

DIGITIZATION OF CARTOGRAPHIC MATERIALS : NATIONAL ARCHIVES OF CANADA*

By Betty Kidd

Part 1: Context

In the catalogue for the 1972 exhibition, *Archives: Mirror of Canada Past*, which marked the centenary of the Public Archives of Canada, the then Dominion Archivist, Dr. Wilfred I. Smith, noted “The Public Archives of Canada can report some amazing achievements in the last century, but development of public awareness of its role, the encouragement of popular participation in what should be a co-operative mission, and the sharing of the benefits and the increased enjoyment of its treasures must be a challenge for the next century.”¹ In 1972, few could have anticipated the rapid developments in technology which would, within several decades, provide a tool – the World Wide Web – to enable the realization of Dr. Smith’s stated objectives.

On 1 December 1995, the National Archives of Canada launched its World Wide Web site www.archives.ca. Launched at a time that the Canadian public service was undergoing one of the most massive budget cuts in its history – for the National Archives, a decrease of 26% over a three-year period, the site’s content initially featured information concerning the department and descriptions of some holdings but few images or documents.

At the same time within the Canadian federal bureaucracy, there was a growing determination to use technology to offer government services efficiently to the Canadian public. Government programs were being introduced to ensure that this happened and the digitization plans of the National Archives, as a department, were directly impacted. Government On-Line (GOL) (www.gol-ged.gc.ca) is the Government of Canada initiative to enable Canadians to access federal information and services on-line with the expressed purpose to become the world’s most electronically connected government to its citizens by 2004. An integral part of the government’s Connecting Canadians (www.connect.gc.ca) initiative was the Industry Canada program entitled SchoolNet (www.schoolnet.ca) which had the

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¹ *Archives: Mirror of Canada past/Miroir du passé du Canada*. Toronto: University of Toronto Press for the Public Archives of Canada. p. 2.

mandate to connect Canadian schools and libraries to the Internet by 31 March 1999. In 1996, the Canada Digital Collections (CDC) program (www.collections.ic.gc.ca), also an Industry Canada initiative, was commenced, with a mandate to assist organizations across Canada “to build up a stock of information on Canada for the Information Highway”. SchoolNet and CDC provided Youth Employment Strategy funding for the hiring of young people to undertake digitization contracts. The National Archives quickly became a partner in these initiatives; later in this paper, some of the National Archives’ CDC projects will be discussed.

The actual push to accelerate digitization in the National Archives itself came in the Throne Speech in the House of Commons in October 1999 which promised “to bring culture into the digital age” and noted that the National Archives’ holdings would be digitized and in the Budget Speech of 29 February 2000 which allocated \$75 million to “enhancing Canadian cultural material on the Internet” (note that these monies were to be allocated to numerous federal and other cultural agencies, including the National Archives). Financially, this meant that in the 2000-01 fiscal year, dedicated funds would be available for the first time specifically for digitization and would not need to be “borrowed” from operational funds for other departmental activities. The catch was that the money would not reach departmental coffers until at least mid-year and would have to be expended by the end of the fiscal year – i.e., 31 March 2001. The management decision was to extend a “line of credit”, using operational funds, and to plunge quickly into digitization initiatives. In retrospect and although much was accomplished, certain basic planning steps were skipped, other core departmental programs were negatively impacted and total staff buy-in did not result. In the current year, efforts to alleviate some of these negative aspects are necessary.

In addition, the National Archives, as a federal department, must take into account other federal legislation. Official Languages Act has had a major impact; since Canada is a bilingual nation, this Act must be observed in the presentation of all information, in both French and English, on the Internet. In the planning process, these requirements are an important factor in time estimates and in financial costing. Another is a recently introduced government “Standard for the Common Look and Feel for the Internet” which is necessitating the overhaul of many departmental web sites; undoubtedly, the National Archives site, which has undergone major changes in the past year, will continue to evolve.

Part 2: www.archives.ca

The images on the National Archives Web site reflect the current departmental multi-media approach to exhibitions and other outreach products. Most projects are by subject or theme and encompass all media forms. Unlike the situation for

specific cartographic projects on www.archives.ca, nor will he/she find, except for one virtual exhibition, direct access to documents by media type. Even for this one exception, the term “maps” is unfortunately and mistakenly used for architectural and engineering records as well as for cartographic documents.

