

Abstracts



CAC

2013

SAINT JOHN, N.B.

ACCR

39th Annual Conference and Workshop
Canadian Association for Conservation
of Cultural Property

The Story Behind Our 2013 Conference Logo

The official logo for the 39th annual CAC Conference and Workshops features an image of the historic Trinity Lamp. The lamp, also known as the Three Sisters, is one of the iconic symbols of Saint John. Located at the foot of Prince William Street in St. Patrick Square, this old iron lamp has served as a navigational guide for ships entering Saint John Harbour for the last 165 years! If a ship is navigating the correct course into the Harbour, the centre lamp lines up with the tall steeple on Trinity Church on Germain Street a few blocks away. After dark, the correct course would be determined if each of the three lamps could be seen separately as individual red lights. This seemed a very fitting historic symbol with which to make our own history and welcome the CAC conference to Canada's oldest incorporated city for the very first time.

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Canadian Association for Conservation of Cultural Property
207 Bank Street, Suite 419 Ottawa, ON, K2P 2N2
Telephone: 613.231.3977
Fax: 613.231.4406
E-mail: coordinator@cac-accr.com
Web site: www.cac-accr.ca

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Acknowledgements

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Special Events

Workshop Reception

Date: Tuesday, 21 May 2013

Time: 6:00 pm to 8:00 pm

Cash bar

Location: Happeez Wine Bar, 42 Princess Street, Saint John

Conference Reception

Date: Wednesday, 22 May 2013

Time: 6:00 pm to 8:00 pm, 6:30 opening remarks

Cash bar

Location: Hall of Great Whales, New Brunswick Museum, 1 Market Square, Saint John

6:45 - 8 pm Gallery 3 will be open for all attendees, come and see *Behind the Scenes: Conservation of Miller Brittain's mural drawings for the Saint John Tuberculosis Hospital (1941-1942)*

ECC Meet & Greet

Date: Thursday, 23 May 2013

Time: 7:00 pm

Location: Saint John Ale House, 1 Market Square

CAC Regional Reps Meeting

Date: Friday, 24 May 2013

Time: 12:15 pm to 1:30 pm

Location: Boardroom, New Brunswick Museum, 1 Market Square, Saint John

CAC AGM

Date: Friday, 24 May 2013

Time: 2:40 pm to 4:45 pm

Location: Mary Oland Theatre, New Brunswick Museum, 1 Market Square, Saint John

Banquet

Date: Friday, 24 May 2013

Time: 6:00 pm cocktails; 7:00 pm dinner

Cash bar

Location: Union Club, 125 Germain Street, Saint John

CAPC AGM

Date: Saturday, 25 May 2013

Time: 8:45 am to 10:30 am

Location: Boardroom, New Brunswick Museum, 1 Market Square, Saint John

Workshops

Workshop 1: *Revealing Lost Content: Digital Forensics for the Bench Conservator*

Duration: Tuesday, 21 May to Wednesday, 22 May, 2013

Location: New Brunswick Museum Exhibition Centre, 1 Market Square

Time: 9:00 am – 5:00 pm

Instructor

Hal Erickson, [retroReveal.org/University of Utah](http://retroReveal.org/University%20of%20Utah)

Hal Erickson is a consulting conservation scientist/materials chemist/instructor in private practice out of Cora, Wyoming and is a full-time researcher specializing in cardiac stem cell therapies at University of Utah Health Sciences Center, Salt Lake City, UT. Previously, Hal was a biophysical chemist specializing in conservation science at the University of Texas' Center for the Cultural Record, an “umbrella” center that includes the Preservation and Conservation Studies Program, where he taught the conservation science curriculum for twelve years. Erickson's special conservation science interests are in the areas of enzymes; mass deacidification; novel solvent techniques; the relationship between fiber morphology and lignocellulosic chemistry in the aging of paper, and digital feature extraction for the discovery of lost and obscured content in manuscripts, works of art on paper and bindings.

Description

The most interesting cases to cross a conservator's bench often involve either mysteries of lost, faint, obscured or redacted content, or else cases in which other interesting features of an object are difficult to visualize adequately. Treatment decisions and strategies are often guided or constrained by such concerns, including the need to preserve and characterize any evidence of such content. In addition, most stakeholders in a treatment will be grateful to learn of any forensically-recovered content or of any evidence improving or informing our knowledge of creative thought processes, production technique and/or provenance. Book-&-paper conservators, for instance, will encounter cases including:

- media that were lightly applied or otherwise faint, or are fading beyond legibility due to age or environmental exposure (flood, display conditions, etc.);
- marginalia, ownership marks or other evidence of provenance that have been intentionally erased or bleached by dealers or previous owners, or even palimpsestic content on parchment/vellum, papyrus or paper;
- content within a binding structure, beneath pasted-over content, or on the obscured verso of objects that have been mounted for display or have been pasted into albums;
- content obscured by stains, deposits or even wax seals that are intractable or that are themselves deemed an intrinsic and undisturbable feature of the object;
- content redacted by military censors of previous wars or by previous custodians of an object;
- scratched out content in manuscript documents and musical scores that could – if legible – yield insight into the thought processes or intentions of an author or a composer; or
- documents, artwork or objects whose authenticity or interpretation is questioned in part or in whole.

Analogous situations for those in other specialties might include:

- the need to visualize *pentimento*, in-painting or underdrawing, or to visualize content obscured by coatings, varnishes and/or accumulated soil;
- the need to recover faded, abraded or otherwise illegible markings on textiles, natural history specimens and/or archeological objects; or
- the desire to enhance or recover barely-visible evidence of construction/production techniques and/or provenance of furniture, musical instruments and mechanical objects, even at the scales of construction and modifications of a dwelling or a public building.

In such cases, a good source image and a bit of skilled and/or lucky fiddling in Photoshop may reveal some or all of the lost or obscured content.

More typically, though, the effort ends in frustration. After investigation of the expense, logistics and delays of using advanced imaging techniques, a typical conservator will at this point essentially “punt” the decision to administrators, curatorial staff, patrons and/or owners. She or he will outline a technique or two that might be suitable to the case under consideration (usually outsourced), will outline a range of costs that might be encountered in the effort, will emphasize that the costs of such techniques do not guarantee useable results, and will be unsurprised when the usual decision is to undertake no such effort.

A big part of the frustration is that, when we find evidence of such content, it is seldom immediately clear what degree of effort and expense might be justified in any technology-intensive efforts to visualize, recover or otherwise characterize that content. This course presents techniques of digital forensic image processing that are useful in preliminary assessment of the content that might be recovered more fully by sophisticated experts with access to expensive instrumentation, thereby improving decision-makers’ ability to evaluate benefit vs. risk and cost when allocating limited resources. In many cases, these techniques will even yield an adequate characterization of the lost, obscured or questioned content, eliminating any need for allocation of additional resources.

Most of the recovery strategies will be based on processed images that are freely produced on the retroReveal.org website, of which the instructor was the site architect. In order to further shift the odds of success in the user’s favor, this two-day seminar will focus on three aspects of the process:

- **Preparation:** We’ll cover optimization of your imaging workflow and techniques to ensure that scanned or photographic images capture as much forensically-relevant evidence as possible, even when limited to consumer-grade cameras and scanners. Then a major focus will be the strategies should guide the user’s pre-upload cropping to regions-of-interest, including the naming & formatting of such intermediate imagery.
- **Usage:** A typical user will have actively struggled with retroReveal.org for 6-8 hours before the mind’s eye suddenly adjusts to recognizing subtle features in the 52 grayscale images presented on the Channel Inspector page. We’ll use a variety of techniques to speed the student through that period of adjustment.
- **Advanced cases and presentation of results:** A result that *you* can see will be of only modest value if decision makers or scholarly users cannot recognize the salient features, so we will cover a variety of techniques for further enhancing and/or rendering the revealed insights for the benefit of other stakeholders. We’ll also cover iterative strategies for recovering progressively more difficult details of the most difficult cases likely to come under consideration.

