
Oil	Choose an item.	
Edge Damage	Choose an item.	
Edge Repair	Choose an item.	
Fading (color)	Choose an item.	
Warping	Choose an item.	

Below: Mark on a scale of 0 to 5 and describe if necessary.

FIAF Scale of Nitrate Decomposition: 0 – 5 IPI Scale of Acetate Decomposition: 0 – 5 (based on The Film Preservation Guide)

0-5

Notes:

Decomposition	Choose an item.	
Shrinkage Percent		
A-D strip Level	Choose an item.	
Number of Splices		
Overall Condition		

Projectable: Yes No

Inspection Date: _____

Inspector: _____

Notes in Finding Aid:

Content Description and Notes (include date of content production, if known):



The Byrd Polar Research Center Archival Program (BPRCAP) of The Ohio State University (OSU) proposes to preserve ten films from the Papers of Admiral Richard E. Byrd. The films are part of the series of lecture films that Byrd used during his extensive public lecture circuit after his second expedition to Antarctica, commonly called Byrd Antarctic Expedition II, or BAE II, 1933-1935. The lecture tour was the means for providing Byrd with the necessary income to pay the debts of the just completed expedition, while also raising money to fund the next expedition. Byrd wrote a book about the second expedition, entitled *Discovery*. The lecture film series is also called *Discovery*. In addition, there were two versions of a film created for theater release, also called *Discovery*, one in 1935 and one in 1949 (note, dates are uncertain – see more information under **Uniqueness of the Archives' Film Copy**).

Research Significance

One cannot undertake the study of the history of polar exploration without being aware of the contributions of Admiral Richard E. Byrd. Byrd's career in polar exploration spanned decades, beginning with his expedition to Greenland in 1925, and ending with his fifth expedition to Antarctica 1955-1956. These explorations accounted for the discovery of hundreds of thousands of square miles of territory which were claimed for the United States. Richard E. Byrd personified the inception of the mechanical era of Antarctic exploration. No other person in Antarctic history has contributed more to the geographic discovery of the continent than Byrd.

In 1933-1935, Byrd went to Antarctica for the second time. Buoyed from the success of his first expedition of 1928-1930, Byrd returned to Antarctica with an expanded scientific agenda. Many branches of science were represented including biology, meteorology, geology, geography, aerial exploration, oceanography, seismology, and terrestrial magnetism. Many "firsts" in the history of Antarctic exploration were achieved by the Second Byrd Antarctic Expedition. While still reliant on dog sleds, this was the first Antarctic expedition on which long-distance automotive transport proved to be of practical use. The first radio broadcast from Antarctica to the rest of world was on February 1, 1934. This expedition was the first to make seismic investigations of Antarctica, providing evidence as to the extent of whether the Ross Ice Shelf is aground or afloat. Byrd's status as a national hero was reinforced upon the conclusion of BAE II, and Byrd was highly sought on the public lecture tour circuit.⁵²

The Ohio State University acquired the Papers of Admiral Richard E. Byrd in two accessions, the first in 1985 and the second in 1990. The extent of the collection is significant, with more than 500 cubic feet of materials in a wide ranging variety of formats including film elements. Prior to the repository receiving the collection, the materials had been housed in a variety of places, including several warehouses and a barn, and had been moved periodically, resulting in disorganization and a hazardous preservation environment. OSU received a grant from the U.S. Department of Education for the processing of the

⁵² An excellent overview of the Second Byrd Antarctic Expedition, 1933-1935, can be found in: Bertrand, Kenneth J. *Americans in Antarctica, 1777-1948*. New York: American Geographical Society, 1971, pp.313-361.

Byrd Papers, which took place over a two-year period from November 1, 1992 through October 31, 1994. Limitations of the funding necessitated prioritizing the processing of this large collection. Thus, the primary focus of the processing was on the paper documentation and still images. Films received only cursory attention, and were inventoried according to information on the canister or contained within the canisters. No cleaning, repair or rehousing of film elements was undertaken at this time. Consequently, films in advancing stages of deterioration continued to deteriorate, many beyond the point of preservation. Despite the odds, some film elements survive and should be preserved.

A thorough analysis of the film elements in the Byrd collection was undertaken from May – July 2012. Unfortunately, the news was not good. We found that many of our films, both nitrate and acetate, were in the advanced stages of decomposition, with no possibility of preservation. The *Discovery* Lecture Film Series was originally comprised of a total of 28 reels of film. Of these 28 reels, only ten film reels have survived. Many complimentary materials exist in the collection, including detailed scripts that were used by Byrd during the lectures. For the most part, these scripts are typewritten, though heavily annotated in Byrd's hand. Taken together with the films, we get a wonderful glimpse into what it might have been like to be in the audience of one of Byrd's lectures. Additional documentation of the lecture circuit exists in the collection, in the form of schedules, balance sheets, and correspondence between Byrd, his publicity agent and others.

The Byrd Polar Research Center Archival Program is a collaborative venture of the Ohio State University Libraries and the Byrd Polar Research Center. Our mission is to collect, preserve and provide access to materials that document the history of polar exploration. The Papers of Admiral Richard E. Byrd are the corner stone of the BPRCAP. It is the largest collection we hold, and the most frequently consulted. The poor condition of our film collection means that this particular resource is underutilized. Increasing discoverability and access to our unique collections is one of the foremost goals for the University Libraries. Preserving this film speaks directly to our mission and goals.

Public programs are typically planned in conjunction with the Byrd Polar Research Center, with elements of both current science and historical polar exploration as a common theme. Events range in scope from extensive conferences over several days to one speaker for an afternoon talk. Our location on the campus of a large research university allows us the opportunity to partner with other campus organizations to sponsor events. In the past, we have successfully partnered with the Wexner Center for the Arts to screen polar-related films. We anticipate great interest in these lecture films and multiple opportunities to share them in upcoming public events.

Uniqueness of the Archives' Film Copy

Published information about the film *Discovery* is confusing at best, though research in the Papers of Admiral Richard E. Byrd does shed light on the fact that at least two versions of this film were produced for commercial broadcast in theaters. A search of the AFI catalog results in only one record, for a 1947 version of the film *Discovery*. It has been impossible to find firm information in any sources that exactly matches our copy of *Discovery*. Our copy of the broadcast version of this film is a 35mm nitrate on nine reels, housed in the ice core lab at the Byrd Polar Research Center, at a temperature of 22 degrees F. Known information about these nine reels is scanty, but correspondence with the National Archives – who has a record for a film called *Discovery*, publication date questionable at 1935?- indicates that our copy is very likely the 35mm original of the 1935 version of this film. Yet, preliminary information indicates that our film may be incomplete. We need to spend more time analyzing these nine reels of film, which is difficult to do in a 22 degree lab. Therefore, for purposes of this grant cycle, we have decided to focus our efforts on the *Discovery* Lecture Series, with the possibility of pursuing grant funding for the *Discovery* broadcast version(s) of our film at a future time.