The three projects on the NA Web site in which one will find most cartographic images are the virtual version of the exhibition, *Canada at Scale: Maps of our History*, the virtual multi-media *Living Memory* exhibition, and the *Tracing the History of New France* project. As well, a number of “partner” exhibitions are listed under “Canadian Memory Virtual Exhibitions” and are available with a click of the mouse – these include the virtual versions of *Every Name Tells a Story: 100 Years of Official Place Naming in Canada* and *The George Back Collection from the National Archives of Canada*. These projects will be further described as will a project on *Western Settlement* currently underway which will include many maps. The total number of cartographic items available on the National Archives web site at the time this paper was being prepared is less than 100; if one includes the “partner” exhibitions, the number increases to closer to 150.

a) *Canada at Scale: Maps of our History*

This exhibition that was prepared as part of the National Archives’ contribution to ICA’99- the International Cartographic Association conference in Ottawa in August 1999 – was opened in traditional format and subsequently in virtual format. Featuring some 77 archival documents – mostly maps and other cartographic materials, the exhibition concentrated on two thematic areas – the first, the exploration, colonization and development periods and the second, government cartography. Access to the virtual exhibition is provided both through “Exhibitions” and “Places” on the NA web site, and to the individual items, through the “Index” or through the thematic areas noted above. Full descriptive bibliographic entries (AACR2 format) are provided for each item in addition to descriptive text. It is possible to enlarge the small reproduction (the thumbnail) of the item found with the text and bibliographic entry by clicking on it; however, it is not possible to enlarge any portion further nor is any technical information – e.g. number of pixels – indicated.

As would be expected by the thematic titles, many of the “treasures” and significant maps of Canada by well-known explorers and cartographers – including Ptolemy, Zaltieri, James Cook, Champlain (*see Illustration 1*), Joseph Des Barres, Nicolas Bellin, etc. – are featured in this exhibition as are key maps, charts and plans produced by the Canadian government since Confederation in 1867.



b Living Memory

This virtual exhibition of 145 items is based on *Treasured Memories*, a permanent traditional exhibition, the first version of which opened in May 1997 to coincide with the 125th anniversary of the National Archives. The items in the actual exhibition continually change, both for conservation reasons and to make a wider variety of holdings accessible to the public. At the present time, digitized copies of 15 “maps” are featured in the *Living Memory* virtual exhibition.

Access to the documents in *Living Memory* is through theme, time period and media type; this is the only part of the NA web site where the user can actually find maps under the heading “maps”, although the term “maps” is broadened to include architectural and technical drawings as well as cartographic items. When “maps” is clicked, the user is taken to a page with a brief description of the NA’s cartographic holdings – i.e., “more than two million maps, charts, atlases, globes... range from Ptolemy’s atlas of 1490 to the most recent maps published by government and private industry...” and thumbnail sketches of the 15 “maps”. Clicking on the thumbnail sketch will provide a larger image and descriptive text and for several maps, links to the ArchiviaNet bibliographic entry; for an enlargement, one clicks on the image of the magnifying glass. The enlargement includes the number of pixels vertically and horizontally.

To understand this disparate selection of images, it is necessary to know that the exhibition themes are First Peoples (1), New France (2), Newcomers (6), Women (1), War (1), Politics and Government (1) and Arts and Culture (4). The numbers in brackets are the number of “map” images appearing in each thematic area. The same image – the 1822 map by Lligliuk, an Inuk woman (*see Illustration II*) – appears in both “First Peoples” and “Women”.

Illustration II: From: *Living Memory*; Lligliuk, 1822



c) *Tracing the History of New France*

This multi-media project completed in the last year is subdivided into 8 thematic areas and provides access into a bibliographic database for textual records of the New France era. Six of the eight map images in this exhibition appear under “Land”, the first theme; these include maps by Champlain, Bellin, Coronelli (see *Illustration III*), De L’Isle and de Hondt. The other map images are located in the “Seigneurial Regime” and the “Wars” themes. In addition, images of the well-known beaver and cod fishing cartouches or vignettes on the de Fer map of 1698 appear in the “Economy” theme.

Illustration III: From: *Tracing the History of New France* Coronelli, 1688



As for the previous exhibits, the images can be enlarged by clicking on the small image that appears with a brief note. Also, one can click on the “Description of the item” box to read the ArchiviaNet description – this archival data base clearly indicates the link to the provenance of the particular map, - for example, the W. H.

