Digitization Breakthrough Revives Aging Titanic Footage


Still exported from High Definition video file / 16:9 59:94 fps Pillar boxed

Ryerson University Special Collections Audio Visual Access and Preservation Project with SD to HD conversion of Titanic footage.

The collection was donated by Dr. Joe MacInnis

When the Titanic sank two and half miles to the ocean bed after hitting an iceberg off the coast of Newfoundland on April 15, 1912, it was reasonable to assume that it would never be seen again. One hundred years later, thanks to a series of inventions and technological developments that made deep sea cinematography possible, the public imagination has been provided with stunning updates on the great ship's fate. This spring, in recognition of the 100th anniversary of the Titanic's launch and demise, Ryerson Library Special Collections will screen newly digitized footage from some of those expeditions on Library flat panel screens, along with displays of Library Titanic material in the Reference area and Special Collections.

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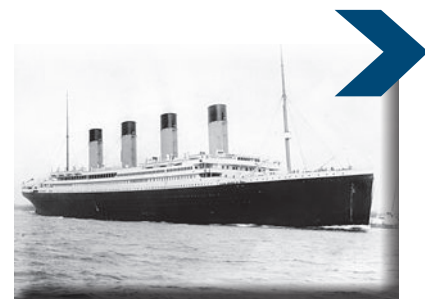
The audio visual materials used to produce the footage were donated to Ryerson University in 2005 by Dr. Joseph MacInnis, a pioneering deep sea explorer who was a member of the team that re-discovered the Titanic in 1985. Dr. MacInnis was on board the Russian MIR submersible as technical advisor when he became the first Canadian to dive to the Titanic. He also directed the film crew as it captured the famous shipwreck on audio, film and tape.

The MacInnis donation includes audio recordings, film reels and videotapes from the 1985 dive and other expeditions. The collection consists of several reels of 16mm film, over 600 videotapes on various formats and more than 60 audiotapes. Some of the recordings contain raw, or unedited, footage not duplicated in any other collection.

> *With the successful conversion of these materials, this is the first time since acquiring the collection that we have been able to view these items, and they are spectacular.*

Rich with potential, the collection also posed significant problems commonly faced in preserving and accessing the contents of audio-visual materials. Not only were the various formats and the equipment on which they were played obsolete, but they were at serious risk of deterioration due to the decomposition of their acetate base (in the film elements) and of the magnetic components (in the audio and video elements). Beth Knazook, special collections curatorial specialist at the time, rose to the challenge and led a conversion project that has resulted in spectacular footage with stunning clarity.

The search for a vendor specializing in preservation and digitization services led to Rochester-based Preserving the Past, LLC, which was awarded the contract for converting the original analogue video. Taylor Whitney, president and founder of Preserving the Past, has worked in film and video preservation for the past 20 years and is a 2006 graduate of Ryerson's master of arts in Photographic Preservation and Collections Management. She provided a unique solution to the conversion challenge – Academy Award-winning technology that enabled her team to convert the footage from standard definition to broadcast-quality high definition.

Whitney explains that the cutting-edge technology restores the footage frame-by-frame, modifying the algorithmic video signal. This sharpens the image, eliminates noise, stabilizes the image and enhances the colour. Further colour correction can be done after the conversion.

Preparing some of the Titanic footage for viewing in time for the April centenary was the trial run, and the results have proven the new technology's value. The continuing preservation and digitization plan calls for converting a sampling of the entire collection to standard definition for authenticity and to high definition for greater accessibility.

As well as converting the analogue video to digital, the project involves making Digital Betacam preservation masters as well as high resolution digital file masters. This methodology is aligned with best practices in film and video preservation. The original video, new Digital Betacams and master hard drives will be preserved in a climate-controlled environment while access files, stored on the Special Collections server, will be used for copying, streaming and otherwise presenting the material.

"This approach will allow Ryerson Special Collections to make this fascinating material available to students, faculty, staff and researchers. With the successful conversion of these materials, this is the first time since acquiring the collection that we have been able to view these items, and they are spectacular," explains Susan Patrick, archives and special collections librarian.

"The cameras twist and turn around the rusted ship; lights cast shadows along the bow and hull, revealing the ship's framework and treasures left behind. You can hear Dr. MacInnis giving directions to the camera operators and the Russian crew speaking to each other. Watching this footage is like re-discovering the Titanic all over again. Given that the content documents such a horrific event, it is both enthralling and eerie."

Chief librarian Madeleine Lefebvre viewed some of the digitized footage just as another project Dr. MacInnis has been involved with was making headline news — James Cameron's record-breaking solo submarine dive on March 26 to the deepest point in the world's oceans, the Mariana Trench. Dr. MacInnis and Cameron, a Ryerson 1998 Honorary Doctorate, have collaborated on a number of pioneering projects. Footage obtained during an international diving expedition in 1991, co-led by Dr. MacInnis, was used for the feature-length documentary *Titanica*, shot on IMAX 70mm film. Titanica inspired Cameron's 1997 Academy Award-winning drama, *Titanic*.

