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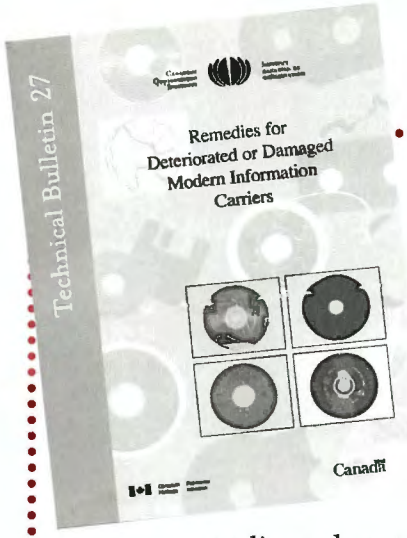

Remedies for Deteriorated or Damaged Modern Information Carriers

by Joe Iraci

Modern information carriers encompass optical discs (CDs and DVDs) and magnetic media such as tapes (audio, video, computer) and disks. These carriers differ from traditional materials in that the information they contain cannot be viewed directly, it can only be accessed by playing the carriers on a machine. And for the carriers to play properly, they must be in relatively good condition. This Technical Bulletin discusses the myriad types of damage that can occur to modern information carriers due to age deterioration, poor storage conditions, or poor handling practices, and presents various remedies to restore these carriers to a playable condition.

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Cover: Renée Dancause (left) and Janet Wagner wet clean Canada's first maple leaf flag.

Contents

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Canada's First Maple Leaf Flag Unveiled

by Janet Wagner, Conservator, Textiles, CCI

With a little help from CCI, Canada's first maple leaf flag has returned to Parliament Hill. On February 15, 2006, exactly 41 years after it was raised, newly elected Prime Minister Stephen Harper unveiled the flag at a special ceremony in honour of Flag Day. In preparation for its official return, CCI thoroughly documented and analysed the flag, and gave it some minimal treatment. We are honoured to have played a role in restoring this Canadian icon.

Prime Minister Stephen Harper unveiled the flag at a special ceremony in honour of Flag Day: (left to right) The Honourable Peter Milliken, Speaker of the House of Commons of Canada; Madame Hoffman Lamoureux; The Honourable Nöel Kinsella, Speaker of the Senate of Canada; The Honourable Beverley Oda, Minister of Canadian Heritage and Status of Women; The Right Honourable Stephen Harper, Prime Minister of Canada.

Canada's distinctive maple leaf flag was first flown from the Peace Tower on February 15, 1965. That first flag has been in the possession of Lucien Lamoureux, Deputy Speaker of the House of Commons at that time, and his family for more than 40 years. His widow, Madame Hoffman Lamoureux, returned it to Canada at the end of June 2005. It is now part of the permanent collection of the House of Commons.

The flag consists of a stylized 11-point maple leaf printed on nylon. It measures approximately 2.25 m (7.5 feet) high by 4.50 m (15 feet) wide, and is made of four panels of fabric and a sleeve with a running eye and toggle. The red-orange colour (its original colour) is a stark contrast to the red-blue colour of today's flag.

The flag photographed flat, after treatment.

CCI staff viewed the flag on the morning of July 1, 2005, at the request of David Monaghan, Curator of the House of Commons. Overall it appeared to be in good condition, although it was somewhat distorted along the seams. As a result of the distortions, the measurements of the flag varied and it did not lie completely flat. The flag was also soiled overall, with visible signs of dirt along the seams — particularly the outer seams.

