CAC

ACCR

31st Annual Conference of the Canadian Association for Conservation of Cultural Property

Jasper, May 19-21, 2005

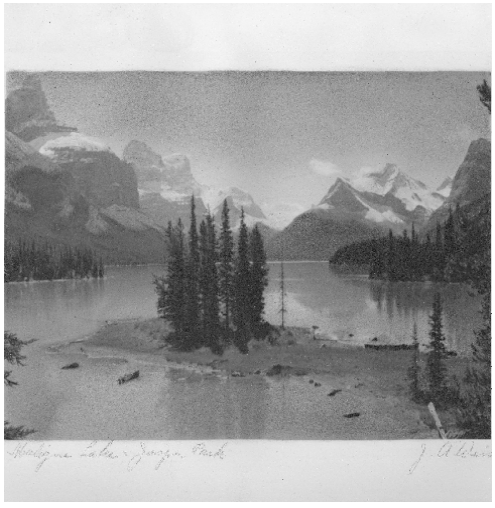
Pre-Conference Workshops

Workshop I: Fur Trade Legacy: The Preservation of Organic Materials

Workshop II: Art Handling and Packing

Jasper, May 17-18, 2005

2005 Alberta Centennial



ABSTRACTS

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CANADIAN ASSOCIATION FOR CONSERVATION OF CULTURAL PROPERTY

31st Annual Conference and Workshop

ABSTRACTS

Minister of Canadian Heritage and
Minister responsible for Status of Women

Ministre du Patrimoine canadien et
ministre responsable de la Condition féminine

Ottawa, Canada K1A 0M5

Greetings to all those taking part in the **Canadian Association for Conservation's 31st Annual Conference and Training Workshops.**

Canada's conservation professionals play a significant role in preserving our country's heritage and in ensuring that present and future generations benefit from this legacy. In 2005, Alberta celebrates its Centennial. One of the province's earliest successes was the Canadian Fur Trade. It seems fitting then, that the conference workshops will address the state of preservation of this country's fur collections – once a building block of our nation.

As Minister of Canadian Heritage and Minister responsible for Status of Women, I want to congratulate the Association for its more than three decades of work to preserve Canada's cultural property and heritage.

Enjoy the conference!

J'aimerais saluer tous ceux et celles qui prennent part au **31e congrès annuel et aux ateliers de formation de l'Association canadienne pour la conservation et la restauration.**

Les professionnels canadiens du secteur de la conservation jouent un rôle important en préservant notre patrimoine et en assurant aux générations actuelles et à venir l'accès à cet héritage. En 2005, l'Alberta célèbre son centenaire. Cette province s'est d'abord illustrée grâce à la traite des fourrures au Canada. Il est donc tout indiqué d'organiser durant ce congrès des ateliers consacrés à l'état de préservation des collections canadiennes de fourrures – l'un des éléments essentiels de notre histoire.

À titre de ministre du Patrimoine canadien et ministre responsable de la Condition féminine, j'aimerais féliciter l'Association, qui préserve les biens culturels et le patrimoine du Canada depuis plus de trois décennies.

Bon congrès!

Liza Frulla

Canada

ALBERTA

Minister of Community Development

M.L.A. Calgary MacKay

Message from Minister of Community Development

It is an honour for Alberta to host this gathering of Canadians involved with the protection and preservation of cultural properties. This year is Alberta's Centennial, and celebrating our past is a central theme of our 100th birthday in 2005.

I would like to thank the Canadian Association for Conservation, the Alberta Regional Group of Conservators and other regional representatives here in Jasper this week. The good work you do to protect our artifacts, works of art, natural history specimens, archival materials and monuments help Albertans share our culture and history with the world.

On behalf of all Albertans, I hope you have an enjoyable conference and workshop, and I wish you all the best in the future.

Gary G. Mar, Q.C.
Minister of Community Development
M.L.A. Calgary MacKay

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Acknowledgements

The CAC Conference Committee gratefully acknowledges the generous support and assistance of the following institutions, companies and individuals:

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We gratefully acknowledge financial support by the Hudson's Bay Company History Foundation and Alberta Historical Resources Foundation, Heritage Preservation Partnership Program, for the Fur Trade Legacy: Preservation of Organic Materials workshop and Preprints publication.

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Special Events

Monday, May 16th:

Workshop Reception: 7 p.m. - at the Yellowhead-Jasper Museum and Archives for all pre-conference workshops

Tuesday, May 17th to Saturday, May 21st:

Yoga: Daily - 6:30 a.m. - 7:30 a.m.
Hike at Lunch: Daily -12:00 p.m. - 1:15 p.m.

Tuesday, May 17th and Friday, May 20th:

Miette Hot Springs: 6:30 p.m. - 9 p.m.

Wednesday, May 18th:

Conference Reception: 7 p.m. - at the Lobstick Lodge Skyline Lounge

Thursday, May 19th:

CAPC AGM and Dinner: 5:30 p.m. - in the Amethyst Lodge Andrew Suite
Movie Night Conservation Outreach: 8:00 p.m. - 10.00 p.m.

Friday, May 20th:

Regional Representatives Lunch Meeting: 12:00 a.m. - CAC Regional Reps and Board members will meet in the Amethyst Lodge Andrew Suite
Jasper…A Walk in the Past*:* 7:30 p.m.

Saturday, May 21st:

CAC Annual General Meeting: 3:30 p.m. - in the conference room
Conference Banquet: 6:00 p.m at Tekarra Restaurant; 11 p.m. dancing at the Downstream Bar

Workshop I Program
Fur Trade Legacy: The Preservation of Organic Materials

Tuesday, May 17

7:30 Breakfast and Registration

8:30 – 8:45 **Welcome -** Kirsten Schmitten

Morning **Chair: Elizabeth Richards**

Poster **Ala Rekrut**
The Hudson's Bay Company Archives: A Fur Trade Legacy

8:45 – 9:15 **Heinz Pyszczyk**
"A Rich and Plentiful Country": Some Key Elements in the Dynamics of the Fur Trade in Western Canada

9:15 – 9:45 **Marion Kite**
Advocacy for an Active Collection: History of Fur Use in European Fashionable Dress

9:45 – 10:15 **BREAK**

10:15 – 10:45 **Chris Paulocik**
Wild: Fashion Untamed

10:45 – 11:15 **Marion Kite**
Technical Knowledge of Processing as a Principle of Conservation

11:15 – 11:45 **Cathy Ritchie and Valery Monahan**
Bad Furs, the Bugs that Love Them and the Collection Staff Who Try to Help: A Pest Self-Help Guide for Codependent Heritage Facilities

11:45 – 12:15 ***Panel Discussion: Collecting and Preserving Fur Fashions***

12:15 – 1:30 **LUNCH**

Afternoon **Chair : Irene Karsten**

1:30 – 2:00 **Tom Strang**
Moth Eaten

2:00 – 2:30 **Effrosyni Karantoni and Ekaterini Malea**
The Influence of Cleaning Methods on Feather Structure: A Comparative Study

2:30 – 3:00 **Carole Dignard, Nancy Binnie, Gregory Young, Wing Fai Lai, Meg Abraham and Stefanie Scheerer**
Nd:YAG Laser Cleaning of Feathers

3:00 – 3:30 **BREAK**

3:30 – 4:00 **Janet Mason and Fiona Graham**
A Review of Feather Cleaning Techniques

4:00 – 4:30 **Jocelyn Hudon**
Considerations in the Conservation of Feathers and Hair, Particularly Their Pigments

Wednesday, May 18

7:30 Breakfast

8:30 - 1:00 **Bob McClymont**
1:30 - 5:00 *Identification of Hair and Feathers*

8:30 - 1:00 **Theo Sturge**
1:30 - 5:00 *Leather Upholstery: Options for Repair*

Workshop II Program
Art Handling and Packing – Merv Richard

Tuesday, May 17

8:45	**Welcoming remarks**
9:00	**Overview of safe handling**
9:30	**Planes, trains, and automobiles: the transit environment**
10:00	**Selection of packaging materials**
10:30	**Break**
11:00	**Temperature and relative humidity considerations**
12:00	**LUNCH**
1:30	**Cushioning materials and designs for shock and vibration**
2:30	**Break**
2:45	**Hands-on packing exercise**

Wednesday, May 18

8:45	**Critique of the packing exercise**
10:00	**Packing case design**
12:00	**LUNCH**
1:30	**Packing case design continues**
3:00	**Break**
3:15	**Microclimate display cases for paintings**
4:00	**Q & A**

Nd:YAG Laser Cleaning of Feathers

Carole Dignard, Nancy Binnie and Gregory Young, Canadian Conservation Institute, Ottawa, ON
Wing Fai Lai, Central Conservation Section, Leisure and Cultural Services Department, Hong Kong
Meg Abraham, Los Angeles County Museum of Art, Los Angeles, CA
Stefanie Scheerer, Microbiology Department, Cardiff University, WALES

This paper reviews the current literature on laser cleaning of feathers, and reports on the authors' comparative study of cleaning methods for soiled white feathers originating from two natural history specimens. Laser cleaning tests were carried out using three different wavelengths and five fluence levels for each of these wavelengths. Vacuum cleaning was tested as well as light brushing using the following washing solutions: water; ethanol; trichloroethane; white spirits; 0.5% aqueous solution of Triton XL-80N; and 1% solution of Vulpex in ethanol, trichloroethane or white spirits. Washing with detergent solution Triton XL-80N and Vulpex was successful in cleaning soot-soiled feathers without causing discoloration. In comparison, Nd:YAG laser cleaning also did produce good results but only at 532 nm at the highest fluence tested. At the lower fluences using 532 nm, and even moreso at all fluences tested at 1064 nm, there was extensive yellowing. The non-soiled feathers when laser irradiated at similar settings did not yellow. The 355 nm wavelength was unsuccessful because of either ineffective cleaning or physical damage. Laser cleaning appears to hold some potential in the cleaning of feathers, but there remain many unknowns, in particular concerns on why yellowing often occurs and whether or not surface chemical damage occurs.

Considerations in the Conservation of Feathers and Hair, Particularly Their Pigments

Jocelyn Hudon, Provincial Museum of Alberta, Edmonton, AB

Feathers are amongst the most complex epidermal derivatives found in vertebrates. They have complex branched structures, grow from their bases by a unique mechanism, and come in a wide variety of sizes, shapes, structures, and colours. Not only do feathers impart cover, insulation, waterproofing of the body, and contribute to flight, tactile sensations or protection of sensory organs, even, storing water, but they are also involved in myriad aspects of communication and display in birds, and are characteristically rather ornate. Underlying this diversity of colours and patterns found in birds is a variety of pigments (melanins, carotenoids, psittacofulvins, porphyrins, etc.), pigment-bearing structures and molecules, and complex micro- and macrostructures.

Not surprisingly, feathers have been repeatedly borrowed by another highly visual species, the human species, for decorative or ceremonial purposes in many different cultural settings and times and are now represented in many ethnographic artifacts and in European fashion, notably millinery. Feathers have also been used in the fletching of arrows, pillow stuffing, as quill pens, even the making of artificial flies for fishing.

Given the great structural and functional diversity of feathers it should come as no surprise that their conservation should require a multifaceted approach. Accordingly, following a brief review of feather anatomy, including the arrangement of feathers on the skin (pterylosis), chemical composition, even the native fauna of feathers (lice, mites, bacteria), emphasizing aspects of feathers that may be of relevance to conservators, I will provide specific recommendations for the proper care of feathers of different types and colours.

Since cleaning methods are well covered by other speakers, my focus will be on the preventative conservation of feather and fur colour from light. I will show how even seemingly biochemically homogenous pigment systems like the melanins of mammals show surprisingly complex and species-specific responses to light. In pilot fading experiments, mink, but not marten fur, for example, darkened initially upon exposure to light. Attempts to quench free radicals likely generated by light irradiation did not appear to slow down the rate of fading.

The Influence of Cleaning Methods on Feather Structure: A Comparative Study

Effrosyni Karantoni and Ekaterini Malea, T.E.I. of Athens, GREECE

Feathers are horny, keratinized outgrowths of the skin (integumentary system) that have a complex structure. They consist of the hollow calamus, the solid and flexible rachis, and coherent vanes on both sides of the rachis consisting of barbs, which have interlocking barbules.

Birds have good eyesight and colour vision. The numerous colours of feathers arise from two primary mechanisms: the presence of chemical substances or the physico-structural properties of the feathers. In the first case, the coloration is commonly referred to as chemical coloration, while in the latter it is known as structural coloration.

Cleaning is a particularly difficult task especially because of the feathers' fine features, their coloration and the fact that they can be found in composite objects close to other materials (raw hide of birds, textile, etc.). Removal of deposits can be achieved by mechanical means (dry vacuuming, dusting with a soft brush, compressed air, laser, etc.) or by chemical means (wet cleaning using water, organic solvents or ultrasonic cleaning).

Cleaning tests were performed on reference samples of pigeon feathers (of brown-black colour) covered by solid particles. The following methods were tested: cotton wool swabs dampened in acetone, cotton wool swabs dampened in ethanol, vacuum cleaning, infrared radiation at 1064 nm by Q-switched Nd:YAG laser.

Cleaning using acetone partly removes the superficial deposits but it also causes clumping of the barbs. Cleaning using cotton swabs in ethanol is more efficient but causes a more intensive clumping of the barbs than in the previous case. Moreover, vacuum cleaning seems to be effective but it disturbs the barbs. Finally, a very promising result, without any discoloration or disturbance of the barbs, was achieved by laser cleaning.

The results of the infrared radiation have been studied also in feather samples from a taxidermied bird of paradise that had a brown plumage with iridescent colours. With laser cleaning, the deposits captured by the barbs were removed without any disturbance to the feather's microstructure.