Coverdale collection of Canadiana and the Alexander E. MacDonald fonds. If unknown, the map is designated as a “Single Item.” Linking the descriptions to the database is now the norm for all departmental digitization projects.

For those interested in maps of New France, one should also view the National Archives’ cartographic images in the Virtual Museum of New France on the Canadian Museum of Civilization web site, which will be discussed in the next section of this paper.

d) Every Name Tells a Story: 100 Years of Official Place Naming in Canada

As a federal member of the Geographic Names Board of Canada (formerly the Canadian Permanent Committee on Geographical Names), the National Archives cooperated with Natural Resources Canada and Parks Canada to plan the celebrations in 1997 of the centenary of official place naming in Canada. The actual exhibition, jointly prepared by the National Archives and Parks Canada, was shown at the National Archives although this virtual version resides on the Natural Resources Canada web site (<http://GeoNames.NRCan.GC.Ca/cent/english>)

The exhibition designed for the general viewer, set up as six streets with appropriate signage, used a wide range of archival and current records, including nine maps, as well as “The Carnival” area where questions were located to test the viewer’s knowledge after he/she has visited the other parts of the exhibition. The virtual version replicates the actual exhibition. For quick reference to the digitized items, one can go directly to the “Index of Images” which provides only the location of the original document, a reference number and the number of kilobytes but it is recommended that each of the street areas – e.g. “Names from Explorers” and “International Names” – be visited since much more detailed information is there available.

e) The George Back Collection from the National Archives of Canada

In 1994, the National Archives acquired several sketch books of George Back (1795-1878) with the assistance of Hoechst and Celanese Canada and with a grant from the Department of Canadian Heritage under the Cultural Property Export and Import Act. George Back had created a remarkable record of his expeditions to the Arctic region from 1818 until 1837. His sketches (including sketch maps), drawings and writing document the extraordinary Arctic landscape and topography, its people, flora and fauna. His career was also intertwined with John Franklin’s with whom he served on two expeditions, first from 1819 to 1822 and again from 1825 to 1827. Added to earlier National Archives’ accessions of Back’s graphic materials from 1921, 1955, 1979, 1981 and 1986, these sketch books provided a most attractive body of material when Industry Canada began

identifying material for the Canada Digital Collections (CDC) program. Digitized by the Grade Ten class at Echo Dene School, Fort Liard, Northwest Territories, the collection is located on the Industry Canada website at <http://collections.ic.gc.ca/back/>. The documents are arranged geographically by province and territory and there is a detailed descriptive entry for each. The approximately 30 sketch maps included are to date the largest number of National Archives' manuscript maps available on the Internet (*see Illustration IV*).

Illustration IV: From: *The George Back Collection, National Archives of Canada 1820*



f) *Western Settlement*

Scheduled to be launched in the near future, this exhibition has been in the planning stage throughout the current year. The following quote from the draft project plan provides the context of the current planning:

The settlement of western Canada can be broadly described as the movement of an intrusive European-based population onto an indigenous landscape. This landscape was then transformed to suit the needs of the invading society. Defined as such, western settlement has two broad themes: people and land.²

A multi-media project, it is anticipated that the cartographic component will include numerous maps and plans of Indian Reserves and settlements (based on several publications of the former National Map Collection); examples of fire insurance plans and bird's eye views of western cities and representative sheets of the Three-Mile Sectional Map series. As for other projects to date, existing 105mm fiche will be scanned for this project.

² Jeffery Murray, "Western Settlement: Draft Content Map", December 2000, p. 2.

Part 3: NA Cartographic Material on Other Web Sites

In addition to the presence of cartographic material on the National Archives' web site and to the links to "partner" projects there provided, there are many National Archives maps and plans to be found on a number of other Government of Canada web sites and on university and several private sector sites. A few examples follow:

a) GeoGratis

The largest volume of National Archives cartographic/geomatic records available on the Internet is located on the GeoGratis (<http://geogratias.cgdi.gc.ca>) web site of Natural Resources Canada.