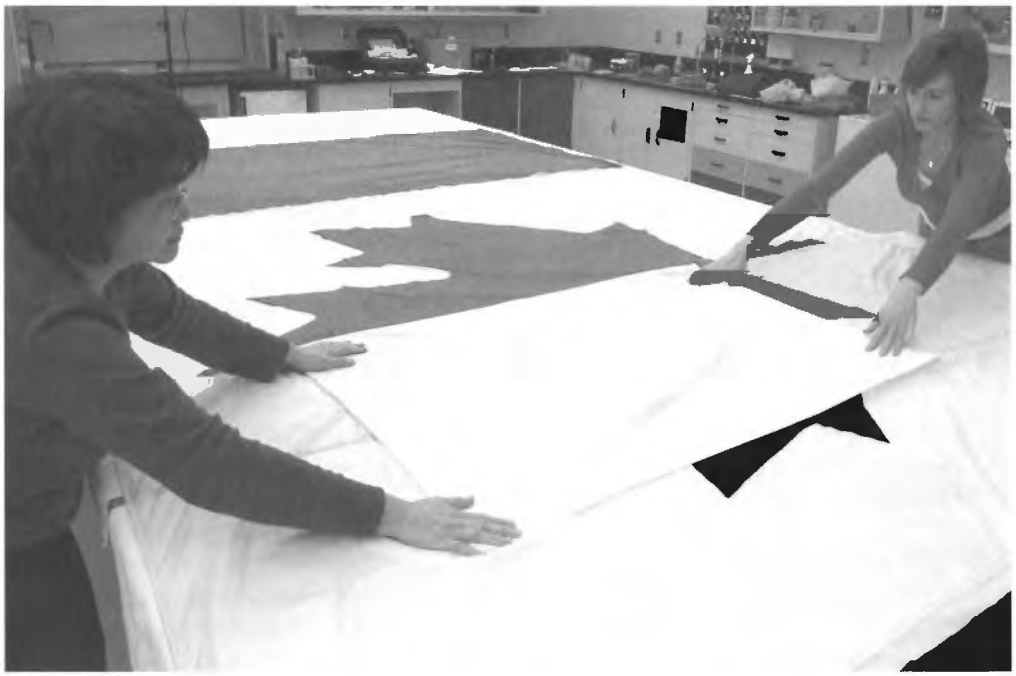
We began treatment of the flag with a thorough documentation including overall shots in black-and-white, and overall and detail shots in colour photographs and digital images.

Numerous tests were subsequently carried out. Fourier Transform Infrared (FTIR) spectroscopy was used to identify the flag material. Results showed that the flag and sewing thread were Nylon 6,6. In situ surface pH tests were taken prior to wet cleaning. Colour measurements were carried out before and after wet cleaning. The after-treatment colour measurements will serve as a standard from which future colour measurements can be compared.

Treatment of the flag was minimal. First we mechanically surface cleaned it, front and back, using a low level of suction and a protective screen. The next step was wet cleaning, a decision we made in consultation with David Monaghan. Prior to carrying out the procedure, washfastness tests were undertaken to ensure that the dye and markings were not fugitive.

Due to ongoing renovations, we could not conduct the wet cleaning at CCI. However, Parks Canada generously allowed us to use

Jan Vuori, Janet Wagner, Renée Dancause, and Season Tse (left to right) wet clean the first maple leaf flag.



Season Tse (left) and Janet Wagner blot the flag following wet cleaning.

its Textile Lab and equipment. We washed the flag, supported on nylon screens, in a large (approximately 3.0 m x 2.0 m) stainless steel wash tank. Due to its size, the bottom edge and the fly side had to be folded over to accommodate it in the wash table. We pre-soaked the flag in filtered tap water followed by one detergent bath, in which it was lightly agitated with natural sponges. Three rinses followed the detergent bath. Conductivity and pH tests of the water were taken throughout the wet cleaning process. Analysis of the third rinse water revealed no detectable surfactant residue, indicating there was no need for another rinse. We laid the flag flat to air dry, and aligned the distorted sleeve end. The flag dried within an hour, and was rolled for transport back to CCI where it was stored flat to minimize creasing.

The Canadian Museum of Civilization (CMC) and ExpoGraphic[1] designed and constructed a display case for the flag. Among the numerous requirements, the display case had to be modular so that it could be dismantled for travel and easy accessibility into buildings, and it had to be constructed of conservation safe materials. CCI provided feedback on the display case design and materials used.

The flag is currently on loan from the House of Commons to CMC for a five-year period during which time it will travel and be displayed at venues across Canada. CCI will help prepare exhibition guidelines to ensure that the display environment and handling procedures meet conservation standards. We will also undertake micro fading testing on the flag to determine the long-term stability of the dyes to light exposure.

