Abstracts

CAC-ACCR Peterborough

38th Annual Conference and Workshop

Canadian Association for Conservation of Cultural Property

Holiday Inn Peterborough Waterfront, Peterborough, Ontario ~ 22-26 May 2012

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Table of Contents

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The CAC Peterborough 2012 conference organizing committee gratefully acknowledges the support of the following institutions, companies and individuals whose collaboration and generosity contributed so much to the success of this event.

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Special Events

Workshop Reception
Date: Tuesday, 22 May 2012
Time: 6:00 pm to 8:00 pm
Location: Art Gallery of Peterborough, 250 Crescent Street

Conference Reception
Date: Wednesday, 23 May 2012
Time: 7:00 pm to 9:00 pm
Location: Market Hall, 140 Charlotte Street

ECC Meet & Greet
Date: Thursday, 24 May 2012
Time: 7:00 pm to 9:00 pm
Location: Riley's Olde Towne Pub, 253 George Street North

CAC AGM
Date: Friday, 25 May 2012
Time: 2:00 pm to 4:00 pm
Location: Holiday Inn Peterborough Waterfront

Banquet
Date: Friday, 25 May 2012
Time: 6:00 pm cocktails; 7:00 pm dinner
Location: Holiday Inn Peterborough Waterfront
Kawartha Choice Buffet – locally sourced foods featuring meat and vegetarian options

CAPC AGM
Date: Saturday, 26 May 2012
Time: 12:30 pm to 1:30 pm
Location: Holiday Inn Peterborough Waterfront, Caraway Room

CAC Regional Representatives Meeting
Date: Saturday, 26 May 2012
Time: 12:30 pm to 1:30 pm
Location: Holiday Inn Peterborough Waterfront, Tarragon Room

Workshops

Workshop 1: Preservation Unplugged

Duration: Tuesday, 22 May to Wednesday, 23 May, 2012
Location: Holiday Inn Peterborough Waterfront

This workshop, "Preservation Unplugged", is about changes taking place in museums' approach to preventive conservation. Through presentations and discussions with experts in the field, participants will gain a better understanding of the sometimes perplexing aspects of best practices for taking care of our collections.

TUESDAY, 22 MAY		
TIME	**ACTIVITY**	**FACILITATOR**
9:00 am to 9:15 am	Welcome and introduction to program	Gayle McIntyre / Cindy Colford
9:15 am to 10:30 am	Introduction to HVAC Systems	William Lull
10:30 am to 11:00 am	BREAK	
11:00 am to 12:00 pm	HVAC Systems – alternative approaches and benchmarking	William Lull
12:00 pm to 1:00 pm	LUNCH	
1:00 pm to 2:00 pm	Interpretation and Application of ASHRAE Guidelines	Charlie Costain Stefan Michalski
2:00 pm to 3:00 pm	Application of ASHRAE to Design Example – Royal Alberta Museum	Michael Lundholm
3:00 pm to 3:30 pm	BREAK	
3:30 pm to 4:45 pm	Case Study – Markham Museum Case Study – Parkwood Estate	Janet Reid Samantha George
4:45 pm to 5:00 pm	Closing remarks for Day 1	Gayle McIntyre / Cindy Colford

WEDNESDAY, 23 MAY 2012

TIME	ACTIVITY	FACILITATOR
9:00 am to 10:15 am	Assessments – recent developments in Risk Assessment approaches	Irene Karsten Robert Waller
10:15 am to 10:45 am	BREAK	
10:45 am to 12:00 pm	Lighting – trends and recent developments	Charlie Costain Stefan Michalski
12:00 pm to 1:00 pm	LUNCH	
1:00 pm to 1:45 pm	Lighting – looking at design	Phil Gabriel
1:45 pm to 2:15 pm	Case Study – McMichael Gallery	Gary Kee
2:15 pm to 2:45 pm	BREAK	
2: 45 pm to 3:30 pm	Project Management / Communication	Michael Lundholm
3:30 pm to 4:15 pm	Case Study – Waterloo Region Museum Case Study – Guelph Museums	Tom Reitz Katherine McCracken
4:15 pm to 5:00 pm	Panel Discussion Michael Lundholm William Lull Charlie Costain Stefan Michalski Irene Karsten Robert Waller Phil Gabriel Tom Reitz Katherine McCracken	Gayle McIntyre / Cindy Colford

Workshop 2: Basket Making at Curve Lake

Duration: Wednesday, 23 May, 2012 – afternoon
Location: Curve Lake Cultural Centre, Curve Lake First Nation

This workshop will introduce participants to the traditional methods of basket making.

WEDNESDAY, 23 MAY 2012

TIME	ACTIVITY
11:15 am	Participants meet in the lobby of the Holiday Inn
11:30 pm to 12:15 pm	Travel to Curve Lake Cultural Centre, Curve Lake First Nation
12:30 pm to 3:45 pm	Orientation to Curve Lake Cultural Centre and basket making workshop
3:45 pm	Depart Curve Lake Cultural Centre and travel to Whetung Gallery
3:45 pm to 4:30 pm	Visit Whetung Gallery
4:30 pm to 5:15 pm	Depart Curve Lake First Nation and travel to Holiday Inn, Peterborough

“The Power of Preservation” – Conference Program

Location: Holiday Inn Peterborough Waterfront

THURSDAY, 24 MAY 2012

TIME	PROGRAM	PRESENTER(S)
9:00 am to 9:15 am	Welcome and introductions	
9:15 am to 10:00 am	Per Guldbeck Memorial Lecture	Michael Harrington
	Session Chair	Jessica Lafrance
10:05 am to 10:25 am	Cultural Property Risk Analysis: A report on the state of the art as revealed at the 2011 International Symposium	Robert Waller
10:30 am to 11:00 am	BREAK	
	CAC/CAPC Merger Facilitator	Janet Honsberger
11:00 am to 12:00 pm	CAC/CAPC Merger Roundtable	Greg Hill Julia Landry Silvia Kindl Andrew Todd Marianne Webb
12:00 pm to 5:00 pm	Lunch and Tours	
	Tour 1: Over and Under the Lift Lock Tour 2: Peterborough Petroglyphs Tour 3: Behind the Scenes Tour 4: Built Heritage Walking Tour	

FRIDAY, 25 MAY 2012

TIME	PROGRAM	PRESENTER(S)
9:00 am to 9:15 am	Morning announcements	
	Session Chair	Kendrie Richardson
9:15 am to 9:35 am	Out of the Fire and into the Frying Pan: A Tale of Two Emerging Conservators in a Post-Fire Recovery	Krystyna Halliwell & Adriane VanSeggeler
9:40 am to 10:00 am	Ills of Pharmaceutical Collections	May-Lin Polk
10:05 am to 10:25 am	The Good, the Bad, and the Risks: Treating Asbestos Contaminated Artifacts	Carolyn Sirett
10:30 am to 11:00 am	BREAK	
	Session Chair	Amber Harwood
11:00 am to 11:20 am	A Comparative Study of Direct Application versus Solvent Reactivation of Klucel G for Paper Conservation	Jessica Régimbald
11:25 am to 11:45 am	Pieces of the Puzzle: the treatment of a private collection of documents related to the recovery of the Titanic victims.	Julia Landry
11:50 am to 12:10 pm	From Axe to Micro Spatula: Em'Bark'ing on a treatment	Kyla Ubbink
12:15 pm to 12:35 pm	The Conservation of Two Composite Photographs	Greg Hill & Emily Lenoff
12:40 pm to 1:00 pm	A low-cost and effective method to clean archival photographs	Catherine Mathias
1:00 pm to 2:00 pm	LUNCH	
2:00 pm to 4:00 pm	CAC Annual General Meeting	CAC Board of Directors

