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550 de la Cité Boulevard  
Gatineau, Quebec  K1A 0N4  
www.bac-lac.gc.ca

ISSN 2369-4521 (Print)  
ISSN 2369-453X (Online)

Signatures is published twice a year.  
Subscribe online:  
www.bac-lac.gc.ca/eng/signatures

For more information:  
bac.signatures.lac@canada.ca

Cover photo: Chris Lund, 1959.  
Source: MIKAN No. 4301853
Canada is now a digital society.”

It was with these words that the Council of Canadian Academies introduced its 2015 Report on the future of memory institutions in the digital age. For an institution such as ours, whose vocation is to safeguard our country’s memory, these few words have become the catalyst for an ambitious program. This is because all aspects of our mandate—acquisitions, processing, preservation and dissemination—have been radically redefined by the digital revolution.

It is fitting then that this issue of Signatures offers an “impressionistic overview,” if you will, of how digitization figures meaningfully in the day-to-day workings at Library and Archives Canada (LAC). An overview that goes beyond theoretical musings to illustrate the effects and benefits of new technologies on the practice of archival and library sciences in a concrete and tangible way.

On the topic of digital preservation, Faye Lemay writes with great skill in outlining and explaining the contours of her field of expertise. As does Melody Béland, who illustrates the importance of preservation eloquently through the example of a historical journal. Written by a primary witness of the political situation leading up to the Vietnam War, the journal can now be consulted without threat to its physical integrity. Digitization put a stop to the rapid deterioration of its fragile pages brought about by frequent consultation.

Continuing in the same vein, I would like to highlight the contribution made by four of our archivist colleagues in responding to the challenges posed by complex digital art. The preservation—and even the acquisition—of works that are constantly evolving and that refuse to be fixed in a specific moment of their transformation is not without its share of problems, and I am proud that LAC is at the forefront of international reflections on this subject.

In terms of dissemination, whether it involves our fellow citizens “Reliving Expo 67” or seeing first-hand the miserable conditions endured by soldiers of the First World War who enlisted “for the duration of the war,” the digitization of our records is a formidable vehicle for sharing knowledge. Hence, it is an effective tool for democratization, an antidote, of sorts, to “fake news” and “alternative facts.”

However, beyond the traditional niches of our disciplines, digitization has opened the way to a new modus operandi. Think of the presence of LAC in the “Wikipedia universe” that we discover through Rosa-Iris Rovira. What tremendous benefits! There have been 34 million views of our images in the space of one month; this, in addition to the 114 million visits our website receives annually. Or consider the Can Link project discussed by Arouce Wasty and Peter Stephen: with time, linked data will revolutionize the way our community of users locates records they wish to consult. I am also thinking of the work of our colleagues who manage ISSN Canada and who facilitate open access to Canadian scientific publications. And, as a final example of this paradigm shift, one need only look to the DigiLab, as described by Melanie Brown and Karine Gélinas. Thanks to this new space at 395 Wellington Street, our clients can now set their own digitization priorities and carry them out using state-of-the-art equipment made available free of charge, in exchange for sharing their efforts with our users.

Nevertheless, LAC’s many successes in terms of digitization must not allow us to forget that the digital world is essentially one of collaboration, so we have no pretentions of rebuilding Ptolemy’s Library. Even Google—think of the Google Books initiative—has not succeeded in amassing all of the world’s knowledge in one place. It is therefore essential to invite all documentary heritage communities to work together. LAC has advanced two mechanisms dedicated to this. The first is the Documentary Heritage Communities Program, which allows for financial contributions to local organizations to assist them in preserving and making their documentary heritage accessible. The second is the National Heritage Digitization Strategy: built as a co-operative movement, it proposes the coordination of digitization efforts by key players in Canadian memory institutions.

We are also driven by a spirit of sharing and co-operation with respect to international relations. Given the global recognition of our preservation expertise (both digital and analogue), hardly a week goes by without a foreign delegation coming to visit our Preservation Centre, the jewel in our crown. So, let us put the lie to the famous words of Rudyard Kipling “OH, East is East, and West is West, and never the twain shall meet, ….” LAC is where geographic extremes meet: South Koreans and Norwegians, Chinese and Peruvians, Belarusians and Indonesians—they all cross paths at 625 Carrefour Boulevard in Gatineau!

Guy Berthiaume
Librarian and Archivist of Canada

1. Leading in the Digital World: Opportunities for Canada’s Memory Institutions, Ottawa, 2015, page xi.
Library and Archives Canada (LAC) has a vast collection of digital and digitized holdings of Canadian publications and archival government and private records. Some major collections include digital books and serials, Canadian theses and dissertations, the Government of Canada Web Archive, and Prime Ministers' papers. Digitized holdings at LAC continue to grow, containing such key resources as Canadian census records, personnel records of the First World War, and official publications of the Government of Canada like the Canada Gazette.

Many of these collections have been acquired since the 1970s, stored on floppy disks, CDs, DVDs and running on outdated operating systems.

Digital content is inherently vulnerable to rapid decay and obsolescence. The life expectancy of digital media decreases with every passing year as technology continues to evolve rapidly. Some of the older content requires legacy viewers and playback machines to be rendered accessible. The work of digital preservation requires timely intervention to migrate or convert the content into more reliable and stable media and formats before the content is permanently lost. Integrity checks are conducted to ensure that the content has not been altered or corrupted over time.