In 1995, the records of the Canada Land Inventory (CLI) program – data and intellectual property – were transferred to the National Archives. Copies of the printed sheets – land capability for agriculture, forestry, wildlife (waterfowl and ungulates) and recreation – had been acquired by the National Archives throughout the program's history starting in 1963. At the time of massive government downsizing in the early 1990s, the CLI with its huge digital data base of over 30 000 map sheet equivalents could not be maintained and was officially discontinued. The National Archives was most eager to acquire these records since the Canadian Geographic Information System (CGIS) associated with the CLI was the world's first fully operational GIS and certainly changed the nature of mapping world-wide. Almost immediately, an ad hoc group representing government and private sector, the "Friends of the CLI", began to explore ways to ensure continuing access to the huge CGIS/CLI data base. Cooperation at the grass roots level in the National Archives, Statistics Canada, Environment Canada, Agriculture and Agri-Food Canada and Natural Resources Canada resulted in the transformation of all the CLI maps into standard data exchange formats. Providing this data on the GeoGratis web site has allowed downloading of digital GIS files for professional and technical audiences. Work continues on similar projects.

b) In Search of Your Canadian Past: The Canadian County Atlas Digital Project

Canada's Digital Collections (CDC) Program, discussed previously, has funded some 400 projects for numerous institutions across Canada, including the National Archives. In addition, in some cases, material from the National Archives has been used to supplement or complete projects undertaken by other institutions. A cartographic example is McGill University's "In Search of Your Canadian Past: The Canadian County Atlas Digital Project (<http://collections.ic.gc.ca/atlas/>) , a searchable site which provides access to land owners' names and to the township maps in the approximately 40 county atlases published in Canada between 1874

and 1881. The Rare Books Division of McGill University holds copies of most of these published atlases but asked the National Archives to provide access to those not in their holdings. The National Archives was very pleased to cooperate since this site is most valuable to genealogists and updates the Archives' effort in 1970 to make these atlases accessible with the publication, *County Atlases of Canada: A Descriptive Catalogue*.

c) *New France Virtual Museum*

As stated on this section of the Canadian Museum of Civilization web site at <http://www.vmnf.civilization.ca>, the virtual museum "brings together as never before traces of New France from wherever they are found around the world." The maps from the National Archives can be accessed through the "Exhibitions" area of the Index. Under the section title "An Overview of Cartography", the maps with brief narrative text, are subdivided under the headings "World", "Americas", "New France" and "Cities" and "illustrate two major elements in the history of geography: the progress of cartography during these centuries and the increasing knowledge of the north american territory, due essentially to the explorations." As well, three additional NA maps of New France can be located by clicking on the word "Maps" or the symbol.

d) *Ottawa in Maps*

On the Carleton University web site (<http://www.library.carleton.ca/madgic/maps/ottawa>), this is the electronic version of the 1974 National Archives publication *Ottawa in Maps: A brief cartographical history of Ottawa 1825-1973/Ottawa par les cartes: Brève histoire cartographique de la ville d'Ottawa 1825-1973* by Thomas Nagy. The project is a joint digital publication of the University of Ottawa Map Collection, the Carleton University Maps, Data and Government Information Centre, and the National Archives of Canada. The images have been created by scanning the 105 mm microfiche of the original maps and utilizing the image compression software, Mr. Sid (Multiresolution Seamless Image Database) that allows zoom-in display. Thumbnails of the maps are shown by date and by clicking, the description of the item is presented and the larger image appears on the computer screen (see *Illustration V*).

Illustration V: From *Ottawa in Maps*; Brosius, 1876



e) *The Atlantic Neptune Online*

The first detailed hydrographic surveying of the eastern seaboard of North America, known as the *Atlantic Neptune*, was the work of Joseph Frederick Wallet DesBarres (1721-1824) and a team of surveyors. The National Archives has extensive holdings of these charts as well as several of the copper plates from which the prints were made.

Atlantic Neptune Online (<http://mercator.cogs.nsc.ns.ca/neptune.html>) owes its existence in large part to the research interests of one of the instructors at the Centre of Geographic Sciences, Nova Scotia Community College (Annapolis Valley Campus). Located on the College's web site, geographic indexes to the charts and a listing of 108 charts with the titles, Stevens numbers and the National Archives' 105mm microfiche numbers (NMC numbers) are provided. Digitized versions of 24 of the charts are available with three zoom levels.

f) *Canadian Heritage Gallery*

Certainly most attractive and well done and despite its name, not to be confused with the federal government department Canadian Heritage, this site is "the most extensive collection of historical Canadiana on the Internet." The Gallery's mission is "to promote the accessibility, knowledge and research of Canadian Heritage by publishing via the Internet an extensive collection of historical photos, original documents, Canadian artwork, maps, and illustrations, fully documented and researched for historical authenticity, and presented in a "user friendly" format; and to advance dissemination of materials and information pertaining to the Heritage of Canada by providing printed or digital reproductions of selected images and caption information, as published on this Site." (<http://www.canadianheritage.org>). The majority of the images on the site are from the National Archives, including

58 maps and plans. The images are offered for sale at prices starting at \$42.00 Cdn for a 5" x 7" print or a 1,000 px X 1,400 px JPEG download or CD-ROM TIFF.