SATURDAY, 26 MAY 2012

TIME	PROGRAM	PRESENTER(S)
9:00 am to 9:10 am	Welcome and announcements	
	Session Chair	Shireen Sasani
9:10 am to 9:30 am	Outside the Lab – Conservation as a Community Effort	Richard Fuller
9:35 am to 9:55 am	Preserving the National Currency Collection: more than “two sides of the same coin”	Rebecca Renner
10:00 am to 10:20 am	Powered by Preservation: Exhibition Planning at Warp Speed	Carmen Li
10:25 am to 10:45 am	“You don’t know what you’ve got till it’s gone”. Learning the social value of preservation	Eve Graves
10:45 am to 11:15 am	BREAK	
	Session Chair	Tasia Bulger
11:15 am to 11:35 am	Commemoration, Collaboration and Conservation – The Brampton Cenotaph Time Capsule	Iona McCraith
11:40 am to 12:00 pm	Early military protection of cultural property	Krysia Spirydowicz
12:05 pm to 12:25 pm	Importance of studying the petrographic, mineralogical and geochemical features of the lithic materials of architectural heritage in preventive conservation	Sorin Constantin Barzoi & Cristina Ureche-Trifu
12:30 pm to 1:30 pm	LUNCH	
	Session Chair	Tessa Thomas
1:30 pm to 1:50 pm	The treatment of a Catharine Parr Traill botanical album	Christine McNair

1:50 pm to 2:10 pm	The Binding and Structural Elements of Gudbrands Biblia	Jane Dalley
2:10 pm to 2:30 pm	Simplifying Conservation Decision Making: An information management tool developed at LAC	Lynn Curry
2:30 pm to 2:50 pm	Consolidation of rotted silk, further experiments with the Fibroin-EGDE developed by the National Silk Museum in China	Christine Puza
2:50 pm to 3:15 pm	BREAK	
	Session Chair	Meaghan Monaghan
3:15 pm to 3:35 pm	All In A Day's Work: The Preservation of *Monday, Wednesday, Saturday*	Tasia Bulger
3:40 pm to 4:00 pm	Connect or disconnet: A "musselled" Moore replica becomes a conservation dilemma	Nancy Binnie & Sherry Phillips
4:05 pm to 4:25 pm	The power of an object's essence: new understandings from evolutionary psychology	Stefan Michalski
4:30 pm	Conference closing remarks	

Conference Abstracts

Cultural Property Risk Analysis: A Report on the State of the Art as Revealed at the 2011 International Symposium

Robert Waller

An International Symposium on Cultural Property Risk Analysis, in association with the International Council of Museums – Committee for Conservation – Preventive Conservation working group and sponsored by Society for Risk Analysis (SRA), was held at the Universidade Nova de Lisboa in Lisbon, 2011 September 14-16. The Symposium offered 34 papers by presenters from 14 countries dealing with all aspects of risk assessment and management to better preserve cultural heritage. Papers presented addressed cultural property in the form of sites, monuments, architecture as well as collections in museum, libraries and archives. The presentations included case studies, methodological developments, advances in balancing energy demands for preservation with pressure for energy conservation, and perspectives of management and educators. Case studies ranged from applications to large (ten million object) collections to simple guidance on general priorities in small museums. Methodological developments included examples of detailed risk modeling, modeling from different perspectives, and integration of risk descriptions and vulnerability assessments. The issue of balancing sustainability issues with energy requirements for preservation was addressed as a planning and communication issue and as a standards issue, critical knowledge gaps were identified, and risks were evaluated in controlled, uncontrolled, and intentionally intermittently controlled situations. Management and education issues were addressed from institutional, national and international perspectives. This presentation will provide a review.

Out of the Fire and into the Frying Pan: A Tale of Two Emerging Conservators in a Post-Fire Recovery

Krystyna Halliwell and Adriane Van Seggelen

In the early morning hours of July 28, 2010, a fire broke out at the Museum of the Highwood in High River, Alberta. The suspicious fire began in the grass behind the museum, swiftly climbing a support beam and entering the roof. The fire itself was contained to the roof and attic areas, resulting in the bulk of the collection being affected by smoke and water damage, with a small percentage of the collection that was stored in the attic receiving more extensive damage. The Museum of the Highwood itself is a Western Heritage museum with a collection composed of over 9000 artifacts, as well as an extensive photograph and archival collection. Of the collection, it is estimated that only 2% was irreparably damaged, with the archival and photograph collections being largely protected by their storage in the building's vault.

During the early recovery period the museum was staffed by a Director/Curator, Assistant Curator, Programmer, and a Collections Manager. Museum staff began by drying, boxing and sorting the collection, however it was made clear that a position dedicated solely to the recovery of the collection was needed. A newly created position, Artifact Restoration Technician, was created and filled by an emerging conservator. Six months following the commencement of this position, a new Collections Manager, also an emerging conservator, joined the recovery efforts.

The Artifact Restoration Technician's first step was to modify existing treatments initiated primarily by volunteers and prioritize the long term recovery of the collection. The collection had been prioritized into four categories: burnt, smoke damaged, water damaged, and stable. Artifacts were unpacked, processed through an ozone chamber, cleaned and stabilized, catalogued and photographed, and sorted onto shelving. They were then boxed or re-housed for storage according to artifact type. Any artifacts requiring conservation treatments beyond cleaning and stabilization were set aside to be treated at a later date. The main materials used during the recovery process included the use of low suction vacuums, soot sponges, vinyl erasers, Orvus WA Paste, corrosion removal aids, and polishing products.

The new Collections Manager's main priorities were to re-write the museum's collection policies and procedures, develop a new disaster plan, and prepare the museum's collection records for conversion from the Sesame database to Past Perfect. Working together with the Artifact Restoration Technician, the Collections Manager implemented both an environmental monitoring and an integrated pest management program. The Collections Manager then created a plan and procedure for re-housing the museum's hat collection that was undertaken with the Artifact Restoration Technician.

Ills of Pharmaceutical Collections

May-Lin Polk

As a research project during the internship component of the Collections Conservation and Management program at Fleming College, the author waded into the topic of caring for pharmaceutical products from a conservation and collections management perspective. Museum collections are found to be diverse and contain objects that are sometimes overlooked. When confronted with the challenge of caring for them, there can be many unknowns. This was found to be the case during an internship at the New Brunswick Museum (NBM), which has two pharmaceutical collections comprised of various medicines remaining in tins, boxes, and bottles. What are these contents composed of and how should they to be cared for?

The utmost concern is the safety of those who are caring for such collections. Pharmaceutical products are "poisons" to the human body; they are meant to alter it for a specific outcome. Those handling pharmaceutical products should know that common medications used in the past are not what we would consider safe for use today; such as Digitalin and Strychnine. As well, one cannot assume that the packaging correctly identifies the contents. Following Occupational Health and Safety regulations should be a priority when dealing with this type of collection.

The breakdown of the contents over time should be also researched; not all substances break down into something inert and unreactive. How pharmaceuticals interact with their containers over time is also important to understand. Preservation of pharmaceutical products for possible research opportunities in the future is a major consideration when dealing with this type of collection. Museums also need to be reminded that they do not exist outside of the law. Caring for pharmaceutical product collections involves knowledge of the law (particularly the Canadian Controlled Drugs and Substances Act), as medicines from the past could be considered to be controlled substances by today's definitions. Once museums have established procedures for the care for pharmaceutical product collections, they must also ensure that data recorded in their databases is complete so that others have the ability to access them for research purposes.

Every collecting institution should have policies and procedures in place concerning not only pharmaceutical products but any collection type that may require special care and handling. The ideas listed here as well as a case study from the NBM collections will be discussed in this paper. Providing pertinent information to others in related roles about the concerns that come along with having pharmaceutical product collections is essential; not only will the artifacts be preserved but personnel as well.

The Good, the Bad, and the Risks: Treating Asbestos Contaminated Artifacts

Carolyn Sirett

Asbestos is a material that has been used in the consumer market for commercial and residential products because of its beneficial characteristics. It resists chemical attack, is fire retardant, has excellent thermal properties, and is flexible enough to be mixed into a variety of consumer products such as being woven into the matrix of a theatre curtain. Although these characteristics make asbestos appear to be an ideal material to be used for some manufactured products, it was discovered in the early 1970s that asbestos is an extremely harmful hazardous substance. Many museum collections possess a range of household and commercial objects or operate within a heritage building; in which asbestos may unknowingly be lurking.