The LTO tape library in the Preservation Centre in Gatineau serves as the central repository for digital preservation masters. The storage platform supporting the repository is a Linear Tape Open (LTO) library that can store 2 terabytes of uncompressed data per cartridge, totalling over 5,000 LTO tapes. The Digital Archive contains approximately 5 petabytes of digital content, which represents a fragment of the total digital holdings of documentary heritage requiring preservation treatment.
FUTURE PLANS

As the collections continue to grow, the needs and demands for digital preservation only intensify exponentially. How is LAC preparing for this?

LAC completed an audit of its operational capacity for a trusted repository, which provided valuable lessons for program development. It conducted a digital collections inventory of published and archival holdings to gain a better understanding of the magnitude and complexity of the digital challenges that lie ahead.

The Digital Operations and Preservation Branch has developed a digital preservation strategy focused on three building blocks for a digital preservation program:

- organizational development and design to ensure that LAC has the human resources with the necessary skills and competencies to handle digital content
- operational workflows and procedures such that digital material flows seamlessly from acquisition to digital preservation
- technological development to implement systems and technical infrastructure capable of handling the large influx of digital content

It is with these foundations that LAC can meet its mandate and responsibility for the long-term preservation of and enduring access to Canada’s documentary heritage. By doing so, the generations of tomorrow will come to know and understand themselves better.

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SO, HOW MUCH IS A PETABYTE YOU ASK?

Enough data to fill 223,000 DVDs! If stacked, 1 petabyte of those DVDs would measure 268 metres tall (878 feet), almost as tall as Canada’s tallest building, the First Canadian Place in Toronto, which stands at 298 metres (978 feet). The 5 petabytes of data in the Digital Archive would be equivalent to 1,338 metres (4,390 feet) of DVDs!

WHY DO WE CARE? WHY IS THIS IMPORTANT?

LAC has a legislated responsibility to ensure that the documentary heritage of Canada is accessible for future generations. Without preventive measures to stem the tide of digital loss and decay, Canada’s digital heritage may be lost to its citizens forever.

2. Source: https://www.skyscrapercenter.com/building/first-canadian-place/543
THE DIGILAB
HANDS-ON HISTORY

BY MELANIE BROWN, Manager, and KARINE GÉLINAS, Project Manager, Public Services Branch

Records tracking rain, thunder and lightning over Ottawa in the 19th century. Labourers seeking relief at the height of the Great Depression. Half a century of action in the Logistics Branch of the Canadian Armed Forces. A 100-year-old road trip from Montreal to Vancouver. The legacy of Japanese-Canadian internment camps, and more. What do these unique aspects of Canadian history have in common? They are all now accessible through the DigiLab, LAC’s innovative hands-on digitization facility at 395 Wellington Street in Ottawa. Launched in April 2017, the DigiLab gives researchers direct access to high-performance scanners, computers, and other tools so they can digitize and contextualize items from our collection that are important to their area of study.

WHY THE DIGILAB?
LAC already undertakes large-scale digitization initiatives, such as the First World War Canadian Expeditionary Force personnel service files project.

The DigiLab responds to the growing demand for digital access to our collection, scaled to accommodate the kind of specialized research we see in our Reading Rooms every day. There, LAC clients might order collection material and pore over files for hours on end. During their research, a client may take digital images using their camera or mobile device, but the quality of the images may be uneven and, ultimately, no other researcher has access to those images. At the end of the day, the material heads back to the vault and a researcher with similar interests has to go through the whole process again on a subsequent visit.

Clients of our DigiLab benefit from a free, efficient means of generating high-quality digital images; in turn, we ask them to record basic metadata for the material they are scanning. We then create a Web copy of that material and make it available to everyone to discover and access via our website.
WHAT’S NEW?

During its first months of operation, the DigiLab welcomed researchers from across Canada, and supported the digitization of over 24,000 pages of textual material and more than 1,000 photographs.

For example, over a four-week period, the DigiLab hosted a researcher working on a project funded by the Social Sciences and Humanities Research Council called “Landscapes of Injustice.” Led by the University of Victoria, the project involved the digitization of records related to the dispossession and internment of Japanese Canadians during the Second World War. With the support of the DigiLab, the researcher was able to digitize important files daily and send them to her team in British Columbia on the same day to advance the project.

The DigiLab is also hosting a doctoral student from McGill University who requires digital copies of LAC microfiche for her dissertation research. Before the DigiLab was created, she had to digitize the microfiche images in multiple sections and then stitch all the sections together to generate a complete image—a process that took precious time away from other aspects of her study. The DigiLab is a one-stop solution for her to produce comprehensive digital images.

Many of our other collections have gained new life through projects in the DigiLab:

- photographs taken by William Reford during his trip across the country from Montreal to Vancouver in the late 1800s and early 1900s, for presentation in a virtual exhibition about the photographer
- early meteorological records for Ottawa from the late 1800s that track the weather three times a day are of interest internationally, and making them available online helps to support contemporary environmental research
- photographs of the Relief Camps established by the Canadian government to support unemployed workers during the Great Depression, to be featured in a documentary film
- material from the Canadian National Institute for the Blind, digitized for an exhibition celebrating the organization’s centenary
- photographs detailing the history of the Logistics Branch of the Canadian Armed Forces to celebrate its 50th anniversary in 2018

GET STARTED!

You can contact the DigiLab staff by email at bac.numeri-lab-digilab.lac@canada.ca and discuss the collections you would like to digitize on site at 395 Wellington. If there are no conservation concerns and access to the material is free of restrictions, we will work with you to schedule your time in the DigiLab.

To make the collections available on our website, we ask that you digitize complete files, and capture key information related to the collection, for example, the title of the file or the photographer’s name. We provide training on how to handle the material and use the equipment during your first visit to the DigiLab. And we are there to support you throughout your entire project.