Advocacy for an Active Collection: History of Fur Use in European Fashionable Dress

Marion Kite, Victoria and Albert Museum, London, UK

This paper focusses on the history of fur use in European fashionable dress. The practice of wearing furs is as old as humanity and for the last 2000 years wearing furs in fashionable society has been synonymous with wealth, luxury and status. From Roman times until recently, furs were traded through London and much of the mediaeval wealth and later prosperity of the City of London was founded on fur. The Hanseatic League of the 14th century, The Muscovy Company of the 16th century and the Hudson's Bay Company, given their charter in 1670 by Charles II, have all played their part. Today the main fur auctions take place in Scandinavia, Russia and North America but London Commodity Brokers are still responsible for more than 50% of the world's fur trade at a primary or wholesale level.

Until the late 17th century, strict laws of sumptuary governed which estate of man could wear which fur, with the highest ranking having permission to wear furs of greatest rarity and value. By the 18th century, these laws had mostly fallen into disuse and choices were made by what people could afford and what was in fashion. Furs were mostly used for linings, trimming gowns and for accessories such as muffs, but by the mid-19th century fur coats and jackets came into being in their own right. For the newly prosperous middle classes furs became an indispensable luxury item and a way of displaying wealth and new status. Sealskin, from the fur seal, was one of the first furs to be used for coats, as a method had been perfected for removing the harsh top hairs and refining the processing to give a light pliable skin. Sealskin was plentiful and had a rich velvety appearance when dyed black. Towards the end of the century the development of aniline dyes from a by-product of the distillation of coal tar had a huge effect on the commercial dyeing of fur.

By the end of the 19th century, over 100 species of fur-bearing mammals were used in the fur trade, and early experiments with fur farming had begun in order to meet the demand for certain species. By the end of the 20th century, the most significant changes in the fur trade were that many previously used species were now protected under the control of CITES (Convention on International Trade in Endangered Species) and that 85% of the world's commercial furs were produced on farms.

Although a major element in the history of fashion, furs are poorly represented in museum displays of fashionable dress, and few museums actively collect furs. In order to address this issue, The Museum of Leathercraft in Northampton has been actively seeking and collecting fur for the past four years and is building a comprehensive collection of fashionable fur items from the mid-19th century onwards. It is almost impossible to obtain earlier examples, but the Museum of Leathercraft's Fur Collection is currently providing a collection focus for people who have furs and want to dispose of them to a good cause. It is intended to be not only a fashion collection, but a resource for study and research for specialists from many disciplines who are interested in the broader aspects of fur and the furrier's art.

Technical Knowledge of Processing as a Principle of Conservation

Marion Kite, Victoria and Albert Museum, London, UK

The conservation of furs used in fashionable dress is a very different matter from the conservation of ethnographic fur objects. The reason for this is the variety and number of processes the fur has been subjected to by the commercial fur dresser and the furrier in order to turn the raw skins into a high-quality fur fashion garment. There are, of course, conservation treatments which may be suitable for use on furs from both disciplines, but a knowledge of the many processes that have been traditionally used by fur dressers and furriers is essential before any treatment is carried out on fashion furs. Awareness of causes of damage, mechanisms of degradation and good storage principles are important basics when dealing with furs but specific knowledge of the furrier's art is essential.

Species identification is also essential. Many processes, particularly unhairing, dyeing and "pointing" are species specific. Some species such as fisher, leopard and ocelot are never dyed, whilst others such as Persian lamb and Caracal are always dyed. Other furs may have been dyed or "blended" to improve their appearance. Many of the cheaper furs have been dyed and otherwise treated to imitate furs of the rarer and more costly varieties; for example, rabbit may have been processed to imitate chinchilla.

The processes of cutting furs, joining, stranding, sewing them and "finishing" must be understood before embarking on conservation. "Finishing" involves the taping of appropriate seams and the provision of various interlinings with many lines of close stitching holding these in place. The function of the interlinings, particularly in collars, has much in common with tailoring as they support and cushion certain areas of the garment. They also help to prevent undue stress during wear that could result in tearing. These are essential elements in the making up of furs.

Historic furs may be dusty, feel greasy, lack lustre and require cleaning but the commercial method of tumbling them in drums containing sawdust is not appropriate. A number of cleaning methods have been adapted by conservators and these will be discussed.

When historic furs are damaged, split or torn, conservators need to understand what will be involved in gaining access to the back of the pelts in order to carry out support. The likely amount of unpicking and re-sewing that will be required in order to repair and support skin damage can be considerable. The nature of the skin, its condition and likely shrinkage temperature must also be kept in mind when selecting the most appropriate adhesive. This paper will include a number of case histories of treatments illustrating many of the above points.

A Review of Feather Cleaning Techniques

Janet Mason, Canadian Conservation Institute, Ottawa, ON
Fiona Graham, Private Practice, Ottawa, ON

From traditional to hi-tech, many different techniques have been used to clean feathers. Basic mechanical methods include: dusting with an owl wing, wiping with bread slices or cotton padding, brushing into a vacuum, and vacuuming with a special wand attachment. If the feathers are still insufficiently clean, wet methods using aqueous and non-aqueous mixtures with or without surfactants are sometimes used. Ultrasonic baths and poulticing with solvent gels have also been tried. Recently, research has been conducted to test the efficacy of lasers to clean feathers.

None of the techniques is suitable in every situation. The choice of cleaning method(s) must be based on the method of feather attachment (e.g., dangling from a headdress, stitched into a cape, or part of a taxidermy specimen), the type of feathers and their condition (including any historic alterations such as dyeing or splitting as well as the type of soiling), the resources and experience of the conservator, and curatorial needs (i.e., how much cleaning is required for this object at this time). Cultural context is also critical for certain types of objects.

Being aware of the range and the subtleties of the techniques that are available will give the conservator a better chance of selecting a suitable method. Anticipating the potential cleaning effect is difficult given the wide variety of dirt and feathers; spot testing is therefore highly recommended in order to avoid mishaps. A potential problem with basic mechanical cleaning, for example, is disruption of the feather mat (i.e., unwanted ruffling of feathers) and problems with wet techniques include yellowing of white feathers and the creation of tide lines. There have also been concerns that wet methods remove natural preening oils, but no studies were found to determine whether this is indeed an issue. Studies have shown that while lasers can be effective, they can also do great damage depending on the setting of the equipment and the colour of the feather.

This overview will present the advantages and disadvantages of a large number of feather cleaning methods that have been developed, tested and/or used by conservators. Information presented is based on a literature review, additional communication with conservators, and the personal experience of the authors. The paper will be supplemented by a bibliography on the subject.

Identification of Hair and Feathers

Bob McClymont, Fish and Wildlife Division, Government of Alberta, Edmonton, AB

The workshop will examine the physical features of hair and feathers that can be used to assist in determining which species they came from. Diagnostic features include those visible to the naked eye as well as those requiring the use of a microscope. To identify furs, macroscopic features to be considered are length of the hair, the colour, and banding patterns. Many of the important discriminating features of hair are microscopic. These include shape of the shaft, surface scale pattern and the configuration of the medulla (core area).

Participants will have the opportunity to mount hairs from various species on microscope slides and examine and compare them. Hair samples from a variety of species will be available for those wishing to start or add to their own reference collection. A reference list of some published material on hair identification will also be provided. This will include some work utilizing DNA analysis.

Session Outline:

1) Introduction
2) Macroscopic characteristics of feathers
   Microscopic characteristics of feathers
3) Macroscopic characteristics of hair
   Microscopic characteristics of hair
4) Practical
   a) Preparation of slides for macro- and microscopic examination of hairs
   b) Packets of hair and/or hides from which participants can collect samples of hair will be provided for those wanting material for a reference collection.
5) A list of some published references dealing with hair identification will be provided.

Wild: Fashion Untamed

Chris Paulocik, Metropolitan Museum of Art, Costume Institute, New York, NY

Wild: Fashion Untamed, the Costume Institute's current exhibition, presents a historical overview of skins, feathers and animal prints used to create costume objects. Designers have been inspired by the animal kingdom as a source of raw materials for centuries. Animal pelts originally utilized for protection and adornment were revisited as fashion in the 1960s movie *One Million Years B.C.* starring a skimpy-hide-bikini-clad Raquel Welch. In the 1970s we saw the emergence of animal rights organizations encouraging designers to reject real fur for fake or simulated versions. But by the mid-1990s, fur had made a major comeback and was used to denote luxury and decadence by hip-hop stars like P. Diddy and L'il Kim.

The timeline of furs and feathers is demonstrated by the artifacts in the show which run the gamut from a full-length swan's down coat worn by Marlene Dietrich, a rare Ziegfeld Follies peacock-inspired showgirl outfit, to a beaded Plains Indian buckskin dress, and Cher's "Half-Breed" outfit designed by Bob Mackie. Other portions of the show are devoted to the use of feathers for both ceremonial purposes and haute couture. Feathers provided inspiration for designers such as Coco Chanel, Christian Dior, Hubert de Givenchy, and Yves Saint Laurent. Examples of ostrich, egret, pheasant and bird of paradise feathers are seen in the show decorating shoes, purses, gowns and hats. The 19 th -century fashion for taxidermied specimen hats composed of whole doves, swallows, or birds of paradise is examined. This period in fashion history naturally enough provoked harsh criticism from bird preservationists such as the Audubon Society of America when whole species of birds were decimated by the fashion.

This presentation will discuss the conservation of *Wild* materials as well as the political and bureaucratic issues that may arise when dealing with objects composed of both controversial materials and endangered species. The issues ranged from CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) permits to handling the controversy with animal rights groups such as PETA (People for the Ethical Treatment of Animals). The Costume Institute has attempted to show all sides of these issues highlighting the introduction of fake furs as a response to PETA's outcry as well as the attempts by companies such as Fendi to disguise their furs to look like something else.

Due to the nature of the materials presented in the exhibition, the conservators were proactive in using preventative measures to address insect issues. Many of the objects were loan pieces coming from "fashion archives" which usually have less than optimal storage conditions. Previous experience had taught us to be wary of designer material and therefore to carry out preventive measures.

In addition, various treatments were carried out on a wide variety of materials ranging from buckskin decorated with quillwork, to feathered shoes and, finally, to pop icon clothing fashioned from snakeskin, pelts and feathers.

"A Rich and Plentiful Country": Some Key Elements in the Dynamics of the Fur Trade in Western Canada

Heinz W. Pyszczyk, Heritage Resource Management Branch, Government of Alberta, Edmonton, AB

Upon first reaching the Greater Edmonton area in 1795, North West Company fur trader Duncan McGillivray wrote in his journal that it was "a rich and plentiful country" —in fact, so rich in beaver and otter that the Native women and children were said to kill them with sticks and hatchets! In a vast land, teeming with fur-bearing animals, this sequence of events repeated itself innumerable times as the first Europeans and Canadians raced westward to reap the untapped wealth of furs of western Canada. In its wake, in Alberta alone, lie the remains of 160 fur trade posts and thousands of articles of the fur trade—a mark and testament to one important segment of western Canadian history.

Canadian furs, feathers and hides shipped to European markets were far removed from the stark realities of the western fur trade; an appreciation for the operation of these large, complex fur-trading enterprises was often lost on European society. It was beyond the comprehension of most people, as they donned their beaver felt hats or marten stoles that the Canadian fur trade was a dynamic. While constantly adjusting to demands in European fashion, it also reacted to new technologies and often-intense internal rivalries and changing animal and human populations. That the fur trade was in constant transformation was lost even on members of the governing London committee of the powerful Hudson's Bay Company in the 18th century—an oversight that cost the Company dearly as Canadian rivals from eastern Canada cut off and intercepted the furs flowing to the Company's forts on Hudson Bay, as the Company "lay asleep by the frozen sea".

As an introduction to this Conference focussing on the preservation of the material legacy of the fur trade—namely organic materials—I will discuss some of the fundamental and key elements of the operation of the fur trade in western Canada and their relationship to fur trade material culture. Using the available documentary and physical record from many inland fur trade posts, this paper examines the kinds of articles traded to these posts and the changes in the types and quantities of furs or hides that occurred both temporally and geographically. I argue that a host of factors, other than simply the demand from Europe, were responsible for this variability in the fur trade inventories during the 18th and 19th centuries. It is further argued that while access to fur-trapping areas was important for fort location, other key factors, mere survival being a primary one, often dictated where fur trade posts were constructed in western Canada. These key factors have important implications for fur trade material culture. They move beyond the study of the fur trade objects themselves, to their interpretation and meaning in the broader realm of fur trade history; or, in the words of archaeologist Alfred V. Kidder, "…from things to what things mean".

The Hudson's Bay Company Archives: A Fur Trade Legacy

Ala Rekrut, Archives of Manitoba, Winnipeg, MB

The Hudson's Bay Company Archives (HBCA), a division of the Archives of Manitoba, is home to one of Canada's national treasures—the records of the Hudson's Bay Company (HBC). From its founding in 1670 until 1870 the fur trade was the chief focus of the HBC. The records of the HBCA follow the history of the fur trade, North American exploration, the development of Canada as a country and the growth of HBC's Canadian retail empire. Meticulous records were kept, leaving a legacy of information of tremendous significance to the world today. Journals, letters, reports, ledgers, ships' logs, illustrations, photographs, maps and technical drawings provide a rare glimpse of the people, places and challenges that led to the birth of a nation. The records of the HBC are of special historical value due to their continuity. For example, with the exception of the years 1670-1671 and 1674-1679, all of the Minute Books recording Company meetings have survived—covering a period of more than three hundred years.

Many of the HBCA archival materials are valuable for research on early contacts and trade relations between Aboriginal peoples of Canada and the early European explorers, traders and immigrants. The archives contain accounts of Company trade dealings with Aboriginal peoples in western and northern Canada, including some of the earliest available census information, and an abundance of other information of historical, ethnographic, cultural or scientific interest. The Company's archives hold the only known documents regarding numerous 18th-century settlements in Canada, including Churchill, Manitoba; Moose Factory and Albany, Ontario; Rupert House and Eastmain, Québec; Cumberland House, Saskatchewan; and Edmonton, Alberta. Records in the HBCA have been used as primary sources by historians, anthropologists, biologists, meteorologists, genealogists, and by researchers in other disciplines. Conservators and curators may be particularly interested in the provenance and uses of objects now in their own collections.