No records have been found in any sources – AFI, National Archives or Library of Congress – for the *Discovery* Lecture Series. No rental or video copies of this film have been located.

Physical Film Description

The *Discovery* Lecture Series documents Byrd's Second Expedition to Antarctica in full. Early scenes show the departure of the expedition's ships *Ruppert* and *Bear*, including life aboard the ships, as they travel from Boston through the Panama Canal and on to Dunedin, New Zealand and finally to Antarctica. In Byrd's lecture scripts, he states that not a lot of time will be spent on the "getting there," as life in Antarctica is the really exciting part! The films do show life on board the ship for both men and dogs, including scenes of the ships in storms, as well as some beautiful images of icebergs. Maps of the route are used as graphic illustration to show the progress of the ships over time.

Once the ships arrive in Antarctica, there are many scenes devoted to unloading the supplies and setting up camp. Given that Byrd planned for a two year expedition, an incredible amount of supplies had to be moved from the ship inland to the camp. Scenes show the men moving supplies via dogsled, including the hazards of avoiding crevasses en-route.

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In total, there is 8875 feet of 35mm film on ten reels, both nitrate and acetate, black and white positive and negative elements. Please see the included detailed condition reports of each of the ten films that we wish to preserve in the *Discovery* Lecture Series. The *Discovery* Lecture films were received as part of the acquisition of the Richard E. Byrd Papers, which came to the repository in two accessions, the first in 1985 and the second in 1990.

Description of the Preservation Work and Cost Estimate

From original 35mm negative films, the BPRCAP proposes to produce a 35mm liquid gate contact black and white fine grain master positive; from the new 35mm fine grain master and all other "original" positive rolls, BPRCAP proposes to produce **either** a 35mm liquid gate contact **or** optical (depending on condition and shrinkage) black & white dupe negative; from any rolls that contain sound, a 35mm re-recorded optical sound track negative will be produced; a 35mm black and white full frame silent or composite answer print will be produced from all new negatives. NFPF logos will be added to all new print rolls. A SD film to tape Digital Betacam master tape transfer will be produced of all new print rolls. Additionally, two sets of DVD dubs will be made from the Digital Betacam master tape.

Please see attached cost estimate from Cinema Arts.

Prior preservation work on these ten films was performed in the summer of 2012 by a film intern from New York University. This work included the cleaning of all films, repairing of splices, adding leader and tail, and rehousing in archival containers.

Storage

Collections held by the BPRCAP are housed in the stacks of the Ohio State University Archives/Book Depository. Completed in 1995, this facility was constructed in the Harvard Book Depository style. The second storage module was completed in fall 2002. Library and archival materials, including films, are shelved in a climate-controlled area where a cooler temperature (55-60 degrees) and lower humidity (40-45%) is steadily maintained.

Access Plans

In conjunction with the Byrd Polar Research Center, the BPRCAP hosts a major public event roughly every other year. Most recently, we celebrated the 50th Anniversary of the Byrd Polar Research Center, which involved an extensive gallery exhibit, several invited guest speakers, and an international conference. Themes of other past events have included Our Polar Past and Present; Polar Pioneers; Art in Antarctica; U.S. Science and Policy in Antarctica; and the relationship of Explorers with Indigenous Peoples of the North. We often collaborate with others in hosting these events, such as the American Polar Society, the Wexner Center for the Arts, and the College of Education and Hopkins Hall Art Gallery. Particularly relevant to film access is the Wexner Center for the Arts. The Wexner Center is a multi-disciplinary arts center located on campus at The Ohio State University, and provides a diverse array of contemporary arts, including visual arts exhibitions by major artists and emerging talents, films and videos by leading filmmakers of the past and present, and performing arts from around the world. In addition to organizing public presentations of contemporary work in the performing, media and visual arts, the Wexner Center actively seeks to provide opportunities for interaction among visiting artists, students, faculty and staff of the University, and members of the community. The BPRCAP has collaborated with the Wexner Center to show both historical polar footage (*With Admiral Byrd at the South Pole*), as well as contemporary polar films (*Ice People*). These events are offered free of charge and typically take place on Sunday afternoon. Other film venues would include the recently remodeled auditorium at the Byrd Polar Research Center. We have shown numerous historical films at the Center, typically as part of a larger program or conference. And, finally, the renovated Thompson Library, the University's main library, offers excellent space for a screening event in several spaces throughout the building. All public programs are offered free of charge.

The films we propose to preserve were acquired without restriction and are available to interested researchers, scholars and others who may be interested in either the subject or the medium. Holdings are listed on our website and cataloged in the Ohio State University Library's online catalog. The BPRCAP has an active web presence; thus, news of the preserved film collection, along with clips from the films, will be shared on our homepage (go.osu.edu/polararchives), as well as relevant pages throughout our web site, such as those referring to the Byrd collection specifically. The BPRCAP has recently completed the EAD encoding for the finding aid to the Papers of Admiral Richard E. Byrd (<http://rave.ohiolink.edu/archives/ead/OhCoUBP0004>). Therefore, appropriate links can be made directly from the film elements in the finding aid, enhancing discoverability. Finally, the BPRCAP has joined the world of social networking, so one important venue for sharing the collection will be our facebook page.

Public Service Mission

The Byrd Polar Research Center Archival Program (BPRCAP) is a collaborative effort of the Byrd Polar Research Center and The Ohio State University Libraries. Our mission is to collect, preserve, and provide access to historical documents concerned with exploration and scientific investigation of the polar regions. The goal of the BPRCAP is to make rare or unique historical material about polar exploration and scientific investigation available for use in the context an active polar research environment. Historical collections contain papers, records, photographs and other forms of documentation concerning explorers, scientists and other figures and organizations prominent in the advancement of knowledge about polar environments. Access to materials is free and we are open to the public. For more information, please visit our website at go.osu.edu/polararchives. A brochure about our program is also included for your information.

Tax Exempt Status

The Ohio State University is tax exempt. Our federal id number is 31-6025986. A copy the "Blanket Exemption Certificate" is attached.

Matching Funds

The BPRCAP has several funds set up to receive gifts, both from individuals as well as organizations. In the majority of situations, funds donated to the BPRCAP come with no strings attached, other than that they are to be used to support enhancement and preservation of the BPRCAP collections. Thus, we have funds set aside to meet the 20% matching requirement necessary to complete the project.

Contact Information

Contact information for the project coordinator is as follows: Laura J. Kissel, Polar Curator, Byrd Polar Research Center Archival Program, University Archives, 2700 Kenny Road, Columbus, Ohio 43210. Phone: 614-688-8173. Fax: 614-688-4150. e-mail: kissel.4@osu.edu.