Investigation into this topic began while completing a Fleming College Internship at Parks Canada Western and Northern Service Centre, in Winnipeg, Manitoba. The acquisition of an Empire Stove & Company Quebec-style heater for the Bar-U Ranch National Historic Site, Longview, Alberta was found to contain asbestos in the liner bricks of the stove pipe. Research was undertaken to outline the steps required to successfully complete conservation treatment on the heater in preparation for its future exhibition. The study involved identifying asbestos containing material, health and safety requirements when working with asbestos and methods of consolidating or removing the hazardous material. The safety of staff and visitors in contact with the artifact was also considered. It is hoped, that the information provided in this paper will raise awareness to of those collections with asbestos contaminated material and encourage a discussion on future considerations for their long-term preservation.

A Comparative Study of Direct Application versus Solvent Reactivation of Klucel G for Paper Conservation

Jessica Régimbald

Since it was first introduced to the conservation field (de Graff 1981), hydroxypropyl cellulose (HPC) has been of interest to conservators and conservation scientists alike. Today, the most used HPC is Klucel G, most often employed through direct application, but it is also through solvent reactivation.

The goal of this research project is to quantitatively determine the differences in mechanical properties between Klucel G which has been directly applied, and that which has been applied through solvent reactivation. The appropriate concentration of the adhesive to be used in an emulsion with ethanol will be determined through mechanical and visual analysis. The strength of adhesion will be tested using an Instron tensile test machine, and compared in two different ways: a lap joint shear strength test and a, T-peel test. The flexibility of the adhesive will be tested using a Taber-type tester to determine if one method of application forms a more flexible bond. Finally, the penetration of the adhesive into the substrate will be tested using transmitted light microscopy to speculate on the reversibility of the treatment. This research can then be used for practical application in a lab setting, and the treatment decision making process.

Pieces of the Puzzle: the treatment of a private collection of documents related to the recovery of the Titanic victims

Julia Landry

One hundred years ago, on 14 April 1912, the Titanic was lost in waters south of Newfoundland. The sinking of this great ship on its maiden voyage and the tragic loss of life is one of modern history's most fascinating disasters.

In 2000, through a fortuitous twist of fate, I was given the opportunity to work on the stabilization and preservation of a collection of telegrams and other documents detailing the recovery efforts and the subsequent disposition of the bodies. In terms of volume, as a conservator in private practice, this project represented the largest collection of material that I have worked with. During the course of the treatment, I encountered an iceberg or two of my own, but also a growing awareness of exactly what was contained in the documents and the contribution they would make to the Titanic archive.

From Axe to Micro Spatula: Em‘Bark’ing on a treatment

Kyla Ubbink

Being a paper and book conservator, and never having treated bark, or wooden artefacts, I was hesitant to take on the treatment of folded, brittle and extremely thin birch bark. The client, however, desperate to do something for her treasured family documents, had already spent years trying to find someone to help and was finally referred to me as a last hope. It was agreed upon that I at least research the treatment options and perhaps find an expert for her.

The former was easier than the latter. Numerous websites contain information on how to make birch bark paper, but published articles on treating such thin pieces of bark are few; and finding a currently active local conservator to undertake the project or even discuss it with was even harder. After consulting with wood and objects conservators at the Canadian Conservation Institute (CCI), who had experience with birch bark, and reading articles related to treating ancient Aboriginal and European birch bark manuscripts; I felt confident that after some experimentation and practice it would possible to conserve the letter, envelope and note.

This of course meant getting out of the lab and into the woods. If this treatment was going to be done, I was going to start from scratch and learn just how such a fine and thin piece of bark was produced. After harvesting several large sections of bark from a white birch (paper birch), the next step was to separate the layers, creating samples and test pieces. The samples were folded, aged in the oven and then cracked by hand creating small breaks. Three different solutions were tested for humidification: water, ethanol, and a 50% solution of the two. The tears were then repaired using ‘L-2 spider’ tissue with various strengths of wheat starch paste and methyl cellulose, finding the best results for flexibility without causing pressure points on the thin material.

Testing and practice resulted in an appropriate action for conserving the clients’ 1952 letter from her lumberjack grandfather to his and family, along with its envelope; as well as a New Years Greeting written by her grandmother in 1928. The treatment resulted in flat, flexible, and stable bark documents. A folder was designed to house the materials so the items could be viewed and read without damage, while accommodating safe storage.

The Conservation of Two Composite Photographs

Greg Hill and Emily Leonoff

Composite photographs were and continue to be assembled to commemorate people or events of significance. The Newfoundland Hero's of the Gallipoli Peninsula Campaign composite created in 1919 memorializes the soldiers from the Newfoundland regiment who lost their lives in this campaign. It consists of 48 individual portraits mounted onto a panel of paper board and finished with manuscript titles. Similarly, a Japanese composite panel commemorating the Enthronement of Emperor Hirohito in 1931 consists of 81 individual portraits and a title panel attached to a heavy wood fibre board with painted boarder.

Both panels arrived at CCI heavily damaged to receive full treatment. The Newfoundland hero's panel was highly acidic, extremely brittle, degraded, and in several pieces. The original panel was removed, the photographs conserved and the entire piece reassembled on a new board. The Japanese panel had suffered greatly from water and mould damage. Again, the photographs were removed from the original, conserved and remounted onto a new panel.

One must consider the significance of the object as a whole, its future intended use and the long term implications and risks associated with leaving the various elements including photographs adhered to a degraded substrate versus replacement. This paper will examine the treatments carried out on both panels and will highlight the ethical dilemma facing conservators when replacing original elements on objects with new ones.

A low-cost and effective method to clean archival photographs

Catherine Mathias

From both a storage and retrieval perspective, oversized photographs require a great deal of space and time to maintain within an archival research environment. In preparation for an upgrade to the archival facility at the Peterborough Museum & Archives (PMA), this paper highlights the value of preventive conservation and the methods used to surface clean the photos involved.

Prior to this project being undertaken, these oversized photographs were sorted by subject. In order to make the best use of the space available, photographs were re-sorted by size and boxed accordingly. Throughout the process, photographs were cross-referenced with collections databases and surface cleaned.

Using commercially available polyurethane sponges originally intended for the cosmetics industry to clean the photographs provided some interesting results. Following an initial cleaning experiment, the Canadian Conservation Institute was asked to perform analysis both on the composition of the sponge and the dirt residue being removed. The completed analysis supports the use of this low-cost, effective method for use with archival photographs.

Outside the Lab – Conservation as a Community Effort

Richard Fuller

Preparing and installing artifacts for a new municipal museum involves many people and a wide range of skills. Conservation/restoration treatments are normally centered on the work of a conservator, sometimes as part of a team including other conservators, conservation technicians, interns or even volunteers. For large and complicated objects, or those requiring specialized treatments, parts or modifications, we needed to look outside the laboratory to the general commercial community. While we worked on this large project over the last two years at the Waterloo Region Museum, many non-conservation/ heritage professionals and businesses were relied upon for advice and ability to complete specialized tasks. Without the help of these very skilled workers, much of the impressive vision for Museum exhibits and the availability of collection objects for display would have been dramatically limited. The work of these community participants will be acknowledged within the context of overall conservation/restoration treatment and its many particularities, including transportation and installation within the Museum. Lessons learned during the project will also be reflected on.

Preserving the National Currency Collection: more than “two sides of the same coin”

Gabrielle Charbonneau, Bill Kenny, Leslie Redman, and Rebecca Renner*

The National Currency Collection has existed since 1959 but the position of Conservator/Collection Manager was established 42 years later in 2001. The positive impact of a dedicated preservation professional on the caring for the collection of more than 100,000 artifacts has been significant. Some of the intangible aspects include the conservator’s influence on collection management and exhibition development processes at the Bank of Canada’s Currency Museum.

In terms of more tangible influences, the conservator was selected to play a key role in the design and construction of new collection storage vaults and a conservation laboratory. Working under an “aggressive” schedule meant there was limited time for research and decision making. The experience and knowledge of colleagues at the Canadian Conservation Institute, National Gallery of Canada, Royal Ontario Museum, Canadian War Museum, Parks Canada Atlantic and Ontario Service Centres, and the Canadian Centre for Architecture, was invaluable to help establish the conservation requirements for the conservation lab and two artifact storage areas; one for organic materials and the other for metals. The conservator provided the architects and engineers with the relative humidity and temperature set points for all areas as well as the type of HVAC system filters, and systems such as water purification, fume extraction and fire detection and suppression.