We hope to hear about your project soon!
Glimpses of shattered lives, unknown fates and national history fill the pages of the Canadian Expeditionary Force personnel service files. Safeguarded for almost a century and consulted by generations of researchers, these files are now available online for all to access.

Noted on each enlistment form in each service file are the words “For the duration of the war.” A pat answer given to every man and woman enlisting with the Canadian Expeditionary Force about the anticipated length of their service. It was 1914, and most believed that the war would be over by Christmas. Many might have reconsidered their decision to enlist had they known the war would last for four years. Four years of hell.

Numerous other handwritten notes and observations fill the faded yellowing pages of the files. Barely discernible, they tell of the vagaries of war—war that destroyed the lives of men who bravely went off to fight the enemy. Once labourers, farmers, students, or members of the militia, they came together in the crowded ranks of soldiers, having little more than their service uniform in common. Equal in the strange military discipline imposed on them. Equal in the modest pay that they received, though less than that of officers.

Equal most of all in suffering, whether from the misery of the trenches, the horrible injuries sustained, or the diseases contracted. Equal in the eyes of the brave nurses or “Bluebirds” who served alongside them in the early days, to care for them and dress their wounds, to support, comfort, and, all too often, hold their hand in death.

Thankfully, not all rest in graves overseas; most were able to return to their homes in Canada. Despite the trauma of war, a number of men took strength from their experiences and continued to serve their country. Canadian flying ace William Avery “Billy” Bishop went on to pursue a brilliant military career. John G. Diefenbaker and Lester B. Pearson would later serve as Prime Minister of Canada, and Georges P. Vanier, as Governor General.

As part of the commemoration activities marking the end of the First World War, Library and Archives Canada (LAC) made the digitization of the Canadian Expeditionary Force service files a priority. LAC’s initiative allows this important collection to be more accessible and ensures its long-term preservation.

Preparations for digitizing the files began in 2013. A team painstakingly reviewed 640,000 files, page by page, removing pins, clips and staples of all sorts. Conservators then carefully removed the adhesive from thousands of pages, separating each one to make it easier to digitize. This step took
Operating at the cutting edge of technology, LAC Digitization Services uses various types of scanners to digitize a wide variety of paper sizes and grades. This may not sound that complicated, but working with archival records of varying size and quality presents its fair share of challenges. For example, LAC is the first institution to digitize archival material on BancTec’s large-format digital scanners, designed originally for scanning cheques at high speed. The digitization team worked closely with the company to modify and adjust the scanners so they could safely process fragile, century-old archival material. The team can now produce more than 7 million digital images per year using these machines.

Ensuring quality control of the digitized service files

By June 2017, 75 percent of the Canadian Expeditionary Force files were available online. This enormous project, set to conclude in November 2018, coincides with the 100th anniversary of the end of the First World War. We estimate that we will have approximately 30 million images digitized by that time.

This massive project initiated by LAC cannot be measured solely in terms of files and pages digitized—most importantly, it can only be measured in the number of lives that were thrown into the abyss of war, the men and women whose service to our country is preserved forever in our national memory.

18 months, time enough to remove roughly 260 kilograms of metal fasteners and to treat more than 80,000 pages.

Given the logistical issues of transporting the records and controlling the quality of digital files, it made sense for LAC to carry out the digitization at the Preservation Centre where the records are stored. This was the first time LAC had undertaken a digitization project of such magnitude, requiring so many resources, both technological and human. The first year proved to be quite challenging.
What would it take to make a Victorian joke funny again? This is the challenge of the Victorian Meme Machine project, an application that mines 17th-century jokes from a database, analyzes their content, and matches them with digitized images from the British Library collection. The results to date have been quite amusing.

Encouraging such creative ways to use cultural collections is also an objective of the National Heritage Digitization Strategy. The strategy aims to coordinate the digitization activities of Canadian libraries, archives and museums. Its goal is to increase the amount of Canadian digitized material available online and provide new ways of finding it. Digitized material means anything converted from an analogue form (e.g., print) to a digital form (computer-ready).

The National Heritage Digitization Strategy is the work of a group of leaders from the Canadian cultural community, initiated by Library and Archives Canada (LAC). Acting on the recommendations of experts and the experiences of their own institutions, these leaders saw an urgent need to work together to address the challenges posed by the revolution in technology. Capturing their thoughts, ideas and aspirations, they melded them in the strategy.

Institutions with a long history of digitization are members of the group. For example, the University of Toronto, which began digitizing its collections in the late 1990s. Or the Vancouver Public Library, which works with community groups to digitize material of common interest. And of course, LAC, with its vast experience in digitization projects, such as that of the Canadian Expeditionary Force personnel service files. In September 2017, the team working on this massive project had already digitized over 490,000 files.

Once the strategy was formally announced in the summer of 2016, the real work began in earnest that October. As volunteers, we came together and formed a steering committee. Our primary focus in managing the strategy is to turn it into action, share digitization resources and experience, help preserve at-risk material, and avoid duplication.

— BY CAITLIN HORRALL, Corporate Secretary, National Heritage Digitization Strategy

The Victorian Meme Machine project matches 17th-century jokes with digitized images from the British Library’s collection. One wonders what it would make of this photo from LAC’s collection. Source: MIKAN No. 3192622
Above all, we want to provide Canadians with better access to their documentary heritage. With that in mind, we believe the strategy will uncover hidden collections and provide learning material for educators. And it will help build a feeling of shared Canadian identity and open up Canadian culture to the country and to the world.