Laura Kissel has been the Polar Curator of the Byrd Polar Research Center Archival Program for nearly 17 years. She received her master's degree in Library and Information Science from Kent State University in 1996. As polar curator, she is responsible for answering reference requests for information and historical documentation concerning figures and events documented by the historical collections of the Byrd Polar Research Center Archival Program. In addition, she receives new documentation and

represents the BPRCAP to donors. She has also been actively involved in planning the public programming events and exhibits that highlight the historical resources of the collection.

Cinema Arts Inc.
207 Lincoln Green Lane
P.O. Box 452, Newfoundland, PA 18445
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02/15/2013

Estimate L-1279
Page 1 of 1

Laura J. Kissel / Polar Curator
Ohio State University
Byrd Polar Research Center
Columbus, Ohio 43210

Byrd Polar Archival Material - for NFPF Preservation

To be supplied:

10 Rolls - 35MM shrunken nitrate / shrunken acetic acetate, black & white positive and negative elements

28 Hours Labor - repair / prepare for printing	\$ 3360
1 – 35mm Liquid Gate Composite Fine Grain Master – 950 Feet	1710
1 – 35mm Liquid Gate Optical Duplicate Negative – 3600 Feet	11700
1 – 35mm Liquid Gate Duplicate Negative – 5275 Feet	12290
1 – 35mm Track Negative - 2050 feet	1845
1 – 35mm Answer Print - 8875 Feet	8076
1 - Film to Tape transfer to Digital Betacam - supplied on two 60 minute tapes + 2 sets DVD dubs (4 DVD's)	950
10 – 35mm NFPF logo supplied and spliced into prints	250
Shipping (on clients account)	

Total \$ 40181

Uggianaqtuq: Weathering Challenges in sustaining local and traditional knowledge of the Arctic on CD-ROMs

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Shari Gearheard, Gloria Hicks, & Allaina Wallace**

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“See and now you have learned the Inuit way”

- Hattie Monnack, Baker Lake, Nunavut

Abstract:

A central challenge to Arctic Indigenous Local and Traditional Knowledge (LTK) stewardship and sustainability is developing effective and appropriate ways of recording, storing, managing, and ethically sharing data and information that enable creative use now and over the long term. Without proper preservation and migration, precious data and knowledge from Elders is in danger of being lost or misplaced due to hardware and software obsolescence. *When the weather is Uggianaqtua: Inuit Observations of Environmental Change (Uggi)* was made in 2003 and is a data product available on CD-ROM. At one time CD-ROMs were approached as being a stable data carrier. We now know that CD-ROMs are subject to vulnerable technologies. Over the past several years various ELOKA team members have been involved in addressing the sustainability issues of *Uggi*. At one point it was thought it might be best to do a whole new research project that would result in a new product e.g. *Uggi 2.0*, but that wouldn't resolve the current issue of sustainability for the important data on *Uggi 1.0*. Attendance at a hackthon resulted in solutions for archiving the files on the CD-ROM, however those solutions do not resolve sustainability and use. Recognizing that precious cultural heritage is in danger of becoming obsolete we discuss the limitation issues and lessons learned in stewarding LTK of the Arctic.

Introduction

Inuit have indeed been noticing changes in climate for years. Climate scientists and researchers widely believed that the 'North' was going to feel the effects of global warming first and trigger changes in the rest of the world's climates. Independently, scientific and Indigenous knowledge has documented the changes in the Arctic climate – scientific evidence on a larger and regional scale, while LTK provides local scale changes, which are important to determining Inuit daily activities. However, until recently little attention has been paid to local and traditional knowledge of the Arctic (with the exception of hunting practices) and the benefits it brings to western science in general: a better understanding of environmental change, its' effects on the world and how all people must actively change with it. More than any other people in the world Inuit understand the need to change and adapt not only to their environments, but also in partnering and leading the way on collaborative research efforts that provide them influence in how 'responsible research' is conducted and how it can benefit them in adapting to the present and future impacts of climate change (Fox 2004).

One result of 'responsible research' came in the form of an interactive CD-ROM. *When the weather is Uggianaqtuq: Inuit Observations of Environmental Change (Uggi)* was made in 2003 and addresses the need for improvement of reporting back to Indigenous communities of the Arctic involved in research. Available on CD-ROM through the ELOKA program at NSIDC, it is in the form of a useful product, rather than a lengthy written report (Fox 2004). Most of the data sets ELOKA manages are at the ELOKA website and metadata is catalogued on the NSIDC website. *Uggi* is the only data set not available on the ELOKA website. In order to use it, the CD-ROM must be requested via 'User Services' at NSIDC. Never having been properly migrated or preserved to more sustainable technological platforms the interviews on the disk are non-functional on current hardware and software. *Uggi* is under threat of becoming obsolete due to the hardware and software on which it functions no longer receives support or is in demand.

Current "...research shows that longevity issues for digital media consist of two-parts: 1) meet the test of passage of time and 2) and be stored in formats that can be understood by modern programs (e.g. PDF, TIFF, JPEG)" (Stanescu 2005).

What is the Problem?

The CD-ROM can only be properly viewed on older hardware and software that is no longer being supported. In order to view the CD one has to have access to an older computer with the appropriate programs for which it was formatted. Although some of the CD can be opened and viewed on current platforms as seen below in figure 1:



Figure 1: Uggi opened on a MacBook Pro 2012 OS X Yosemite v. 10.10.1

The experience one will get when attempting to view the recorded interviews as seen in figure 2:

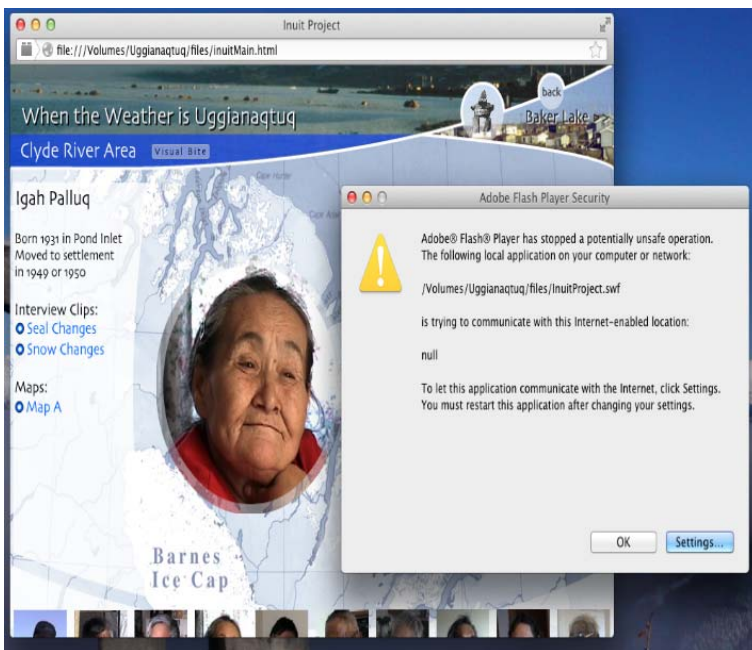


Figure 2: end result when viewing interviews on current computer and software platforms

The ideal experience when viewing *Uggi* on an original platform for which it was intended is seen below in figure 3:



Figure 3: correct viewing experiences on original platform

Uggi is rapidly, if not already, becoming obsolete and as stewards of LTK it is our responsibility to not “cause no harm when [IK is combine] with new technologies” (Cochran et. al 2008).