Usually performing the dual roles of conservator and collection manager is akin to the expression “two sides of the same coin” because some of the duties overlap and both roles contribute towards the preservation of the Collection. However, performing the dual roles during the construction of the new facility was particularly challenging. While performing the role of conservation advisor to the design team, packing and planning the relocation of the Collection, all the regular duties of collection management such as registration of new accessions and preparing loans were ongoing. Meanwhile, it was critical to maintain a presence on the construction site to ensure the new facility met the conservation requirements.

Modular packing systems were designed and built by a small team to transport the Collection to the new facility within the Bank of Canada building. Most of the packing systems are now being used for long term storage. Examples of these systems will be illustrated.

Some other tangible examples that demonstrate the impact of conservation on the National Currency Collection, at the Bank of Canada’s Currency Museum, are custom designed coin storage boxes and improved methods to display and pack numismatic collections.

*Presenting author

Powered by Preservation: Exhibition Planning at Warp Speed

Carmen Li

“Leaner, meaner, faster” seems to be the mantra of the day. Given the realities of budget cuts and job reductions in the current economic climate, conservators may find themselves faced with the challenge of sustaining levels of service for collections in the face of diminishing resources and increased political pressures.

For example, the University of Alberta Museums is currently faced with the challenge of mounting an exhibition – through planning, design, preparation, installation, to programming – in only 5 ½ weeks. That may seem like enough of a challenge, but also factor in that this would be in an unfamiliar building; little infrastructure is in place for exhibition production; and that the goal is to showcase objects from all 29 of the university’s collections; and it begins to seem like an impossible task.

Such a compressed timeframe means that many compromises will be necessary – but which? How do we ensure that objects are not placed at risk despite streamlining many processes? Fortunately, despite outside pressures, the importance of conservation and collections care has always been recognized within the U of A Museums structure. By having conservation in one of the leadership roles within exhibit planning, preservation concerns were not only addressed throughout the entire process but in fact were crucial factors in shaping design and curatorial decisions. While this presentation is not intended to be a “how-to” - because this is a project that probably would not normally be attempted – it is a confession of “how we did it”, and hopefully, will provoke a discussion of how conservators may increasingly be asked to take on roles outside of the lab and outside of their traditional purview, yet still effect overall strategic improvements in conservation and collections care.

“You don’t know what you’ve got till it’s gone”. Learning the social value of preservation

Eve Graves

Conservation departments are being marginalised in many institutions. It is an expensive subject to teach and interventive conservation practice itself is costly to maintain particularly in times of almost worldwide recession. In any case the resources it requires may currently be beyond what the world can sustain. The job market for newly trained conservators is shrinking in many areas even though the need is just as great. The positions in collections are diminishing as funding is reduced. This is unlikely to change in the near future. However, we are continuing to educate our students for this diminishing job market, as we must or we risk losing valuable skills forever. But perhaps we should also be thinking more deeply about the transferable skills that we are developing in our students, for instance how their detailed knowledge of the physicality of materials and the human values to which they may give access could be of wider service to society.

Further, the notion of preservation needs to be richly understood. Intangible values have long been recognized but do we fully grasp their social implications. How can we link more closely with other professions and disciplines (medicine, the social sciences, art and design) to develop more possibilities? At the same time how could our students’ skills be used to improve society’s understanding of the importance and procedures of preservation so that less of our precious cultural patrimony is neglected, damaged or deliberately destroyed? This paper summarises a range of interrelated projects developed to encourage students to use their knowledge and skills in ways that are of immediate as well as long term benefit to others beyond the profession while still learning the required conservation skills. It also explores further ways in which we might work across the generations (with artists, craftspeople, children, young adults and our elders), to add to the quality of life, enhance knowledge, understanding and communication and create a more robust demand within society for the preservation of our natural and cultural worlds. Preservation, if it is to be supported by society at large, must be seen to have political and social relevance – to be a necessity not a luxury.

Commemoration, Collaboration and Conservation – The Brampton Cenotaph Time Capsule

Diane Allengame and Iona McCraith*

This paper outlines a collaborative project between 5 groups; members of the Royal Canadian Legion #15, The City of Brampton, Peel Heritage Complex archivists, E.R.A. Architects Inc., and the Archives Association of Ontario Preservation Consultant. The project initially involved the opening of a time capsule, removed from the Brampton Cenotaph during its restoration in 2011, and an assessment of the condition of its contents -- primarily two Books of Remembrance commemorating those who served in WWI and WWII. The Books of Remembrance were originally designed to be a living heritage piece; intended to be removed and updated every decade following the initial internment in the Cenotaph.

This seemingly straight forward project quickly grew larger as handling and preservation challenges related to previous conservation treatment became apparent. Archival and conservation questions arose that would determine the future preservation of the Books, including; should the original books be updated with new information about those who served, thus changing the original archival record, or should a new volume be created for additional information about other soldiers who served and died in these or later conflicts? Should the Books of Remembrance be re-interred in the Cenotaph, with the preservation challenges that involves, or held somewhere else? If removed from the Cenotaph, how would one fulfill the meaning of the Cenotaph as a commemorative monument? If re-interred what type of capsule should be used to ensure the preservation of the books? Should later conflicts – Korean, Vietnam, Persian Gulf, and Afghanistan wars – be commemorated in the same Cenotaph? Should other items be added to the capsule and if so, what?

As many community memorials in Ontario date from the end of WWII, the age of the material and contents is now in excess of 66 years. What is the role of technology in preserving community memory and how does that allow us to respect the original intent of the memorial-builders?

*Presenting author

Early Military Protection of Cultural Property

Krysia Spirydowicz

During World War II, a number of art protection units were created in the British, American, French, Russian and German forces. Drawn from the ranks of museum directors, curators, conservators, archaeologists, artists and academics, these dedicated groups rescued damaged cultural property in war torn areas across Europe.

But how did the idea originate? This paper will discuss the emergence of the concept of military protection of cultural property using examples from revolutionary France and the First World War.

The *Commission Temporaire des Arts* was established by the revolutionary government to provide advice on the protection of art works to advancing French forces. Under Napoleon, the motives of the Commission were subverted by the direct involvement of its members in art looting activities. After the battle of Waterloo, British officials made the unprecedented decision to return art works looted by Napoleon's forces to their original owners. This was the largest mass repatriation of art works in history until the conclusion of World War II.

During World War I, the *Kunstschutz*, the first military unit for the protection of fine art during wartime, was established by the German government. This unit was formed in response to outrage over atrocities committed by German forces in 1914, which included the burning of the library at the University of Louvain. Many German art historians became art officers. Their tasks included assessing wartime damage to monuments and buildings, implementing protective measures for damaged structures, safeguarding archival materials and organizing the evacuation of threatened art works. Many of the same responsibilities were assumed by art protection units during World War II. Although much good work was accomplished by the *Kunstschutz*, many of their activities were politically motivated, as a brief analysis of the classic published account, *Kunstschutz im Kriege* (Protection of Art during War), will prove.

Importance of studying the petrographic, mineralogical and geochemical features of the lithic materials of architectural heritage in preventive conservation

Sorin Constantin Barzoi and Cristina Ureche-Trifu*

Although heritage constructions are located in varied geological terrains and climatologic conditions, the specific relation between these and their environment is rarely considered when undertaking conservation work. This paper shows that built heritage conservation cannot be carried out while ignoring the buildings' lithologic environmental setting. Displacing lithic materials from their original context and assembling them to build a new artificial structure causes mineralogical and geochemical disequilibria, manifested through different physicochemical deterioration processes. The most frequent deteriorations that affect the lithic material used in constructions are: disaggregation, exogenous fissuring, gravitational detachment, chemical alteration and dissolution[1,2]. These processes are illustrated here through a series of observations made on a number of heritage structures from Romania[3,4]. It is shown that any interventions must take into consideration the petrography and mineralogy of the lithic constituents of the buildings, identify the source of the materials used, and only use compatible materials when doing replacements and repair work, as far as possible from the same source, and with the same characteristics. This is the only way to ensure that in the long term the building will maintain as much of its original features as possible. This research demonstrates the importance of knowing the geological and climatologic context of the area and the petrographic nature of the lithic fragments used in a heritage building for understanding the causes of the deterioration. It emphasizes the significance of analysing the mineralogical composition and the chemistry of the lithic fragments for determining the best intervention practices.