While primarily considered as a source of information about other subjects, the HBCA records are themselves artifacts and simultaneously sources of information about themselves as artifacts. For instance, a newer account book may describe payments made for materials and labour for repairs to an older account book—and both account books will reflect the materials and manufacture of their time and place, as well as their use and care. Conservators may find the records a useful primary source of information about business record-keeping practices and technologies, and about evolving conservation practices and technologies.

Art Handling and Packing: Practical Workshop

Merv Richard, Deputy Director of Conservation, National Gallery of Art, Washington, D.C.

Whether you are packing art, archival collections or artifacts for shipping to exhibits in distant places, or moving your entire collection across town to a new facility, this workshop will provide you with the practical skills you need to ensure safe arrival. It covers risk assessment in order to make the right decisions when commissioning crate design and construction, and includes packing and transport options ranging from one-time short-distance shipments to fully insulated touring crates. The focus of the hands-on session will be on interior packing methods that provide optimum wrapping, support and cushioning for a variety of collections.

Tuesday, May 17th

The workshop starts out with an overview of practices for the safe handling of museum collections. It then covers the transit environment, selection of packaging materials, temperature and relative humidity considerations, cushioning materials and designs for shock and vibration. Participants apply these topics as hands-on packing exercises.

Wednesday, May 18th

The second day continues with packing exercises and critique. Packing case design will be covered in depth, as well as microclimate display cases for paintings

Bad Furs, the Bugs that Love Them and the Collection Staff Who Try to Help: A Pest Self-Help Guide for Codependent Heritage Facilities

Cathy Ritchie, MacBride Museum, Whitehorse, YT
Valery Monahan, Government of Yukon, Whitehorse, YT

While many southern Canadian museums have been quietly retiring taxidermy specimens and other animal products from exhibits and programming, northern museums and interpretive centres resist this trend. In the Yukon, "soft gold" and other animal-derived goods are locally produced, widely available and highly esteemed. They are an obvious choice to interpret local heritage, with its themes of Gold Rush, First Nations culture/history, and the Fur Trade. Furs are central to exhibits (old and new) in the "traditional", non-profit, Yukon museums and are also featured prominently in four Yukon First Nations Cultural Centres opened since 1990. Yukon heritage workers of all backgrounds seem to agree that "the real thing" should be on view, as an accurate reflection of northern culture, as a way to support traditional, land-based activities, and, of course, as a way to promote the fur and tanned-hide handicrafts for sale in their gift shops.

With so much food available via these specimens, insect activity is inevitable. Open, fur-filled displays, few permanent staff and misconceptions about the ability of insects to survive in northern buildings have encouraged pest problems in Yukon collections. Seasonal building use, cold winters and timely advice from insect-obsessed collection professionals has helped keep these pest problems from becoming pest emergencies.

The authors draw upon their Yukon experiences to describe some practical methods for insect control in small community museums and cultural centres. Institutions that place a cultural value on extensive use of "real" animal products as display props, as programming materials and even as decoration, are unlikely to stop these practices because a museum professional tells them that it is a "problem". It has been the authors' practice to educate about pest issues, to create strategies to reduce the risk of infestation associated with fur use, and to make sure that staff can cope with occasional insect outbreaks. An overall approach works best. Pest risks and pest management goals should be written into planning documents, whenever possible. Education of staff (and their governing bodies) is critical.

Pest management activities must be made manageable and relevant for each facility. The authors recommend that heritage workers be shown a collection of "real" reference insects in relevant life stages and be given the opportunity to examine insect damage on artifacts familiar (and important) to them. A handy reference binder, complete with photographs of common museum pests and a checklist for monitoring, can make inspection a much less daunting task. Any pest monitoring is better than none, especially in a small building. Once staff have become pest-aware, their ability to consult with professionals on pest issues will greatly increase the success of their management of insect pests. It ensures that insects are accurately identified and provides positive reinforcement for work that is labour-intensive, but receives little credit.

Moth Eaten

Tom Strang, Canadian Conservation Institute, Ottawa, ON

Clothes moths are one of the most destructive pests of historic textile and ethnographic collections. Their incidence is threatening primarily to objects containing animal hair, especially those which predate the use of moth-proofing agents in finished goods, and modern pesticides in wool production. Some of the steps to control moths are:

1) Reduction of the risk of moth attack by eliminating animal nests on the premises (bird and mammal);
2) Practice of good quarantine control of incoming loans and acquisitions;
3) Detection by visual inspection, which may catch developed infestations but always leaves the fear that one may miss small larvae and eggs;
4) Pheromone lures that can pull in flying males, but require follow-up on visual inspection to find sources;
5) Elimination with low and high temperature, carbon dioxide, anoxic fumigation, and registered pesticides, all of which give collection managers a number of choices to balance: concern for the object, time, effort and budget.

Leather Upholstery: Options for Repair

Theo Sturge, Sturge Conservation Studio, Abington, UK

The session will start by looking at what goes wrong with leather. Leather as a material will be discussed briefly, and some of the most common mistakes by conservators will be considered. This will include a dramatic illustration of why heat and moisture must never be used at the same time, and examples of the good and bad use of leather during repair. The measurement of shrinkage temperature will be demonstrated.

The session will move on to methods that can be used for the repair of upholstery, be it in a carriage, a car, or on furniture. Some case studies will be shown, and then the delegates will start on practical work. Worksheets for each activity will be provided, and further details will be included in the workshop pre-prints. The aim of the exercises is to introduce a range of methods that can be used on upholstery leather. They may also be applicable to other areas of leather conservation. The following will be included:

1) Adhesives and repair materials.
a) The use of Reemay with a variety of adhesives used in several ways. This will include the use of Lascaux acrylic resins, 498HV and 360HV in a 3:1 ratio. The 498HV is a harder, tougher resin while the 360HV is a softer one added to increase the flexibility. Lascaux comes in the form of a dispersion. It can be used as supplied, or it can be used as a solvent reactivated adhesive. Beva film will also be available to try. This is useful for lighter weight repairs where a quick bond is needed. For heavier repairs Reemay impregnated with Beva 371 gel can be used.
b) Leather will be available to try, both with the Lascaux mixture used above, and with Beva film.

2) Skiving leather to make patches. It will be possible to try an English skiving knife for the tapering of the edge of the leather to give a smooth join with the original. This is much better than using a scalpel.

3) Filling leather with solid Beva. Small gaps can often be filled with Beva 371 to which a very small amount of pigment has been added. Ready-prepared Beva will be supplied.

4) Dyeing leather with Sellaset dyes. Sellaset dyes are trichromatic, and in theory any colour can be mixed. In practice not all colours can be obtained. However, it will be possible to try to colour match using colour triangles for mixing.

5) Toning-in losses where the pigmented surface of the leather has been lost. Two methods will be available to try. The Sellaset dyes, used above, are one option, and the use of pigmented finishes is another. Small pieces of damaged leather will be available for experimentation.

A set of samples of different types of leather will be provided for each delegate. The identification of leather types is not specifically included in the session, but these samples should enable common leather types to be identified.

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Conference Program

Location: Amethyst Lodge

Thursday, May 19

7:30 REGISTRATION - **BREAK SPONSORED BY MARIOFF INC**.

8:30 - 8:45 **Opening Address - Ron Hooper, Superintendent of Jasper National Park**

Collections on the Move Session (Part 1) Chair: Juliet Graham

8:45 - 9:15 **Paul Thistle**
Vintage Wine into a Renovated Wineskin: Adaptive Re-Use of a Heritage Structure to House The Sam Waller Museum, (or Murphy's Law Run Amok)

9:15 - 9:45 **Jasmina Vlaovic and Siegfried Rempel**
The Winnipeg Art Gallery: Vault Renovation Project

9:45 - 10:15 **Eric Wolin**
Servant to the 'Master': Reflections on Recent Collections Moves at the Museum of Fine Arts, Boston

10:15 - 10:45 **BREAK SPONSORED BY SPACESAVER CORPORATION – CANADA**

10:45 - 11:15 **Shelagh Linklater**
Managing the Moving and Relocation of Archival Holdings

11:15 - 11:45 **Siegfried Rempel and Wendy Baker**
Move of Collections

11:45 - 1:30 **LUNCH BREAK (HIKE)**

Collections on the Move Session (Part 2) Chair: Gail Niinimaa

1:30 - 2:00 **Angela Linn and Monica Shah**
Moving the Anthropological Collections at the UA Museum of the North

2:00 - 2:30 **Shannon Parker**
Boldly Going Nowhere: Moving the Pottery Collection at the Indian Arts Research Center

2:30 - 3:00 **Emily Kaplan**
The National Museum of the American Indian Collections Move: an Overview

3:00 - 3:30 **BREAK SPONSORED BY THE PROVINCIAL MUSEUM OF ALBERTA**

Paintings Session **Chair: Cyndie Lack**

3:30 - 4:00 **Michael O'Malley**
The Maison Villeneuve: a House-Museum Within a Museum

4:00 - 4:30 **Robert Arnold**
Logistical Considerations in the Handling During Conservation of an Oversize Painting on Wood Panel – "Circumcision" Circa 1545 from the Collection of the Musée de l'Oratoire Saint-Joseph, Montreal

4:30 - 5:00 **Chantal Bernicky**
What's in Your Picture? The Treatment of Three Contemporary Paintings by Quebec Artists

5:30 **CAPC ANNUAL GENERAL MEETING AND DINNER**

Friday, May 20

8:00 REGISTRATION

Textiles Session **Chair: Joan Marshall**

8:30 - 9:00 **Lucie Heins**
Celebrating Alberta's Centennial: Restoration of a 1905 Reception Dress

9:00 - 9:30 **Gail Niinimaa**
Conserving an 18th-Century Brussels Tapestry at the Glenbow Museum

9:30 - 10:00 **Irene Karsten**
A Simple Quantitative Test for Measuring Peel Strength of Flexible Textile Laminates

10:00 - 10:30 **BREAK SPONSORED BY CARR MCLEAN**

Professional Issues Session **Chair: Irene Karsten**

10:30 - 11:00 PER GULDBECK LECTURE – **Lisa Mibach**

11:00 - 11:30 **John O'Neill**
Massage Therapy and Conservation: Some Thoughts on Professionalism

11:30 - 12:00 **Gaby Kienitz**
Not Necessarily Innocents Abroad: Employment in the United States for Canadian Conservators

12:00 - 1:30 **LUNCH BREAK (HIKE)/ REGIONAL REPRESENTATIVES LUNCH**

Scientific Investigations Session **Chair: Nancy Kerr**

1:30 - 2:00 **Lyndsie Selwyn**
Overview of Archaeological Iron: The Corrosion Problem, Key Factors Affecting Treatment, and Gaps in Current Knowledge

2:00 - 2:30 **Michael Belman**
A Comparative Study of 4 Terracotta Sculptures with Current or Previous Attributions to Italian Renaissance Sculptor Matteo Civitali (1436-1501)

2:30 - 3:00 **Jane Sirois et al.**
A Technical Study of David Milne's Oil Painting Materials and Techniques

3:00 - 3:30 **BREAK SPONSORED BY FINE SCIENCE TOOLS**

Paper and Photographs Session **Chair: Lee Churchill**

3:30 - 4:00 **Nicole Christie**
Salvage of Flood Damaged Photographic Materials

4:00 - 4:30 **Lynn Curry**
The Conservation Treatment of a William Topley Photograph Album at Library and Archives Canada

4:30 - 5:00 **Doris St-Jacques**
Treatment of the Charles-Émile Gadbois Scrapbooks

Saturday, May 21

8:00 REGISTRATION

Objects and Pest Control Session **Chair: Sue Cross**

8:30 - 9:00 **Valery Monahan and Cathy Mathias**
Conservation in the Face of Global Warming

9:00 - 9:30 **Theo Sturge**
Leather Conservation: Case studies

9:30 - 10:00 **Heather Dumka**
A Parka Full of Patches - The Re-treatment of a Beaded Skin Amautik

10:00 - 10:30 **BREAK SPONSORED BY MUSEUM SERVICES CORPORATION**

10:30 - 11:00 **Sharon Wilson**
Hot Moths on the Move: The Treatment and Transfer of a Costume Collection

Education and Training Session **Chair: Elizabeth Richards**

11:00 - 11:30 **Alia Bigio**
Taping Jars and Scrubbing Iron: Experiences of a Conservation Intern

11:30 - 12:00 **Eve Graves**
Reflective Learning Projects to Encourage Intercultural Understanding in Conservation Practice

12:00 - 1:30 **LUNCH BREAK (HIKE)**

1:30 - 2:00 **Gayle McIntyre**
Training Heritage Conservation Professionals for Survival and Success

2:00 - 2:30 **Krysia Spirydowicz**
The Master of Art Conservation Program at Queen's University: Past, Present and Future

2:30 - 3:00 **Nancy Kerr and Elizabeth Richards**
Education of Conservation and Curatorship Students at the University of Alberta

3:00 - 3:30 **BREAK SPONSORED BY THE DEPARTMENT OF HUMAN ECOLOGY, UNIVERSITY OF ALBERTA**

3:30 - 5:00 **CAC ANNUAL GENERAL MEETING**

6:00 **BANQUET AT TEKARRA RESTAURANT**

Logistical Considerations in the Handling During Conservation of an Oversize Painting on Wood Panel – "Circumcision" Circa 1545 from the Collection of the Musée de l'Oratoire Saint-Joseph, Montréal

Robert J.W. Arnold, Canadian Conservation Institute, Ottawa, ON

Large paintings on wooden panels can be cumbersome, and difficult to move and manipulate. This problem is exacerbated if the panel is in a weakened or fragile state. A case in point is the painting "Circumcision" from the collection of the Musée de l'Oratoire Saint-Joseph in Montréal. One had to be particularly careful when moving the painting to avoid shocks, strong or concentrated forces and in particular twisting or torquing across the diagonal axes, actions which could lead to the formation of new splits or to the extension of existing splits within the panel. The size and weight of the painting presented difficulties for even two strong persons when moving the painting by hand.