Canada's maple leaf flag is known and respected around the world, and the original banner is an integral part of our history. CCI is proud of our contribution to its long-term preservation.

1. ExpoGraphic, 65 Adrien-Robert Street, Gatineau QC J8Y 3C3.

From the Desk of the Director General...

by Jeanne Inch, Director General and Chief Operating Officer, CCI

Something quite remarkable is happening behind the scenes in the planning for our next symposium, ***Preserving Aboriginal Heritage: Technical and Traditional Approaches***, which will be held in Ottawa in September 2007.

Our previous international symposia have been strictly technical, with the papers scientific in nature. With this symposium, there will not only be scientific and technical papers, but also presentations aimed at bridging the gap between conservation as a science and the beliefs of Aboriginal people towards their material cultural heritage.

We realized early on that successfully creating this balance would require engaging First Nations, Metis, and Inuit people in the planning process. Only with their collaboration could we ensure that the symposium reflects the interests and perspectives of Aboriginal communities in Canada, and offers a true presentation of the issues associated with preserving Aboriginal material cultural heritage.

We struggled for a while on how best to do this. A typical advisory committee, with a mix of Aboriginal people and conservation professionals, just didn't seem to be the answer. The solution came in April 2005, when Tom Stone (Symposium Coordinator) and I were introduced to the "circle" process at a meeting of the advisory group for the National Gatherings on Indigenous Knowledge in Yellowknife, Northwest Territories. What we saw was a respectful and empowering process that gave "voice" to the Aboriginal people around the circle. Many Aboriginal groups use this type of discussion forum, with variations that reflect their communities and traditions.

We decided that our Advisory Committee should comprise only

First Nations, Inuit, and Metis people. Individuals were selected on the basis of their experience and knowledge as a member of their respective community, and for their involvement with the care and interpretation of Aboriginal heritage. They were chosen from all corners of Canada and, just like the communities they represent, they are diverse — in their backgrounds, their community involvement, and their professions.

Our next step was to select a facilitator for the meetings. We decided to approach Valerie Kaufman, whom we had observed respectfully and effectively facilitating the discussion around the circle in Yellowknife. A Metis from the Northwest Territories, Val works for the Department of Canadian Heritage in Edmonton as Manager of Aboriginal Programs for the Alberta District. Much to our relief and delight, she agreed to facilitate our circle discussions.

Throughout the process of establishing the Advisory Committee, we continued to discuss symposium planning with the Kitigan Zibi Algonquin group near Maniwaki, Quebec — for it is on their traditional territory that CCI is located, the Advisory Committee meetings are held, and the symposium will take place.

The participation of Elder Peter Decontie from the Kitigan Zibi Anishinabeg community near Maniwaki is integral to the respectful nature of our circle discussions. Elder Deconti begins our meetings with a prayer followed by a traditional smudging ceremony — a form of purification that helps those present to focus on the job at hand.

As in the traditional Aboriginal circle process, Val Kaufman (or one of us) introduces a subject and questions for discussion, and then each member of the committee shares their perspectives and views in turn. No one speaks out of order, and we, CCI folks, are silent. At the end of each "circle," it is my responsibility to summarize what we have heard on that particular issue.

I have been deeply impressed by how efficient the circle discussion is in dealing with business issues while affording everyone an opportunity to speak and present their thoughts in a non-threatening and respectful environment. At the end of the first two-day meeting, several CCI organizing and program committee members commented that the discussions had "been so open." One individual believed the circle process had contributed to "a peaceful meeting and an understanding of one another."

We have listened, and we have incorporated, as much as our resources and mandate allow, the perspectives of our Advisory Committee. Although much remains to be done before September 2007, we have made a good start in developing the program and planning for the logistics. But most importantly, we believe we have earned the trust of our Advisory Committee, a trust we intend to nurture and to expand, I hope, to all those who attend the symposium.