*Presenting author

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The treatment of a Catharine Parr Traill botanical album

Christine McNair

“In cases of emergency, it is folly to fold up one’s hands and sit down to bewail in abject terror: it is better to be up and doing.” Catharine Parr Traill. The Female Emigrant’s Guide (1854).

Catharine Parr Traill was one of Canada’s most important nineteenth century writers. Her work details survival techniques for early settlers and documents the botanical treasures of her new country, particularly specimens she collected in the Peterborough area. In 2010, a botanical album assembled by Catharine Parr Traill was brought to the Canadian Conservation Institute for treatment. Belonging to the Peterborough Museum & Archives, the book was a commercially bound scrapbook with adhered botanical specimens (primarily mosses, lichens, and ferns). Hand-written notations by Catharine Parr Traill accompanied each sample and the book was dedicated in her own hand to her grandson.

The volume had very poor opening characteristics which lead to difficulties in handling due to the lifting of botanical specimens throughout. The tightness of the binding meant the samples would follow the arch of each page turn. This had led to a failure of the original starch/protein adhesive holding them in place.

This presentation discusses the treatment methodology chosen for a unique and extremely delicate artifact. The structural concerns of the volume were balanced by the rarity and importance of the botanical specimens as well as the importance of the book’s provenance. Archival book conservation emphasizes the necessity of protecting all aspects of the book. In this instance, the delicacy of the rare botanical samples was weighed against the importance of leaving the relatively intact binding as undisturbed as possible. Because the contents were assembled by Catharine Parr Traill herself, any interference could alter the historic record.

The binding style of the scrapbook was the most significant mechanical problem. Comparative scrapbooks at the Canadian Museum of Nature do not show the same level of sample detachment and this is likely due to the tightback binding. In order to retain the original sewing, a paper-mâché hollow was used to lessen the strain on the samples and improve the book’s opening characteristics.

Also of particular concern in this treatment was how to arrive at a method of re-attachment for the lifting samples. Discussions and tests were held with conservators and preparators at the Canadian Museum of Nature before deciding upon mini solvent-set ‘straps’ of Lascaux 498V and kozo tissue. This was chosen due to the sympathetic colour match of the straps, its reversibility, and the minimal amount of moisture in contact with the botanical material.

The treatment successfully lessened the strain on the botanical samples. The volume opens more easily than in its previous tightback construction. The samples are more firmly attached to the substrate but are still able to move with the arc of the pages. The inherent fragility of the plant samples and the book’s rarity, make cautious and limited handling vital to its continued preservation.

The Binding and Structural Elements of Gudbrands Biblia

Jane Dalley

“Do Not Neglect the Study of that Which You Undertake to Change” – Christopher Clarkson

The conservation of older books can present challenges - and rewards - not found in the treatment of 19th and 20th century books. This presentation outlines the approach taken to the conservation treatment and rebinding of the Gudbrands Biblia from the Icelandic Collection of the University of Manitoba.

The Gudbrands Biblia was part of the “Bible Editions” printed in 1541 in Sweden, 1550 in Denmark and 1584 in Iceland. It is commonly known as the “Gudbrands Biblia”, as it was edited and partially translated by a bishop of that name. This Bible is bound in the Gothic style that was common from the 14th century up to the end of the 16th century, with wooden boards, metal clasps and decorations, a vellum cover and a solid sewing structure.

Heavy use and less-than-ideal storage had resulted in missing and torn pages, infestation by wood-boring insects, broken sewing, and a torn cover. The cover was no longer fully adhered to the boards and spine. The turn-ins were lifting up. The book did not open well, and the textblock was swollen beyond the confines of its cover.

A visit to the vault of a rare book collection will reveal many older books that have been rebound or rebacked over the years according to earlier trade binding practices. In the process, many of the binding details that make older books unique have been lost. This is not a criticism of those binders and their work. Book conservation has been evolving and there are now more options available to the conservator and binder alike. Book conservators are more aware of the need to record and document the binding details than their predecessors. This is all the more important for those details that are not visible on the outside.

The treatment proposal for the Biblia was based on the nature and condition of paper and inks, and included a rebinding technique based on the original style of binding that incorporated as much of the original material as possible. The details of the binding style were documented, as the opportunity to witness an original binding from this era does not often occur.

Simplifying Conservation Decision Making: An information management tool developed at LAC

Lynn Curry*, Geneviève Samson and Manise Marston

In the age of information, the most enduring format thus far is the bound book with a two thousand year history of both manuscript and published volumes. The period of book manufacture between the 17th and 21st centuries makes up a significant component of libraries the world over. This prolific period of book production coincides with technological, manufacturing and business developments that not only resulted in advancements in production but sadly, also in substandard products and manufacturing techniques. For example the leather of the period is susceptible to chemical and physical deterioration due to environmental conditions. Like all published and archival bound volumes, Library and Archives Canada's (LAC) circulating and special collections are at risk due to the nature and materials of the bindings from this period. The breakdown of structural components and/or detachment of cover-boards and pages are the typical results.

In 2009, while developing a training module on board reattachment techniques, it became evident that the current body of knowledge although advancing, was not organized in a standard format and was often challenging to interpret. The book conservators at LAC decided to collaborate on a conservation manual with standardized conservation terminology and procedures that would simplify conservation decision making. The intent of the manual was to create a tool for succession planning for the training of book conservators and conservation interns at LAC.

In the same year, 2009, The American Institute for Conservation, Book and Paper Group, began developing the Online AIC WIKI Book Conservation Catalog; a repository of information organized and sorted according to the established catalog format.

The AIC WIKI Book Conservation Calalog became the foundation of the LAC conservation manual which focuses on elements not addressed in the catalog. While still a work in progress, the LAC conservation manual is an information management tool of templates designed to organize conservation information and simplify decision making. To date the manual consists of a selection criteria guide, execution instructions and a bibliography for board reattachment techniques.

*Presenting author

Consolidation of rotted silk, further experiments with the Fibroin-EGDE method developed by the National Silk Museum in China

Christine Puza

The degradation of silk is a significant, ongoing problem occurring in museum collections. Current treatments used to stabilize the material include encapsulation in Stabiltex, adhesive backing, or vapor coating with Parylene-C. The Fibroin-EGDE method, developed by the Research Group at the Chinese National Silk Museum, presents an exciting new possibility for treatment. This paper explores the properties of a Fibroin-EGDE treated tin weighted silk textile in an advanced stage of degradation, noting changes in colour, hand, and strength. Further information about this technique, including aging and Oddy testing, were also performed and will be discussed.

All in a Day's Work: The Preservation of *Monday, Wednesday, Saturday*

Tasia M. Bulger

AA Bronson, Felix Partz, and Jorge Zontal composed the Canadian artist collective General Idea, best known for creating artworks based on popular and media culture throughout 1969 to 1994. The collective's artworks during the early 1980s included many objects associated with an installation, The 1984 Miss General Idea Pavillion, within the General Idea 1968-1984 touring exhibition. This exhibition displayed artworks of Pavillion ruins and cornucopias, and in particular three abstract cornucopia horns were constructed and named *Monday, Wednesday, Saturday*.

The original Monday, Wednesday, Saturday sculptures were constructed in Basel, Switzerland as a part of a traveling exhibition that would be shown in Basel, Eindhoven, Toronto, and Montréal between 1984 and 1985. Each element in *Monday, Wednesday, Saturday* was constructed with a polyurethane foam core and covered with dyed plaster. The fragility of the structures was such that the decision was made by the collective to destroy the sculptures after the second venue in Europe and refabricate replacements in Canada for subsequent venues. During travel from Toronto to the final venue in Montreal in 1985, cracking occurred over the entire plaster surface on the Canadian versions. Conservation treatment was apparently conducted in 1986 but no documentation has been found. Instead of having the Canadian versions discarded, General Idea decided to have *Monday, Wednesday, Saturday* placed into storage in 1986. The Canadian versions were wrapped, crated, and stored in Toronto until 2010, when they were donated to the National Gallery of Canada (NGC) by General Idea's only surviving artist, AA Bronson.