The course structure is collegial and interactive, and the instructor will make himself available outside of class and through the first day of the conference in an effort to make sure that each student has every opportunity to present any questions or to have any special interests or specific applications addressed.

Students are encouraged to bring suitable objects as subjects for demonstration of enhanced imaging techniques, and are encouraged to bring existing digital imagery of objects that are not suitable for travel (preferably high-quality images that have not been saved as JPGs at some intermediate point in their creation and subsequent modifications or storage). They are also encouraged to bring laptops with familiar installations of common software.

Workshop 2: *Getting down to Business with Conservation*

Duration: Wednesday, 22 May, 2013

Location: New Brunswick Museum Exhibition Centre, 1 Market Square

Time: 10:00 am – 4:30 pm

Instructor

David Thomas, Enterprise Saint John *et al*

David Thomas is an Economic Development Officer with Enterprise Saint John where, among other things, he specializes in entrepreneur development and business counselling as well as seminars for prospective new business operators. David holds an MBA from the University of New Brunswick.

Description

This workshop is divided into segments and is designed to provide an introduction to some of the practical aspects of starting one's own business. While there are many similarities between starting up a private conservation practice and any other small business, there are also a number of differences and this workshop hopes to give some insight into both sides of the process. The afternoon will conclude with a panel discussion where participants will be able to ask questions of David and some private conservators.

10:00 am	Workshop Registration and Coffee N.B. Beverages and food are not permitted in the lecture theatre.
10:30 am	How to Start a Business
12:00 pm	Lunch
1:00 pm	Pricing Strategies for Small Business
2:00 pm	Insurance and Accounting
3:00 pm	Coffee
3:30 - 4:30 pm	Panel Discussion with David Thomas and guest conservators

Conference Program

Location: New Brunswick Museum Exhibitions Centre

Thursday 23, May

Time	Program				Presenter(s)
9:00 am - 9:25 am	Registration & Delegate bag pick-up				
9:30 am - 9:45 am	Welcome and Introductions				Dee Stubbs-Lee
9:45 am - 10:30 am	Per Guldbeck Memorial Lecture <i>Influences</i>				Harold Holland
10:30 am - 11:00 am	BREAK				
11:05 am - 11:25 am	<i>Behind the Scenes: Conservation of Miller Brittain's mural drawings for the Saint John Tuberculosis Hospital (1941-1942)</i>				Moya Dumville
11:30 am - 11:50 am	<i>Scientific Examination of the Royal Charter of the Hudson's Bay Company</i>				Marie-Claude Corbeil
11:55 am - 12:15 pm	<i>Oiled tracing paper: a contemporary problem</i>				Jessica Régimbald
12:20 pm - 12:30 pm	Session Questions chaired by Kendrie Richardson				
12:30 pm - 1:00 pm	LUNCH (Lunch will be provided for all attendees)				
1:00 pm - 3:00 pm	Tour 1: Imperial Theatre	Tour 2: Rebuilt in Stone	Tour 3: NBM Behind the Scenes	Tour 4: Moosehead	
3:00 pm - 3:30 pm	BREAK				
3:35 pm - 3:55 pm	<i>When Modern Materials Fail: Rehabilitation of a Taxidermy Orangutan from the Buffalo Museum of Science</i>				Fran Ritchie
3:55 pm - 4:00 pm	Session Questions chaired by Michelle Gingras				
4:00 pm - 4:45 pm	Advocacy Round Table Discussion				
5:00 pm - 8:00 pm	Public Event hosted by the NBM				
7:00 pm	ECC Meet & Greet				

Friday 24, May

Time	Program	Presenter(s)
9:00 am – 9:10 am	Opening of the registration desk	
9:10 am - 9:15 am	Morning announcements	
9:15 am - 9:35 am	<i>LIBERATED!</i>	Ann Shaftel
9:40 am - 10:00 am	<i>The Tale of Two Colours</i>	Katerina Alda
10:05 am - 10:25 am	<i>Agnes Etherington's Cocoon Coat: A Stitched Adhesive Treatment for a Composite Item of Costume</i>	Brenna Cook
10:30 am - 10:40 am	Session Questions chaired by Sarah Mullin	
10:40 am - 11:10 am	BREAK	
11:15 am - 11:35 am	<i>Practical Documentation</i>	Colleen Day
11:40 am - 12:00 pm	<i>Creativity and Conservation</i>	Laszlo Cser
12:05 pm - 12:15 pm	Session Questions chaired by Moya Dumville	
12:15 pm - 1:30 pm	LUNCH Regional Rep's Meeting	
1:35 pm - 1:55 pm	<i>Neither Paper, nor Parchment, nor Palmleaf: Investigation and Treatment of a Kashmiri Birch Bark Manuscript.</i>	Crystal Maitland
2:00 pm - 2:20 pm	<i>The Journey to Self Guided: Ensuring Artifact Security and Care, While Still Providing a Quality Visitor Experience</i>	Heather Beerling
2:25 pm - 2:35 pm	Session Questions chaired by Alicia Ghadban	
2:40 pm - 4:45 pm	CAC Annual General Meeting	CAC Board of Directors
6:00 pm	Banquet and Awards Ceremony	
	Cocktails and Silent Auction	6:00 pm
	Dinner Served	7:00 pm

Saturday 25, May

Time	Program	Presenter(s)
8:40 am - 10:30 am	CAPC Annual General Meeting	CAPC Board of Directors
10:30 am - 10:35 am	Morning announcements	
10:35 am - 10:45 am	CAPC Presentation	
10:45 am - 11:05 am	<i>The Dilemma of Matte Surfaces: A Case Study of British Post-Impressionist Paintings</i>	Alejandra Petersen Castiello
11:10 am - 11:30 am	<i>What Is Old Can be New Again: the Restoration of a 17th Century Devotional Portrait</i>	Michael O'Malley
11:35 am - 11:45 pm	Sessions Questions chaired by Fiona Beckett	
11:45 pm - 1:00 pm	LUNCH	
1:05 pm - 1:25 pm	<i>Mould risk to cultural property – on the problem of defining adverse environmental conditions and potential for harm</i>	Tom Strang
1:30 pm - 1:50 pm	<i>Restoring the colours of Fredericton City Hall National Historic Site – Historic Paint Investigation for Exterior Windows and Decorative Elements</i>	Nancy E. Binnie and Alastair Fox
1:55 pm - 2:05 pm	Session Questions chaired by G. Nathan Harrison	
2:05 pm - 2:30 pm	Conference Closing Remarks	

Conference Abstracts

Behind the Scenes: Conservation of Miller Brittain's mural cartoons for the Saint John Tuberculosis Hospital (1941-1942)

*Claire Titus, Danny Doyle, and Jeanne Beaudry Tardif and Moya Dumville**

In the fall of 2011, the conservation treatment of 11 oversized mural cartoons began. The cartoons, drafted by Miller Brittain in 1941-1942, had been proposed for the walls of the Saint John Tuberculosis Hospital, but the final works were never painted. The conservation treatment of the cartoons, some 70 years later, was envisioned to be a gallery installation at the New Brunswick Museum, which would enlist the skills of recent conservation graduate interns to complete the conservation treatment under the watch of the public eye.

This paper will describe the various steps in the ongoing conservation treatment of the cartoons, along with the contributions and modifications made to the original treatment proposal by each of the interns along the way. These treatment additions and modifications to the original treatment protocol (Titus and Guild 2009) have included: development of a non-aqueous mending technique to re-adhere artist-applied brown paper tape, improvement of mechanical and chemical techniques for removing masking tape and adhesive residues, refinement of repair methods, and stain reduction using solvents and a small suction table. Because of the oversized dimensions of the cartoons (2.5 square metres), every step of the treatment requires a clear strategy and brings handling challenges.

Presenting the treatment in an exhibition space allows the interns to approach the public: to demystify the field of conservation, to introduce the cartoons as preparatory drawings and Canadian art treasures, and to listen to the reaction of the public to the conservation work, to the cartoons themselves, and to the subject matter of tuberculosis.