Why is it important?

Published in 2004 as a supplement to Dr. Shari (Fox) Gearheard’s dissertation, *Uggi* is a multi-media interactive CD-ROM filled with Arctic Indigenous local and traditional knowledge (LTK) from two Inuit communities – Baker Lake and Clyde River, Nunavut, Canada. A few of the Elders interviewed for the dissertation have since passed on. The recordings could possibly be the last of the LTK they’ve shared. There is great value in what was recorded. By agreeing to the project it can be highly speculated that they intended to share their LTK in indefinitely.

Uggi was the first type of LTK Arctic social science data managed and housed at NSIDC. ELOKA is the first and only Arctic LTK social science data management program at NSIDC and a proven sustainable program. The datasets ELOKA manages are unique and have an international value in understanding Arctic environmental change utilizing LTK. *Uggi* is an important segment to the library of LTK for it provides the ‘human face’ aspect of Arctic environmental issues inside an interactive environment. It was produced with two audiences in mind – the communities involved and a wide range of users including researchers, students and the public outside of the communities. Also, it was created in response to what community members suggested as a meaningful and useful material product for their communities rather than a written report.⁵³

⁵³ Community members have expressed that researchers have failed to share their findings or followed through on promises of some kind of report to Inuit communities who participated in research projects as informants or guides. *Uggi* is in response to these concerns.

Technical challenges

Over the past several years various ELOKA team members have been involved in addressing sustainability issues of *Uggi*. The team realized that the first step in approaching this issue is to exactly identify the limitations of the product. After attending a 'Hackathon'⁵⁴ the limiting factors were realized - technology itself, or lack of demand for the specific type of technology the disk can function on – computers with Windows XP or a Mac OS X prior to 10.5, Quicktime prior to 7.3.1 version that can run Adobe/Macromedia Flash channel as the subtitle files on the interviews are embedded in a Quicktime MOV container (Open Planets Foundation 2013). This is a crucial factor because it determines whether or not the product is indeed sustainable.

The appropriate technology for sustainability and viewing purposes for *Uggi* are available only as long as access to Windows XP or a Mac OS X is in house, however the 'end user' has fewer technological options available. In the years since *Uggi* was produced (12 years has passed) Apple has since disabled support for Flash in Quicktime MOV files due to security problems. At the time of *Uggi* CD-ROMs were approached as stable data carriers, but we know now that they too are subject to software and hardware obsolescence and to bit-rot, which presents a threatening situation to the sustainability and preservation of *Uggi*.

A few questions about the sustainability of this product have been raised:

- Has *Uggi*'s time come and gone? What's the point in making it useable again aside from curiosity?
- If not, is it possible to sustain an outdated interactive, multi-media CD-ROM product that no longer functions on current technological platforms?
- If so, is it possible to rescue the disk files in order for them to be reformatted and archived (in both the old and new formats) and make it functional on today's platforms as well as future platforms?
- If *Uggi* is reformatted will this call for a new use agreement from the two communities in Nunavut and from the researcher?

Lessons Learned

"Analogue media has proven to be durable and reliable and more so than digital media. All digital media can and will deteriorate over time leading to loss of information. However, digital data can theoretically be reproduced infinitely, so the fragility of any piece of media is not necessarily as large a risk to the survival of digital information as another threat: technical obsolescence" (JISC 2014).

As *Uggi* has shown us, the digital media on the CD-ROM has far outlived both the hardware and the software made to support it. Nothing is wrong with the data and it is still very useful. It's the software and hardware it was prepared to be used on that met its' timely death. Considering the fast pace of technology, steps need to be taken now in order to ensure that data can be retrieved well into the future. For the moment the *Uggi* files have been able to be archived in their original format, however, strategies have to be put in place to guarantee that the collection survives through technological changes, ensuring its continued accessibility and usability.

⁵⁴ In June 2013, Heidi McCann attended the Open Planets Foundation *Hackathon: Tackling real world collection challenges with digital forensics tools and methods* in Chapel Hill, NC. This event provided ELOKA a chance to learn about what digital forensics has to offer to the digital preservation community by getting hands on with data, tools and new techniques. The event was successful to make *Uggi* useful, at least, in-house at NSIDC.

Conclusion

Data sharing is typically encouraged within the scientific community, but it requires a great deal of effort, resources, and collaboration. Preparing data to be shared takes time and careful documentation of the research process and the data results. Nevertheless, data sharing has important long- and short-term benefits for the researcher, the research sponsor, the data repository, the scientific community, the Indigenous community and the public. An important aspect to remember is that the media choice for sharing LTK is only one part of the presentation distribution.

It's apparent that *Uggi* needs to be preserved for a wide arrange of reasons. *Uggi* was the first type of LTK Arctic social science data managed and housed at NSIDC. *Uggi* is an important segment to the library of LTK for it provides the 'human face' aspect of Arctic environmental issues inside an interactive environment. It was produced with two audiences in mind – the communities involved and a wide range of users including researchers, students and the public outside of the communities. Also, it was created in response to what community members suggested as a meaningful and useful material product for their communities rather than just a written report.⁵⁵ *Uggi* demonstrates the values and potential for greater understanding when Indigenous knowledge is included in research and most importantly, *Uggi* has the same qualities found within Inuit Elders – local and traditional knowledge and “when an [Inuit] Elder dies, a library burns” (Alaska Native Science Commission 2014).

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⁵⁵ Community members have expressed concern that researchers have failed to share their findings or followed through on promises of some kind of report to Inuit communities who participated in research projects as informants or guides. *Uggi* is in response to these concerns.

Discovering, Preserving and Presenting Germany's Role in Polar Research: the Development of the 'Archiv für deutsche Polarforschung (AdP)' at the Alfred-Wegener-Institute (AWI) 2011-2013

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Introduction

The aim of this talk is simply to inform the participants of the Polar Library Colloquy (PLC) about the AdP's development and activities during its first years of existence. Therefore, a short history of this young archive, an overview of the archivalia, which are already stored there, and the AdP's preparation and the activities to present this material will be presented.

Furthermore, the talk is going to make the audience familiar with the environment of the new archive. This means that the AWI and the professional network will be discussed at the appropriate time during the talk.

But to begin with, it will cast a glance of the nature and extent of the task.

Defining the Task: Archiving German Polar Research

If one tries to define the task of archiving German polar research, there are some thoughts to consider.