Preservation of Aboriginal Material Culture

by Thomas Stone, Senior Conservator, Objects, CCI

Effective conservation of Aboriginal artifacts requires much more than expertise and knowledge of their materials and construction techniques. Treatment must also be approached from a holistic point of view, with respect for the individual customs, beliefs, and traditions that determine the appropriate care and handling of the objects. Preservation efforts are therefore most effective when Aboriginal people and conservation professionals work together.

The Canadian Conservation Institute (CCI) has always recognized the importance of preserving Aboriginal material culture, and has a long history of working with Aboriginal artifacts — from totem poles to ivory carvings, from quill work to rock art. Some of the greatest technical challenges have centred around the softening, reshaping, and repair of water-damaged buckskin clothing, the removal of rancid seal oil from 1000-year-old Inuit skin artifacts, and the preservation of actively deteriorating glass beads.

This smoke-tanned jacket has been damaged by water.

Over the last 15 years, our treatments have increasingly considered the intangible aspects of artifacts (see David Grattan's article *Intangible Heritage and Conservation — Balancing Usage and Preservation* on p. 9). The treatment of a rare Mi'kmaq prayer book from Conne River, Newfoundland, in the late 1990s is a good example of the development of a treatment protocol that respects the cultural significance of the object (Hanington 2000; Howley and Penney 2000).

Insects have eaten the wool vamp of this moccasin.

The prayer book, which contains hymns, prayers, and other religious texts, was written in a hieroglyphic script unique to the Mi'kmaq. On arrival at CCI, it was in an extremely vulnerable and deteriorated state, with a number of pages torn or detached. CCI conservator David Hanington (now retired) was uncertain about the correct position of some of the detached pages. Helen Silliboy, a Mi'kmaq educator who worked in Language Development with the Eskasoni School Board in Cape Breton, Nova Scotia, was therefore called in to assist. Her reverence for the prayer book influenced David to re-think his entire treatment approach. As a result of her insightful comments (including a suggestion that such a spiritual object should remain untreated), a variety of treatment options were developed. A meeting was subsequently arranged with the Conne River Mi'kmaq Band in the community of Miawpukek in Newfoundland. After a lengthy discussion, Band Council members decided that the prayer book should be fully restored using the best of CCI's technical expertise. Following treatment, the book was returned to the Miawpukek First Nation at Conne River and placed on display in the Band Council offices.

In addition to carrying out treatments, CCI helps communities develop cultural facilities to house Aboriginal artifacts and offers training in their care.

We have assisted First Nations, Metis, and Inuit groups in the planning of projects to preserve and interpret their cultural heritage. Senior Planning Advisor Brian Laurie-Beaumont has spent 30 years working with individual communities seeking to create cultural heritage institutions. His first step is always to understand the nature of the programs desired, what population the project seeks to serve, and the capital and operational resources available. With this information, he helps the community assess the pros and cons of the suitable development options. The goal is to find an option that not only preserves the cultural objects but also, equally important, the cultural traditions related to them — and one that is financially viable. When the community selects an option, he assists in defining the concept and

Mi'kmaq educator Helen Silliboy (left) assisted conservator David Hanington in determining the correct position of some detached pages of a rare Mi'kmaq prayer book.

creating terms of reference to guide the detailed project planning.

The delivery of this advisory service led to the realization of a need for training. A workshop, *Aboriginal Facilities Development*, was subsequently created to help communities understand the facility development process. Using examples drawn from Aboriginal institutions, the workshop covers the basics of market analysis and interpretive program approaches; the role of collections and the balancing of material conservation with cultural preservation; the projection of capital and operating costs as well as revenue; building design issues; the range of cultural heritage project options; the use of consultants; and the development of project planning terms of reference. Issues such as the role of Elders in development planning, and programming approaches relevant to cultural learning for Aboriginal audiences (e.g. language preservation), are key components.

Another workshop that was developed specifically to meet the needs of Aboriginal communities is *Artifacts in Aboriginal Cultural Centres*. This two-day workshop introduces participants to issues surrounding the deterioration of artifacts: why they deteriorate; how to recognize active and passive deterioration; and how to minimize deterioration in the cultural centre environment. This course is taught in an interactive, hands-on way with specific reference to the kinds of materials often found in Aboriginal artifacts. It can also be customized to meet specific needs, as was the case when the Kitikmeot Heritage Society in Cambridge Bay was concerned about the care of archaeological materials. In this case the workshop was blended with our *Archaeological Collections Management* workshop, and covered the same issues mentioned above but with a greater emphasis on archaeological materials and the particular problems they present.