The authors will also review highlights of the project, describe the attention of the news media and scholars, and both the “inter” and the intra-institutional support that has led to the success of the project to date.

*Presenting author

Scientific Examination of the Royal Charter of the Hudson's Bay Company

*Season Tse, Gregory S. Young, Carl Bigras, Nancy E. Binnie, Christine McNair, R. Scott Williams and Marie-Claude Corbeil**

The *Royal Charter of the Hudson's Bay Company* (HBC Charter) serves as the original articles of incorporation of the Hudson's Bay Company, and also sets forth the framework of the company's governance. Granted by King Charles II of England on May 2nd, 1670, the Charter comprises seven thousand words of hand-lettered text on five pages of parchment. Beyond its historic and legal value, the Charter and its materials offer important physical information about the stationer's and parchment maker's trade in 17th century England. Its state of preservation is of national interest.

In 1997, the Canadian Conservation Institute (CCI) carried out a scientific examination of the Charter to document the current appearance, composition and state of preservation of the Charter, and to establish a baseline for future monitoring. Since then, the Charter has been kept in a sealed case in the company's Toronto head office.

In 2012, the Hudson's Bay Company requested that CCI re-examine the Charter to determine if there were measurable changes. The physical condition was carefully documented, along with high resolution photography of the parchment and X-radiography of the wax seal. Thermal microscopy and colour measurements were carried out to compare with CCI's baseline data from 1997. Microfade testing was used to assess the light sensitivity of the inks and parchment.

A condition report was prepared to document the charter's present condition and to list recommendations to avoid further damage. Overall, the parchment was noted to be in good physical condition, but with creases and several tears in key areas. Compared with x-ray images taken in 1997, new x-ray images of the wax seal showed new signs of weakness, which increase the seal's susceptibility to further damage from improper storage, handling or transport.

Collagen fibre shrinkage temperatures (T_s) of the parchment conducted by thermal microscopy showed that the surface is more deteriorated than the interior. While the interior is like that of new parchment with typical T_s values of 45-50 °C, the surfaces that are soiled from handling and those with text written in iron gall ink are very deteriorated with T_s values at or close to room temperature. Improper temperature, humidity and handling would result in loss of text. Colour change since 1997 could not be accurately determined, due to the loss of the measurement-location template. A new template was created and a new set of measurements were made to establish a new baseline for future comparisons. Microfade testing of the inks and parchment showed that 10% of the areas tested have high light sensitivity (BW2-3); the remaining 90% have medium light sensitivity (BW3-4). By reducing the light level and/or the duration of light exposure, the inks and parchment will be better preserved in their current state. The study of the HBC Charter is an excellent example of the multidisciplinary approach and close collaboration among CCI staff.

*Presenting author

Oiled tracing paper: a contemporary problem

Jessica Régimbald

The Canadian Center for Architecture (CCA) in Montreal has a vast collection of material relating to architectural projects. In the past year, it was found that certain folders used for storing architectural drawings in the archives of three different contemporary architects were marked by significant oily stains. Large numbers of drawings in these folders were done on Clearprint 1000H tracing paper using various writing implements. It appears that, under the moderate weight of several folders piled on top of each other, and within a comparatively brief period of storage in climate-controlled vaults, an oily substance had squeezed out of these tracing papers, marking the folder stock. Some folders also contained felt marker drawings that showed severe bleeding of a pink color and component of the black marker ink. The goal was to determine the nature and the source of the stains, the effect this phenomena can have on media, and how to prevent such stains and media damage from occurring on drawings on contemporary tracing paper and on drawings on other kinds of papers that are stored adjacent to these tracing papers.

To determine the source and nature of the stains, samples of stained interleaving tissue were sent to the Queen's University Art Conservation program to be tested using FTIR. The stains were determined to be caused by mineral oil. Correspondence with the manufacturer confirmed that they use mineral oil as a transparentizing agent. To study the effect of mineral-oiled paper on different media typically used in an architectural practice, writing implements were used on papers to which liquid mineral oil was applied. It was found that the ink of felt tip markers containing xylene would seep into the paper in the presence of mineral oil, causing purple-pink stains similar to those seen on the drawings in some folders.

It is crucial to make other institutions aware of this problem, and to develop a protocol to easily identify such tracing papers, so that institutions can take appropriate measures for the long term conservation of these materials.

When Modern Materials Fail: Rehabilitation of a Taxidermy Orangutan from the Buffalo Museum of Science

Fran Ritchie, Jonathan Thornton and Aaron Shugar*

Guardians of natural history collections recognize that the deterioration of organic materials is inevitable. Splitting hides and fading feathers are commonplace. However, the field of taxidermy always has been one of experimentation with materials in the quest for achieving realistic mounts. Although the field has come a long way in preserving animals, collections may contain some of the less successful techniques that resulted from experimentation. An improperly mounted juvenile orangutan from 1966 was damaged when removed from display because of deteriorating modern materials added to traditional taxidermy materials. The taxidermist replaced the palms of the hands and pads of the feet with latex rubber (confirmed by ATR-FTIR) and nailed the specimen onto a heavy piece of driftwood. Deterioration of the latex rubber was extensive, comprising both sticky and brittle/cracking regions typical of latex degradation. The considerably damaged hands could no longer support the weight of the specimen, ripping away from the driftwood.

After researching the history of mammalian taxidermy to understand the practice, XRF and X-radiography were run to prove that the specimen did not contain heavy metal pesticides. Conservation treatment commenced to stabilize and re-mount the orangutan onto a safer display mount. The treatment required lining the latex rubber with Japanese tissue and BEVA film to reattach fingers and repair splits. Metal rods were inserted into the hands and feet for additional internal supports. Once the specimen was stabilized and repaired, it was attached to a newly fabricated display support mount using current taxidermy methods. Aesthetic compensations were made to create a visually integrated appearance, an important aspect of taxidermy conservation that relies on aesthetic value for display. Ethical dilemmas were present throughout treatment because of the inherent degradation of original material and the need for a new internal support using contemporary taxidermy techniques. The completed conservation treatment allows the Buffalo Museum of Science to display the orangutan, the only one of this endangered species that they own.

*Presenting author

LIBERATED!

Ann Shaftel and Sarah C. Stevens*

For their 225th anniversary, the Charitable Irish Society of Halifax decided to save their banner, *The Liberator*. The banner commemorates Daniel O'Connell (1775-1847), AKA The Liberator, an Irish political leader.

Ann Shaftel first examined *The Liberator* banner in 1995 at the request of the Charitable Irish Society and again in 1997 at the request of the staff of the Nova Scotia Provincial Archives where it was stored. In 2007, as a columnist for the *Chronicle Herald newspaper*, she featured the banner in a column entitled "*Saving the Liberator*". In 2009, the Charitable Irish Society asked her to develop a treatment plan for the banner, and treatment began in 2011.

The 1875 banner is two-sided, painted silk and measures 94" x 116". Years of use and storage left the fabric creased and split, and the painted portrait abraded and discolored. The banner was sewn together by the Sisters of Charity at St. Patrick's Convent, and painted by an itinerant painter. The banner was used in parades outdoors in the damp maritime weather from 1875 until at least 1919.

The Liberator's large size, the itinerant artist's quirky techniques, and numerous amateur restoration efforts by nuns, all made the conservation treatment delightfully challenging to our team.

The conservation treatment stabilized the banner for future display, but the banner cannot withstand use in parades. We created a replica of the banner to use in these parades and at Charitable Irish Society events. The replica was perhaps closer in appearance to the original banner of 1875 through the magic of Photoshop. The Society was thrilled with its golden trim, clean green silk and picture-perfect image. Charitable Irish Society has shown good stewardship of their organization's treasure. Use of the replica shows a successful meeting of Art Conservation and Community Spirit.