This unique project is forming the core of the 2011-2012 Claudia de Hueck Fellowship in Conservation at the NGC. NGC now has the opportunity to find a suitable treatment for *Monday, Wednesday, Saturday* by addressing the challenging structural issues and fragile surface of the sculptures, while paying attention to aesthetic, historic, and philosophical issues. By working together with AA Bronson, NGC can navigate concerns for the sculptures' treatment and explore possible options to one day make *Monday, Wednesday, Saturday* an exhibitable art object again.

Connect or disconnect: A 'musselled' Moore replica becomes a conservation dilemma

Nancy E. Binnie and Sherry L. Phillips

Infestation Piece (Musselled Moore) created by artist Simon Starling was shown as part of a solo exhibition at The Power Plant Contemporary Art Gallery in Toronto from March to May 2008. The cast iron zebra mussel-covered sculpture is a replica of Henry Moore's *Warrior with a Shield*, a 1954 bronze in the collection of the Art Gallery of Ontario. Prior to exhibition the sculpture was submerged in the fresh water of Toronto Harbour, Lake Ontario, in order to allow the surface to corrode and become colonized by algae and other freshwater biofouling organisms such as zebra mussels. Upon retrieval from the lake the sculpture was air-dried to allow desiccation of the adhering, (desirable) biofouling. Conservators identified two main risks to the Power Plant Gallery visitors and facilities prior to the opening of the exhibition – emission of a disagreeable odour from the desiccated mussels and algae, and the attraction of insect pests which might pose a hazard to the museums general collection. Other long-term issues related to stability of the corroded steel surface, retention of the shells, and appearance of the shells was brought to the artist's attention. Prior to exhibition consolidants were applied under direction of the artist to encourage the retention of the mussel shells on the surface. During exhibition the sculpture continued to shed both shells and corrosion dust within the display hall, while a mildly disagreeable odour was also noted due to the rotted biomass retained in the thousands of mollusc shells on the sculpture surface. Upon closing of the exhibition the sculpture was transferred to the Art Gallery of Ontario and placed on display until it was identified as the source of a persistent pest infestation.

This paper will discuss the 'connect' and 'disconnect' dilemmas resulting from a modern contemporary art piece during its creation and display for a sculpture where it has been the artists' intent to retain all mussel shells on the surface. While conservators were consulted prior to exhibition for advice on potential odour and stabilization treatments to improve the longevity of the sculpture as displayed when first exhibited, they later had to implement conservation treatment to re-adhere mussel shells, stabilize rust, and remediate pest infestations. The sculpture has always been displayed in an open air gallery, not a sealed display case, and air circulation and architectural features of the building have allowed the attracted pests to spread within the building. While a clear 'connect' has been possible with the artist to improve the longevity of the sculpture, an unfortunate 'disconnect' exists as the sculpture is the source of an inherent risk to the general museum collection.

The power of an object's essence: new understandings from evolutionary psychology

Stefan Michalski

While teaching risk management, it became apparent that certain questions posed by the method provoke reactions akin to disgust. When a class of mid-career conservators was asked to select an acceptable period of time during which a given degree of fading could occur, the question was met first with avoidance, and finally with irritation that the question was being posed at all. We are comfortable maximizing prevention (despite indeterminate benefits) but we are not comfortable discussing a target for future damage. Initially, we assigned this discomfort with risk analysis to anxiety over uncertainty, but later I recognized elements of the "disgust module" described in a text by Steven Pinker surveying evolutionary psychology. Disgust is a hardwired module of human reasoning which served us well in ancient situations, but can be problematic when it hijacks modern ethical decisions. Disgust enters decision-making whenever something "sacred" is being "soiled". This is similar emotional territory to the discussion of something "authentic" being "damaged." But, first, how do objects become sacred?

In the 2009 book Supersense, From superstition to religion- the brain science of belief Bruce Hood, an evolutionary psychologist, shows that because our mind is designed to build causal explanations of the world, it will assign an "essence" where necessary. In particular, we assign essences to animate things, but we will also assign essences to inanimate things. Hood cites the power of memorabilia and "authentic" objects in museums as illustrations of our belief in essences and their transference from the maker or an owner. In an experiment on the conundrum of authenticity, adults and children of 5 and 7 years were told the following story. (Hall 1998) Sam has to leave home for a long time, and leaves behind his "quiggle". (Half the people are told the quiggle is animate, a weird pet. The other half are told it is inanimate.) While he is away, parts of the quiggle are gradually replaced, and used to assemble a second quiggle. When Sam comes home, which is Sam's quiggle? Despite seeing photographs of the repaired first quiggle looking very unlike its original state (bad restoration!) and the reassembled second quiggle looking almost identical to the original, the majority of adults and children said that for animate quiggles, Sam's (authentic) quiggle was the first one, despite being 100% restored one. This shows (as have related studies) that essence is not believed to be dispersed through an object, so it cannot be transferred piecemeal. For the inanimate quiggle, 7 year olds and adults still made the same choice, but 5 year olds did not, showing that our belief in essences develops as we age. Although Hood spends much of his book showing that essences and the supernatural are simply products of our brain, he concludes that sharing such beliefs is essential for our sense of community.

This paper begins an exploration of how these studies on what I call the "authenticity instinct" can inform not only professional theories of authenticity, but also the role of authentic objects in sustaining community.

Poster Abstracts

Consolidation of a Flaking Panel Painting by Wax Injection

Fiona Beckett

An extremely damaged 17th century panel painting was brought to the Queen's University conservation lab by a private owner. The warping and flaking made conservation particularly challenging. The paint was incredibly brittle, crumbling to pieces at the slightest touch, while the ground layer would not adhere to the panel or the paint.

Numerous attempts at consolidation with a variety of adhesives failed; the panel remained in its sad state. Since the painting did not respond to adhesive based consolidation methods, it was decided to use a heat-based treatment. A wax-resin mixture was used in attempt to adhere the friable pieces; however, with this method alone, the wax cooled too quickly to be effective, and the tiny paint chips stuck together rather than to the panel. It was then decided to inject the wax-resin mixture under the surface of the paint using a syringe and mineral spirits. Once the wax was dissolved and heated, it was injected in the areas of loss. The mineral spirits served as a carrier for the wax and was able to saturate areas the fragile areas, which could otherwise not be reached. This technique proved to be successful. It also enabled the flattening of difficult areas of lifted paint by the use of a heated spatula and silicone-release Mylar. The treatment re-established the adhesion between the paint, ground, and panel.

The environment was monitored during the entire process. Since low humidity caused the panel to warp and the flaking to worsen, the panel was kept in a humidity chamber when not being treated. After the injection treatment, the back of the panel was coated with B-72 (chosen for its stable and removable nature); this was necessary to prevent warping and future additional flaking. Finally, the panel painting was stable and other problems such as losses and areas of discoloured varnish could be addressed.

A Tale of Two Systems: Synergy in Managing Risks to People and to Collections

Catherine Hawks and Robert Waller

The two systems of managing health and safety and of managing preservation of cultural property have many parallels. Either, or both, can exist as predominantly habit-based systems. However, when managed from a proactive perspective, they can be considered goal-directed systems. In the first case, the goal is to maintain health and avoid accidents to people. In the second case, the goal is to avoid damage and loss to cultural property. Both goals are clear, widely accepted, and even inarguably noble and worthy, seemingly a great advantage for both systems. A well-managed goal-based system will foster adoption of good habits that then allow the systems to operate effectively and economically.

As a simple example, wearing appropriate gloves while handling objects protects the wearer as well as the collection object/specimen from contamination. Similarly, avoiding abrasion and decrepitation of inherently toxic collection objects has clear benefit both to the objects and people that are near them. There are many such examples of complete correspondence of purpose between the health and safety and preservation systems. In these cases both systems will naturally be mutually supportive.

Not all potential intersections of the two systems align automatically. As an example, most institutions that care for cultural property conduct regularly scheduled health and safety inspections of all work areas. Few institutions have a similar routine comprehensive inspection for collection preservation issues. The management of risks to collections could benefit from including a collection care specialist in the team conducting a health and safety inspection, who would be tasked to look for and document situations that pose, or exacerbate, risks to collections. This would both ensure the regularity of such inspections and foster synergism between the two systems to produce an integrated risk management system.

Some examples of conflicts between the two risk management systems can also be found. For instance, an old collection of pharmaceuticals can pose many risks. From a health and safety perspective, disposal seems the obvious solution. From a curatorial perspective, keeping contents intact for future analysis may be important. The exercise of developing a creative solution that protects both people and collections can lead to improved understanding among all parties.