Stylistically, the painting has been attributed to the Florentine artist and writer Giorgio Vasari (1511–1574). The painting was executed in oil over a thick gesso ground on a poplar panel measuring 193 cm wide by 266 cm tall, with the wood grain running vertically. Over the centuries the painting has suffered extensive damage and subsequent restoration work. At some point the panel had been thinned down, likely to half its original thickness, and a heavy pine cradle system secured to the reverse. Since then, numerous splits have occurred through what remains of the original wood, resulting in disruption and loss to the ground and paint, and leaving the painting in a generally vulnerable and fragile state.

This paper will deal specifically with the precautions taken during the transportation and handling of the painting, as well as the design and manufacture of several supporting devices used during examination, photography and treatment of the painting. Principal amongst these was the design and fabrication of a versatile combination easel/table support for the painting. This support allows the painting to be transferred from a horizontal to a vertical orientation, and vice-versa, without the need to manipulate the painting by hand. The history and condition of the painting, will also be discussed as factors that influenced or resulted in the painting's fragile state. Treatment details will only be mentioned briefly, as this work is ongoing and expected to continue for several more years.

The easel/table consists of two sections: a bed made from square x-section steel tube, and a carriage, made from square section aluminum tube, to hold the painting. The bed and carriage are joined by means of a piano hinge that permits transfer from the horizontal to the vertical. Other features include casters that allow for easy transfer of the painting from one location to another, locking pins to hold the painting in place, particularly when in the vertical position, and hydraulic pistons to dampen the movement of the carriage, particularly when moving from the vertical to the horizontal.

The combination table/easel has proved extremely useful in supporting the painting during the course of its treatment. It has also allowed for the safe transfer of the painting to/from the photo studio as well as between CCI and Parks Canada buildings in Ottawa.

A Comparative Study of 4 Terracotta Sculptures with Current or Previous Attributions to Italian Renaissance Sculptor Matteo Civitali (1436-1501)

Michael Belman, Mellon Fellow in Objects Conservation, National Gallery of Art, MD

The bare terracotta sculpture of the *Madonna Adoring the Child* was acquired by the National Gallery of Art in Washington, DC in 1943 as attributed to Tuscan sculptor Matteo Civitali (1436-1501). A photograph of the sculpture was published in *Art in America* in 1914 showing the two figures with complete polychromy and without the base that currently unifies them in a single composition. Completing the nativity scene in the photograph was a terracotta *St. Joseph* now part of the collection of the Walters Art Museum.

The *Madonna Adoring the Child* was tested for Thermoluminescence (TL) in 1970 by Dr. Stuart Fleming at Oxford, who inadvertently took the TL sample from the now known to be modern base. The sample yielded a firing date of between 1888 and 1925, leading to the current attribution of Italian, 20th century. Because of its inclusion in the photograph, the *St. Joseph* was also deemed 20th century for many years. However, TL testing of the *St. Joseph* conducted in 1987 indicated a date between 1407 and 1607.

In April 2004, the *Madonna Adoring the Child* was requested for loan by the Museo Nazionale di Villa Guinigi in Lucca, Italy to be included in a Civitali exhibition as a modern replica. Before the object travelled, National Gallery curators requested that the sculpture be examined and TL tested again to determine if any part of it is historic. The two figures produced different firing dates: a sample of the Madonna's torso originated from the 19th century, while the Child dated from the 17th century.

Art historians are skeptical about current Civitali attributions outside of Italy because the sculptor worked almost entirely in Lucca. Two polychrome terracotta sculptures in North America that have authentic renaissance TL dates and accepted Civitali attributions are the *St. Sebastian*, also at the National Gallery, and the *Virgin Adoring the Child* at the Isabella Stewart Gardner Museum.

A study was devised to compare the quantitative elemental data from the four sculptures to look for similarities in clay composition. Representative samples from each object were analyzed with an electron microprobe and included in a database of microprobe analyses from Italian renaissance terracotta sculptures in the National Gallery's collection for additional comparison. Clay samples from the *Madonna Adoring the Child* and the *St. Joseph* were found to possess similarities to Florentine clays, while the *St. Sebastian* and *Virgin Adoring the Child* were found to be very similar to each other, further bolstering their Civitali attributions.

What's In Your Picture? The Treatment of Three Contemporary Paintings by Québec Artists

Chantal Bernicky, National Gallery of Art, Washington, DC

Three works produced by Québec artists Claude Tousignant, Jean Goguen, and Edmund Alleyn during the 1950s and 1960s were recently treated at the Centre de conservation du Québec (CCQ). These mainstream artists benefitted from a large array of commercial and artistic materials such as acrylics, oil-modified alkyds and polyvinyl acetates. Low-cost and readily available materials such as cotton duck and masonite became choice supports. The nature of these works led to the specific conservation problems that will be illustrated in this presentation: the inadvertent usage of incompatible materials, the degradation of fragile matte, unvarnished paint surfaces, and the lack of documentation of materials and techniques.

The work entitled *Carré rouge* by Claude Tousignant was painted with an oil-modified alkyd on Irish linen and quickly showed signs of cracking shortly after completion of the work. The painting was kept rolled for many years before being structurally stabilized in the 1980s and further treated at the Centre de Conservation du Québec in the late 1990s. Categorized as a geometric abstract painting, the appropriate appearance of the colour fields of this painting required a very even surface to produce the desired effect. Multiple humidity treatment, thorough consolidation, and extensive filling and inpainting allowed the surface to come closer to its original state.

The matte, unvarnished surfaces on Edmund Alleyn's painting *Le rodeur* showed signs of scuffing and abrasion from mishandling. The damage was reduced with the use of the resin Regal Rez and dry pigments. The matte quality of the surface was recreated and results were satisfactory in direct and specular light.

The unknown paint medium used on *Yin + Yang=1* by Jean Goguen led to a collaboration between the Canadian Conservation Institute (CCI), the Musée d'art contemporain de Montréal (MACM) and the CCQ. The paint was identified through chemical analysis and solvent testing and allowed the formulation of an appropriate treatment protocol. This water-damaged painting on masonite that was first thought to have been made with lime and oil paint, later proved to be a commercial n-butyl acrylic-based paint.

The treatment of modern paintings often provides the conservator with challenges and unconventional working conditions. This area of paintings conservation still remains, up to a certain point, uncharted territory. The information pertaining to the materials and techniques used by modern artists is often scarce, sometimes non-existent and in some cases incorrect. The conservation techniques and knowledge used by conservators for the treatment of these works is drawn time and again from practical experience.

Taping Jars and Scrubbing Iron: Experiences of a Conservation Intern

Alia Bigio, Algonquin College, Ottawa, ON

The Applied Museum Studies program at Algonquin College in Ottawa, Ontario, offers several opportunities for students to gain an understanding of and experience in the museum field. The program is not specifically focussed on conservation; its intent is to give students a broad experience in different aspects of museum operations, with a focus on exhibits and exhibit design, collections management, and conservation. The program includes several work placements, which the students select based on their own interests. These placements can take place at any institution that is willing to host a student, and various institutions in Ottawa and across the country have participated. The arrangement benefits both the student and the host institution by providing a positive learning environment for the student, who can then assist the institution with new or ongoing projects.

This presentation focusses on the experiences of the author, a student in the program, who has completed conservation placements at Parks Canada and the Canadian Museum of Nature. Both of these institutions support students studying conservation through volunteer placements and employment opportunities. The author has interned in the archaeological conservation department at the Parks Canada Ontario Service Centre in Ottawa, and was employed as a conservation intern at Parks Canada's National Historic Sites in the Klondike, in Dawson City, Yukon Territory. Most recently the author has completed a conservation placement at the Canadian Museum of Nature. The internship programs at these institutions have given the author invaluable experience in what the "real world" of museums and heritage institutions is like—and have shown that it is often not as glamorous as it appears on the surface. The author would like to share her experiences as an intern and her perspective on the field of artifact conservation.

Salvage of Flood Damaged Photographic Materials

Nicole Christie, *Peterborough Centennial Museum and Archives, Peterborough, ON*

On July 15, 2004 the City of Peterborough was inundated with approximately 200 mm of rain over the course of a few hours resulting in flash flooding throughout the city. The downtown core was hit particularly hard with up to 120 cm of water flowing though the main streets. The Peterborough Centennial Museum & Archives' (PCMA) off-site storage facility, located in the basement of the Peterborough Public Library (PPL), was one of the many downtown locations flooded that night. At the time, the off-site storage area contained the Balsillie Collection of Roy Studio Images and the Parks Studio Collection. Together the two photographic collections consist of approximately 400,000 negatives detailing the social history of Peterborough from the early 1890s to the late 1990s. They are composed of mixed media including black and white silver gelatin glass plate negatives, acetate, nitrate and polyester negatives, photographic prints, letters, advertising posters, etc.

Realizing how critical an immediate response was, the staff of the PCMA developed a plan of action. The PCMA's disaster plans were consulted. However, the planned course of action—the recruitment of friends, volunteers and other local organizations to remove the affected photographic materials—was not possible. The quantity of material requiring salvage was too large. Most institutions to which the PCMA would look for help were experiencing similar moisture problems; the roads were unsafe for travel, and the entire city was in a state of emergency.

This paper will discuss: salvage operations undertaken to retrieve and stabilize the water-damaged photographic materials; freezing of glass plate negatives; the treatment processes developed to dry, clean and stabilize the frozen photographic materials; the preservation of the original photographic storage envelopes as they contain detailed descriptive information relating to the images; as well as the procedures taken to stabilize the environment in the Peterborough Public Library and the off-site storage area. Plans to alter the design of the off-site storage area or reconfigure space at the PCMA, in order to accommodate the photographic collections, will also be discussed.

The Conservation Treatment of a William Topley Photograph Album at Library and Archives Canada

Lynn Curry, Library and Archives Canada, Gatineau, QC

This case study discusses the conservation treatment of the Topley Index photograph album of studio proofs from 1868. This is the first album in a collection of 66 at Library and Archives Canada: the album collection contains over 50,000 photographic portraits taken at the William Topley studio in Ottawa between 1868 and 1926. The photographs are identified with the client's name and a negative number that corresponds to a glass plate negative. The glass plate negatives, numbering over 100,000, comprise the bulk of the Topley collection.

Numerous discussions among conservators, collection managers and archivists have taken place over the past several years to determine the preservation requirements of this historically significant collection. In May 2004, yet another discussion took place, this time including digital and traditional copying specialists. Here, the issues surrounding copying for access were examined in depth, resulting in the development of a preservation and access strategy. The project was divided into the following four stages:

1. Develop a holistic approach to preserving the collection;
2. Develop a conservation treatment methodology for the widely differing degrees of deterioration present in the albums and the photographs;
3. Carry out the conservation treatment;
4. Make the collection accessible through digital imagery.

This paper will discuss the work that was carried out at each of the four stages, emphasizing the conservation treatment of the first album. This was the most deteriorated album in the collection, presenting the following issues to be addressed: mould on the albumen photographs, support leaves, covers and binding materials; serious cockling and creasing of the photographs and support leaves; surface dirt, soiling, stains, tears and losses to photographs and support leaves; loose, detached and missing photos; and deterioration of the binding materials, sewing structure, covering leather, cloth and boards.

Due to the nature and timing of the treatment of the Topley Index, we were able to include four student interns in carrying out the treatment, providing an excellent opportunity for hands-on training. Each intern, having an area of special interest or previous expertise, worked with a conservator on such activities as developing a methodology for flattening the album pages; mould removal from the photographs and support leaves; and developing a treatment methodology for humidifying, flattening and lining the albumen photographs and reattaching them to the support leaves.

With the completion of the first two stages of this ongoing project, and the treatment of the first album, we look towards planning and scheduling the subsequent album treatments and copying the albums.

A Parka Full of Patches - The Re-treatment of a Beaded Skin Amautik

Heather Dumka, Glenbow Museum, Calgary, AB

This paper describes the treatment of an Inuit beaded amautik or women's parka from the collection of the Glenbow Museum. The parka is made of caribou skin and is elaborately decorated with beadwork sewn onto heavy wool panels. The parka, which is the museum's only example of a beaded amautik, was acquired in poor condition, with numerous tears and losses. In 1967, it was repaired at the museum. Most of the panels were restored by re-beading and lining with new fabric, and the skin was patched with leather stitched onto the back of the damaged areas. These patches caused further tears in the thin and deteriorated caribou skin, and they also distorted the original shape of the parka. The weight of the heavily beaded panels, stitched in place, made it very hazardous to examine or move the parka. Many of the beaded panels were also misaligned when they were reattached.

As well as outlining the new conservation work, some of the factors influencing the treatment choices are discussed in the paper. Since the earlier repairs left the parka distorted and fragile, it was necessary to remove the skin repairs and the beaded panels. Tears and losses were patched using a heat-activated adhesive (Beva 371), sprayed onto a spun-bonded nylon fabric (Cerex). The chest and shoulder area were reconstructed to a shape that is closer to the original dimensions. The majority of the parka was lined with the nylon fabric to provide extra support for the beaded panels when they were stitched back into place. The hem panel, which had not been previously treated, was stabilized and lined onto a new backing fabric prior to reattachment. During the treatment, patterns of each of the pieces of the parka were made. These were used for recording the damage and will also be an aid for anyone studying the construction of the parka.

Reflective Learning Projects to Encourage Intercultural Understanding in Conservation Practice

Eve Graves, Camberwell College of Arts, London, UK

The demands made on the conservator of cultural material vary widely across the globe. Climate and custom, terrain and tradition and all the myriad ways in which these are interwoven, will affect the decisions which the conservator must make.

No educational programme can provide its students with all the cultural knowledge that they may need in their professional futures. Nor is it possible to predict what sets of circumstances they will face, what social customs, what spiritual traditions they may encounter. Even if it were, it would still be impossible to alert them to all the variations in approach and attitude that come from individual life experiences. So how can we help the new generation of conservators to respond to the ever-growing challenges of their profession?