Work on similar collaborative digitization projects has already begun in other countries around the globe. Canada is fortunate in that it can draw on these experiences. The Digital Public Library of America (DPLA) and Europeana, for instance, successfully provide ways to search for cultural material held across institutions and across countries. Norway, Sweden, the Netherlands, New Zealand and France are all active in digitization. As is the United Kingdom, with the British Library being at the forefront of digitization for decades now.

Since coming together as a committee, we have made a lot of progress. We have developed a plan and created working groups to act on it. Using examples set by Europeana and the DPLA, we have adapted a common description model for the cultural sector and are testing it to see how well it works across collections. We have undertaken a pilot project to digitize Indigenous newspapers, and have secured some private funding from The Salamander Foundation. Currently, we are drafting a content strategy and exploring further funding opportunities.

And we are spreading the word—through our planning website and through presentations at the Ontario and British Columbia library associations, among others. We have invited comments and feedback from the community, too. The response has been brisk, with many individuals and organizations contacting us to see how they can help.

So what is next for the committee? We are completing the foundational projects, engaging the community and building networks, exploring funding opportunities, and working with an international committee to see how usage rights can best be communicated to Canadians.

All this with the idea that we can unite Canada with culture.

Now, if we can just find a joke to match the image from LAC’s collection, titled “Taking our Geese to market,” we will be really laughing!

For more information about the National Heritage Digitization Strategy, visit the Steering Committee’s planning website at: https://cnhds.wordpress.com/.
This year is a significant one for anniversaries in Canada. From coast-to-coast Canadians are taking the time to celebrate and reflect on the 150th anniversary of Confederation. Many are also reminiscing about a World’s Fair, better known as Expo 67, hosted by the city of Montreal from April 27 to October 29, 1967. It, too, is receiving a lot of attention in newspaper and magazine articles, seminars, exhibitions, podcasts, and even a new documentary film that focuses on the individuals who made the event possible.

Many of these articles, exhibitions and films feature digitized images from Library and Archives Canada (LAC) collections, specifically from the Canadian Corporation for the 1967 World Exhibition (CCWE) fonds. Established by an Act of Parliament in 1962, the CCWE was the body responsible for planning and managing Expo 67. From 1970 onward, LAC acquired most of the Corporation’s records, which include textual documents, posters, photographs and architectural drawings.

The CCWE fonds contains more than 49,000 photographs, including black-and-white negatives, colour transparencies, slides and prints. These images document Expo 67 activities beginning in 1964, and depict the various construction stages of the islands, pavilions, bridges and canals, as well as the special events and ceremonies that took place. The collection also features images of the famous people who visited Expo 67, such as Grace Kelly, Queen Elizabeth II,
Robert Kennedy, Charles de Gaulle, Lyndon B. Johnson, and other VIP dignitaries from across the globe. The photographs offer us glimpses of the pavilions and hostesses, exhibitions and restaurants, and everything from lampposts to phone booths!

An agreement between the film company Productions de la Ruelle and LAC, signed on October 20, 2016, led to the digitization of over 10,200 of these photographs, including all of the colour slides (totalling just over 9,300!). The company chose many of the images for its documentary film *Expo 67: Mission Impossible*, released on April 25, and its accompanying website, expo-67.ca.

This digitization project allowed the staff in Digitization Services to test out a new copy stand and a film-scanning kit that LAC purchased from Digital Transitions: Division of Cultural Heritage in September 2016. While traditional scanning equipment can take up to a few minutes per scan, our digital imaging specialists used the Digital Transitions kit to capture images in a fraction of a second.

The process for digitizing colour slides involves placing a slide in a film holder and attaching it to a copy stand stage, which has a light table underneath it. As the film holder moves along the copy stand stage, a gentle detent or catching motion indicates when the image is perfectly centred, allowing for better accuracy and efficiency in copying. The digital imaging specialist presses a foot pedal, sending a signal to the camera mounted above the stage to capture the image. If needed, Photoshop corrects colour variances and crops images with visible slide mounts.

Digitizing the Expo 67 colour slides has many benefits. It reduces the physical handling of the slides, which, in turn, reduces the possibility of damage or loss. It minimizes the need for moving light-sensitive colour material, such as photographic slides and transparencies, in and out of cold storage. Most importantly, it provides greater access to the records—now, for the first time, these rarely viewed images of Expo 67 are available online for everyone to enjoy!
ISSN CANADA’S CONTRIBUTION TO OPEN ACCESS VIA ROAD

— BY DOROTA LASKA and NATHALIE MAINVILLE, Cataloguing Librarians, ISSN Canada

For the past five years, ISSN Canada has been contributing bibliographic records to the Directory of Open Access Scholarly Resources (ROAD).¹ In doing so, it enhances the visibility of Canadian scholarly continuing resources in an Open Access context. ROAD is supported by the UNESCO Communication and Information Sector, being in line with its policy and initiatives to promote Open Access to scientific information.

Open Access resources, especially scholarly journals, exist to make content available for reading without the need for a subscription or one-off payment. National and international funding bodies, which aim to maximize access to publicly funded research, encourage the move toward free and unrestricted online availability of scholarly works.

This move to open online access has resulted in significant growth in the number of new journals, with a corresponding increase in the demand for the International Standard Serial Number (ISSN). The ISSN is an eight-digit identifier assigned to enable publishers, subscription agencies, content providers, and libraries to manage serial publications and other selected continuing resources quickly and efficiently along the supply chain.

Despite the benefits of the Open Access movement, there has been a downside. So-called “predatory publishers” are engaging in deceptive practices, such as listing fictitious editorial board members and failing to provide peer-reviewed papers in their “fake journals.” Think. Check. Submit² is an international cross-sector campaign raising awareness to counter this problem.