First of all, German polar research can be regarded as a scientific activity with a tradition of 146 years beginning with first the first German Arctic expedition in 1868. That activity took place in changing historical contexts. It developed in the context of the difficult German constitutional history. German polar and marine research took place or were promoted at least in seven different German states (the North German Confederation the German Empire, the Weimar Republic, Nazi Germany, the Federal Republic of Germany, the German Democratic Republic and since 1990 the reunified Germany).⁵⁶ This means that science policy and management in at least seven different states produces diverse documents in different amounts and after different principles of records management. Therefore, individual causes of origin need to be observed, when appraising and describing this material in an archive, responsible for German Polar research.

Moreover, German polar research was in character essentially international, multidisciplinary, maritime orientated and technology based. From the start, German polar scientists like Carl Weyprecht (1838-1881) and Georg von Neumayer (1826-1909) played an important role in the initiation, preparation and realisation of the first international polar year in 1882/83.⁵⁷ German polar research has always been multidisciplinary, too. Scientific disciplines which can be identified with polar research are physics,

⁵⁶ Cf. e. g. Herbert, Ulrich, *Geschichte Deutschlands im 20. Jahrhundert*, Verlag C. H. Beck, München 2014; Winkler, Heinrich August, *Der lange Weg nach Westen*, vol. 1: Vom Ende des Alten Reichs bis zur Weimarer Republik and vol. 2: Vom ‚Dritten Reich‘ bis zur Wiedervereinigung, 7th ed., C. H. Beck, München 2014; Nipperdey, Thomas, *Deutsche Geschichte*, vol. 1: Arbeitswelt und Bürgergeist and vol 2: Machtstaat vor Demokratie, new ed. Verlag C. H. Beck, München 2013.

⁵⁷ Krause, Reinhard, A., *Daten statt Sensationen, Der Weg zur internationalen Polarforschung aus einer deutschen Perspektive*, *Berichte zur Polar- und Meeresforschung/Reports on Polar and Marine Research*, 609 (2010), pp. 31.

geology, glaciology, meteorology, oceanography, biology, and ecology.⁵⁸ German polar expeditions have been focused often on maritime research up to the present.⁵⁹ This means that records from international relations and projects, from several scientific disciplines and documents with strong reference to maritime research and technical instruments will extensively enter such an archive.

Individual scientists rather than research institutions ventured research efforts from Germany to both Polar Regions from the midst of the 19th to the late 1930s. Individuals were e. g. August Petermann (1822-1878) and Carl Koldewey (1837-1908) (First German polar expedition 1868), Carl Weyprecht und Julius Payer (1842-1915) (First Austrian-Hungarian polar expedition 1872 to 1874), Erich von Drygalski (1865-1949) (First German South Polar Expedition 1901 und 1903), Wilhelm Filchner (1877-1950) (Second German Antarctic Expedition 1911 to 1913) from and Alfred Wegener (1880-1930) (German Greenland Expedition Alfred Wegener 1929 and 1930/31).⁶⁰ Many of the documents, produced by those early scientists and explorers, were scattered, stored at unknown places or lost over the time. Collecting single documents and scientists' estates are therefore big issues for an archive for German polar and maritime research.

Between approx. 1938 to the present day scientific institutions or bodies with other duties have increasingly carried out polar and maritime research projects. Scientific institutions, active in German polar and maritime research in the Federal Republic of Germany (FRG) were for example Federal authorities like the "Bundesanstalt für Geowissenschaften und Rohstoffe (BGR)", organisational units at West German universities like the "Institut für Meereskunde" at Kiel University or – in the German Democratic Republic (GDR) – units of the National Academy of Science like the "Zentralinstitut für die Physik der Erde" (ZIPE) at the "Telegraphenberg" in Potsdam. Those bodies were of course initially in charge of their own documents, produced in the contexts of polar- and maritime research. After the legal retention periods of their records had expired, those institutions often offered or actively handed over their records to the responsible archives. Archives, which tended to take some of those documents, were usually by law or act the state archives, e. g. the "Staatsarchiv Bremen", which has been keeping the records of the "Verein für die deutsche Nordpolarfahrt/Geographische Gesellschaft Bremen" for instance, and by mission collections like the archive of the Deutsches Schiffahrtsmuseum Bremerhaven, the National Maritime Museum, the archive of the "Institut für Länderkunde Leipzig" or the archive of the "Deutsches Museum" in Munich. Both types of archival institutions have usually not followed the policy to submit documents to a third party, i. e. a new archival institution. Thus, collecting of documents is one of the important tasks for an archive, dealing with German polar and maritime research.

One of the most important producers of records and documents related to German polar- and maritime research, though, is the Alfred-Wegener-Institute. Founded in 1980, the institute has successfully worked in polar and maritime research for ca. for 35 years. Over this period it has developed a scientifically and socially relevant research tasks and objects. Today, with the status of "Helmholtz-Zentrum of Polar and Maritime research" the AWI's mission is to improve "the understanding of ocean-ice-atmosphere interactions, [of] the animal and plant kingdoms of the Arctic and Antarctic, and [of] the evolution of the polar continents and seas". The actual focus of this institution is defined by the term "global change", because the polar regions play a major role in this process.⁶¹ In order to fulfill its major

⁵⁸ Cf. e. g. *ibid*; Fleischmann, Klaus, *Zu den Kältepole der Erde, 50 Jahre deutsche Polarforschung*, Delius Klasing Verlag, Bielefeld 2006; Lüdecke, Cornelia, *Die Deutsche Polarforschung, seit der Jahrhundertwende, und der Einfluß Erich von Drygalskis /German Polar Research since the turn of the Century and the influence of Erich von Drygalskis*, *Berichte zur Polarforschung* 158 (1995), pp. 70.

⁵⁹ Cf. the scientific cruise reports of the expeditions, carried out by RV Gauß, RV Deutschland, RV Schwabenland or RV Polarstern from 1901 to the present.

⁶⁰ Cf. Krause 2010 and Lüdecke 1995.

⁶¹ [Official homepage of the AWI under "Institute"](#).

task under this perspective the AWI has considerable resources at its disposal: Provided with a budget of approx. 110 Million Euro, the institute employs 1.000 women and men (among them ca. 370 scientists and ca. 150 Ph. D. students), runs four research locations in Bremerhaven, Potsdam, Heligoland and Sylt and operates five stations in the polar regions, four research vessels and two planes.⁶² Considering this dimensions it becomes clear that the institute has produced large quantities of records etc. since 1980, waiting to be archived. Therefore, the AWI is an important object of all efforts to archive German polar and maritime research.

To sum up: Archiving the German Polar Research and the AWI means to take over large fields of responsibilities.



Figure 1: The AdP at the 5th floor of the Wegener-building at Bremerhaven, photo by C. R. Salewski

⁶² Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung, Geschäftsbericht 2012, p. 9, p. 13 and pp. 26.