In addition to workshops, CCI presents symposia every few years. One of the past conferences, *Symposium 86: The Care and Preservation of Ethnological Materials*, focussed on the care and treatment of the diverse materials typically found in Aboriginal artifacts. Our next symposium, ***Preserving Aboriginal Heritage: Technical and Traditional Approaches***, will take place in Ottawa on September 24–28, 2007. It will deal with traditional, technical, ethical, and intangible aspects of the conservation of Aboriginal material culture. To help ensure that Symposium 2007 will reflect the interests and perspectives of the Aboriginal communities in Canada, CCI is working with an Advisory Committee comprising members of First Nations, Inuit, and Metis communities across Canada. These members are providing advice and information on the symposium objectives, themes, program content, and formats. They were selected on the basis of their experience and knowledge as a member of their respective communities and for their involvement with the care and interpretation of Aboriginal artifacts.

Symposium 2007 will provide a unique opportunity for Aboriginal people and conservation specialists to learn from one another in an atmosphere of mutual respect. Following the conference, CCI will examine its current research, services, and training for preserving Aboriginal artifacts, and adjust as necessary to meet the needs of Aboriginal communities in Canada.

Hanington, D.A. "To Treat or Not to Treat — That is the Question." *CCI Newsletter* No. 25 (May 2000), pp. 1–3.

Howley, M., and G. Penney. "19th-Century Mi'kmaq Prayer Book Returns to Conne River, Newfoundland." *CCI Newsletter* No. 26 (November 2000), p. 5.

Janet Mason (left) and Tom Stone discuss water damage to a buckskin shirt at an Artifacts in Aboriginal Cultural Centres *workshop.*

Preserving Aboriginal Heritage: Technical and Traditional Approaches

Préserver le patrimoine autochtone : approches techniques et traditionnelles

Symposium 2007

September 24 to 28 • Du 24 au 28 septembre

Announcement

An opportunity for Aboriginal people and conservation specialists to learn from one another — in an atmosphere of mutual respect — about traditional, technical, ethical, and intangible aspects of the conservation of Aboriginal material culture.

September 24–28, 2007, Library and Archives Canada, Ottawa, Canada

Themes

Symposium 2007 will focus on four main themes:

- mutual learning, respect, and ethics
- working together
- technical and traditional approaches
- long-term impact

Program

Highlights of the diverse program will include:

- ceremonies respectful of Aboriginal traditions
- oral presentations
- panel and small group discussions
- tours of museums and conservation laboratories including demonstrations
- a poster presentation session and a trade show
- workshops
- a day trip to an Aboriginal cultural centre

The main sessions will be presented in English or French with simultaneous translation.

Participants

Symposium 2007 will incorporate and welcome multiple perspectives, including international viewpoints. Potential participants include:

- Aboriginal people involved in heritage
- staff and volunteers in Aboriginal community cultural centres
- Elders and Aboriginal community leaders
- community-based and institutional researchers
- academics and students
- museum and archival conservation specialists
- collection managers
- curators and museum directors

Registration will begin in March 2007

Organizers

The Canadian Conservation Institute (CCI), with the advice of an Advisory Committee comprising members of First Nations, Inuit, and Metis communities across Canada.

An Agency of the Department of Canadian Heritage, CCI promotes the care and preservation of Canada's cultural heritage and advances conservation knowledge. CCI performs research, provides expert services, and disseminates knowledge through training and publications. Clients comprise museums, archives, art galleries, and other heritage institutions, including Aboriginal cultural centres.