Underpinning all the facts and techniques—the knowing that and the knowing how, that the aspiring conservator needs to acquire—must be an open-minded, co-operative and sensitive approach to the cultural world. This paper discusses a range of self-directed reflective learning projects engaged in by conservation students at Camberwell College of Arts, designed to sensitize students to the need for cultural awareness and sensitivity. These projects are based on each student's individual exploration of the cultural significance and value of some publicly accessible material that they choose. This may be found in a traditional museum, a cultural centre, a cathedral, a sacred site, an historical house, a public garden or in many other locations. Students share and discuss their findings with their peer groups.

As more and more students pursue their conservation education wholly or partly outside the country of their birth, we increasingly teach culturally very mixed groups, whether at undergraduate level or later. This provides rich opportunities for intercultural discussion of ideas and attitudes. The particular reflective projects discussed in this paper highlight the educational advantages of this approach to conservation education, particularly for fostering co-operation between different cultures and communities concerned with the preservation of cultural heritage.

Celebrating Alberta's Centennial: Restoration of a 1905 Reception Dress

Lucie Heins, Edmonton, AB

In the conservation lab of the Human Ecology Building at the University of Alberta many hours were spent restoring a 100-year-old garment that lay dormant within the computerized storage facility of the Clothing and Textile Collection. The garment is a lovely sage-green wool skirt with an intricately embellished bodice worn by Annie Ada York Secord in 1905 at the reception celebrating the inauguration of Alberta as a province. This garment has seen history in the making and is the centrepiece of an exhibition entitled *Alberta Stories: Coming out of the Closet.* This exhibition is a celebration of the Edmonton and Alberta centennials.

In researching for relevant garments and stories for this exhibition, the 1905 dress was rediscovered. It had never been displayed due to its fragile condition. The skirt was very dirty along its hemline, and there were a number of significant holes throughout, moth damage being suspected. The weighted silk used for the waistband was very brittle making handling difficult. The cummerbund, also made of weighted silk, and attached to the bodice, was showing signs of deterioration, as was the interior lining. The yoke made of fine silk chiffon, was shredding making it impossible to mount on a mannequin. The wool itself, however, is in relatively good condition.

Anne Lambert, the Clothing and Textile Collection curator, suggested that other conservators be invited to participate in the treatment decision-making process since a department conservator was not available to assist at the time of the project. The challenge of this project to me, as a student, was finding experts to consult with before embarking on the task of restoring the garment. It was quickly realized that there were very few textile conservators in the Edmonton, area let alone in the province of Alberta. The assistance of Linda-Sue Burwood (private practitioner), Anne Ramsden (Heritage Museum in St-Albert) and Dr. Elizabeth Richards (U of A professor emeritus) were solicited. After each professional had an opportunity to examine the garment, suggestions were made on how to proceed. Different ideas were put forth including the use of adhesive but in the end it was agreed that any treatment done to the garment should be reversible.

Dr. Elizabeth Richards volunteered her time to assist in the wet-cleaning of the skirt. Student Lucie Heins encased the waistband of the skirt and cummerbund with Stabiltex to reduce further deterioration of the weighted silk. She also stabilized the holes in the skirt. When it became obvious that this project would be very time-consuming, private funding was secured to hire Linda-Sue Burwood to attend to the stabilization of the yoke. Unfortunately, it was not possible to treat the silk lining of the bodice at this time. Further funding and time will be required to undertake this task. However, this did not prevent the garment from being displayed. The result of this collaboration, a contribution to Alberta's Centennial, was that Albertans could view the 1905 dress.

The National Museum of the American Indian Collections Move: an Overview

Emily Kaplan, National Museum of the American Indian, Suitland, MD

In June 2004, the Smithsonian Institution National Museum of the American Indian finished transporting its collection, comprised of approximately 800,000 archaeological and ethnographic artifacts from native cultures throughout the Western Hemisphere. The artifacts were moved from the museum's Research Branch in the Bronx, New York to the new Cultural Resources Center facility in Suitland, Maryland. The project took five years to complete.

This paper will give a brief overview of the move process from the conservation point-of-view, and focus on the standardized procedures and materials for collections care. These procedures were developed collaboratively by Conservation, Collections Management, Registration, and Photography staff on both the New York and Maryland ends of the move project. In New York, procedures were developed for safe handling, barcoding, sorting, conservation, pest management, digital imaging, packing, and trucking. In Maryland, standardized procedures were developed for unpacking, sorting, and rehousing the collection. Staff were able to innovate and revise these procedures over time, so that by the end of the project they were streamlined. Examples of techniques for safe handling, packing and rehousing various types of objects will be illustrated and the pest management system will be discussed.

A Simple Quantitative Test for Measuring Peel Strength of Flexible Textile Laminates

Irene F. Karsten, Department of Human Ecology, University of Alberta, Edmonton, AB

The bond strength of adhered textile mockup specimens is often assessed by manually peeling the specimens and subjectively comparing the force required to peel. Decisions regarding adhesive type, adhesive application technique, support type, and reactivation technique are often based on such subjective assessment. Quantitative peel strength measurement using research instruments like the Instron Universal Testing Instrument is not often available to conservators. Moreover, small differences recorded by such instruments may not be significant if few specimens per treatment group are tested.

A simple test was developed to provide for quantitative, categorical assessment of peel strength of silk specimens adhered to polyester Tetex with Lascaux 360/498 HV. Clip-on weights were constructed from unbleached cotton bags, lead shot, and fold-back binder clips to give masses from 10 to 150 g. The mass that caused the bond of adhered fabric specimens to fail immediately was determined. This clip peel category was compared to the peel strength of the same specimen as measured with an Instron. Peel strength was determined both ways for 342 specimens adhered using different amounts of adhesive and various heat and solvent reactivation techniques. Good correspondence between the two measures of peel strength was observed, indicating that the clip peel test is a valid measure of peel strength. The results of this study suggest that failure of a 25-mm-wide specimen to hold a 10 g weight indicates a very weak bond. On the other hand, the ability to hold a 150 g weight probably denotes a bond too strong for most textile conservation purposes. Moderate bond strength is characterized by failure at 50-100 g. Since the bond strength of specimens can vary over their length, determining the clip peel category at several points is recommended. Use of clip peel strength measurement on mock-up specimens permits more rigorous assessment of treatment options, and enables comparison with previous tests or tests completed in other labs, provided specimen width remains constant.

Education of Conservation and Curatorship Students at the University of Alberta

Nancy Kerr and Elizabeth A Richards, University of Alberta, Edmonton, AB

At universities, change in the education of students is inevitable as programs are modified to reflect changes in staffing and resources. At the University of Alberta, three textile science professors, two of whom taught textile conservation courses, have retired and the textile conservator's position has been reduced to a 0.5 appointment. Through innovative program planning and the hiring of a textile scientist and a textile conservator with doctorates, students will continue to be able to prepare for careers in textile conservation or curatorship.

Undergraduate and graduate programs will be described to demonstrate how students gain appropriate competencies for their areas of interest. Undergraduates who select a major in Textiles and Clothing may minor in Museum Curatorship and Conservation. A program can be built around courses such as historic dress, material culture, textile science, and preventive conservation of museum artifacts. Practical experience is gained through internships and independent studies. At the graduate level, a doctoral degree, or thesis- or course-based master's degrees, is designed for students depending on their research. All core Human Ecology graduate courses are available to distance learners.

An innovative modular system for offering graduate courses tailored to students' needs will be described. Past and current graduate research topics show that students are addressing topics of relevance to the field. Recent research, for example, has included how knowledge and beliefs about textile conservation are shaped by an exhibit, a detergency study with new non-ionic and traditional surfactants, an investigation of light-degraded nylon banners, and research on factors determining the effectiveness of adhesives used for laminating textiles to sheer backing fabrics. The University of Alberta will continue to educate students who are well prepared for careers in conservation, and curatorship.

Not Necessarily Innocents Abroad: Employment in the United States for Canadian Conservators

Gaby Kienitz, Indiana State Museum and Historic Sites, Indianapolis, IN

Obtaining employment and internships at cultural institutions in the United States can be an exciting opportunity to work with unique collections and challenging projects within desirable institutions and among admirable professionals. Many Canadian conservators and conservation students seek to achieve these positions, whether due to limited availability of employment vacancies or internships in Canada, or simply a desire to work with a specific project or institution. Over the years that I have been applying for work in the US, I found that many cultural institutions were interested in employing a Canadian, but were often wary of doing so because they were so unfamiliar with the federal process of seeking permission to take on a foreign employee or intern that they didn't know how to begin, and had no knowledge of available classifications, time frames or costs.

The purpose of this paper is to describe the experiences of working in the US, from a personal perspective, in order to explain some of the US employment routes available to Canadian conservators. TN, J-1 and H1B are all temporary non-immigrant classifications that I have had during the three years that I have been working in the US for various institutions. These classifications are the most likely ones to be used by a US employer to hire a Canadian conservator. It would be impossible to describe in detail the application process and all the regulations of each of these non-immigrant classifications within the limited scope of this presentation. However, the basic application process will be reviewed for the TN, J-1 and H1B classifications, highlighting the benefits and drawbacks of each, as well as the pitfalls that may be encountered. My goal is to provide Canadian conservators, willing to seek work and internship opportunities in the US, basic information to facilitate their search.

Although, as foreigners, Canadians cannot petition for temporary non-immigrant classifications in the US on their own behalf, they can play a role in the direction of their career choices by informing themselves of available resources and hopefully provide a point of advocacy to foster the process for themselves and others. Over the past three years, there have been significant and frequent changes to the application and documentation requirements of these temporary non-immigrant classifications. These will be discussed as they relate to the special status afforded Canadian citizens and also how some of these changes may be severely affecting avenues to employment with US cultural institutions. If we admit that opportunities exist within the US that have benefitted our membership and could continue to do so, then we should make efforts to assist and encourage those members who wish to pursue these opportunities.

Managing the Moving and Relocation of Archival Holdings

Shelagh Linklater, Archives of Manitoba, Winnipeg, MB

Upon completion of the new Hudson's Bay Company History Foundation (HBCHF) storage and cold vaults, the staff at the Archives of Manitoba planned and executed the move of several archival holdings. This task included moving Hudson's Bay Company Archives textual records to the new storage vault, relocating microfilm and motion picture film to the new cold vault and transferring records to temporary storage while the old Hudson's Bay Company Archives vault was renovated. While all these proceedings took place within a single building, the records still had to be transported safely and efficiently during regular business hours and without disrupting public service. A long process of evaluating, preparing and creating inventories of the records for this transfer began. The development of an effective tracking system maintained organization and physical control. Through the collaborative efforts of Manitoba Government Services, archivists, conservators, student employees and a commercial moving company, this undertaking was completed successfully.

Moving the Anthropological Collections at the UA Museum of the North

Angela J. Linn, University of Alaska , Museum of the North, Fairbanks, AK
Monica Shah, Objects Conservator, Anchorage, AK

In Summer 2003, the Ethnology & History and Archaeology departments at the University of Alaska Museum of the North (UAM) in Fairbanks received a grant from the National Endowment for the Humanities (NEH), a Federal agency, in the Preservation and Access Program for $697,211. The award was made for the packing, moving, and re-storage of the anthropological collections at UAM, in conjunction with the construction of an expanded and renovated $32-million facility. As the museum construction project proceeded, it became clear that the entire amount raised by the museum development program would be spent on bricks, mortar and renovation of the present 20-year-old building, and that the seven collections departments would be left to find funding and resources of their own in caring and planning for the objects that would be affected by the move. The NEH grant funded many of the most important and costly of the ethnology and archaeology departments' needs. First, it enabled us to hire necessary personnel: an objects conservator, as well as numerous students, to prepare the 90,000+ objects in the two collections for the stresses of construction as well as movement into temporary storage locations. Second, a large proportion of the grant funded new compact mobile storage carriages and new storage furniture for the two collections, which have long since outgrown the space allotted them in the existing building.

This presentation will take participants through the processes and procedures developed by the collections managers and the objects conservator, in consultation with curators, project managers, architects, exhibit designers and an assortment of other personnel at UAM, to coordinate a successful move of two important collections. The presenters will show photographs and schedules of work, examples of packing techniques, and diagrams developed and utilized by museum staff to aid in the move. Participants will be provided numerous handouts, including supply lists, helpful tips, aids for budgeting, diagrams for mounts, and hints for managing a successful move.

Training Heritage Conservation Professionals for Survival and Success

Gayle McIntyre, Fleming College, Peterborough, ON

Today's heritage institutions have changed and will continue to change as a result of financial capability, a changing society and an evolving world. The Arts and Heritage programs offered through Sir Sandford Fleming College are no exception. The exciting opportunity is to anticipate the future direction of heritage conservation and aggressively adapt to the new realities presented by constant change. The new reality demands graduates who have a variety of transferable skills ranging from specific core conservation and technical skills to a diverse range of knowledge, abilities and, above all, a positive attitude. Heritage professionals must be proactive and reactive; they need to be able to apply a series of skills and competencies to a variety of often complex situations. At the end of the day these champions will preserve and heighten the profile of their departments, care for the collection, move their organizations forward and raise the benchmark for the museum.

Conservation and museum training programs are usually an anomaly within their education institutions. These unique profiles come with higher costs. The fundamental need to balance theory with tangible practice in conservation training is expensive.

Strong and healthy community-based partnerships have been a critical component across the curriculum in the training programs at Fleming College. These partnerships have allowed the programs to integrate applied projects in all course work. The projects and learning activities are real rather than simulated and the assignments and assessments are authentic. Students gain experience working in teams, they work with a variety of resources and different levels of supervision and they develop effective problem-solving strategies that meet a genuine preservation-based need. In addition, the program faculty and the community partners are part of a greater team network providing tireless support, guidance and specific expertise. Through the flexibility and generosity of the program faculty, the learning partners, internship sites, students and graduates these programs are able to respond to the needs and events in the heritage community.