Viewing health and safety and cultural property preservation as parallel and closely related risk management systems opens the way to improvements in both. Combining the two encourages synergies that can lead to effective risk management and resource allocation by custodians of our collected heritage.

Dry Ice (CO_2) Blasting Tests at the Canadian Conservation Institute

Emily Higginson and George Prytulak

Cold Jet's i3 MicroClean dry ice blaster was loaned to the Canadian Conservation Institute in order to conduct preliminary blasting tests on various materials, outside of a disaster recovery setting. During the course of one week, a variety of materials from the Objects, Archaeology, Fine Arts, Paper and Textile laboratories were informally tested. A general overview of suitable and unsuitable materials was obtained.

Limited research has been conducted on the potential use of dry ice, or solid carbon dioxide (CO_2), in conservation. The method utilizes tiny shaved dry ice particles which are blasted at the surface of an object with air pressure, removing surface coatings and dirt mainly through a mechanical and thermal effect. It is thought that the sudden drop in temperature on the surface causes the superstrate or foreign matter (coating, dirt, etc.) to shrink and become brittle, allowing the mechanical action of the particles to remove it while leaving the substrate unharmed.

A large variety of materials were tested, and while the results of the testing varied, the general conclusion was that the CO_2 blaster could have some useful applications in conservation. When used properly, its gentle and non-abrasive cleaning action rapidly removed dirt or coatings from various materials without any obvious damage to the substrate. The air pressure and feed rate could be controlled and spray nozzles of varying sizes were available for different applications. The system was fast, quite simple to use, did not utilize harmful solvents or chemicals, and the CO_2 particles sublimated quickly into the atmosphere, leaving no residues behind on the object. During testing, it was generally found that if the coating or dirt layer was softer than the substrate, it could be removed. This can potentially expand its use to many different materials, as long as a proper technique is established and applied correctly.

Some of the successfully cleaned materials included glazed ceramics and glass, certain plastics, ivory and dense bone, and a number of metals. Soot was also successfully removed from wooden objects and fabric book covers. It was not effective, however, on delicate, loosely woven or degraded textiles and old paper, low-fired ceramics, soft porous stone, soft wood, wet organic materials, and easel paintings.

There were some disadvantages to the technique and there are several areas that warrant further study. For example, the application of dry ice particles causes the substrate's surface temperature to drop, sometimes resulting in condensation and frost, particularly on metals. Extreme cold or condensation may cause microscopic harm to the substrate that may not be immediately apparent. Further study on effects of dry ice blasting is recommended.

Wet cleaning a sampler containing fugitive dyes: a practical investigation of suction and drying cloths

Asefeh Kenari

Recently, the treatment of an alphabet sampler belonging to the Mississippi Valley Textile Museum prompted a series of practical tests to determine if the combination of suction and drying cloths could enable the sampler to be safely wet cleaned. The sampler dates from 1844 and is embroidered with silk in a variety of colours on a linen- cotton ground fabric. Overall discolouration and staining suggested wet cleaning should be considered however colourfastness tests revealed that several of the yarns, particularly the dark green and dark blue, are extremely fugitive in water. In some cases it is possible to safely wet clean such textiles, using appropriate measures to prevent the bleeding dye from staining the textile. Suction tables and drying cloths are some of the measures that have been used in textile conservation to control dye bleed. It is surprising however, how little has been published about specific methods for using them together.

This poster will present the results of a series of practical tests conducted using three methods of drying to prevent dye bleed staining: suction table, drying cloth and blotting paper. Each of these has its use and benefits. For example, suction cloths are “low tech” and gentle but can prolong drying when used alone. Suction speeds up the drying process but requires specialized equipment.

In this study samples were created by making simple embroidery stitches onto pieces of plain weave cotton and linen ground fabrics similar to those commonly found in samplers. The cotton threads used for the embroidery were very fugitive in water. Small scale wet cleaning tests were carried out on a mini suction table with lateral airflow. Large scale tests were carried out on a 4’x5’ textile suction table with vertical airflow.

Several factors which can affect the drying process, and success in preventing dye stains on the wet cleaned textile, were examined in this study and will be presented. These included the nature of the drying cloth, the location of the drying cloth(s) relative to the textile, the dimensions of the drying cloth(s) relative to the textile, and whether or not the drying cloth(s) were applied wet or dry.

In the end, the method suggested by the test results was used to wet clean the Mississippi Valley Textile Museum sampler. The outcome of this practical application will also be discussed. It is hoped that this discussion of factors involved in drying textiles with fugitive dyes will assist other conservators when faced with a similar situation.

Finding a New Standard for Cotton in North American Paintings Conservation

Kelly O'Neill

When Johnson & Johnson discontinued the production of 6026 Red Cross Cotton Roll in 2004, many in the paintings conservation community were at a loss. Johnson & Johnson's Red Cross Cotton had been the standard, famous for its sterile quality, long fibres and handling properties. These characteristics made it a preferred cotton for surface cleaning and varnish removal amongst paintings conservators in the North America. Since Johnson & Johnson's change in cotton manufacturing, paintings conservators have been searching for a suitable replacement.

This research seeks to compare those aforementioned characteristics that made Johnson & Johnson's 6026 Red Cross Cotton famous. A small remaining sample of this material will be compared against selected cottons to compare their effectiveness in painting conservation. The cottons will be chosen from art conservation suppliers and the medical industry as well as local drug stores, and have undergone either sterile and non-sterile cotton processes, and contain bleached and non-bleached fibres. Experiments will be carried out to decipher fibre type, fibre length and length uniformity, metallic contamination, absorbency and usability.

Investigation of the StreptAvidin-Biotin Staining System in the Identification of Glair Coatings

Christine Puza

The Biotin-StreptAvidin system is a powerful and versatile staining technique already well established in the biomedical and biological sciences fields, but unlike immunological techniques it has thus far not been utilized in conservation. This technique has been applied to the detection of glair layers on and within oil painted substrates. Treated samples were then examined with polarized light and florescent microscopy to evaluate the quality of detection. Although many parameters remain to be optimized, Oregon Green 488 conjugated Biocytin was found to successfully recognize and bind to glair layers.

What to Do! Conservation Coordination at the Chase and District Museum and Archives

Tracy Satin

The Chase & District Museum and Archives suffered two devastating fires in July 2011. Not knowing what to do they contacted the Conservation Department at the Kelowna Museums and asked for assistance.

The Chase Museum is situated within the historic Blessed Sacrament Catholic Church, one of the only original buildings left in the town. Its purpose is to hold the written and physical records of Chase and the districts of Shuswap Station, Chase Creek, Turtle Valley, Pritchard, Squilax and Adams Lake.

As is the unfortunate nature of many small community museums, the Chase Museum could only afford one part-time employee and was sadly underinsured. Doing the best they could the Museum Manager and Archivist worked with a dedicated group of volunteers to catalogue, preserve and display the artefacts and spent countless hours of their own time to ensure all of the Archival materials are accessible to the visiting public.

Both the Museum and Archives hold the history of the community of Chase and are vital to chronicling the overall history of British Columbia. Not only do locals frequent the Museum but people from all over the world come to do research in the Archives. It is because of this that it was vital to do everything possible to preserve this collection of cultural heritage.

Working with the Manager/ Archivist and funded by an Emergency Grant from the British Columbia Arts Council, Tracy Satin Associate Director of Collections and Conservation at the Kelowna Museums Society, went to Chase to help with the difficult task of assessing the damage and protecting what was left of the Museum, their archival materials and objects. Three site visits were conducted and from this a Fire Assessment and Conservation Report was produced for the staff and volunteers to work from. Not having much experience with the conservation of fire damaged materials the Conservator relied on the advice and recommendations from Conservators all across Canada.

The result was a successful remediation process that helped ease the worries of the staff, gave direction on dealing with the after-effects of the fire and how to best treat and preserve the damaged materials. The Museum also received support from many local institutions, museums and archives, including a group of Simon Fraser University Archaeology students, lead by Dr. Barbara Winter (ARCH 348, Archaeological Conservation), who assisted with the preservation of their significant and cherished history.