Librarians and researchers need authoritative information on reputable journals that offer Open Access publication of papers. This is provided by two complementary directories: the Directory of Open Access Journals (DOAJ),³ first launched by Lund University in Sweden, and ROAD, published by the ISSN International Centre in Paris.

¹ ROAD home page, showing Open Access scholarly resources by geographic region and country of publication [Europe and North America selected]. Source: http://road.issn.org/ (accessed September 7, 2017)
ROAD is based on the ISSN Register, the global bibliographic database of continuing resources identified by ISSN Network centres. ROAD’s unique role is to offer free access to and reuse of records describing Open Access scholarly resources, including journals, conference proceedings, monographic series, scholarly blogs, and academic repositories. ROAD can also be used to analyze the distribution of these resources by geographic region and country of publication (see illustrated map), by broad subject category, and by language of resource.

The records that ISSN Canada adds to the ISSN Register, and then selectively to ROAD, are created according to international cataloguing standards and rules, including MARC 21, Resource Description and Access (RDA), Dewey Decimal Classification (DDC), and the ISSN Manual. Conforming to established standards and best practices enables ISSN Canada and other ISSN centres across the globe to collaborate in building and maintaining these databases.

ISSN Canada’s participation in ROAD is part of a wider contribution being made to the Open Access agenda in Canada. For example, the Scholars Portal, a service of the Ontario Council of University Libraries, hosts repositories; and the Public Knowledge Project at Simon Fraser University in Vancouver, British Columbia, provides Open Journal Systems software for the issue of new content. Both act as digital archives reporting into The Keepers Registry, an online facility that records what is being kept safe, helping to ensure that what is Open Access today remains available tomorrow and over the long term.

If you are from a Canadian academic institution publishing an Open Access continuing resource and would like to suggest it for inclusion in ROAD, please contact ISSN Canada at: bac.issn.lac@canada.ca.

**ROAD USES THIS SELECTION CRITERIA FOR OPEN ACCESS CONTINUING RESOURCES**

- access is open to all content of the resource
- research papers make up most of the resource
- scholars and researchers are the primary audience
- access to the resource is open and immediate

3. [https://doaj.org/](https://doaj.org/)
4. [https://thekeepers.org/](https://thekeepers.org/)
COMPLEX DIGITAL ART

— BY RACHELLE CHIASSON-TAYLOR, Music Archivist, CATHERINE HOBBS and SARA VIINALASS-SMITH, Literary Archivists, and MARY MARGARET JOHNSTON MILLER, Art Archivist, Private Archives Branch

Complex digital art is a cultural and artistic phenomenon that presents new and unique challenges to archives, museums and other cultural institutions seeking to acquire it in its various forms, preserve it, and make it discoverable.

When considering what “digital” means, we often distinguish born-digital static objects from digitized analogue objects. For example, a born-digital work of art can be a literary text created with a word-processing program. Alternatively, it can be a piece of music composed using notational software with Musical Instrument Digital Interface (MIDI) to record or play it back. Most of us will experience born-digital works such as these within fixed parameters, without any alteration of their nature or purpose.

Creators of complex digital art, however, go beyond boundaries to produce works across artistic disciplines. While also born-digital, complex digital art is dynamic and adaptive: dynamic, because it is capable of change; adaptive, because the platform used to create it can be tailored or tweaked by the artist.

Computer games, for instance, are dynamic and adaptive: a gamer interacts with a gaming interface, which changes according to a programmed range of possibilities. Complex digital art incorporates this idea, among many others, to infinitely expand the number of interactions with the performer, the audience, or the public.

Opening archives and museums to complex digital creations is inevitable because of the increasing number of these works in all artistic disciplines. Yet, cultural institutions in Canada with programs to acquire digital objects currently focus on born-digital static works, or on older forms of multimedia. Moreover, most efforts to move beyond the tactile and tangible are concentrated on the digitization of analogue objects.

Because of their multifaceted nature, complex digital art works are distinct from traditional singular art forms. Musical interactive and immersive works, for example, can have strong literary or visual components. Overlapping art forms are also present in works of interactive poetry that use gaming platforms. These works blur artistic lines because of the complementary strengths, concerns and approaches of their creators. In spite of this, many creators, curators, scholars and researchers worldwide continue to see complex digital art within the confines of established artistic disciplines.

Awareness and knowledge of complex digital art among archival and curatorial professionals is necessary to approach its acquisition and long-term preservation. Custodians must be willing to initiate dialogue and build relationships with creators across artistic disciplines, scholarly centres of research, and the digital industry. Acquiring exciting works that ignore the boundaries of form and medium calls for knowledge and creativity in equal measure.

Building an archival collection of complex digital art presents challenges that textual records and other mainstream media do not. Today, archivists managing different art portfolios at Library and Archives Canada (LAC) are considering the impact of such acquisitions on their work. They believe that LAC is best placed as a national institution to lead the way in bringing together creators, researchers, archivists, curators, cultural communities and the digital industry to meet these challenges. And the time is ripe to do so!

COMPLEX DIGITAL MUSIC GREW OUT OF EXPERIMENTS IN ELECTROACOUSTIC WORKS IN THE 1950s. Research and creations since then have given way to complex works of sound art, interactive or computer-generated music, and extended digital instrumental practices linked, for example, to movements and haptics.²

² For an overview of new creative practices in music using digital technologies and cognitive research, see pages on the Centre for Interdisciplinary Research in Music Media Technology website at: http://www.cirmmt.org/ (accessed September 12, 2017).
In the era of new technologies, the fear of losing our documentary heritage compels us to digitize our resources to preserve them for future generations. At the same time, open access to information is becoming the new normal. Both of these phenomena are fuelling each other.