Starting with the history and evolution of conservation and museum training offered through Fleming College, strategic directions for heritage programs will be proposed.

Conservation in the Face of Global Warming

Valery Monahan, Government of Yukon, Whitehorse, YT
Cathy Mathias, Memorial University of Newfoundland, St. John's, NL

Frozen archaeological sites provide a unique window into our past. Near perfect preservation results in unexpected artifacts and a wide range of organic materials. Long before North America was subdivided into countries, states, territories and provinces, the land above the 49th parallel offered food, building materials and the tools needed to sustain cultures for thousands of years. Frozen assemblages, found by archaeologists working in the north, offer a more complete story of early life than conventional sites. With these rewards come challenges: artifacts from frozen sites include more fragile components and more environmentally sensitive materials. While they provide archaeologists and other researchers with a wealth of information, they typically require more treatment time, more complicated storage systems, even more storage space. This all means more work for the conservator, beginning with specialized field techniques.

This paper will describe the archaeological remains of some of these cultures that lived in the extreme east and west of northern Canada. Though thousands of years apart in age, the commonality is that their remains have been preserved because of the ice, permafrost and generally low temperatures. Thus the conservation approaches to these materials also share some similarities but some differences. Localized geographical features can produce very different types of frozen sites. This has implications for both the archaeological assemblage and for the work of archaeologists and conservators. Wide-ranging scientific interests and a diverse collection background are valuable tools for conservators working on these collections. Adaptation of techniques from other disciplines is required. Conservators, with their diverse training, can suggest types of analysis and make critical research connections. Unique research and training opportunities emerge from these projects. The challenges and rewards of educating students and researchers of archaeology to do the field conservation will be discussed along with the benefits to conservation of this partnership.

This presentation will contrast two different frozen archaeological collections, one from Labrador and the other from the Yukon, in terms of material, preservation, conservation approach, education and legislation.

Conserving an 18th Century Brussels Tapestry at the Glenbow Museum

Gail Niinimaa, Glenbow Museum, Calgary, AB

An 18th-century Brussels tapestry hung in the Alberta ranch house of Billy Cochrane from about 1887–1909. It was taken back to England in 1909 and subsequently forgotten until the early 1980s when a descendant donated it to the Glenbow Museum. Since this tapestry represented an important part of Alberta's ranching history, the curators were anxious to have it displayed. However, the tapestry, made of wool and silk, was in very poor condition, and extremely dirty, having been hung in a wood-heated farmhouse. The silk ground was very brittle with large areas of loss.

In 1984 the tapestry was wet-cleaned by Glenbow and University of Alberta staff at the University of Alberta. The cleaning successfully removed a great deal of dirt, but the tapestry was then returned to storage where it remained until the end of 2002. At this time, the curators again began asking when it could be exhibited.

It was impossible to even consider this project with the existing staff since the museum has one textile conservator who works one day a week. A plan was made to access a Museums Alberta grant to help cover an extra day a week for the conservator, and to recruit skilled needleworkers from the community who would be trained to assist with the work. The project was pitched to members of the quilting, rug-hooking, embroidery and weaving guilds. The response was very enthusiastic, and within two weeks a team of 16 women was ready and eager to volunteer their time in 3-hour shifts over a 6-month period. The volunteers were accepted after their needle working skills were assessed, and they were trained by the textile conservator prior to starting the project.

The project was completed in 400 hours of staff time and over 650 hours of volunteer time. The work involved removing the old repairs and old, now brittle, thread used to sew up the slits. Patching was done to stabilize the weak areas, the slits were re-sewn and the warp threads were secured down to cotton patches. The sky area required a great deal of sewing as the silk weft was brittle and degraded.

Once the patching was completed, Velcro was attached to the top edge, and strapping was stitched onto the back of the tapestry to transfer the weight more evenly across the piece. A dust lining was sewn onto the back to cover all of the stitching and to protect it from dust.

The project was extremely rewarding for the 16 women involved in the project as well as for the Textile Conservator who was able to oversee both the cleaning and the stabilization despite the 20-year span. It now hangs proudly in the stairwell between the 2nd and 3rd floors at the Glenbow Museum.

Many of the volunteers have continued to be involved at the Glenbow Museum and have been integrated into various jobs needed for the re-storage of the textile collection.

The Maison Villeneuve: A House-Museum within a Museum

Michael O'Malley, Centre de conservation du Québec, Québec, QC

The self-taught artist, Arthur Villeneuve, was 47 years old when he began the creation of a major artwork. At the end of the 1950s, he painted the walls and ceilings of his residence, as well as two walls on the building's exterior, covering them with historic and religious scenes. The paintings were spread over 500 square metres of his modest home, which was located in a working class neighbourhood in Chicoutimi, Québec. By recreating a world that he had known and that was disappearing, Villeneuve wanted to preserve the memory of his city and the surrounding region. This work was also an expression of his personal world view and his religious values—a vision marked by fantastic imagery and a unique iconography.

Mr. Villeneuve passed away in 1990. Four years later, following recommendations by the Centre de conservation du Québec (CCQ), his painted house was relocated and integrated into a newly renovated museum building, on the site of the old Pulperie de Chicoutimi. This move marked the beginning of a vast enterprise, which proved to be a first in Québec, not only for financial considerations, but for technical and logistical considerations as well.

Conservators at the CCQ contributed to the project in two ways by 1) offering consultation services to the different players, so that the solutions chosen assured the optimal conservation of the house, and 2) performing conservation work directly on the house itself. The various conservation aspects of this project were shared by a team of six conservators over a period of 13 years.

During the first examination of the house in 1991, many areas of damage were observed on the painted walls of the exterior facades. In contrast, the paintings inside the house were in a better state of preservation and showed only minor alterations.

During conservation treatment, the consolidation of lifted paint and varnish layers was made possible by the plastic nature of these materials. To this end, an acrylic emulsion, Lascaux 498HV was applied with syringes, followed by local applications of heat and pressure. Inpainting was also carried out to integrate areas of paint loss. The original varnish applied by the artist to protect the paintings has considerably yellowed. This varnish, based on polyurethane, now masks the true paint colours. For the time being, it does seem possible to remove it without endangering the underlying paint.

This project required the collaboration of several specialists, each bringing his or her expertise to bear on the conservation and exhibition considerations of the house. The CCQ is proud to be part of this interdisciplinary and inter-institutional partnership, which assures a promising future for the Maison Villeneuve.

Massage Therapy and Conservation: Some Thoughts on Professionalism

John O'Neill, Queen's University, Kingston, ON

The concept of professionalism has been discussed and debated in the Canadian conservation community for decades. Some conservators talk about the "conservation profession". Many refer to themselves as "professional conservators". The Canadian Association of Professional Conservators has been accrediting conservators as "professional members" since 1971, but anyone can refer to him/herself as a professional conservator, regardless of credentials. So what exactly is conservation? Is it a profession? A trade? Something in between? This talk will examine the idea of professionalism, and why some occupations are referred to as professions, and some are not. An attempt will be made to define where conservation is situated on a scale of professionalism from 1 to 10.

Throughout the talk, comparisons will be made between conservation and massage therapy, as there are many interesting parallels between these two fields of endeavour. Both have practitioners who are highly trained and work to the highest of standards, and adhere to a code of ethics; both have untrained members who may or may not be legitimate practitioners in the field. The difficulty for a member of the public is to differentiate between the two. Massage therapy has made substantial progress toward licensing and certification of professional members; conservation in Canada has not.

In fact, a closer examination of the Canadian conservation field does not provide a very encouraging picture. The reality is that conservation in Canada is far from being a profession, and the attempts to bring about this evolution are stalled. We are falling behind our friends in massage therapy, and behind our conservation colleagues in other countries. Some reasons for this poor performance will be examined, and possible future steps will be discussed. Input from the audience will be encouraged.

Boldly Going Nowhere: Moving the Pottery Collection at the Indian Arts Research Center

Shannon L. Parker, School of American Research, Indian Arts Research Center, Santa Fe, NM

In 2001, the staff at the Indian Arts Research Center (IARC) at the School of American Research (SAR) were preparing for storage renovations of their Native American paintings-on-paper collection, with funding from the Luce Foundation. Plans were devised that would use compact storage units with multiple shallow shelves to free the matted paintings from their over-full solander box storage. These were to be installed on the mezzanine level of one of the storage vaults. However, after checking with an engineer, it was discovered that the floor load of the mezzanine would not be able to support the compact storage units once they had the paintings added.

After considering the problem and consulting with the Luce Foundation concerning how the monies could be spent, it was decided to reinforce the mezzanine level instead. Using steel I-beams and columns, the floor load would be tripled and ensure all future renovation projects could move forward without encountering the same stumbling block. However, the ground floor directly beneath the mezzanine was home to open shelving that housed the majority of the IARC's Native pottery collection. This collection would have to be moved to allow the contractors to install the new supports devised with the engineer and architect.

Many options were explored in discussions with the contractors before determining that the best method for this project and this institution was to reinforce the mezzanine in stages. While this allowed the collection to remain in the secure vault environment, this option was not without its own challenges. To accomplish this, in August 2002, temporary shelving was fabricated and installed by the contractors in between the existing shelves on one side of the vault. Pottery from the permanent shelving on the opposite side was then moved by the small IARC staff and a group of devoted volunteers onto the temporary shelves, where they were protected by various methods from the vibrations and dust created during the renovation. This process was repeated several times over a period of three months before the project was completed. Each individual item was moved at least twice during the renovation.

The moving of over 3,500 pieces of pottery was successful and not a single item was damaged. The organisation, preparation, and movement of this collection resulted in a number of practical thoughts and suggestions that may be useful to other organisations considering large-scale collection movement. In this presentation the simple, inexpensive items that were utilized in the movement and temporary storage —including ziplock sandbags, irrigation tubing, and location slips—as well as thoughts on how the theory of moving the collections held up in practical application will all be examined. Additionally, physical issues that were revealed about the construction of the shelving, and how the HVAC and fire suppression systems were handled during the renovation will be dealt with. Finally, a brief discussion of the ways to keep a largely volunteer workforce motivated and engaged, when such a project has moved past the new and interesting stage, will conclude the presentation.

Move of Collections

Siegfried Rempel and Wendy Baker, Canadian Conservation Institute, Ottawa, ON

Over the last few years, CCI has undertaken the development of a Move of Collections consultation for Canadian museums, art galleries and archives. This is a work-in-progress resulting directly from a client request. The Museum of Newfoundland and Labrador, the Archives of Newfoundland and Labrador and the Memorial University Art Gallery Collection, three disparate collections, were to be relocated to one new location—The Rooms.

A three-person team was put together at CCI to compile and organize collected wisdom on the move of collections. The team interviewed a number of key players involved in the recent moves of collections in the National Capital region. These included the National Archives' move to the Gatineau Preservation Centre, the Canadian Museum of Nature's collection move from various storage sites to their new Pink's Road location, and the ongoing displacement management of the collections of the Victoria Memorial Museum Building during their renovation activities. From the wealth of information gathered from these resources, and most specifically from the large quantities of documents required for and generated by a move of collections (Requests for Proposals being the key of these), a fairly comprehensive picture of the move process emerged.

In order to respond to our first client, a half-day presentation emerged based on the understanding of the elements of a move. Key players and milestones in move management were identified with an emphasis on coordination, preplanning, proper phasing of activities, preparation of collections, use of museum staff and the hiring of outside professionals.

Following the presentation in Newfoundland, a number of other institutions requested assistance in preparing for a move of collections—whether the wholesale move of collections from one facility into another, or simply moving stored collections into new storage facilities. Our knowledge base has expanded with each new request. Currently our protocol is a three-day visit to the client; the first day is set aside for a tour of the collection to assess both the move readiness of the collection and to identify the challenges presented by the buildings in terms of the physical move of the collection. This first day also allows us to meet with the staff involved with the move, and to consult with them on their concerns and needs. On the second day, the team concludes the site tours, clarifies issues and then develops a presentation, based on specific client parameters. The third day the client meets with the CCI team; issues and solutions are presented, a consensus on the approach is resolved and the finished presentation is left with the client for further development. The on-going consultative process continues with clients on an as-needed basis.

The niche filled by this consultation process at the beginning of the move planning process helps staff and management overcome the inertia associated with undertaking a new activity and allows for the planning necessary to prepare for what can be, even when well-managed, a challenging and stressful undertaking.

Overview of Archaeological Iron: The Corrosion Problem, Key Factors Affecting Treatment, and Gaps in Current Knowledge

Lyndsie Selwyn, Canadian Conservation Institute, Ottawa, ON

An ongoing problem with archaeological iron is continued corrosion after excavation caused by the accumulation of salts during burial. The treatment of archaeological iron is often based on immersing the object in an aqueous solution and waiting for the chloride ions to diffuse out. This presentation addresses the current understanding of archaeological iron corrosion and treatment. Reviewed first are the corrosion processes that iron undergoes during burial and after excavation, including a discussion of the critical role of chloride ions and the formation of chloride-containing akaganéite. Two diffusion models currently used to interpret the time-dependence of the chloride ion concentration in treatment solutions are briefly described. Following this, there is a critical review of the key factors that play a role in the effectiveness of various iron treatments used for archaeological iron. Two key factors are whether the iron continues to corrode during immersion, and the porosity of the corrosion layer. Included in this discussion are how pH, Fe(II) ions, electrolysis, temperature, and the removal of dissolved oxygen contribute to continued iron corrosion, the corrosion layer porosity, and ultimately to the success or failure of an aqueous iron treatment. Key areas are identified where there is a need for further research. The information is based on research carried out at the Canadian Conservation Institute and by others worldwide.