Why Paleo-Conservation is Important: An Examination of the Techniques used to Prepare and Conserve a portion of a Neglected Hadrosaur Skeleton

Shayda Spakowski, Brandon Strilisky and Rhian Russell

The study, practice and execution of conservation measures on museum artifacts is typically confined to those items in which degradation through exposure to light, relative humidity (RH), moisture, molecular degradation (i.e. rust) or pest infestation is evident and known to occur. Due to their apparent stability and longevity, minimal effort in the area of conservation is made thought or practice is implemented where fossils are concerned. Though fossils are more 'stable' than other artifacts, their apparent stability should not exclude them from conservation treatment. The use of improper solvents, adhesives, storage techniques, handling, collection procedures, human neglect and carelessness may cause cracking, missing elements, and irreversible procedures, leaving the fossil brittle, weakened or in some cases, completely disintegrated. Part of an incomplete hadrosaur skeleton (TMP1980.023.0001) was the victim of several neglectful events that lead to extensive cracking, missing elements, disintegration and irremovable coatings that could have easily been avoided. Found in Dinosaur Provincial Park (DPP) in the Badlands of Alberta, Canada in the 1960s, TMP1980.023.0001 was excavated, jacketed and brought back to the Royal Tyrrell Museum of Paleontology (RTMP) in the 1980s, where it was stored until it was chosen for treatment in 2010.

Using standard paleontological preparation tools and materials a volunteer and two conservators were able to treat and consolidate TMP1980.023.0001. Materials used included kitchen knives, handsaws, air scribers, awls, hammers, scalpels and paintbrushes. 20%-50% (w/v) concentrations of B72 in acetone were used to consolidate broken and unstable fossil elements. Acetone was used specifically to remove the residue left behind by a foam originally used for support during transportation.

Upon removing the protective 17-20 alternating layers of burlap and plaster of Paris known as the jacket, the conservators were confronted with several issues including: the growth of black mould and extensive cracking and deterioration of the fossil due to freeze/thaw events, a sticky, persistent residue left behind by an expanding foam which had been employed during excavation and was in contact with the surface of the fossil, further separation of elements by the foam's expansion, the corpse of mouse found within one of the more extensive fractures of the matrix, along with several caches of seeds hidden throughout the matrix.

Preventive conservation not only ensures that the fossil will continue to exist in a stable state, but also prevents the waste of excessive time and resources and removes otherwise potential health hazards towards the conservators. If preventive conservation had been undertaken with this specimen the damage would not have been as extensive. In addition, time and resources needed to prepare and conserve it would have been minimal and the potential health risks associated with the black mould would not have been an issue. It is the responsibility of the technicians, preparators, conservators, researchers, and curators to ensure that the fossils that are brought into their museums are all treated with the same respect and care. The conservation of fossils may not be at the forefront of many paleontologists' minds, but it is a useful and necessary practice that needs to be implemented in the

standard preparation and treatment procedures of fossils if their safety and longevity is to be ensured.

Keep a Lid on It: pH reduction due to carbon dioxide in sodium hydroxide treatment of archaeological iron

Kate Sullivan

Sodium hydroxide solutions are commonly used for the treatment of archaeological iron contaminated with chloride ions. The solutions, typically 1 or 2 % w/v sodium hydroxide in water, have a high pH (above 13) that slows further corrosion and enhances chloride ion extraction. While these solutions are in use carbon dioxide from the air dissolves in the solution forming sodium carbonate, decreasing the pH and the effectiveness.

This poster presents the results of an investigation which explored the length of time required for carbon dioxide to lower the pH of sodium hydroxide solutions based upon the container covering. The pH of 20 iron treatment solutions were measured weekly, over a 4 month period. The treatment containers were two different sizes of Rubbermaid Roughneck™ storage boxes (polyethylene). The effect of different container covers was tested by using one of three possible covers: (1) the original polyethylene lids, (2) solid polyethylene sheeting (0.05 mm thick), or (3) open polypropylene screening (mesh size 1.6 mm x 2 mm). When the containers were covered with their original lids, the pH of the sodium hydroxide solution remained essentially unchanged for the first 8.5 weeks. With the polyethylene sheeting, the pH of the solution in one tank dropped slightly after 2 months. However, when the containers were covered with open screening, the pH of the solution started to drop within days, falling to an average pH of 10.5 after 6 weeks.

The outcome of this investigation shows that it is advisable that sodium hydroxide treatment containers should be kept well sealed, either with the tight-fitting lids, or, at the very least, with polyethylene sheeting.

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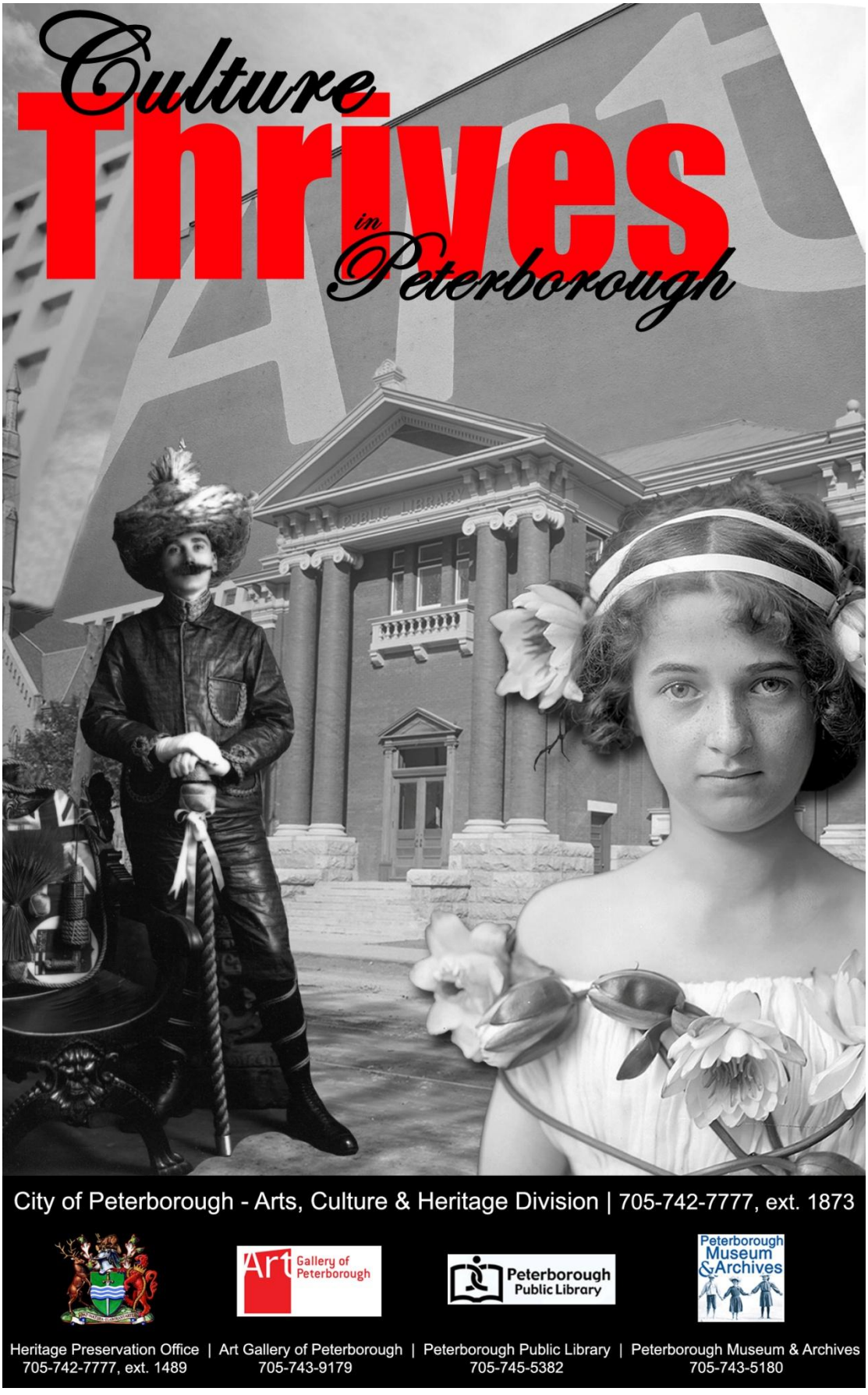
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