The Wikimedia Foundation is contributing to this global momentum. This is not surprising, given that it oversees the free online Wikipedia encyclopedia, the sixth most visited website in the world!

The GLAM-Wiki project (GLAM meaning galleries, libraries, archives and museums) is the result of a meaningful and rewarding collaboration between Library and Archives Canada (LAC) and Wikimedia. The project allows LAC to maintain its presence on this important platform.

LAC already has a strong presence on Wikimedia Commons thanks to its external contributors most of whom are anonymous volunteers. In total, they have uploaded 2,831 images from our collection. Of these, 2,105 illustrated articles were consulted more than 34 million times last July alone! Such was the case with the French-language article on Canada, which featured the work *Samuel de Champlain arrive à Québec*, which was viewed by 93,651 Internet users. English articles about Elizabeth II and the First World War have also featured three of the most viewed images in our collection.

**THE STARTING POINT**

In summer 2017, LAC created a Wikipedia page devoted to libraries, museums and archives. The objective: to share our collaborative projects and showcase the treasures in our collection. As a bilingual page, it could serve as a model for other institutions.

We then uploaded images in batches to the Wikimedia Commons online media library. Meeting the requirements of both LAC and Wikimedia was quite the challenge! One can only imagine the complexities of dealing with the organization of metadata, copyright laws, open source licences, data-collection tools, technical requirements, and so on.

The collaboration between LAC and Wikimedia will continue to deepen, as is already evident by the formation of a working group and the organization of a first edit-a-thon. The journey is only just beginning!
1. The Wikimedia Foundation is a non-profit organization that sponsors projects, such as Wikimedia Commons, Wikidata, Wiktionary, Wikiquote, Wikibooks, Wikisource, Wikispecies, W kinews and Wikiversity.


3. The GLAM-Wiki collaborative project seeks to unify efforts of cultural institutions and Wikimedia to increase access to culture and knowledge.


5. Images found on Wikimedia Commons, under “Library and Archives Canada.”

6. Data collected in July 2017 through the use of the GLAMorgan and BaGLAMa2 statistical tools.

7. In general, there are fewer articles in French than in English, both on Wikipedia and on pages about the museum, library and archives community. LAC’s work contributes to enriching French-language content on Wikimedia.

What can you do with a 300-page document that has been consulted at least 50 times since it was declassified in 1989, and that is showing significant signs of deterioration? Simple: you withdraw it from circulation to protect it from further damage and preserve it for future generations. But first you have to digitize it and make it accessible online!

The document in question is a journal kept between 1954 and 1955 by Brigadier-General Sherwood Lett, Canada’s representative at the International Commission for Supervision and Control in Indochina (present-day Cambodia, Laos and Vietnam).

At that time, Indochina was a French colony consisting of several ancient Southeast Asian kingdoms. Following the Second World War, the people of the region sought independence from France, a quest for autonomy that would lead to the First Indochina War. The conflict, which began in 1946, was brought to an end with the signing of the Geneva Accords of 1954. The Accords recognized the independence of Cambodia and Laos as well as the partition of Vietnam in exchange for their neutrality in the face of a growing communist threat. The Accords also established the International Commission for Supervision and Control.

Canada, Poland and India (representing a balance of anti-communist, communist, and neutral parties, respectively) were chosen to serve as members of the new Commission.

The role of the Commissioners was to supervise the enforcement of the Geneva Accords, keep the peace in Cambodia, Laos and Vietnam, and investigate violations of compliance.

Brigadier-General Lett kept a record of his day-to-day activities, both professional and personal: what he did, whom he met with, what he discussed and what he recommended. In many entries, he wrote tenderly of his wife Evelyn (“E.L.”), who remained back in Canada. His journal is a rich source for researchers, particularly because the Commission’s records bear witness to the years leading up to the Second Indochina War, more commonly known as the Vietnam War (or, to the Vietnamese, as the American War). Thanks to digitization, this invaluable work is now available to all researchers everywhere.

AN INVALUABLE RECORD OF THE INDOCHINA CONFLICT

— BY MELODY BÉLAND, Archivist of International Affairs, Government Records Branch

A veteran of the First and Second World Wars, Brigadier-General Lett (centre) represented Canada at the International Commission for Supervision and Control in Indochina in 1954 and 1955, before being appointed Chief Justice to the Supreme Court of British Columbia. Source: MIKAN No. 3592428

The already fragile pages of Brigadier-General Lett’s journal were deteriorating because of frequent consultation.
Linked data, which is structured data interlinked on the Web, is of great interest to the library and information science community. Linked data can benefit libraries by using bibliographical information traditionally confined to catalogue records, presenting it online, and emphasizing the relationships between data elements.

The Canadian Linked Data Initiative (CLDI) was created to allow libraries to take full advantage of this new development. It is supported by five university libraries, Library and Archives Canada (LAC) and Bibliothèque et Archives nationales du Québec, and is intended to help Canadian libraries adopt linked data.

The CLDI consists of the following eight working groups: Digital Projects, Education and Training, Grants, Groupe de travail francophone, IT, Metadata, Planning, and User Experience. Librarians from the Published Heritage Branch Description Division represent LAC in all of the working groups. A current collaboration between LAC and the Digital Projects working group is “Can Link – a linked data project for Canadian theses.”