*Presenting author

The Tale of Two Colours

Katerina Alda

The War of 1812, declared by the United States against Great Britain on June 18, became a defining point in Canadian history. The British army in North America had to defend a border stretching a thousand miles to the south and west of Montreal. As the Americans were planning a major offensive in the spring of 1813, the British urgently needed reinforcements, which would have typically come up the St. Lawrence River to Quebec City. Since this route was closed by ice, it was therefore decided to send the 104th Regiment of Foot from Fredericton, NB, where the land war was quiet, to Kingston, Ontario. Five hundred and fifty-four men marched over 1100 kilometres in the most severe conditions during the winter of 1813, with temperatures dropping to -31° C.

The New Brunswick 104th Regiment had two customary colours – the King's Colour and the Regimental Colour. During the battles of the War of 1812 and through general use, the flags were exposed to harsh conditions that put great stress on the material. After the 104th Regiment was disbanded on May 24, 1817, the Colours were put on display at the home of General Sir Martin Hunter, in England. Light exposure and fluctuating humidity levels added to previous damage. In 1930, conservation treatment was first started on the Colours. This treatment provided much needed support and extended their life. In 1940, both Colours returned to Canada and were displayed at the New Brunswick Museum in Saint John. The Colours were later removed from display and put into storage. They were rolled on tubes of relatively small diameter that further contributed to the slow but inevitable process of deterioration.

The recent bicentennial anniversary of the War 1812 brought the Colours out of storage. This presentation, will describe the process of conservation of both Colours undertaken at the Parks Canada Laboratories in Dartmouth, NS.

Both flags were very fragile, faded, and had many stains. Much of the original material was missing. The previous conservation treatment from 1930 was deteriorating. During the first conservation treatment, a patch of off-white silk was applied to the area with largest losses of fabric. Each flag was entirely sandwiched between two layers of silk tulle and the three layers of fabric were stitched together with cotton thread. Lines of stitching were repeated at ½-inch intervals. As the cotton thread was stronger than the silk of the flags, it caused further damage, cutting through the silk. The silk tulle was falling to pieces, torn and becoming powdery.

The first step in the new conservation process was to remove the original treatment materials. The entire surface of the flag was then lined with silk crepeline. A thermoplastic adhesive was used to bond remnants of the flag to the crepeline. The treated flag was attached to a mount by stitching. The conservation process was carefully documented by many photographs, sketches, by collecting samples and analyzing colours. Both Colours were returned to the New Brunswick Museum and are displayed in custom-made cases.

The authors acknowledge the generous support of Mr. John Irving, which made this work possible.

Agnes Etherington's Cocoon Coat: A Stitched Adhesive Treatment for a Composite Item of Costume

Brenna Cook and Patricia Ewer*

This paper will document the complexities surrounding the in-situ repair of structural damage to both the textile and fur-skin components of a 1920s "cocoon" coat. This coat, part of the Queen's Collection of Canadian Dress, is believed to have been owned by Agnes Richardson Etherington, a prominent personality in Queens University history. The treatment of this coat is, at the time of this writing, being completed with assistance of the Isabel Bader Textile Conservation Fellow, Patricia Ewer and Graduate Intern, Brenna Cook.

The coat offers several challenges to the textile conservator. There is a combination of heavy metallic brocade fabric and delicate sheer silk that creates an inherent risk that is not easily remedied. However there is clear precedent for the treatment of three-dimensional, multi-layered objects in textile conservation literature. More interestingly, the coat is trimmed in long fur, possibly that of a monkey from the genus *Colobus*. The fur-skin is quite degraded and requires an adhesive-based support to make the coat safe for handling and display in an upcoming exhibition. Fur, not an uncommon component of costume, is a material that some textile conservators avoid. The treatment proposed for this object bridges the gap between textile and leather conservation through a combination of materials and techniques both new and familiar to the textile conservator.

There are several major themes at work in this treatment. The complex three-dimensionality and the long length of fur from this once-fashionable trim material requires careful physical manipulation during treatment to protect the object from further damage. The fur needs protection during the adhesive treatment, as well as careful tensioning during the insertion and re-activation of the patch. The selection of materials for the support patch, adhesive and infilling material draws from materials commonly available to textile, objects, and paper conservators. Re-activation techniques and supplies will also draw from this common pool of knowledge, while the creative use of stitching will ideally bring all these varied materials together under the heading of textile conservation. It is our hope that this paper will serve as an example of an in-situ treatment that engages with the complexities offered by this item of costume to ensure the best possible outcome for the conservation of its vulnerable components.

*Presenting author

Practical Documentation

Colleen Day, Ian Loughead and Amanda Thomas*

As conservators, we are all familiar with the clauses of our Code of Ethics that outline what, in theory, makes complete documentation. This paper will look at the practical side of documentation. What needs to be included to create useable reports? Using examples from reports accumulated from the 33 year-long operation of the Parks Canada Atlantic conservation lab, we will take a look at reports for objects as diverse as archaeological glass bottles, a glove from the Titanic, and odd inventions of Alexander G. Bell. We will explore in old reports, what surprising things we find there, and what information is missing that would be helpful to know. We will look at a few case studies, where information we found in the treatment documentation from a past treatment completely changed a current treatment proposal. And finally, to complete the discussion, a brief look at the impact of the move to digital photography and proprietary databases, over the last 15 years. This discussion is particularly relevant in the wake of the proposed centralization of conservation labs within Parks Canada.

*Presenting author

Creativity and Conservation

Laszlo Cser

Creativity is a term rarely, or perhaps cautiously, applied to conservation. Although this term is readily available to describe the arts, conservation has to a large degree come to mean the application of scientific tools and techniques. Science does provide us with limitless technological achievements that change how we interact with our world, necessity and observation launching the inquiring mind to question and search for these discoveries. But it is still the creative imagination which becomes the playground of the mind that seeks to find a meaningful place for the offspring of science.

The key to any successful conservation intervention is predicated on an appropriate diagnosis. For some this means the correct analysis of data, and although it can be a powerful tool when used creatively, information alone does not give us the complete picture. The creative process in conservation, as in art, is often less understandable than the describable results of science. Within the conservation field, there is a landscape of considerations, which guides acceptable treatment and practice, these being expressed within ethical boundaries that are underpinned by experience and the current cultural consciousness. But ultimately, all of the information and guidance we seek lies within the object. The conservator brings to the object their critical faculties and judgments which are used to make the diagnosis and to develop the conservation strategy.

Some unusual case studies from the bench will be presented. The discussion will include the process of diagnosis in relation to the latitude of possible conservation strategies as presented by the objects, as well as their treatments. The individuality of an object will also be explored within the decision-making processes, and in some cases how it relates to other objects within a collection or setting. A disaster or two will be included along with their respective resolutions. Also discussed will be some thoughts on the qualities of memory, intelligence, and imagination as they correlate to history, capacity, and creativity, as well as a possible reconciliation between art (creative imagination) and science (statistical probabilities).

Neither Paper, nor Parchment, nor Palmleaf: Investigation and Treatment of a Kashmiri Birch Bark Manuscript

Crystal Maitland

While birch bark used as a manuscript substrate falls outside the norm for western book and paper conservators, it has a long tradition of use in the Himalayan regions of India. At the turn of the 19th century, during a high point of western Sanskrit scholarship, representatives of this manuscript corpus made their way into the libraries, archives and personal collections of North America and Europe. These artifacts now present many challenges of preservation, storage and access to their stewards.

Johns Hopkins University's Special Collections contains such a Kashmiri manuscript, written in carbon black ink on the naturally laminated structures of the inner bark of the Himalayan birch. It is a codex form, with 174 leaves folded into 9 folios, each page measuring approximately 7"x10". In its before treatment state, only the outer most page of each folio was accessible to scholars – the combination of curling, delamination and splitting exhibited by the manuscript made turning its pages inadvisable.

Much of small body of birch bark treatment literature is largely inapplicable to the case of a codex manuscript: from single sheet approaches, to repairs designed for rigid artifacts, or procedures that are no longer considered viable. Treatment of this manuscript required a combination of piecing together information from the available literature and in-lab experimentation. Various cleaning, flattening, adhesives and attachment methods were used to address the array of structural problems the manuscript exhibited. Ultimately, the goal of a structurally sound, but still fragile manuscript will be achieved with conservation intervention, making this artifact once again available to scholars. Digitization as a final step will help maintain the delicate balance between preservation and access for this unique birch bark manuscript.