Part 4: The Future

To date, the National Archives digitization program has, in large part, reacted to outside pressures and to the availability of funded initiatives. With more continuity now ensured for an ongoing program, undoubtedly the National Archives will increase the digitization of its holdings in coming years, although only a small percentage – perhaps 2% - will ever actually be available on the Internet. At this time, a more stable organizational structure of the digitization area is being planned. Realization of the impact of digitization on core ongoing programs in recent years, especially in 2000-2001, and corrective action will result in increased staff commitment. Certainly, all staff are eager to see “their” records made accessible to interested parties through the Internet.

The specific requirements of documents in various media forms must continue to be addressed. A non-cartographic example of such thought is the planned philatelic or Canadian Postal Archives site to be launched in September 2001. A cartographic example currently underway is the search for a solution to the lack of appropriate sized scanners for large or “oversized” documents. Although the 105 mm microfiche have been utilized to some extent for cartographic and architectural documents, there are problems in that most of the microfilming to date has been in black and white and consistency of resolution varies depending on the camera used and the timing of the filming. Traditional filming has also been used. This will change in 2002-03 when the department is scheduled to purchase a large scanner for oversized documents. One of the scanners being seriously considered is a KartoScan flatbed scanner for Kongsberg Scanners of Sweden. This equipment was first brought to the attention of National Archives staff at a display of the company’s products at the International Cartographic Association conference in Ottawa in August of 1999. Departmental staff members later met with a company representative in Ottawa and the head of the copying area visited Sweden to discuss technical requirements. The funding for the purchase was confirmed in April 2001 when the department was advised that additional funding would be available for a two year period as part of the “Program Integrity” grants to ensure that the Canadian public service was up-to-date technologically. Identified as a solution for cartographic and architectural material, other large-size documents, such as Indian treaties will also benefit as happened with the 105mm microfilming program introduced in the 1970s.

Cartographic staff have also been identifying the need for a “zoom-in” technology for digitized cartographic materials and in fact, have successfully experimented with Mr. Sid in their portion of the departmental Intranet site. As well, the co-operative *Ottawa in Maps* project employed Mr. Sid. This technology – in particular, the uses made by the Library of Congress – needs to be seriously studied by digitization staff. This type of technology would certainly be beneficial to on-line users of the National Archives’ web site – and incidentally would also be useful for other types of documents in addition to maps.

That maps are scientific documents based on complex mathematical projections needs to be recognized and methodology introduced to ensure that the scale and original dimensions can be reconstituted. A lesson could easily be learned from the 105mm microfilming program where throughout the program’s history, a ruler has been filmed with the map or plan.

In a five-week period in December 2000 – January 2001, users of the NA web site were asked to provide input on digitization projects proposed by NA staff for 2001; some 2900 responses were received. Although the survey was undoubtedly useful, future surveys need to ensure the participation of those groups that have not been regularly using the site; certainly, for cartographic researchers, there are many other sites available with more information on cartography than is found on the National Archives site, and thus, they do not tend to visit www.archives.ca. Unfortunately, not even such groups as the Association of Canadian Map Libraries and Archives and the Canadian Cartographic Association were informed of the survey or asked to participate. Of the 19 projects listed, only two were specifically cartographic in nature and in terms of the voting, “Bird’s Eye Views of Canadian Cities” placed 9th and “Fire Insurance Plans”, 11th. There were also others which would have a high cartographic content – including “Western Settlement” (4th), “Battles of the First World War”(8th) and The North (18th). Not surprisingly, since genealogists constitute a high percentage of the users of the National Archives, the top-ranked projects were those which genealogists would find most useful.