The Short History of the AdP

The AWI's first director Gotthilf Hempel assumed the responsibility for the written tradition of German polar research by establishing and operating the Alfred-Wegener-Archiv already in 1982. This archive was until 2010 in custodial care of the institute's historian of science, Reinhard Krause.

Shortly thereafter, in 2011, June 30th, the AWI's board of directors founded the AdP on the base of Bremen archive law (Bremisches Archivgesetz – BremArchivG) and implemented regulations for this archive with strong reference to the BremArchivG, which was valid at that time. That step was based on the fact that the AWI is a public foundation of the Bremen state and that BremArchivG allows its public entities to establish and to operate their own archives, provided that they are able to employ trained archivists.⁶³ In order to meet this requirement the Institute had installed an historian and archivist already since February 2011.

With the introduction of the archive regulations for the first time objectives for an institution, responsible for archiving German polar and maritime research, were defined. According to them, the AdP is asked

- to *secure* and to *archive* the tradition of this field with specific regard to the AWI,
- to *provide* scientist, journalists and laymen with historical *information* and *knowledge* of these research fields,
- to *contribute* to a *historical informed discussion* in the public about them and the AWI and
- to promote the *identification* of the employees with the AWI.⁶⁴

Even before the board of directors addressed the AdP regulation with the tasks of the archive, it had decided to assign the AdP to the institute's library. This decision proves to be quite advantageous for the archive, since the library has supported the AdP during its first years of existence in the most constructive way, e. g. not only by funds, but by experience, knowledge and personal resources, and thus has become one of its strongest stakeholders.

While the answering of these formal questions were well under way, the AdP moved to its new rooms with at 5th floor the AWI-Building D in Bremerhaven, which had been adopted for archival purposes. For instance, an air conditioned depot of 115 m² was set up there, which is at the same time protected against flood and light with a shelve place for far more than 200 running meters. Therefore, the AdP was even in June 2011 ready to assume responsibility for fast increasing number of archival documents.

⁶³ § 2, paragraph 1 and 7 AWI-Errichtungsgesetz from September, 29th 1997 and §§ 1, paragraph 5 and 10, paragraph 1, Bremisches Archivgesetz from Mai, 7th 1991. Today, amendments of both laws are in force.

⁶⁴ § 2 Archiv- und Benutzungsordnung des Archivs für deutsche Polarforschung (AdP) am Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung.

The Contents of the AdP



Figure 2: The depot of the AdP, photo by C. R. Salewski

Most important, inside the AdP's depot more than 200 running metres document files, official documents, letters are kept. This bulk of archivalia is structured after the principle of origin/provenance in archive groups, which are related

- to the AWI with its governing bodies, its scientific divisions and sections, its administrative departments and its research locations,
- to other German scientific institutions related to polar and maritime research e. g. the Biologische Anstalt Helgoland (1892-1998) or the ZIPE (1969-1991) from the GDR-Academy of Science (1969-1991) and
- to German scientific associations with reference to polar research like the National Committee of SCAR.

Moreover, ca. 20.000 photos and films with reference to German polar and maritime research (mostly as parts of records groups and estates) are stored inside the depot. The ADP saves also several hundred technical drawings, geographical maps, posters and stamps. These items are considered as first steps towards corresponding collections. Furthermore, this archive accommodates forty estates of German polar and maritime scientists like Alfred Wegener (1880-1930), Johannes Georgi (1888-1972), Fritz Loewe (1892-1974) or Gotthilf Hempel (1928), the founding director of the institute. Finally, the AdP keeps in its digital depots 100 GB data files, which consist mostly digitised photos, films etc.

Discovering Archivalia of German Polar Research

In 2013/14 the demand for the AdP's competence in archival appraisal inside the AWI increased substantially. 120 running meters documents files in 5 organisational units are worked on right now. Due to the lack of file plans and records lists the individual appraisal of each record was the only alternative in order to find out the value of the documents files. In addition, the draft of the AdP documentation profile has applied in order to test its applicability in the daily appraisal work. Thus, the number of offered documents files was reduced significantly. At the same time, many important records were saved from document shredding.

The collection of documents, photos, films and the like from outside the institute has followed opportunities rather than a corresponding strategy so far; the development of such a concept remains a future task. It makes sense to wait with this work until a greater number of collection items are gathered inside the AdP, because on such a data base the development of a collection strategy will be much easier.

Presenting I: Archival Description inside the AdP

The AdP meets the modern users' demand by achieving as many description results as possible in a best possible quality. The software used for this work is called "Faust 7". This program has been developed by Doris Land Software-Entwicklung, a small Nuremberg based company, and is used quite often by German university archives and archives of research institutions. Its newest version can cope even with digital documents.

At the moment, the description work inside this archive follows only guidelines. For important holdings and estate a traditional bottom-up approach after Johannes Papritz is applied, which means every record of a holding has to be described, before the holding itself is defined. The International Standard Archival Description (ISAD [G]) is applied for small, less important or growing holdings.⁶⁵ Moreover, the archival description tries to follow users' demand or the owner of archive material wishes. In order to participate in archive portals like „Archivportal D“, „Deutsche Digitale Bibliothek“ or „Europeana“ soon-to-be, the summary of records follows already the Encoded Archival Description standard (EAD).⁶⁶

The development of a broad description strategy remains a task for the future.

⁶⁵ Cf. Papritz, Johannes, Die archivische Titelaufnahmen bei Sachakten, 6. ext. ed., Veröffentlichung der Archivschule 4, Marburg 1997 and ISDA (G) – Internationale Grundsätze für die archivische Verzeichnung, translated and revised by Rainer Brüning, Werner Heegwaldt und Nils Brübach, Veröffentlichungen der Archivschule Marburg, 2. ed., Marburg 2002.

⁶⁶ Cf. the [homepage of eac-cpf at the Staatsbibliothek Berlin](#).