The Journey to Self-Guided: Ensuring Artifact Security and Care, While Still Providing a Quality Visitor Experience

Heather Beerling

With the budget cuts announced April 30, 2012 to Parks Canada staff; it became clear that the way we did business was going to drastically change forever. At the same time, we were told that 26 of our sites would be changing to self-guided environments, and that many jobs would be greatly affected.

In Manitoba, Riel House National Historic Site and York Factory NHS were slated to become self-guided sites. As a collections specialist, I was now responsible for the preservation of 1,500 historic objects at Riel House, in addition to the 45,000 objects at Lower Fort Garry. This required lots of extra help from my fellow colleagues. A collections security risk assessment was conducted on site. A team was formed, which included myself, a conservator, a curator and the Cultural Resource Management Advisor. A walk-through of the site was conducted, and challenges were discussed with a view to securing the collections and meeting preservation needs, while still providing visitors with a quality experience. Barriers, motion alarms, and securing objects so that they could not be removed from walls and tables were discussed. In October, we were told that sites would have access to a fund to assist in meeting some of these challenges, and deadlines were established. Everything had to be fully operational by site opening in 2013.

This paper will discuss the process of converting a site that once had 4 to 6 costumed interpreters from May to September to provide first-person interpretive programming, artifact security, care and cleaning, to having a single, uniformed person simply present to unlock the door every morning in July and August. I will discuss the changes that conservators, curators and collections specialists made to ensure the security of the artifacts, while still providing a quality visitor experience. The challenges that were faced, the triumphs, and the resulting product will be discussed.

The Dilemma of Matte Surfaces: A Case Study of British Post-Impressionist Paintings

Alejandra Petersen Castiello

The application of a final varnish coating to paintings was standard practice until the mid-19th century, when its aesthetic impact came under question. Some French impressionist artists, such as Camille Pissarro, chose an unvarnished, matte finish for their paintings, thus excluding themselves from the Royal Academy and its *Vernissage* practices. Nevertheless, some of these intentionally matte paintings were later coated by dealers, who were trying to give the paintings a more commercial look, or by museum curators or restorers to protect the paint layer from dust and pollution. With this practice not only were the intentionally matte and glossy surface effects lost, but part of the artist's political statement as well.

While French varnishing practices have been well documented, it is unclear what the British impressionist artists favored. A group of 19th and 20th century British paintings, part of the McCrindle Collection at the Yale Center for British Art, offered the unique opportunity to analyze varnish practices in Britain between the years 1880 and 1925. Six of the paintings in the group fell into this category of originally matte paintings that were later varnished, differentially saturating the colors and creating distracting reflections in the impastoed strokes of paint. In particular, a painting by Lucien Pissarro, *Blackpool Devon*, 1921, was essential in understanding the transmission of French impressionist philosophies to Britain. Firstly, this paper emphasizes the role of Lucien Pissarro as a link between the teachings of his father Camille and the fast-growing post-impressionist group in London. Secondly, it analyzes the theoretical and material difficulties encountered when dealing with an originally matte painting that was later coated. How does a painted surface change when varnished? How can an artist's wish to leave a painting unvarnished be discerned?

To fully understand the artist's intent regarding varnished surfaces, a thorough technical study of *Blackpool Devon* was performed, which included analysis under X-Ray Fluorescence, and Ultraviolet and Infrared Reflectography. Additionally, paintings by the artist from three different museums were studied for their surface characteristics. Correspondence between Lucien and his father, Camille, and written sources by other impressionist artists were also considered. The data gathered in this research provided a comprehensive understanding of the artist's view towards varnish, and guided the conservation treatment: the natural resin varnish was removed and an appropriate matte, pastel-looking surface was recovered.

Through the study of unvarnished paintings, this paper not only offers a unique view of the widespread influence that French Impressionists had on British artists, but also argues the benefit of conducting a meticulous search for material and bibliographical evidence prior to removing a varnish layer. Furthermore, this case study promotes the need for extensive research that should precede every restoration, and will hopefully offer a precedent when facing a complex situation of similar nature.

What Is Old Can be New Again: the Restoration of a 17th Century Devotional Portrait

Michael O'Malley

The portrait of Mother Madeleine de Saint-Joseph remains a precious object for the Augustine nuns of Québec City. Mother Madeleine was the first French prioress of the great Carmelite monastery of Paris, who served during the years 1608 -1635. Shortly after her death in 1637, a cult emerged to promote her spirituality and teachings through the dissemination of her writings, images and relics. In 1648, a painted portrait of Mother Madeleine was sent to Québec as gift from the Carmelites of Paris, to serve as a source of encouragement and inspiration for the newly-established Augustine community. For over 300 years, this portrait has been the object of admiration, contemplation, and devotion by sisters and novices alike.

Archival documents inform us that the painting had already suffered significant damage during the trans-Atlantic crossing. Over the centuries, it has undergone changes and restoration campaigns, and may also have been affected by fire that ravaged the monastery in 1755. Before conservation treatment, the portrait was in a precarious state of conservation, exhibiting numerous areas of loss and flaking paint, many old repairs, extensive overpaint, discoloured varnish layers and dirt.

When attempting to re-establish pictorial unity to a badly damaged painting, the challenge is to balance aesthetic appeal and legibility with authenticity. It is a given that judgements and decisions based on aesthetics are always subjective, since they are conditioned by prevalent canons of taste. This case study will show how and why the painting was transformed by successive restorations, and will explore the deliberations and methods involved in reintegrating lost and damaged areas.

Mould risk to cultural property – on the problem of defining adverse environmental conditions and potential for harm

Tom Strang

The interplay of environmental conditions which contribute to the support of mould growth has had scientific study now for over 90 years. The recognition of moisture as the primary factor by which to control fungi is common knowledge. How both moisture and temperature combine to delay or accelerate growth is also well represented in the literature. The earliest studies looked quite carefully at growth rates while later ones relied more on categorized impressions. Unfortunately, what is absent from these studies are measures which we can translate directly as harms to cultural property. We do infer there will be harms to variety of objects we care for from fungal overgrowths if they occur from mustiness through obscuration to digestion, but we cannot predict their severity with any confidence from the studies which define under which conditions fungi will start to grow. At best for us, the worst case likelihood of mould onset can be proposed, but that has to be recognized as quite subject to modification by the species and substrate actually present. For prevention, two possible safe paths are now used within the building science community: the avoidance of risk by controlling for a threshold of abiotic 'dryness'; or the allowing of timed residence inside growth encouraging conditions but with subsequent drying to prevent it. The former is a simple threshold which imposes on the building construction to withstand moisture movement. The latter is predicated on knowing the dynamic behavior of moisture within the layers of structures. Both have inherent uncertainties, and both can run up against what people feel objects require for their preservation but are very relevant to discussions on sustainability in collections environments.

Restoring the colours of Fredericton City Hall National Historic Site – Historic Paint Investigation for Exterior Windows and Decorative Elements

Nancy E. Binnie and Alastair Fox

Between 2009 and 2011, the City of Fredericton carried out a project to conserve and restore the exterior of the 135 year-old City Hall building with a scope of work that included masonry and drainage repair, waterproofing, and restoration of the painted exterior millwork. The three-and-a-half storey brick-faced structure was designed in the Second Empire Style with character-defining features that include a freestone foundation, red brick-faced exterior relieved by bands of freestone, Roman arch windows, a mansard roof with iron cresting, and a projecting clock tower. The exterior has remained largely unchanged since it was built, with the exception of an addition constructed in 1975. This presentation will summarize the results of an investigation to determine the colour chronology of historic paint layers on the heavily weathered windows and other associated decorative elements of this National Historic Site. The results from this research were used to reinstate an original, historically accurate colour and paint texture scheme.