A Technical Study of David Milne's Oil Painting Materials and Techniques

P. Jane Sirois, Canadian Conservation Institute, Ottawa, ON
Cathy H. Stewart, McMichael Canadian Art Collection, Kleinburg, ON
Kate Helwig, Elizabeth A. Moffatt, Canadian Conservation Institute, Ottawa, ON
Kris M. Legate, Centre of Forensic Sciences, Toronto, ON

Canadian artist David Milne was born in Ontario in 1882. At the age of 21 he set off for New York City to attend art school. Milne painted in various locations, predominantly in the Adirondacks and Ontario, throughout his life. He died in Bancroft, Ontario in 1953. His work is included in the collections of several major Canadian art galleries. The opportunity to collect samples from Milne's work arose when many of his paintings were assembled for a major Milne exhibition organized by the McMichael Canadian Art Collection and the Vancouver Art Gallery in 1991. In collaboration with the conservation department of the McMichael Canadian Art Collection, over 250 samples were taken from a selection of 30 oil paintings spanning Milne's career. The paintings selected provided a good representation of his works in oil from different geographical locations and in different styles. The paintings included in this study came from the Milne Family Collection, the McMichael Canadian Art Collection, the National Gallery of Canada and the Art Gallery of Ontario. The materials sampled were: canvas sizes, grounds, washes, drawing media if present, and paint. Samples of paints from David Milne's paintbox, loaned to CCI by David Milne Jr. were also included as part of the project.

The paintings were initially examined visually to determine Milne's working methods and materials. Samples of painting materials were then analysed by x-ray microanalysis, x-ray diffraction, Fourier transform infrared spectroscopy and polarized light microscopy. Select samples were analysed by gas chromatography/mass spectrometry. Cross-sections were also prepared and analysed by incident light microscopy, fluorescence microscopy and scanning electron microscopy/x-ray microanalysis to reveal the layer sequences in some of his paintings. The results from this study will provide information to help answer questions regarding attribution, provenance and conservation treatment. Some of Milne's working techniques and the materials he used in his oil paintings will be discussed.

The Master of Art Conservation Program at Queen's University: Past, Present and Future

Krysia Spirydowicz, Queen's University, Kingston, ON

In 1972, the Federal government adopted a new National Museums Policy, a move that encouraged the rapid development of museums across Canada. Shortly thereafter, several museum training programs, including the Master of Art Conservation (MAC) Program at Queen's University in Kingston, were established to provide much-needed personnel for the new cultural institutions. This paper provides a brief history of the MAC Program, now in its thirtieth year of operation, and an assessment of its current role in the field of art conservation.

The early years of the Program were a time for growth and expansion. Shortly after its inception, the Program became the only Canadian member of the Association for North American Graduate Programs in the Conservation of Cultural Property (ANAGPIC). During the 1980s the fine art stream was divided into separate specialties for the conservation of paintings and paper, a new faculty position in paper conservation was created and the existing facilities were expanded. An additional degree path was added in 1988 when the MAC Research degree was established. MAC graduates found employment in museums and galleries across Canada and worldwide.

During the late 1990s, severe financial constraints were placed on Ontario universities. This had a significant impact on the Art Conservation Program in the areas of staffing, student recruitment and the provision of services. A reassessment of Program priorities led to the establishment of a major fundraising campaign. Faculty and students took on the challenge of increasing public awareness of the field of art conservation in general and the Program in particular. Significant advances have now been made in the areas of equipment renewal and the use of advanced technology. New faculty have been hired and the curriculum has been updated. Faculty research receives a strong emphasis. Today, the Program has returned to a position of strength. We are fully confident that the Program will continue to maintain its reputation for academic excellence well into the 21st century.

Treatment of the Charles-Émile Gadbois Scrapbooks

Doris St-Jacques, Library and Archives Canada, Ottawa, ON

In July 2004, the Textual and Visual Records Conservation Treatment Section of Library and Archives Canada received two expandable-post scrapbooks from the now former Music Division of the National Library of Canada. The scrapbooks were assembled by Father Charles-Émile Gadbois (1906-1981) a priest born near Saint-Hyacinthe, Québec, who is an important figure in Canada's music history. He was a composer, publisher, instrumentalist and founder of the publishing and distribution house known as La Bonne Chanson. The two large Gadbois scrapbooks span a timeframe from the 1930s to the 1950s and contain a wide variety of items related to the publishing house, its music, publicity and programs.

The scrapbooks were in need of treatment as the pages and many of the paper-based items were acidic, torn, loose and in danger of being lost. Most of the articles on the double-sided pages were attached with various types of pressure sensitive tapes in excessive amounts, which had left dark staining and adhesive residue on the pages and many of the items. The adhesives had become either extremely tacky or brittle, causing pages to stick together. Both scrapbooks were extremely heavy and had cloth covers in disrepair. This presented structural problems as well as problems with storage and handling.

This presentation will examine the progression of decisions made in determining the extent and method of treatment necessary for the scrapbooks. Though the books and their contents were examined thoroughly to develop an appropriate method of treatment, the challenges this project presented once treatment was undertaken were many, as were the creative solutions developed by conservators to meet those challenges.

Conservation of the Gadbois scrapbooks has provided the opportunity to address treatment, handling and storage problems of similar items in the collection of Library and Archives Canada. Specific treatment methods have been developed for like items, and it is now easier to determine the time requirements more accurately and to anticipate possible complications when planning future projects of this type.

Leather Conservation: Case studies

Theo Sturge, Sturge Conservation Studio, Abington, UK

The paper will present a number of short case studies on work carried out on leather artefacts by the author. The studies will concentrate on the practical methods used, and will complement the training given during the Fur Trade Legacies workshop on upholstery leather conservation. Some of the methods described during the workshop will be illustrated in a different context. The paper will include some, or all, of the following treatments:

Painted leather screen: The problems of relaxing and flattening distorted painted leather using Sympatex, a semi-permeable membrane, will be discussed, as will backing the splits with new archival leather from J Hewit and Sons, and adhesive made from a mixture of Lascaux acrylic dispersions. The mixture contained 498HV and 360HV in a 3:1 ratio. 498HV is a harder tougher resin, and the 360HV is a softer one added to increase the flexibility. The options for the consolidation of flaking paint, and lifting leather, with Lascaux acrylics, Beva Gel, or Paraloid B67, and their suitability in different areas will be addressed, as will gap filling with solid, pigmented Beva.

Moulded leather lunch basket: This belonged to James Watt, the inventor of the steam engine. The possibility of restitching split seams, and the rejoining of seams with Beva Film and Reemay will be discussed. The repair of splits with vegetable-tanned leather moulded to the shape of the interior, and attached with solvent reactivated adhesive will also be illustrated. Two methods of gap filling will be shown: solid, pigmented Beva Gel applied with a heated spatula and used for small gaps, and moulded vegetable tanned leather used for larger areas. Some of the leather was insufficiently sound for adhesives to bond, and it was consolidated with Pliantex, a flexible acrylic resin.

Seal skin chest: The paper will look at the cleaning of the surface with very slightly damp microfibre cloths, the repair of splits and holes with new rawhide and Beva Film, and the toning of the new rawhide with water colours to match the original.

Vintage Wine into a Renovated Wineskin: Adaptive Re-Use of a Heritage Structure to House The Sam Waller Museum, (or Murphy's Law Run Amok)

Paul C. Thistle, Logan Museum of Anthropology, Beloit, WI

As the first professionally trained curator hired by the Town of The Pas, Manitoba, to take charge of its municipally owned and operated museum, I was given the responsibility of moving the former encyclopedic and eclectic private museum collection into a new facility that was to be created in a provincially designated historic site. Although, when hired, I was advised that the move was targeted to take place within the next seven months, the complexity of the project that was entirely unanticipated by my employers, the implications of the professional museological goals I attempted to pursue, and the problem-ridden nature of the implementation, extended the completion of the project for the next eight and one-half years.

This illustrated presentation begins with a very brief outline of the origin and history of the Sam Waller Little Northern Museum that was founded as a private collection by a true Victorian-era natural history enthusiast, and an overview of the state of the facility prior to the beginning of the project. The presentation then focusses on the necessary preparatory professionalization of the Museum's operation, results of the extensive background research in museum facility design and adaptive re-use, preparation of a functional plan for the new facility, design work with architectural, mechanical, electrical, and structural consultants, the restoration and renovation of the historic site, the eventual mix of preservation of the facade and interior historic elements with new construction, and the highly problematic supervision of the contractors' work. Details of the “room-within-a-room” approach to climate control recommended by the architect in order to deal with humidification of interior spaces in a northern climatic region, and the inescapable compromises involved in adaptive re-use of heritage buildings for museum purposes are addressed.

The Winnipeg Art Gallery: Vault Renovation Project

Jasmina Vlaovic, The Winnipeg Art Gallery, Winnipeg, MB
Siegfried Rempel, Canadian Conservation Institute, Ottawa, ON

The Winnipeg Art Gallery, as one of Canada's largest, oldest, and most important galleries, has professional operational levels it must maintain. However, the fact that this building is now over 30 years old and has not been upgraded nor fully maintained created a challenge for the WAG. In order to meet the requirements for various funding programs and to continue to have access to travelling exhibits, the Board of Governors and the Director, Patricia Bovey, undertook a massive upgrade of the entire building to bring it into the 21st century. The upgrades included replacing the chillers, upgrading the HVAC system, and adding DDC systems, as well as the renovation of the vaults, improvements in fire detection and suppression as well as other smaller scale projects. Siegfried Rempel and other staff from the CCI have been involved in this multi-year project providing advisory services and ongoing consultation.

The focus of this presentation is on the Vault Renovation Project. It includes the collections' move out of the existing storage vaults, rehousing of the collections to upgrade their preservation profile, the construction phase including the removal of the existing storage equipment, the removal and relocation of walls, installation of a water mist fire suppression system, security upgrades, installation of new storage shelving and the move of the rehoused collections back into the renovated vaults.

As part of the planning process for the Vault Renovation Project, the Museum Services staff proceeded with a Vault Pilot Project in the winter of 2002. Using a relatively small collection of 724 silver objects, a team of conservators and collections management staff inventoried and rehoused this entire collection into custom made Coroplast boxes with Pacific silver cloth bags. Using the collection database, this information was applied to various components of the Gallery's entire collection of 23,000 artworks, addressing their specific needs throughout. This projection was used as part of a grant application for the Cultural Spaces Canada Program.

In March of 2003, the WAG received a Cultural Spaces Canada grant, but not the amount requested, which was insufficient for the project as planned. Modifications to the plan were made, including redesigning some of the spaces, scaling down rehousing of the collections to approximately 17,000 artworks and temporarily storing the collections within the Gallery, rather than moving them to a secure off-site facility. In addition, the deadline for the completion of the project was extended to March 31, 2005.

This paper will describe the various phases of the project and discuss the challenges faced given that the same core staff had to work on the project while continuing to prepare exhibitions in-house and for tour, under tight deadlines. Creative solutions had to be found and staff of the Museum Services Department had to remain motivated to carry on and get the project finished on time. Today we are proud to see the new, state of the art vaults, and collections stored safely and in an operational and conservation-approved manner.

Hot Moths on the Move: The Treatment and Transfer of a Costume Collection

Sharon Wilson, Tyne & Wear Museums, Newcastle, UK

Tyne & Wear Museums consists of eleven museums on Tyneside and Wearside attracting over one million visitors per annum; its collections are of designated status and over the last ten years we have received over £35 million of capital investment. We are the most cost effective large local authority museum service in the UK.

The collection of costumes and textiles includes 10,000 stored items ranging from 4th-century AD Coptic textiles to present-day fashion. In 1975 the collections were brought together under one roof and one curatorial post in a store at the Laing Art Gallery in Newcastle. Twenty years later the Keeper of the collection was relocated to another site leaving the collection effectively "unstaffed" for the next ten years.

The store in general was unsuitable for collection storage. Its situation at the top of a Victorian building with a glass roof subjected it to fluctuations in temperature and humidity, and the removal of a curatorial presence impacted seriously on the housekeeping regime and day-to-day monitoring. Dust levels in the store rose and recurring moth outbreaks infested collection items. It was very apparent that the collection was at risk and that action must be taken.

Discovery Museum, the largest of the Tyne & Wear venues, applied successfully to the Heritage Lottery Fund for a £12.25 million grant to redevelop the building. This included the creation of a purpose-built costume and textile store and enabled the re-housing of the collection along with a pest eradication programme.

Due to the size of the collection, freezing was not an option as the time and resources involved were not available. Furthermore, such a large transfer would necessitate the hire of freezer trucks, and as both museums are city centre venues there was nowhere to site them.

We contacted Thermo Lignum, a London-based company responsible for the development of a revolutionary pest eradication system. The collection would be loaded into a mobile chamber and heated to 52°C whilst the RH was simultaneously altered, preventing physical changes within the objects. The cycle duration is 15 hours, and on reaching 52°C the temperature is held for one hour to kill insects and eggs. A team of volunteers was recruited and trained, and spent a year condition-checking and re-packing the collection prior to the move.

At the time of the move, the chamber was loaded at the Laing in the morning, plugged into a generator for the treatment cycle, then driven across the city and unloaded into the new store the following day. The whole collection was successfully ridded of moths and moved to the new store in eight chamber loads within a two-week period.

Curators and conservators now monitor the store, the housekeeping programme has been reinstated and the store conforms to best practice under the MLA's benchmarking scheme.

Servant to the 'Master': Reflections on Recent Collections Moves at the Museum of Fine Arts, Boston

Eric Wolin, Museum of Fine Arts, Boston, MA

The ratification in 2000 of a Master Plan by the Museum of Fine Arts, Boston, set into motion the largest collections move it has undertaken in its 125-year history. Phase One of this ambitious plan calls for the demolition of the East Wing of the existing museum building and the erection of a new structure designed by the London-based architecture firm of Foster and Partners. This necessitated the evacuation or dismantling of 42 galleries, 18 period rooms, and several key storage spaces. Over a two-and-a-half year period, a small team of museum staff and outside contractors relocated approximately 50,000 objects internally and transported roughly 35,000 more to a new off-site storage facility.