Can Link, is a proof-of-concept project that involves using bibliographic records for Canadian theses and their corresponding authors. LAC supported this project by establishing and revising over 200 authority records for thesis authors who attended Canadian universities. The authority records were enhanced through the inclusion of the author’s field of study; associated academic institutions and their locations; and the Open Researcher and Contributor ID (ORCID), a unique digital identifier that represents a single scientific or academic author.

The University of Alberta collected records from LAC and other partner institutions, and converted them into linked data format. This data can now be used in a number of ways: for example, a researcher can determine which authors have focused their thesis on the translation of literature.

The use of linked data for libraries is still relatively new. With widespread adoption, it has the potential to enhance the ways in which our clients visualize, use and navigate information.
When it comes to safeguarding Canada’s documentary heritage and making it accessible, we have always been hands-on at Library and Archives Canada (LAC). We are not alone in that respect. Across the country, local community libraries, archives, museums, and historical and genealogical societies are doing an amazing job of collecting valuable resources that tell Canada’s story. Yet, they could use our help to preserve their collections and to give people greater access to them. To that end, under the leadership of Librarian and Archivist of Canada Guy Berthiaume, LAC launched the Documentary Heritage Communities Program (DHCP) in 2015.

The DHCP is part of an effort to revitalize the relationship between LAC and documentary heritage organizations in Canadian communities. With a budget of $1.5 million a year, for five years, the program provides funding to eligible organizations seeking help to organize, preserve and share their collections of books, photos, audio recordings and much more. This time-sensitive archival work helps to ensure that Canadian heritage is documented, preserved and accessible for current and future generations to enjoy.

So, what kind of organizations share in this important task of documenting our national story? They are local community organizations that represent you, me, our colleagues, our neighbours—anyone who calls Canada home. And their stories are part of our story, as a country. Past recipients of DHCP funding include the Inuit Broadcasting Corporation, the Jewish Historical Society of Southern Alberta, the Women’s College Hospital Foundation, the Canadian Lesbian and Gay Archives, the Port Edward Historical Society, among many others.
Fortunately, through the DHCP, eligible organizations can apply for funding for a myriad of activities related to preserving and sharing their unique collections. The program assists private and not-for-profit community organizations that wish to make their collections accessible to the public and that are open to increasing their capacity to do so.

Recent DHCP recipients are doing some fascinating and important work. For example, in 2017, the Manitoba Historical Society dug up and digitized hundreds of hard-to-find local histories, providing convenient access to them online—a legacy for all Manitobans and for anyone with ties to that province. Another recipient, the New Brunswick Queer Heritage Initiative, prepared heritage records to share on its new website to increase awareness of its growing and vibrant community. And the Avataq Cultural Institute contributed to Nunavik’s documentary heritage by digitizing and describing the personal heritage fonds of two notable residents, Yves Michaud and Georges Filotas. The latter collection comprises original audio recordings about key developments in the Inuit community and self-government initiatives dating from the 1960s to the 1970s.

The DHCP is sure to evolve given its success. Unlike the archival-based program that preceded it, the DHCP supports a broader range of activities and a larger target audience, extending beyond archives to libraries, historical and genealogical societies, and museums with an archival component. With an eye to the future, LAC is all about access to national collections, and boosting capacity within local documentary heritage communities will only help to make this happen.

Today, most Canadians have unprecedented access to their documentary heritage via our public programs, exhibitions, speaker series, publications and website. They are hungry for content about their past and their present, to help inform their future. We are working nationally and locally, through our DHCP partnerships, to build an authentic collection of records that will truly reflect the stories of all Canadians.

Soon to mark its fourth year, the DHCP shows no signs of slowing down. In fiscal year 2016–2017 alone, LAC received 104 eligible applications and awarded funding to 48 organizations!

These numbers confirm wide and unwavering interest in the program, and LAC hopes to build on this connection to community initiatives and projects on a national scale. Preparations are now under way for the next cycle of the program. We encourage organizations to apply by visiting our website for program information and eligibility guidelines (http://www.bac-lac.gc.ca/eng/services/documentary-heritage-communities-program/Pages/dhcp-portal.aspx).

Tug-of-war during Victoria Day celebrations at Sawyerville, Quebec in 1915. Source: Eastern Townships Resource Centre, CCHMS-P004, S001, I006

Student Kaitlyn Bruce helps digitize a book for the Manitoba Historical Society, as part of a project funded by the DHCP to preserve local works of history and make them available online. Photo: Dr. Shelley Sweeney

HALIFAX / NEW SERVICES AT PIER 21

— BY LEAH RAE, Archivist, Public Services Branch

As Haligonians, we look forward to the end of winter every year and eagerly await the slightest sign of spring. This spring brought about a change of a different sort to LAC’s regional services team. We moved from a large warehouse in an isolated industrial park in Dartmouth, Nova Scotia, to a beautiful new office in the Canadian Museum of Immigration at Pier 21, right on the scenic Halifax waterfront.

After the dust had settled and the boxes were unpacked, we opened a public access service point in the museum’s Scotiabank Family History Centre. Since then, we have been promoting the new service point to the local research community, letting them know we are here to help them with their archival and library research, including preparations for research trips to Ottawa.

Last June we celebrated our move to Pier 21 with a Signatures Series event featuring an interview with local editorial cartoonist Bruce MacKinnon. Librarian and Archivist of Canada Guy Berthiaume facilitated the discussion, attended by a near-capacity crowd in the beautiful Andrea and Charles Bronfman Theatre. It was the first of many planned collaborative endeavours between the museum and LAC!