On-site sampling and documentation was carried out at 46 locations by private conservator Alastair Fox (St. Andrews, New Brunswick) at locations that included windows and millwork accessible from scaffolding, powered elevated work platforms or from the roof. Work carried out in September 2011 included:

- Examination of structural elements for traces of old paint and sampling;
- General site photography;
- Preparation of written descriptions of locations examined or sampled;
- Preparation of sanded paint reveals to expose the visible paint stratigraphy;
- Recording of paint colour stratigraphy; and
- Macro photography of sanded paint reveals.

Samples, digital image files and documentation were sent to Nancy Binnie, Senior Conservation Scientist, Canadian Conservation Institute (Ottawa) where examination of samples was carried out in late September and October 2011. Work at CCI included:

- Recording of paint colour stratigraphy using samples not examined as sanded paint reveals and verification of recording for samples examined as paint reveals;
- Examination of paint chips unprocessed or as cross sections using microscopy;
- Compilation of colour stratigraphy for samples in table form creating a chronological record;
- Colour matching of paint layers to Munsell standards and commercial paint colour chips; and
- Preparation of a report giving details of sampling methods, observed paint colour stratigraphy and suggestions on the reinstatement of historic colour and finish schemes.

Findings suggest that the exterior windows, the decorative shield and medallion panels on the entrance wall of Fredericton City Hall have undergone a series of colour changes over the last 135 years, with an accumulation of 9 to 15 paint layers -- perhaps 7 colour scheme changes in total. The earliest off-white or yellowish layers of primer were followed by applications of a yellow or reddish-orange or a yellowish sanded paint to different elements. The sanded paint may have been used to mimic the adjacent masonry finishes. Later changes saw the introduction of greys, dark red, bluish-black and whites.

Poster Abstracts

An Evaluation of Glazing Materials and their Effects on Fading in Fluorescent Acrylic Paints

Fiona Beckett

Fluorescent paints have been used in artwork from the mid-twentieth century onwards, being particularly prominent in the pop art movement. In addition to their bright colours and luminosity, these paints are also known to be fugitive. Conservators may use glazing materials to protect an artwork so as to avoid applying anything directly to an acrylic paint surface. Since museum environments usually exclude ultraviolet light, artworks are only exposed to light from the visible part of the electromagnetic spectrum. However, while providing protection from ultraviolet light, does glazing also offer protection from light in the visible areas of the spectrum? The goal of this research was to evaluate fluorescent acrylic paints from the Tri-Art Company as well as three different glazing options currently used in museums (Sheffield Bayer Makrolon®, Plexiglas® MC, TruVue® Optium Museum). The aim was to determine if the paints maintain their colour and vibrancy with overlaying glazing. Samples were subjected to three types of aging: natural light aging, extreme light exposure in a Q-Sun Xenon Arc test chamber at two time intervals, and micro-fading. To determine the efficacy of the glazing, the following tests were conducted: pyrolysis gas chromatography mass spectrometry (Py/GC-MS), Fourier transform infrared (FTIR) spectroscopy, colorimetry measurements, and ultraviolet-visible solid-state absorption spectrometry. Surprisingly, the results indicate a greater propensity for fading to occur in samples with glazing than in samples without. This was true wherever ultraviolet was excluded. The increase in fading rates was unexpected, and demonstrates the necessity for taking a closer look at the effects of glazing in museum environments.

Gatorfoam Backings as an Alternative to Lining Paintings

Wendy Crawford

Support for aged and deteriorating paintings has historically been provided by lining the painting with various adhesives and canvas; however, the introduced stresses and the reversibility of such a treatment is now better understood and approached with greater caution. Alternatively, a painting can be loose-lined with a solid support, such as Gatorfoam, without the use of adhesive. Gatorfoam is an inert polystyrene laminate board used in the field of conservation. Applied as a backing between the stretcher and the canvas, such a preparation would provide a stable support on which the painting can rest, reduce vibrations due to handling, and reduce the effects of varying humidity and temperature. Stiff lining supports have been shown to improve the ability of a painting to withstand deterioration factors and a backing would reduce exposure of the canvas, the most responsive element of a painting. Furthermore, the treatment is easily reversed with minimal stress on the painting. The application of Gatorfoam between the stretcher and the canvas is an invasive treatment, but justifiable in some circumstances. The qualities of the Gatorfoam backing treatment were compared with the routine practice of attaching a Coroplast sheet backing to the reverse of the painting structure, which offers similar benefits of reduced vibration during transport and decrease in the effects of fluctuating relative humidity and temperature. Sample paintings were prepared with a brittle surface coating in which natural cracking patterns developed. Coroplast backing boards were applied to one group of three canvases, Gatorfoam backing boards were applied to a second group of three canvases and the third group of three canvases remained untreated as a control. All sets of the canvases were cycled through extremes of relative humidity and were documented before, during and after the period of cycling. The success of a Gatorfoam backing to improve the longevity of a fragile painting was evaluated.

Seeing Beyond Limitations: Spectroscopy for the Small Laboratory

Désirée Desjardins and Terry Quinlan

Infrared spectroscopy can be a very useful tool in the conservation laboratory. Absorption spectroscopy, such as Fourier Transform Infrared Spectroscopy (FTIR) is a well-known tool within the fields of art and objects conservation. Small laboratories, however, do not have access to spectrometers, but could benefit from the ability to identify organic and inorganic materials associated with artefacts, as well as any changes in composition they may have undergone as a result of aging or deterioration. Plans for home-made spectroscopy kits are readily available through various publications and internet sources, but the effectiveness of these kits is unknown in a conservation context. We will construct and test one of these spectroscopy kits, which claims to have a range of more than 400-900 nanometers. This poster will explore the construction of an open sourced spectrometer hardware kit and the application of open source spectrometer software in the identification of various known organic materials. We will begin by using substances of known composition to establish readings, using the open source software available, and the results will be collected, analyzed, shared, and compare it with data collected by other users of the software using their online database which can be used by other small conservation laboratories and teaching institutions also using their own homemade spectroscopy kits.

The Examination of A Portrait by Turkish Artist Feyhaman Duran (1886-1970) by Visible (Vis), Ultraviolet (Uv), Infrared (Ir), X-Ray Radiations and Energy Dispersive X-Ray Florescence Spectrometer

Dr. Gülder Emre

Feyhaman Duran (1886-1970) is considered one of the most famous Turkish painters of the 20th century. He was primarily known for his landscapes, still lifes and portraits but mostly for his painted portrait. Most of his works are exhibited in a house near Istanbul University Beyazıt Campus, where he once lived and which he later donated to Istanbul University home to the University's art museum.

In this study, the portrait painting belonging to Istanbul University Faculty of Letters, titled "İsmet İnönü" and signed "Feyhaman Duran 1944" (81.5 x 135 cm size), from Feyhaman Duran collection has been examined.

The painting was initially analysed visually with visible light (VIS), curved back-light illumination, ultraviolet (UV), infrared (IR) and X-ray radiography respectively. Secondly, energy dispersive X ray fluorescence (EDXRF) method was used for laboratory analysis. The EDXRF method detects minute deterioration in detail and provides a convenient assessment for conservators. Also, during this examination, the characteristic features of the artist's work and the color range in his palette were brought into light. With further application of these methods, more scientific data could be reached about forgery with more precise results.