This paper will provide a general review of some of the methods utilized in implementing the collections move. How documentary control over the affected collections was gained; how the appropriate equipment and staff to move objects was requisitioned; and how the packing, transport to and ultimate storage of objects off-site was facilitated, will be examined. Additionally, this paper will reflect on some of the challenges experienced during the collections move, including: mitigating the need to repeatedly handle many objects; transporting objects safely through a pre-construction environment that was often inhospitable to such activity; and balancing the primary demands of being a Collections Care Specialist with those imposed by the Master Plan.

The collections move yielded many important results. More information about the collection is now known; less handling is now needed to transport objects; conservation treatments stabilized many objects prior to travel; and the conditions in which objects are now stored have vastly improved. The success of this endeavour can be measured not only by how the needs of the Master Plan were served, but by how, throughout the process, a very high standard for the care of collections was maintained.

On the Development, Care, and Maintenance of Reference and Subfossil Seed and Plant Macroremains Collections

Alwynne B. .Beaudoin, Provincial Museum of Alberta, Edmonton, AB

This poster describes the procedures used at The Provincial Museum of Alberta for long-term maintenance and care of collections of reference and subfossil seeds and plant macroremains. The reference collections are used primarily as comparative material to aid in identifications of subfossil material. The subfossil material, all Late Quaternary in age, is obtained from the processing of sediment from palaeoenvironmental and archaeological sites, mainly in Alberta. For the reference material, processing involves cleaning and preparing materials collected in the field. For the subfossil material, processing entails separation of plant remains from any adhering clastic or organic sediment, and concentration into size fractions. For both types of collections, the main objective is to ensure that materials do not deteriorate in long-term storage and that characteristics critical for identification are preserved. I recommend that chemical treatments in processing and chemical preservatives be avoided if possible so that the materials can be used for further analyses, including SEM imagery and, for the subfossil material, radiocarbon dating. The techniques that have been tested and developed for the preservation of these collections at The Provincial Museum of Alberta may be more widely applicable to similar collections held in institutions elsewhere.

Internship Programme

Centre de Conservation du Québec, Québec, QC

Since 1979, the mission of the Centre de conservation du Québec has been to preserve and increase accessibility to the cultural heritage of Quebeckers. Specializing in the conservation and restoration of cultural property, the Centre intervenes to protect works of art and objects, which permits them to be inscribed for all time in our collective memory.

One of the Centre's mandates is to contribute to the training of conservators, museum personnel and employees of related institutions that care for movable cultural heritage. One of the ways in which this mandate is expressed is through internship opportunities for trained conservators or students in training programmes. Different types of internships are available:

Conservation internship
This internship, usually of a three- or four-month duration, is for students enrolled in university level training programmes (or equivalent) offered by a recognized institution.

Professional development internship
This internship may vary between a few days and a few weeks. Its goal is to allow a professional to focus upon a specific aspect of conservation.

Pre-programme internship
In exceptional instances, a short internship may be offered in certain disciplines to allow an individual to assess his or her aptitude to undertake a career in conservation.

All interested candidates should apply in writing (in French) to the assistant director.
For more information about the internship programme please consult the CCQ web site at www.ccq.mcc.gouv.qc.ca.

Teaching and Training Mural Paintings Conservation

Sayeh Khajeheiyan, Cultural Heritage Department, Karaj, Iran

Iran, as an ancient country, has a need for individuals familiar with Iranian historic objects such as pottery, mural paintings, textiles, and so on. They should also be trained in the standards of preservation and the Code of Ethics of conservators. This poster is based on a project that was led by the author at two higher-education centres through four semesters, and that was successful in the preparation of the students for their further duties in conservation.

The training in conservation and restoration for the students requires different facilities, starting from the classroom and continuing to the internship programs. The teaching of the principles and rules of conservation theory comes first. In addition, the students learn about the nature of the materials we use in conservation and their effects on specific artifacts. This portion of the training is a combination of methods such as class lectures, assignments and tutorial sessions.

The second portion is making students familiar with traditional and modern techniques of conservation such as stabilization, cleaning, filling the lost areas, retouching, and so on. This part of the training is carried out in a restoration workshop. I will describe a case study of a 200-year-old mural painting from the Soleimanieh palace where students pass their internship. This large painting has a variety of natural and physical damages and many inappropriate treatments which known and anonymous restorers have done. This particularity makes the painting a special case for training and encourages many debates around restoration methods and principles. As well as this painting, I will review a range of student projects that belong to the so-called historical works of art.

At the end of the internship period, the master gives a general view of combining traditional and modern techniques in order to make restoration treatments acceptable to the public. Of course, this combination should be done without refuting the main principles of conservation.

Encompass: An Artist/Conservator Collaboration

Cyndie Lack, Private Conservator, Edmonton, AB

Artist Allen Ball created *Encompass* in 2004—nine circular murals commissioned for the new South Division Police Station in the Edmonton community of Millwoods. Reflecting the area's multicultural diversity, the murals also complement the architecture both visually and technically.

Distinguished by innovation, the station was built mainly from post-consumer recycled products and was the first Canadian police station constructed under "LEED," the Leadership in Energy and Environmental Design Program. The mural commission was supported by a municipal initiative: "Percent for Art to Provide and Encourage Art in Public Places." The mural images are derived from global culture and represent a wide range of art and craft including ceramic, glass, metal and fabric designs from international museum collections. The digitally manipulated designs were printed on canvas and painted over in oil.

Displayed on a curved wall in the main lobby, the circular mural format was chosen to echo the curved architectural design elements and the shape of the earth both symbolically and metaphorically. The shape and size (six feet in diameter) of the paintings created specialized support and framing demands. Conservator Cyndie Lack worked with the artist to realize his artistic vision while maintaining conservation requirements. The circular wood strainers were built at a local custom framing shop and modified to provide continuous support surfaces for the canvases. To ensure a high level of quality and professionalism to the installation phase and beyond, the artist contracted other specialists and wrote a future maintenance schedule with the conservator. High-tensile steel strapping, such as that used in industrial packaging, served as picture frames providing robust protection while referencing the building's design and reuse of industrial materials.

A Country Setting: Book Conservation at West Dean College

Christine McNair, West Dean College, UK

West Dean College is a small graduate-level school in rural West Sussex (UK) offering programs in the conservation of books, ceramics, clocks, furniture and metals. A diverse group of fifty-five students arrive each year from North America, the United Kingdom, Eastern Europe, Asia and Oceania. Validated by the University of Sussex, their programs have a strong emphasis on practical bench work with workshops available to students 15 hours per day.

As one of two Canadians at the school, I began my studies in the conservation of books and library materials in September 2003. The program at West Dean is divided into two years (graduate and postgraduate) with an optional summer MA program. Along with term projects in conservation science, ethics and history, students are expected to produce a range of practical work including binding models and conserved archive and library materials. Students in the book conservation department work on material dating from the 15 th to 21 st centuries. Although some of the original material is sourced by students, the bulk comes from private clients arranged through the college.

One of the most important of these is the Chichester Cathedral Library which is only six miles from the school. With a collection ranging from the 13 th to 20 th centuries, the library is a valuable teaching tool and source of interesting practical projects.

This poster offers a brief introduction to West Dean College, the Chichester Cathedral Library and a conservation case study of a 1585 limp vellum binding from the cathedral. This book is a good example of one type of conservation work being done.

While the sewing and textblock were sound, the only supports holding the book in its cover were the endbands: the bottom endband's core had split, its sewing had broken and the ends of the core were missing. As a result, the tail of the book was being damaged with running tears in the vellum cover, particularly around the lacing-in holes, and the endband was in danger of falling away from the textblock. In order to maintain the structural and aesthetic integrity of the volume, the original endband was reinforced and a new piece of alum-tawed leather was sewn underneath to lace back into the cover. The tears were repaired using gelatine and a new piece of vellum, which was threaded into the turn-ins.

New Storage for the Costume and Textile Collection at the Glenbow Museum

Camille Owens and Gail Niinimaa, Glenbow Museum, Calgary, AB

In the spring of 2003 the Infrastructure Canada-Alberta Project (ICAP) notified the Glenbow Museum that a grant application for the renovation of storage facilities in the Cultural History collections had been successful. The Cultural History collections were in dire need of improved storage. The objects were crowded in existing wooden cupboards with no room for growth. The Museum quickly began work to focus the project specifically on two distinct areas of the collection which eventually became known as Phase 1 and Phase 2. The first Phase, which is now complete, consists of approximately 700 rolled textiles, 12,000 pieces of clothing and accessories, and 5,000 societal artifacts. A swing space was created in the storage area to temporarily hold these collections. The collections were moved out of the storage area into the swing space, surrounding collections were protected, and contractors were retained to build the new compacting storage facilities. The collections were then returned to the new storage complete with new mounts and supports. Many of the mounting solutions made use of Ethafoam scrap which was created when the Ethafoam was cut to size for the storage drawers. Recycled materials, including nylon stockings were also used which kept the costs to a minimum. Volunteers with excellent sewing skills aided in the construction of mounts, dust covers and supports for the shoes and hats. The final inventory was completed with the assistance of barcode technology. The project was not without its challenges but the solutions along the way have contributed to the team's knowledge as they move on to Phase 2. All phases of the project including the needs assessment, the bid process, through to its current state and the innovative mount-making solutions will be illustrated in the poster session.

The Education and Training of Conservators in Greece: Experiences and Perspectives under the framework of the "European Higher Education area"

Georgios Panagiaris and Vasilike Argyropoulos, TEI of Athens, Greece

During the 1960s, the conservation of antiquities and works of art in Greece first appeared as an autonomous scientific/technical field due to its combination of knowledge and skills. In 1981, the Ministry of Culture recognized the Conservation-Restoration (C-R) profession. Many working in the field of conservation, who were temporary employees in the Ministry of Culture, became permanent. They were titled "conservators" and had received their training in different ways: on-the-job, through seminars given by the Ministry of Culture, by schools after post-secondary education (e.g., Doxiades School) or from the School of Fine Arts specializing in conservation, and those from recognized conservation schools from foreign universities.

In 1985, the first public School of Conservation was founded in Greece at the tertiary educational level, after the suggestion of professionals in the conservation field. This is the Department of Conservation of Antiquities & Works of Art of the Technological Educational Institution (TEI) of Athens. The undergraduate program in conservation is 4 years, with courses offered over seven (6-month) terms, with the final term as an internship. The first term includes introductory and theoretical courses as well as drawing and sketching. Laboratory courses start in the second term and the theoretical courses become specialized. In the third term courses are divided into two directions, with students selecting the area of specialization: conservation of archaeological and historical objects or conservation of paintings and archival materials.

Furthermore, in the 1990s, private and public schools of secondary or post-secondary level education were founded to train conservation technicians.

The conservators of the Ministry of Culture and the first graduates from the Department of Conservation of Antiquities & Works of Art (TEI-Athens) collaborated with the Directorate of Conservation (Ministry of Culture) for the legal recognition of the C-R profession in Greece. In 1997, the Greek state passed a law recognizing the professional practice of C-R. During the same period the "Clarification of C-R education at University level or recognized equivalent (The Document of Pavia, the Document of Vienna)", became recognized in Europe.

In 1999, the European Ministers of Education issued a joint declaration for "the European Higher Education Area" (The Bologna declaration). From this ENCoRE (European Network for Conservation-Restoration Education) and E.C.C.O. (European Confederation of Conservators-Restorers Organisation) unanimously agreed on an academic and institutional framework to rule the profession of the C-R. In their joint statement on the education of C-R of Cultural Heritage, the main categories of degrees are the following: a bachelor's level of conservation needed as entry into study at a master's level and/or work in conservation under supervision of a C-R; and a master's level of conservation qualified to register for a PhD or to work as a C-R. These statements were submitted to the European Committee in order to be the official statements of the European Union.

A to B, A to Z on a Limited Budget

Paul C. Thistle, Logan Museum of Anthropology, Beloit, WI

As Curator of The Sam Waller Museum, a municipally operated institution in The Pas, Manitoba, I was responsible for planning and carrying out the move of an encyclopedic collection including historic and archaeological artifacts, natural history specimens of many kinds, and archival materials. Approximately 20,000 objects were moved from an existing overcrowded museum located in a typical bungalow-type house into a new, purpose-designed, climate-controlled facility with designated, secure storage space. This poster is based on a report prepared and distributed as part of the services provided by The Sam Waller Museum under Manitoba Culture, Heritage and Citizenship's former Regional Museum Program. The poster very briefly outlines the character of the collection and its original state. It then focusses on the processes of cleaning, packing, preparation and equipping of the new facility, moving, and unpacking with the use of grant workers, volunteers, and a staff of two full-time employees. The move was successfully accomplished with a minimal budget and other rather limited resources. Packing containers consisted of scrounged acidic cardboard boxes, unprinted newsprint, and bubble pack. The process of recording objects on individual box lists and packing by wrapping in acid free materials where required and encapsulating in bubble pack cushioning prior to placement in the acidic containers is shown. Each box was given a unique number and coded with the destination location. Along with box inventories, this permitted access to the collection on an item-level basis during the time between packing and final installation in the new storage equipment, when location data were updated. Only five of the 20,000 objects moved were damaged during the course of the transfer.

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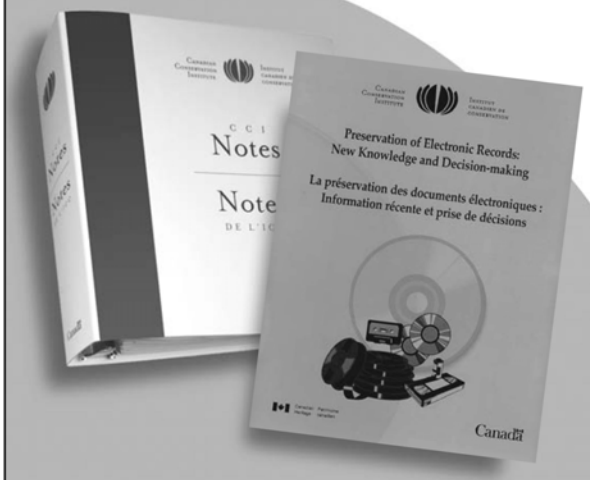

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