OTTAWA / FROM THE ARCHIVES VIDEO PROJECT

— BY ANDREW ELLIOTT, Archivist, Private Archives Branch

In the Science, Environment, and Economic Affairs section of the Private Archives Branch, we are always interested in new ways to promote LAC’s archival collections. So, when Rogers tv approached me in the fall of 2016 to work with them on a series of three-minute films about the streetscape history of Ottawa, LAC management saw it as an excellent opportunity.

As an archivist more accustomed to behind-the-scenes work, this type of collaborative project was something new for me. It gave me the chance to step outside the archives and onto the street, to talk about a particular type of local history in a relaxed, accessible way. I also got the Rogers film crew to think differently about how to present archival photographs from the 1930s to a mass audience. Working together, we created before and after shots to great effect, making the transformations of Ottawa landscapes come alive. We even managed to wrap up a couple of film shoots before harsh winter weather set in. The first episode in From the Archives is available for viewing on YouTube via the Rogers tv website (http://www.rogerstv.com/media?id=237&rid=4&gid=273877). Future episodes, weather permitting, are anticipated.

The archival images used in this film project are from the Department of Public Works fonds.
In 1947, the Canadian government agreed to participate in an American initiative to establish a network of weather stations in the High Arctic. The launch of the Joint Arctic Weather Stations (JAWS) program enabled the collection of information needed to improve the understanding and predictability of weather patterns and phenomena for the benefit of both countries.

Weather stations were set up in Alert, Eureka, Isachsen, Mould Bay and Resolute where small crews of Canadian and American civilian technicians worked together to gather meteorological data. LAC’s Winnipeg office holds a rich and diverse collection of photographs that document some of the operational challenges the JAWS personnel faced. The photographs capture the stark beauty of the Arctic landscape while recording the daily routines and responsibilities of life and work in close quarters in an unforgiving environment.

LAC’s photos and other records of the hospital document its evolving role, with images including patient care and rehabilitation, buildings and equipment, as well as staff, visitors and volunteers. The LAC Vancouver office is working to make digital copies of select photos and other documents available online.

For over 75 years, Vancouver’s Shaughnessy Hospital served veterans and civilians of British Columbia, providing medical care and rehabilitation services, and becoming a research and teaching centre.

The hospital opened in 1917 as a convalescent home for First World War veterans. Over the years, the hospital expanded its functions and facilities to provide a wide range of services, including ambulatory care, general acute care, intermediate and extended care, and rehabilitation services for veterans.

In addition, hospital volunteers and charitable groups raised funds for equipment and supplies, and organized social events and entertainment. Shaughnessy was also a popular destination for many celebrities, officials, entertainers and royalty, who often went out of their way to visit its patients when in Vancouver.

By the 1960s and 1970s, Shaughnessy staff began treating civilian patients in ever-increasing numbers. The provincial government took over the hospital in 1974 and announced its closure on February 15, 1993.

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In the spirit of the popular classic Frank Sinatra song, Canadians are fortunate they do not have to fly too far to discover the numerous treasures found within the Library and Archives Canada (LAC) collection. LAC’s efforts to digitize the collection, to promote its discovery and to ensure broad access to it have made it possible for Canadians to enjoy their documentary heritage anywhere, anytime.

Many people and cultural memory institutions from beyond our borders also enjoy the fruits of LAC’s labours. LAC welcomes international delegations regularly, as part of official state visits or business trips to Canada. Specialized professional groups representing libraries, archives and museums from around the world come to LAC as well. These visits create mutual opportunities to share expertise, lessons learned, and best practices to help address the common and complex challenges of documentary heritage stewards in the digital age.

In the last year and a half, LAC welcomed over 20 international delegations, including those from Japan, China, Korea, Singapore, Sweden, Indonesia, Norway, Denmark, Germany, Ukraine, Peru and the United Kingdom. All come to discover our collections, meet our experts and experience our state-of-the-art Preservation Centre.

One of the most popular stops for guests during tours of our magical facility is the area where the Canadian Expeditionary Force personnel service files are digitized. Visitors are clearly moved by the passion, expertise and commitment shown by our colleagues working to digitize more than 640,000 service files by 2018, a date that also marks the 100th anniversary of the end of the First World War. They also marvel at the technological innovation of our high-performance scanners.

In preparation for hosting an international delegation, many of our colleagues work tirelessly behind the scenes to ensure that the visit is a memorable and informative one. Often this involves selecting, organizing and curating digitized items of cultural interest or relevance to the delegation’s home country. For example, during the visit of Ambassador of Denmark to Canada Niels Boel Abrahamsen, our colleagues in the audiovisual digitization lab showcased their work on the 1980 National Film Board documentary New Denmark, a film about the first Danish settlers in Maritime Canada and how they grew a successful potato industry. Not only did the Ambassador enjoy watching a clip from the film, he was also fascinated to learn that “client requests” determine the priority for digitization activities at LAC.

Colleagues in the audiovisual digitization lab also recall the memorable visit of Minister of Culture of Ukraine Ievhen Nyschuk. The Minister was so taken with their work that he asked if LAC would be willing to digitize Ukraine’s collection of films and television shows as well as his own productions from his career as a national movie star.

Of course, international delegations also have the opportunity to see a variety of non-digitized treasures held in LAC’s collection: portraits, rare books, maps, stamps, medals, photographs and more. At the end of each visit, our guests come away with a new appreciation of Canada’s documentary heritage and a deeper knowledge of how to successfully advance their own preservation efforts back home.

So, in the timeless refrain of Frank Sinatra, I invite my dear international friends to “Come fly with me” and discover LAC’s digitized collections!