The Failures of Albums: A Case Study of the Conservation of WW1 Photograph Albums

Sara Greenaway and Kyla Ubbink

The diverse nature of photograph album bindings poses an intriguing challenge to any conservator. A collection of World War I photograph albums from the Archives of the Canadian War Museum represents a variety of binding constructions such as post bound, hollow back and tight back bindings. The failure of the binding construction has many different causes and the damage varies depending upon the materials and techniques used. A very tight binding in a hollow back album causes the covers to separate from the textblock, while adhesive failure causes signatures to separate from each other. The repetitive use of photograph albums causes the sewing to loosen or break and pages to become detached. In post bound albums, pages that have been hinged to guards allow for ease of turning and have withstood the test of time. The repetitive turning of pages in albums without hinged guards causes the leaves either to tear at the spine edge leaving the pages loose and separated from the binding structure. In some cases this has resulted in the loss of the entire back or spine edge of the book. To counteract these issues, the conservation treatments aim to prevent problems from reoccurring in the future as much as possible. Enlarging the spine on the hollow back album creates sufficient room for the textblock, while removing old adhesive and re-gluing and lining the spine ensures the signatures stay together. Applying original sewing techniques on hollow back and tight back albums with loose or broken sewing recreates sewn binding structures, while adding hinges to guards or metal rings onto post bound albums allows the pages to turn and fold without damage. Through the investigation of WW1 photograph albums from the Canadian War Museum Archives' collection, this poster will discuss the binding styles, materials and techniques that impact an albums' binding structure and the creative conservation solutions used to prevent the same failures.

Glass Micro Balloons and their Suitability in Fine Earthenware Ceramic Restoration

Nathan Harrison and Terry Quinlan

Aggregates, such as glass micro balloons, have successfully been employed as fillers in partnership with various resins to gap fill friable wooden artifacts within the field of conservation. However, limited research has been undertaken to establish their effectiveness as a filler for fine earthenware ceramics as part of conservation and restoration interventions.

This poster will present the findings from several experiments to qualify the beneficial characteristics of micro balloon fillers and provide specifics to the percentage of resin mixtures and resin to micro balloon ratios that best address these defined characteristics.

Study and Treatment of Coastal Alaska Native Kayak Models

Judy Jungels and T.Rose Holdcraft

The Harvard Peabody Museum and the Alutiiq Museum, Kodiak, Alaska are currently collaborating to study and conserve several 19th century full-size kayaks and over one hundred associated accessories from coastal Alaska. This two-year project is funded through a grant from Save America's Treasures and includes a publicly-accessible conservation workspace located in one of the museum's galleries. As part of this project, a collection of 19 small kayak models of Alaskan design, made of skin, painted wood, and sinew stitching were documented and conserved. Information on the kayak model's was gathered through research into the museum's archives, discussion with Alaska native consultants; a review of current literature and through material analysis. This poster discusses the history, cultural affiliation, technology and preservation of these kayak models.

Materials used to construct the models were identified both through consultations with visiting Alutiiq colleagues and analytical techniques including X-ray fluorescence (XRF), polarized microscopy and Matrix-assisted Laser Desorption/ionization Time-of-flight (MALDI-TOF) mass spectrometry.

Kayaks were a lifeline and were essential for survival in hunting and transportation. The role that kayak models may have played in pre-contact and post-contact Alaskan Native communities will be discussed.

Joseph Loxton Rawbon, self-proclaimed 'Master Restorer'

Cyndie Lack

The ambitions of Joseph Loxton Rawbon (1855-1942) were as broad and expansive as the greatest 19th century industrialists, but fame and fortune remained elusive in all his enterprises: gunsmith, photographer, inventor, restorer, artist, art collector and art dealer. Born in South Africa, he spent his childhood in England, and moved to Toronto in 1870, where he worked in his father's gun and sporting goods business. Skills in metal-working and the repair of firearms influenced both his later patent designs and his art restoration methods.

Rawbon's work as a restorer began in Manchester, England in the 19th century. He primarily worked in Toronto, though Kingston, Canada was also home for some years following the First World War. The vast Canadian landscape seemed to match the scale of his artistic aspirations; iconic scenes of Niagara Falls and River were the subject of his panorama paintings shown in Britain 1890-91. Through his service with the Governor General's Body Guard, a prestigious Toronto cavalry regiment, he met the Marquis of Lorne, Governor General of Canada 1878-1883. Rawbon identified Lorne, who was also Duke of Argyll from 1900 onward, as his patron, and while correspondence between the two men exists, this typifies Rawbon's exaggerated claims made in the service of self-promotion.

One fascinating connection was his association with William Symes Andrews, an electrical engineer and pioneer employee of Thomas Alva Edison. In two known, large-scale paintings, Rawbon utilized radioluminescent pigments sent to him by Andrews. Rawbon's military connections appear to have served him well in garnering support for painting and restoration commissions. Well overage for active duty in the First World War, a posting for 'special depot duty' allowed him to work as a painter at a military camp, and he received a military pension. His purported client base included members of Toronto and Montreal's social elite, themselves art collectors and supporters of early Canadian arts organizations. If impressive, client names figure prominently in the text accompanying photographic depictions of his treatment work and other promotional literature.

Rawbon's patented metal stretcher device, the 'Rawbon Keyless Stretcher' (1886) was closely modeled on another artist/inventor's patent, that of American Aaron Draper Shattuck. Rawbon's device appears on his own works and those he restored, and he patented two other stretcher designs. He proudly attached a label to every work he treated, extolling the virtues of the 'Rawbon Process,' a proprietary method of varnish removal. As was typical for this period, he never revealed the solvent formula used for the Rawbon Process. His alarming methods and attitudes are demonstrated by the captions accompanying treatment photos housed in the J.L. Rawbon Fonds, Art Gallery of Ontario. His treatment labels serve as useful documentation of his treatments and were sequentially numbered.

This poster focuses on Rawbon's patents and his restoration practice. Source information includes the J.L. Rawbon fonds and family archives retained by Rawbon's great-granddaughter in Calgary, Canada.

Incur/nable

Explaining the brittle state of John Hay Library's 1481 copy of Opera cum commentario Acronis et Porphyronis by Horace.

Rachel Lapkin

How does an incunable become brittle? Western European 15th century paper is known for its exceptional quality and durability, yet the John Hay Library's 1481 copy of *Opera cum commentario Acronis et Porphyronis* by Horace is as brittle as 19th century wood pulp newsprint. What happened to this item and what can be learned from its dramatic deterioration?

Investigations include: collection documentation detailing the provenance, storage location and treatment since coming to the library; institutional memory from the former director, former and present curators; comparison to other institutional holdings of the same imprint, as well as products of the same printer or geographical area identified through the British Library's ISTC (which includes Goff), and WorldCat; research into known book forgeries; a combination of tests and examinations of paper and pigments done in-house and outsourced for chemical data.

The results from this investigation will influence the future of this object as a part of the Hay's collection and as a part of printing history. Findings will also contribute to data on the influence of the environment on collection storage, and the consequences of conservation treatment or lack of treatment.

In conclusion, this presentation will offer a practical and theoretical exploration of what becomes of an incunable after it is declared "unusable", or after a valuable holding is declared a fake.

Gellan Gum: A New Frontier

Joanna P McMann

Conservators will often seek out new materials and modify treatment techniques to suit the needs, limitations and challenges of the artefacts they are treating. During my 2011/2012 Fellowship in the Conservation of Archival Materials at the Canadian Conservation Institute, I assisted with the treatment of a pair of 19th Century globes. It had previously been decided not to remove the paper gores, but to locally reduce stains and, where possible, to clean the paper gores with a poultice. The challenge was to determine the most suitable poultice material and application methodology to treat these three dimensional artefacts.

In 2003, two Italian paper Conservators, Silvia Sotgiu and Simonetta Iannuccelli, began experimenting with a new gelling agent for use in paper conservation. They presented their findings at the 2010 American Institute for Conservation conference where it was well received by paper Conservators. Gellan gum is a high molecular weight polysacchride used in the food and pharmaceutical industries as an emulsifier and stabilizer. It comes in a powdered format that forms different types of gels.

Gellan gum was tested at CCI as a possible means of reducing stains and overall discolouration on the paper gores of the globes. Preliminary tests were carrying out to determine the appropriate concentration of gellan gum and a suitable application methodology for the globes. The objectives of the application technique were to determine the correct “exposure” time for the poultice to achieve maximum cleaning and reduction of the stains as well as a suitable method to minimize lateral migration of the moisture from the gelling agent into the paper gores.