Presenting II: Services of the Archive

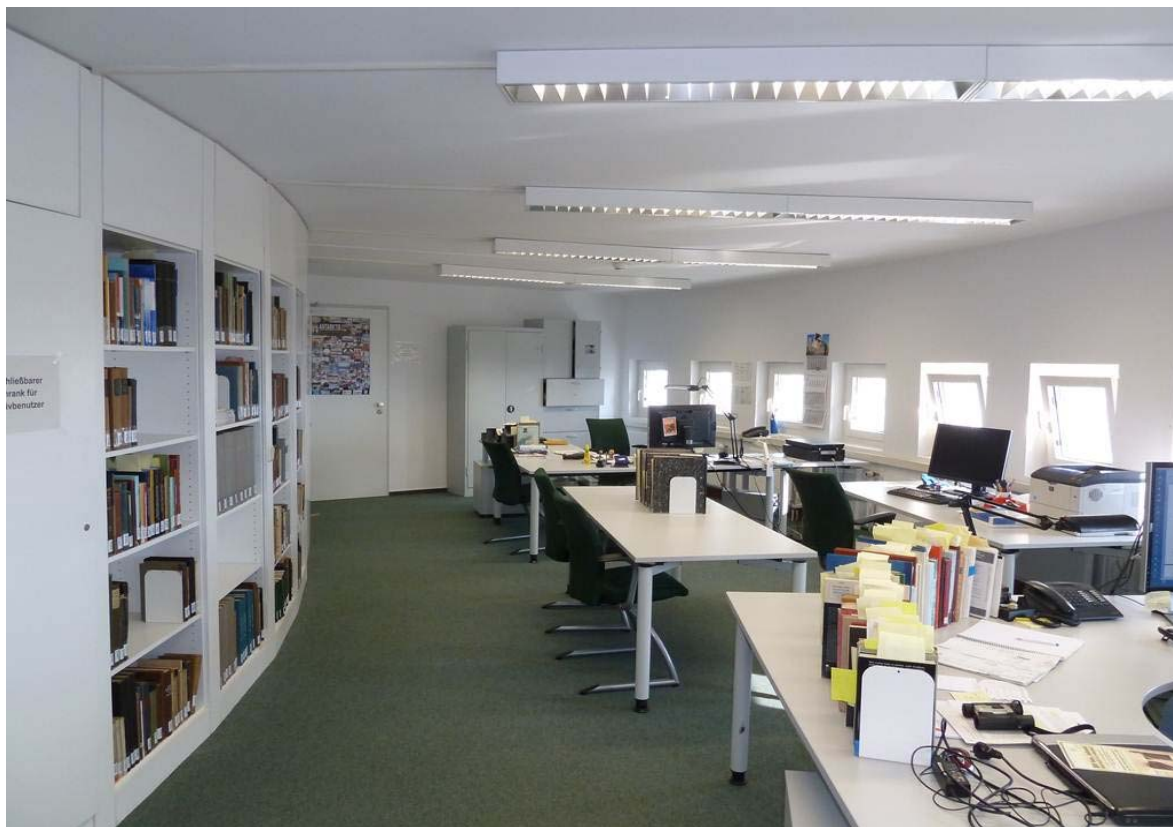


Figure 3: The ADP's user and administration area, photo by C.R. Salewski

The AdP provides the users already with an overview of its archive holdings, estates, collection on its own internet site, online since February 2014.⁶⁷ Moreover, it offers them a research tool on the same site, which contains already approx. 800 data sets in 8 already described estates/holdings and which is continuously enlarged with data sets.⁶⁸

Besides, the archive gives also advices on user regulation and detailed information about the archival material of German polar and maritime research. In addition, it answers to inquiries about the history of these fields. Furthermore, the AdP allows the user to consult the archivalia on the spot. For this purpose, 3 workplaces for users are available in the AdP's user- and administration area.

However, the AdP grants access to the archive material itself on written application only and after several legal requirements are observed, i.e. apart from the BremArchivG, the Bremen data protection law, the common personal law and the German copyright law. The BremArchivG, for instance, allows using only archivalia, whose legally required protection periods have expired. According to this law, the general protection period lasts 30 years after closing of the file. The protection period for individuals last for 10 years after their death or 100 years after the birthday, if the day of death is unknown, or 60 years after the documents were produced, if the date of the birthday is not known. On application, the archive can reduce these periods, e.g. on scientific grounds.

The archive's latest service will be an institute's chronicle, which serves as guide for users to the institute's history as well as to the history of German polar research. It will be published in a few month times on the AdP's official homepage.

⁶⁷ Cf. the [English version of AdP's homepage](#).

⁶⁸ Cf. the [AdP research tool](#) inside the internet.

Professional Network of the AdP

Since its 'early' days the work of the archive has been accompanied by a circle of supporters. The so called "circle of AdP's friends" was founded by the AWI's scientific director Karin Lochte in March 2011 and comprises of proven polar and maritime scientists, who have been always closely linked with the institute.

The archive is provided with knowledge about new developments in archival science by the participation in training courses (e. g. for archival appraisal at the Archivschule Marburg 2013) and by taking part in the activities of the German archivist-community. Therefore, the AdP is a member of the German Archivist Association (Verband deutscher Archivarinnen und Archivare – VdA). This association – founded in 1946 – has 2.400 members, promotes the interests of the archives and archiving and – in doing so – organises events like the annual „Deutscher Archivtag“ (The German archive day) and the biennial „Tag der Archive“ (The day of the Archives).⁶⁹ In addition, the archive is a member of several working groups, i.e. the working group of the North German University Archives or the working group of the archives of the state of Bremen⁷⁰. Furthermore, together with the archive of the Karlsruher Institute of Technology (KIT) the AWI archive cofounded the working group of archives of the Helmholtz Association.

Conclusion

The future prospects for the development of the AdP and the German polar and maritime research tradition looks promising provided several conditions remains to be fulfilled. To begin with, it should be supported further on by the AWI. Additionally, the archive should remain part of the dense professional network. But most important, the AdP should remain a reliable partner for its stakeholders and users by steadily working on the preservation and presentation of Germany's heritage of polar and maritime Research.

⁶⁹ [Official Homepage of this association.](#)

⁷⁰ [Official homepage of this working group.](#)

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Webpages

- Official homepage of the AWI
<http://www.awi.de/>
- Official homepage of the Archiv für deutsche Polarforschung -
<http://www.awi.de/en/about-us/service/archive-for-german-polar-research.html>
- Official homepage of eac-cpf at the Staatsbibliothek Berlin
<http://eac.staatsbibliothek-berlin.de/>
- Official homepage of the working group "Arbeitskreis Bremer Archive"
<http://www.bremer-archive.de/>

Pushing polar history books with bags-in-boxes: the polar book café

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Abstract:

The Norwegian Polar Institute was founded in 1948, but can trace its roots back to the first decade of the 20th century. “Norway’s Svalbard and Arctic Ocean Survey”, as the institute was called from 1928 to -48, already had a library in 1930. A central part of today’s NPI library is the polar history book collection. These books are available to the public. In 2012 the institute’s historian suggested the creation of a monthly book café event in the library. This has been a regularly scheduled activity since April 2012. At each monthly evening gathering an invited speaker presents a book with a polar connection, of his/her own choice. After a break there are questions and comments from the audience. Wine is sold at cost. Between 20 and 80 people attend each event. This has proven to be a pleasant and successful outreach to the community of Tromsø, particularly those interested in polar literature and history.

The Institute

Norway is a rather polar nation. You know Nansen, Amundsen and all that jazz. But we did not have a Norwegian Polar Institute, as such, until 1948. Before that we had Adolf Hoel. He started geological surveys of Svalbard (or Spitsbergen) more than a hundred years ago. Gradually the Norwegian parliament was willing to pay for his explorations, and a national “Svalbard office” was established.