For more information visit the CCI Web site (www.cci-icc.gc.ca/symposium/index_e.aspx) or contact:

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1030 Innes Road
Ottawa ON K1A 0M5 CANADA
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E-mail: symposium_2007@pch.gc.ca

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Canada

On-site Infrared Spectroscopic Analysis

by R. Scott Williams, Senior Conservation Scientist, CCI

CCI provides chemical analysis for Canadian cultural and heritage institutions to support conservation treatments, documentation and authentication, and historical research. Until 1996 infrared (IR) spectroscopic analyses were always done in our laboratories in Ottawa — which required either that objects be sent to Ottawa, or that samples be taken from objects in their home locations and sent to the lab. Our mobile, on-site IR spectroscopic analysis service can eliminate the dangers of transporting objects, and allow many objects from a collection to be analysed rather than just a few.

Innovative IR spectroscopic techniques, including diamond cell sampling devices, IR microspectroscopy, and IR thermal microscopy, have been mainstays of analysis at CCI since its earliest days of operation. Recently purchased state-of-the-art spectrometers and IR microscopes allow us to continue providing this service. But these techniques are tied to large equipment in the laboratory, and require that objects or samples be sent to Ottawa. Therefore, now we also offer a mobile IR spectroscopic analytical service. In addition to on-site chemical analysis, this service provides an opportunity for several days of direct contact and discussion between CCI and museum personnel.

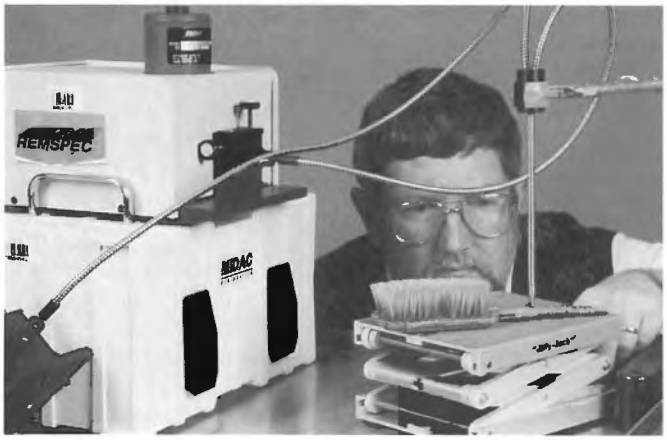


Figure 1. Scott Williams uses the FOP spectrometer to analyse the materials in this brush.

It must be noted that analysis using portable mobile spectrometers is not as complete as that performed in an analytical laboratory. However, for many basic questions about chemical composition, the mobile equipment is fully satisfactory. If more detailed analysis is necessary, then samples or objects can be sent to the lab. And the information provided by mobile spectrometers enables much better informed choices of objects, sample locations, and types to be made.

CCI currently uses two portable IR spectrometers with different modes of analysis.

Fibre optic probe spectrometer
Our first portable spectrometer, acquired in 1995, uses a fibre optic probe (FOP) attached to the spectrometer to acquire fibre optic reflection spectra (Figure 1). This technique is completely non-contact and non-destructive. It allows objects to be analysed without moving them from their place of display or storage, and without taking samples (Figure 2). The FOP is placed about 2–4 mm from the surface of the object in a perpendicular attitude. IR radiation from the source travels down the probe to the object, is reflected from the object back up into the probe, and directed to the detector. Because the object absorbs some radiation from the incident beam, interpreting the recorded spectrum of the reflected radiation allows the chemical composition of the object to be determined.

Figure 2. The FOP spectrometer can be brought directly to fragile objects such as these feather fans. This allows fragile objects to be analysed without ever having to be handled, touched, or sampled.

The FOP is about 80 cm long, so any spot on the surface of an object within that distance from the spectrometer can be analysed. The components of the spectrometer are small enough that they can be mounted on stands, lifts, or gantries, which allows the spectrometer and FOP to be easily positioned for analysis (Figure 3). The spectrometer can also be placed on an XYZ

Figure 3. By observing the IR spectra after each stage of treatment, Scott is able to monitor the effects of cleaning solutions on the marble of this statue of Queen Victoria.

translating carriage for mapping the composition of objects.