"Dr. MacInnis's donated collection continues to resonate with current events," notes Lefebvre. "The pioneering efforts that produced unprecedented audio visual documentation of the wreck of the Titanic played an important role in Cameron's recent dive to the bottom of the ocean. We're proud to house some of the early Titanic footage at Ryerson and thrilled that recent technological developments have enabled us to convert some of those materials into a spectacularly clear view of the past. Through Special Collections, we're demonstrating how the past provides the way into the future."

For further information about Special Collections or this project, contact:
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To follow Dr. MacInnis's latest collaboration with James Cameron, go to http://deepseachallenge.com/

You can find more detail about Dr. MacInnis's donation of Titanic materials to Ryerson University at http://news.library.ryerson.ca/asc/2011/04/feature-of-the-week-the-titanic-underwater/

From The Chief Librarian
MADELEINE LEFEBVRE

As we conclude another academic year, I have been reflecting on my five-year term as chief librarian. With the support of the campus, the university's administration, and a dedicated library staff, we are evolving into a highly innovative academic library.

Ryerson's growth as a major urban campus has certainly presented its challenges, but I strongly feel it has contributed to significant collaborations with departments and services across disciplines, and across the campus as a whole. These partnerships have afforded us the opportunity to provide a wide range of services to meet the needs of the Ryerson community.

Over the last several years, we have seen enormous changes in the way students are using the library. In an effort to respond to changing user needs, the library focused its current strategic plan on developing the library as a physical space and facilitating access to our resources. We have implemented a number of initiatives to realize these goals, including the quiet study space campaign. As the campus continues to grow and change, we will reevaluate how our physical space is being used.

Now more than ever, many resources we offer to our users are available electronically and off-campus. As a result of partnerships with other Ontario and Canadian universities, we are able to provide an extensive electronic collection to meet the needs of a diverse community. In making library resources available anytime and virtually anywhere, our users are able to complete their research and studying with ease and convenience. We are eager to maintain these partnerships to ensure our users have a positive learning experience.

Looking ahead to my next five-year term, new challenges and opportunities will arise. As we continue to thrive, the new Student Learning Centre, due to open in 2014, will have a major impact on campus and on Yonge Street. With lasting partnerships and new collaborations to come, we look forward to playing an important role in this innovative development.

I would like to take this opportunity to thank the Ryerson community for its role in raising the library's profile, both on and off campus. I look forward to serving our users in my second term, and I am proud to play a part in Ryerson's future!

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Search Everything – On the Cutting Edge of Research

In September 2011, the library officially launched Search Everything, a discovery tool intended to facilitate research by searching the majority of the library's print and electronic resources in a single search.

At this time, a group of Ryerson librarians began investigating user satisfaction with the new product. In a multi-step research study, we want to know how users are incorporating Search Everything into their research, and if they are satisfied with the product and its capabilities. We are also interested in user awareness of the product to inform our marketing and promotion efforts.

In the fall, we launched two surveys and held focus groups in the winter. Over this time period, we gathered a lot of data. Our initial findings indicate that users are satisfied with the Search Everything product. We look forward to further analyzing our results and sharing them with both the Ryerson and broader library community. We are very excited to report that we will be sharing this data at multiple conferences in the coming months.
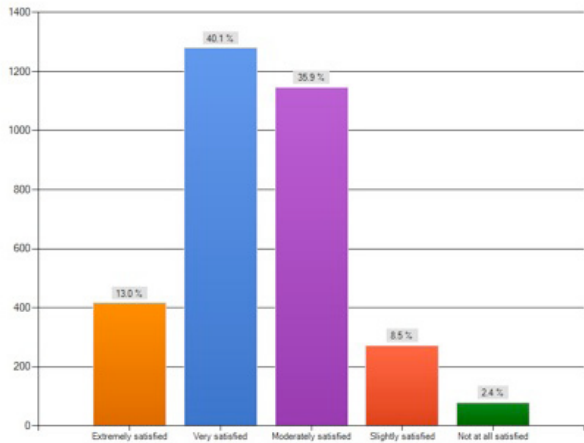
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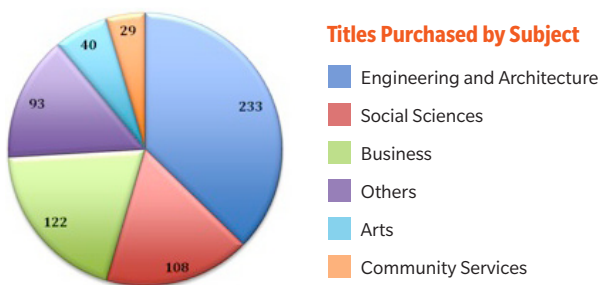
Scholar's GeoPortal Launched on March 1

The recently launched Scholars GeoPortal is an award-winning geospatial data discovery tool allowing Ontario's university researchers and students to enrich their teaching and research by engaging with Ontario Council of University Library's (OCUL) growing collection of geospatial data. The portal offers search, preview, query, download and sharing functionality for datasets licensed by Ontario university libraries, covering such topics as land use, transportation networks, census boundaries, geology, soils, points of interest (such as health-care facilities, schools and airports), air photos and more.