This poster will present the technique developed at CCI to use gellan gum to reduce local staining and to carry out selective cleaning of the paper gores on the globes. It will identify the unique challenges presented by the globes and how they were overcome. Information will also be shared about the properties of this versatile and relatively affordable gelling agent.

Contact Information for Presenters

Katerina Alda

Private conservator,
Halifax, NS
Email: kat_alda@hotmail.com

Fiona Beckett

1136 St. Emmanuel Terrace,
Ottawa, ON, K1C 2J7
Email : fiona.beckett@gmail.com
Tel: 613.834.8730

Heather Beerling

Collections Specialist
Parks Canada, Manitoba Field Unit
Lower Fort Garry
5925 Hwy 9
St. Andrews, MB R1A 4A8
Email: heather.beerling@pc.gc.ca
Tel: 204.785.6067

Carl Bigras

Canadian Conservation Institute
Department of Canadian Heritage
1030 Innes Rd.,
Ottawa, ON K1A0M
Tel: 613.998.3721

Nancy E. Binnie

Senior Conservation Scientist,
Canadian Conservation Institute
Department of Canadian Heritage
1030 Innes Road,
Ottawa, ON K1A 0M5
Email: nancy.binnie@pch.gc.ca
Tel: 613.998.3721

Alejandra Petersen Castiello

1080 Chapel Street
New Haven, Connecticut 06510 USA
Tel: +1 203.436.8952
Email: alejandra.petersencastiello@yale.edu

Rachel Lapkin

Brown University
John Hay Library
20 Prospect Street
Providence, RI 02912, USA
Email: Rachel.Lapkin@Brown.edu
Tel: 401.863.2510

Ian Loughead

50 Neptune Cres,
Dartmouth, NS, B2Y 0B6
Tel : 902.426.1596

Crystal Maitland

Paper Conservator
The Sheridan Libraries
Johns Hopkins University
Baltimore, MD, USA 21218
Email: crystal.maitland@gmail.com
Tel: 443.683.3209

Joanna P McMann

Joanna P McMann Conservation Services
22 Slalom Road,
Bethany ON L0A 1A0
Email: conservation@joannapmcmann.ca
Tel: 613.219.0428

Christine McNair

Canadian Conservation Institute
Department of Canadian Heritage
1030 Innes Rd.,
Ottawa, ON K1A 0M5
Tel: 613.998.3721

Michael O'Malley

Centre de conservation du Québec, 1825 rue
Sempé,
Québec City, QB G1N 4B7
Email: michael.omalley@mcc.gouv.qc.ca
Tel: 418.643.7001, ext 237

Brenna Cook

Agnes Etherington Art Centre
University Avenue at Bader Lane
Queen's University
Kingston, Ontario K7L 3N6
Email: brenna.cook@gmail.com
Tel: 613.533.2190

Marie-Claude Corbeil

Canadian Conservation Institute
Department of Canadian Heritage
1030 Innes Rd.,
Ottawa, ON K1A 0M5
Tel: 613.998.3721

Wendy Crawford

Email: wendy.crawford@queensu.ca

Laszlo Cser

Restorart Inc.
23 Morrow Ave.
Toronto, ON M6R2H9
Email: laszlo@restorart.com
Tel: 416.539.8069

Colleen Day

50 Neptune Cres,
Dartmouth, NS, B2Y 0B6
Email : Colleen.day@pc.gc.ca
Tel : 902.426.1596

Désirée Desjardins

Student Applied Museum Studies Program,
Algonquin College
120 Glen Park Drive
Gloucester ON K1B 4Y4
Email: desideria.desjardine@gmail.com
Tel: 613.322.3852

Terry Quinlan

Professor of Conservation
Applied Museum Studies Program
Algonquin College
1385 Woodroffe Ave
Ottawa, ON K2G 1V8
Email: quinlat@algonquincollege.com
Tel: 613.727.4723 ext: 5060

Jessica Régimbald

1690a, rue Beaudet
Montréal, Qc H4L 2K6
Email: jessica.regimbald@hotmail.com
Tel: 514.603-1266

Fran Ritchie

Conservation Student,
Buffalo State College, Art Conservation
Department
230 Rockwell Hall, 1300 Elmwood Avenue
Buffalo, NY 14222
Email: franritchie@gmail.com

Ann Shaftel

6201 Shirley Street
Halifax, Nova Scotia B3H 2N3
Email: annshaftel@me.com
Tel: 902.422.2327

Aaron N. Shugar PhD

Conservation Scientist,
Buffalo State College, Art Conservation
Department
230 Rockwell Hall
1300 Elmwood Avenue
Buffalo, NY 14222
Email: shugaran@buffalostate.edu

Sarah C. Stevens

Zephyr Preservation Studio, LLC
51 Amsterdam Ave.
Albany, NY 12204
Email: zephyrpres@gmail.com
Tel: 518.961.0250

Danny Doyle

445 York Street,
Cornwall ON K6J 3Z6
Email: Danny.doyle@utoronto.ca
Tel: 506.645.9131

Moya Dumville

Email: dumvillemoya@gmail.com

Dr. Gülder Emre

Istanbul University
Department of Conservation and Restoration of
Artifacts,
Email: gulder.emre@gmail.com
Tel: + 905326602616

Patricia Ewer

5975 Ridgewood Road
Mound, Minnesota 55364
Email: pewer@citlink.net
Tel: 651.263.6899

Alastair Fox

Furniture Conservator, 11 Augustus St.,
St. Andrews, NB E5B 2E6
Email: alastair.fox@sympatico.ca
Tel: 506.529.3056

Sara Greenaway

Student/Private Conservator Assistant
15 Fairhill Crescent
Ottawa, ON K2G 1B8
Email: sagreena1@msn.com
Tel: 613.791.6536

Tom Strang

Canadian Conservation Institute.
Department of Canadian Heritage
1030 Innes Road
Ottawa, Ontario K1A 0M5
Email: tom.strang@pch.gc.ca
Tel: 613.998.3721

Jeanne Beaudry Tardif

1185 rue du Havre
Mascouche, Quebec
J7K 3T6
Email: jeanne.beaudryt@gmail.com
Tel: 514.779.7880

Amanda Thomas

50 Neptune Cres,
Dartmouth, NS, B2Y 0B6
Tel : 902.426.1596

Jonathan Thornton

Objects Professor,
Buffalo State College, Art Conservation
Department
230 Rockwell Hall, 1300 Elmwood Avenue
Buffalo, NY 14222
Email: thorntjl@buffalostate.edu

Claire Titus

Conservator, New Brunswick Museum
277 Douglas Ave.
Saint John, NB E2K 1E5
Tel: 506.643.2341
Email: Claire.titus@nbm-mnb.ca

Season Tse

Canadian Conservation Institute
Department of Canadian Heritage
1030 Innes Road,
Ottawa, ON K1A0M
Email: season.tse@pch.gc.ca
Tel: 613.998.3721

G. Nathan Harrison

Student Applied Museum Studies Program
Algonquin College
1385 Woodroffe Ave
Ottawa, ON K2G 1V8
Email: harr0467@algonquinlive.com

T. Rose Holdcraft

The Peabody Museum
Harvard University
11 Divinity Ave.
Cambridge, MA 02138

Judy Jungles

The Peabody Museum
Harvard University
11 Divinity Ave.
Cambridge, MA 02138
Email: jjungels@fas.harvard.edu
Tel: 617.496.9745

Cyndie Lack

10210-125 Street
Edmonton, AB T5N 1S9
Email: cyndielack@shaw.ca
Tel: 780.414.0789

Kyla Ubbink

Conservator/Owner
Ubbink Book and Paper Conservation
6544 Bilberry Drive,
Ottawa, ON K1C 4N6
Email: kyla.ubbink@sympatico.ca
Tel: 613.830.4968

R. Scott Williams

Canadian Conservation Institute
Department of Canadian Heritage
1030 Innes Road
Ottawa, ON K1A0M
Tel: 613.998.3721

Gregory S. Young

3-1020 Richardson Street
Victoria, BC V8V3C5



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