This spectrometer can be used to analyse any type of object with any composition (organic or inorganic), except metals. It is, however, constrained by the nature of the surface. Objects that are relatively flat with smooth surfaces have mirror-like reflection, which produces the best spectra and the most accurate results. Objects that have been successfully analysed include all sorts of natural and synthetic ethnographic beads, jewellery, costume accessories, toiletry articles, scientific and medical apparatus, and adhesives. These objects have been variously composed of natural materials such as bone, horn, and shell; inorganic materials such as minerals and glass; and organic materials such as plastics and resins. Under optimum conditions the technique is particularly well suited to analysis of composite objects made from many different materials.

TravelIR spectrometer

The TravelIR, acquired in 2001, is even smaller and more portable than the FOP spectrometer. It is based on the Attenuated Total Reflection (ATR) technique and, unlike the FOP spectrometer, requires direct contact with the object or sample being analysed (Figure 4). Spectra from the TravelIR are of much better quality than those from the FOP spectrometer, and therefore much easier to interpret. For this reason the TravelIR is used for analysis whenever possible.

All types of objects, except metals, can be analysed by the TravelIR spectrometer. The outer 5-cm zone of flat materials like paper, parchment, and textiles, and objects that are small enough to be placed against the ATR crystal, can be analysed directly. For larger three-dimensional objects, tiny samples (<100 μm in diameter) must be taken and placed on the ATR crystal. Figure 5 shows the image of a hair on the ATR crystal and the spectrum obtained, which can be clearly identified as the protein expected for hair.

The spectroscopy arsenal has recently expanded to include a near-IR spectrometer with a FOP that will operate in the spectral range between IR and visible radiation. This technique is currently in development and should soon be available for incorporation into CCI's suite of mobile on-site IR spectroscopic services.

In addition to portable IR spectroscopy, CCI also provides on-site analytical services for colorimetry and gloss measurement, which is particularly useful for colour matching and for monitoring fading due to environmental agents, as well as metals and inorganics analysis using portable X-ray fluorescence spectrometers. Since one limitation of IR spectroscopy (either technique) is that it cannot determine the identity of metals, the latter is a particularly useful complement to IR spectroscopy.

Figure 4. The TravelIR (Sensir Technologies) ATR IR spectrometer in operation. The sample or object to be analysed is placed on the crystal under the presser bar indicated by the pointing finger.

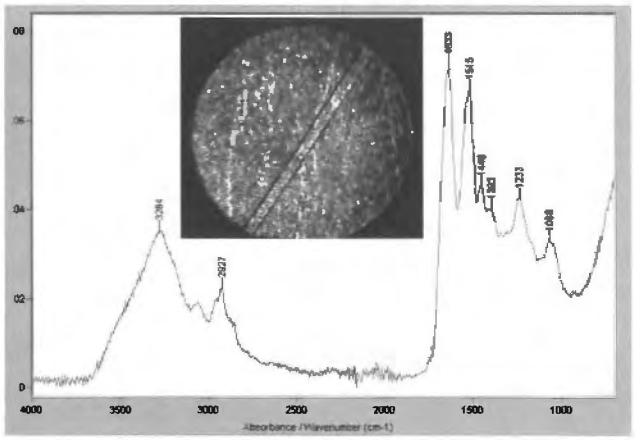


Figure 5. When a human hair was placed on the ATR crystal of the TravelIR spectrometer (inset, captured by the camera in the TravelIR) and analysed, the typical protein spectrum for hair was obtained.

Intangible Heritage and Conservation — Balancing Usage and Preservation

by David Grattan, Manager, Conservation Research, CCI

Culture is not only demonstrated through tangible artifacts but also through intangible forms such as language, music, theatre, attitudes, gestures, practices, customs and a whole range of other manifestations. Intangible heritage includes voices, values, traditions, languages, oral history, folk life, creativity, adaptability and indeed all that is distinctive of a people. This is perceived through cuisine, clothing, forms of shelter, traditional skills and technologies, religious ceremonies, manners, customs, performing arts, storytelling and so forth. As the world becomes more globalized, there is growing recognition that intangible heritage needs to be safeguarded.[1]

Many museums and archives are recognizing that it is impossible to separate their collections from living cultures. In fact, it is the intangible attributes of the artifacts that make them worthy of preservation. The importance of safeguarding these intangible qualities lies at the heart of the ongoing debate about use versus preservation.