The National Archives needs to look back at its long publishing history of specialized finding aids and catalogues and to seriously consider combining the existing text and descriptions with scanned images of the archival material described. Not only would less staff time be required – although, of course, material received since the publication date could be added – but many useful publications which have been out of print for many years would again be accessible with the added benefits of scanned images and electronic searching capabilities. For cartography, these 1970s publications could be considered: *Index*

to *Township Plans of the Canadian West* (1974); *Winnipeg in Maps* (1975); *County Maps: Land Ownership Maps of Canada in the 19th Century* (1976); *Arctic Images: The Dawn of Arctic Cartography* (1977); *Fire Insurance Plans* (1977) – note extensive additions would need to be added; and *The Riel Rebellions: A Cartographic History* (1979). Several other publications from this period have been or will be used in other ways, including *Ottawa in Maps* (1974) now available on the Carleton University web site, *County Atlases of Canada: A Descriptive Catalogue* (1970), of which much of the information is now available in McGill University’s “In Search of Your Canadian Past: The Canadian County Atlas Digital Project”, and *Maps of Indian Reserves and Settlements* (1980-81) which has been expanded and will be used in the forthcoming *Western Settlement* project. The unpublished listing of trench maps would be of interest to many. And would historians of cartography not be overjoyed with an electronic version of *Sixteenth-century Maps relating to Canada: A check list and bibliography* (1956)?

Continuation of partnering with both federal government and other organizations is vital for the success of the digitization program. As an example, the new Images Canada site (www.imagescanada.ca) is hosted by the National Library of Canada and supported financially by Canadian Heritage as part of the Canadian Digital Cultural Content Initiative. This initiative provides numerous opportunities for increasing the visibility of visual archival materials and the National Archives is committed to participation in the future. As well, there have been and will be joint projects with or participation in projects of other cultural agencies within Canadian Heritage, including the National Library and Canadian Museum of Civilization and with other departments and crown agencies such as Canada Post and Natural Resources Canada.

Closely related to the digitization of images is the necessity to provide accurate and detailed descriptions of and the appropriate contextual information for the digitized items. Thus, the National Archives’ commitment to making finding aids available in electronic form – whether or not the items are digitized, to continue to build ArchiviaNet and to be a major contributor to CAIN (the Canadian Archival Information Network) must be supported and adequately funded. The National Archives’ web site does acknowledge in the ArchiviaNet section that for cartographic and architectural documents, “Most detailed descriptions of this material are not yet online. However, high-level descriptions may be found in the General Inventory, and some digitized maps may be found in the virtual exhibits.” The AG Canada entries created for maps since the 1980s, although electronic, are still not migrated to ArchiviaNet, although some do appear in the National Library’s Canadiana CD-ROMs and most may be migrated to the National Library’s AMICUS database in the near future where they will reside until the

AMICUS based MIKAN system for the National Archives is operational. The “old”card catalogue for maps (1950s to 1980s) is currently being transferred to a digital finding aid format and the first portions of this data base are expected to be available on-line to researchers in 2002. Only additional resources will facilitate access to these invaluable tools and to the other vast number of existing finding aids still available only in paper format.

As noted previously, there are only two cartographic “partner” sites noted under “Canadian Memory Virtual Exhibitions” – the toponymic exhibition and the George Back sketchbooks. There are no references to the other web sites noted earlier in this paper nor to the others not here described; even so, many of these could not be correctly designated as “exhibitions.” There is certainly a need to review these and other web sites in which National Archives holdings figure prominently and to ensure that links are added to various yet undetermined locations on the National Archives web site. Access to web sites should be facilitated at least when the department is named as a partner or as a major contributor (e.g. GeoGratis and *Ottawa in Maps*).

The most recent published *Annual Review* of the National Archives – that is, for 1999-2000 – notes that “With the Internet, the Archives now has a marvellous communication tool to make Canadians aware of its collections. In 1999-2000, some 1.5 million people explored and consulted the National Archives Web site.”³ Certainly, the technology now is available to ensure that the wishes expressed by Dr. Smith in 1972 and reported at the beginning of this paper can now be met – certainly, the future is exciting for the staff responsible for cartographic materials in the National Archives of Canada and indeed for cartographic staff in archives, libraries and museums world wide.

Note: The opinions expressed in this paper are those of the author and do not represent the position of the National Archives of Canada.

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³ Annual Review 1999-2000. National Archives of Canada/Revue annuelle 1999 -2000. Archives nationales du Canada, p.10.