Which eventually developed into NPI. The institute today has more than 150 employees, many of them researchers. We have stations in the Arctic and the Antarctic. We also deal with mapping, logistics, environmental advice and monitoring. In Norway many research institutions were privatized a generation ago. Our institute, however, still remains a government body under the Ministry of climate and environment. This is due to our tasks within fields like environmental management and consultation.

The Norwegian Polar Institute was located in the capital: Oslo from the very start. In the 1990’s the Norwegian Parliament decided to move the whole institute from Oslo to Tromsø, which is more or less the capital of Northern Norway. Actually, I was one of many thousands of people living in the Tromsø region who signed an appeal 25 years ago calling for this move. I guess I may have had both political and personal reasons. Tromsø has a long history as being the “Gateway to the Arctic Sea”. Many expeditions have sailed north from this town, including sealing expeditions and trappers sailing up to Svalbard to spend the dark winter season in small cabins.

The Library

The polar institute library consists of 1,5 librarian (for many years I was the half one). And is organized as a part of the Communications department. Resulting in our closest colleagues being the photo archivist, the historian, web editors, the scientific journal editor (*Polar Research*), and a couple of graphic designers. And a couple of bosses, not least. This is a fine model, I think. Though a closer link to the researchers would of course be positive.

The library service, like many of you, has two main platforms:

1. Serving the institute’s researchers the articles/journals they need in full-text directly on their computer.

2. Preserving and communicating the polar history (and polar history documents) to anyone. We are open to the local public for loan/information, and we answer questions from scholars and others internationally. Every week there are several questions coming in from writers, the academic communities and just anyone interested in polar history matters. Many want to find out more about their old grandfather or relative's involvement in expeditions and so on.

The Café

A couple of years ago the historian came to me and asked: Ivar, shouldn't we have a polar book café in this precious library? He flatters when he wants me to do something for him. He had already checked some technicalities, and our leader agreed to the good idea.

This was to be a monthly happening, Thursday at 8 p.m. It involves a lot of carrying. Two rather heavy study desks in the centre of the library have to be unplugged and carried out. And carried back into the library the morning after. Up to ten small tables, and 60 chairs have to be placed in the main floor space of the library, which is about 300 square meters altogether.

From the cantina we borrow wine glasses. We buy snacks to put on the tables, small candles etc. and on the counter we sell glasses of wine. The wine sale has to be efficient, so we chose the 3-litre wine boxes, both white and red. Some of these are not bad, really. And we have basically not felt the need to meet the connoisseurs of wine. We like to have a low threshold approach to our arrangements.

We're not supposed to make much money out of this, being a government agency. So the wine costs about half of what you pay in the local bars. This has contributed to the success, alcohol being expensive in Norway. Now, the institute financed the 200 Euros needed for the very first café. And then the incomes were sufficient to buy next month's supplies.

Since we serve alcohol to anyone interested, we need to apply for a local alcohol license for each event. It's a rather simple procedure. But once we discovered that we had forgotten to apply for today's license. Luckily we have a friendly café next-door with a permanent license, and they agreed to take us in on short notice.

Already there were similar meeting places in Tromsø: The Arctic Club; the museum's Wine-and-knowledge evenings; The University of the third age; The Historian's Association's open meetings. One might suspect this would be enough, but our concept worked well from the start. Some enthusiasts never have enough of these kinds of cultural events, it seems.

And the concept is: We invite people – academics or other more or less known people we believe to have an appeal or interest – to give a lecture on a book with polar relevance. After the talk there is a break for filling up glasses, and then people can ask questions and give comments to the speaker. As a librarian I'm happy pushing books on a daily basis, but it's also very satisfying to sell wine to the "crowd" from the library's counter.

People may also borrow from the library's book collection during the café. And there is a small exhibition of documents related to each café's theme.

We have a little committee of four people running the café ("the ground floor mob"): historian, librarian, photo archivist and a web editor. This group includes two women, who have made sure that a fair share of the invited speakers is female. We also do a polar history breakfast series. But this is for the academic community, not for the public.

I would also like to mention that I believe in principle that work should be valued. So we have implemented the collective wage agreement's paragraph about 100% extra payment for compulsory working hours after 8 p.m.

Outreach

As speakers we have had historians, a known actor, a film festival director etc. The latest speaker, in May this year, was Vegard Ulvang. He has won Olympic gold medals in cross-country skiing. And has skied across Greenland and to the South Pole. Being something of a national – or regional - icon, we expected 100 people in the audience for this evening. The library would be too small to house a hundred, so we moved to the aforementioned nearest café. Ulvang gave a very fine presentation focused around Nansen's *The First crossing of Greenland*.

One feature of this arrangement is that the speaker may choose a book that he or she read maybe twenty years ago. So he'll have to do a thorough re-reading, which is in result rewarding both to the audience and to the speaker himself.

Many of the speakers have chosen famous expedition narratives, like Nansen, Adolf Nordenskiöld and Shackleton. Or Douglas Mawson or Helge Ingstad. But also a recent book about a major mining accident on Svalbard 50 years ago (Kings Bay). And the autobiography of the first female trapper at Svalbard (Wanny Woldstad). Or *Arctic dreams* by Barry Lopez.

As I mentioned, Tromsø has a proud polar history. And we have senior citizens in the book café audience. It is great to hear some of them telling "polar stories" from their childhood. Such stories, combined with the historians' knowledge, make up a very fine mix in debates following the lectures.

If we can take a step aside and think about our libraries' role in society - let me postulate that there will always be a gap, or a wall if you wish, between the academic sphere and the rest of the society. Given this, I think the library has a position where we belong on both sides of this little wall. One of our most important challenges is to provide stepping stones, or to make doors through this thin wall in society.

Following this line of thought, many of the book café speakers come from the local university. But will speak in a non-academic context, on a topic that appeals to the audience. And after the presentation, he will have to answer questions (or try anyway) from a person sitting around the tables, who may already have read the book.

Also, the speakers are challenged to share their personal reading experience with us. So basically, he can say almost anything. And that is ok. People welcome the personal touch in these talks.

There is a friendly atmosphere to the book cafes that make people want to come back. Most of the cafes have had an audience between 30 and 60 people. The library cannot room many more than 70 people; we prefer to let people have a table to put their glass on. So there has not been much need for expensive advertising.

The speakers are usually local, they are paid with a book and a couple of free wine glasses - after their talk. On every café, people may give their e-mail address, so they will be informed about the upcoming events. And of course we have information out on our web pages, and Facebook. And posters hanging a few places in town. I believe other social platforms are now being included, too. And not to forget, the bush telegraph.

Among other results, the polar institute library is now better known in town. And positive outreach efforts are welcome, for the library as well as for the institute in general. Also our network is widened.