Patron-Driven Acquisition Pilot Project

With budget cuts at the library and an increasing number of online classes and distance education students, the library is exploring e-book models that provide us with cost-effective ways to purchase titles with guaranteed usage. We partnered with Ebrary for its Patron-Driven Acquisition (PDA) program, which allows users to browse a preselected set of e-books and purchase a book on demand based on usage without a patron's knowledge. Triggers for purchase include 10 minutes of browsing, unique interactions, any copying or printing.

After much preparation, the Project Team (Lei Jin as the lead, May Yan, Val Lem, Naomi Eichenlaub and Bob Jackson) oversaw the quiet launch of this pilot in October 2011 with $50,000 deposited to Ebrary. The money ran out on March 14, 2012, resulting in a total of 688 e-books purchased across all disciplines, from publishers such as McGraw Hill, Wiley, Elsevier, as well as a wide selection of university presses. Although further analysis is yet to be completed, we are satisfied with preliminary results from the pilot, and it is likely we will continue to further explore and experiment with this new model of library acquisitions.

Titles Purchased by Subject

- 233 Engineering and Architecture
- 108 Social Sciences
- 122 Business
- 93 Others
- 40 Arts
- 29 Community Services

Update on Donations

The library received approximately 1200 items on the history of South and Southern Africa from Dr. Alan Jeeves, professor emeritus from Queen's University. The collection is strong in several areas, including economic and labour history and general history from both the colonial and post-independence eras.

Awards

On April 4 at the Ryerson Awards Night, four librarians received Service Awards. Congratulations to Ophelia Cheung, Naomi Eichenlaub, Lei Jin and Dana Thomas!

Staffing Changes

Co-op librarian **Jen Ford** will finish her term on April 20 and continue on to finish her coursework for a masters in library and information science at Western University. Thanks to Jen for her eight months of service and we wish her all the best in her future endeavours!

Graham McCarthy is on leave for one year and is being replaced by **Cynthia Ng**, who joins us from the University of British Columbia library system.

Jane Schmidt has returned from maternity leave and resumed her role as head of collections. Thank you to **Lei Jin**, who stepped in while Jane was on leave. Lei has returned to her previous role as electronic resources librarian.

Weina Wang has returned from maternity leave. Many thanks to **Kelly Kimberley**, who acted as head of borrower services during Weina's absence.

Dana Thomas has returned from her secondment at Scholar's Portal.

After over 30 years of service to the library, **Debra Jo Sujka** has retired. We wish her a happy retirement!

Naomi Eichenlaub will be on maternity leave for one year. The library is pleased to welcome **Marina Morgan**, who will be replacing Naomi in Collections Services for the duration of her leave.

CORRECTION: Our last issue reported that **Joanna Beyersbergen** had joined the library as a library development associate director. Joanna's title is director of development, library. Apologies for any confusion or inconvenience.

Publications and Presentations

Courtney Lundrigan co-presented "Incorporating Mapping Technology into Library Services" at the Ontario Library Association's Super Conference in Toronto in February.

Kevin Manuel and **May Yan** co-presented a poster entitled "Analysis of new Discovery Service at Ryerson University" at the Ontario Library Association's Super Conference in Toronto in February.

Trina Grover co-presented "Visualizing RDA for Public Services" at the Ontario Library Association's Super Conference in Toronto in February.

Graham McCarthy presented "Library Mobile Architecture Project" at the Ontario Library Association's Super Conference in Toronto in February.

Ophelia Cheung, Fangmin Wang, Sally Wilson, Steven Marsden, and **Flora Hon** co-presented a poster entitled "Ares in Blackboard: A Modern War and Peace Story" at the Ontario Library Association's Super Conference in Toronto in February.

Professor George Kapelos (Department of Architectural Science) and **Susan Patrick** co-presented "Image & Text Experience: Teaching Architecture with Special Collections Visual Resources, a Collaborative Approach" at the ARLIS/NA Conference in Toronto in March/April.

Want to keep up-to-date on what new books in your subject area have recently arrived in the Library? Check out the NEW TO THE COLLECTION application on the Library website!

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