Throughout the world there is concern and discussion about the importance of safeguarding intangible heritage. The International Council of Museums (ICOM) focused on the importance of intangible heritage at its 2004 General Conference in Seoul, South Korea. But how, exactly, can intangible heritage be safeguarded?

Lyndel V. Prott has developed a pragmatic approach that provides a useful place to start.[2] She points out that intangible heritage is exceedingly complex, and that each aspect requires a method of safeguarding suited to its individual needs. Prott begins by considering individual classes of intangible heritage such as language, oral history, traditional religion and belief, sacred images and themes, etc. She then determines the objective, the needs, and finally the means of safeguarding each. This approach is illustrated below for "language":

Language

Objective: to preserve threatened languages

Needs: to maintain a viable language community, a minimum number of mother-tongue speakers

Means: endangered-language programs; mother-tongue or bilingual education programs; recording of elderly speakers; living cultural treasures programs for epic and poetry reciters; prizes for oral cultural heritage

Intangible heritage and conservation

For many artifacts, function is equally or more significant than the material qualities of the object. Musical instruments or aircraft are good examples. Safeguarding the intangible qualities of these objects requires more than just preserving their material appearance. For instance, if the object is a musical instrument, it must be played to produce sound. Beyond that, people must have the skills to play it well, there must be music to play, and there must be an audience to enjoy the music, to sing to it, to dance to it, etc. For the intangible heritage to be truly safeguarded, all this must happen. But these needs must always be balanced against preservation issues that imply judicious usage of vulnerable objects. Herein lies the heart of the ongoing dialogue among conservators about use versus preservation.

If the material essence of an object is prized above all else, then usage that causes wear and could increase risk of loss or damage must be avoided. If, however, the intangible aspects are considered to be equally or more important than the material, then it is the ***ability to use the object*** — and not the actual object itself — that must be preserved. The conservation profession has always tried to balance use versus preservation, but has become increasingly aware of its role in facilitating the former.

Intangible heritage and museums/archives

Museums and archives are actively involved in safeguarding intangible heritage through collecting artifacts, managing their collections, and preserving documentation. Documentation of intangible heritage can encompass language or traditions, as well as the attributes, history, and creation of objects in the collection. It can also take many physical forms — a written account, a photographic record, or, increasingly, an audiotape, videotape, DVD, or CD-ROM. The use of electronic formats is creating additional challenges

for museums and archives, as these media have extremely poor preservation characteristics.

Intangible heritage and CCI

CCI is well aware of the importance of safeguarding intangible heritage, and increasingly takes this issue into account in treatments, research, and preventive conservation advice. Although it is the question of preservation versus use that has had the most impact, the prevalence of electronic media in the preservation of intangible heritage — they feature in nearly every one of Prott's draft strategies — has also had a direct effect. Because electronic media are well known to have poor preservation characteristics, CCI has been placing increased emphasis on finding ways to respond to the preservation issues. This research has been ongoing for a number of years, and already resulted in several publications (TB #25 *Disaster Recovery of Modern Information Carriers: Compact Discs, Magnetic Tapes, and Magnetic Disks;* TB #27 *Remedies for Deteriorated or Damaged Modern Information Carriers; Preservation of Electronic Records: New Knowledge and Decision-making*). We will gradually be expanding the focus of this research to include other aspects of media preservation. It is in this area that we expect to make our greatest contribution to the preservation of intangible heritage.

1. Quoted from the introductory notes to the ICOM 2004 General Conference "Museums and Intangible Heritage" in Seoul, South Korea, October 2–8, 2004.

2. Prott, L.V. "Some Consideration on the Protection of the Intangible Heritage: Claims and Remedies." *Safeguarding Traditional Cultures: A Global Assessment of the 1989 UNESCO Recommendation on the Safeguarding of Traditional Culture and Folklore*. Center for Folklife and Cultural Heritage, Smithsonian Institution, Washington, DC. www.folklife.si.edu/resources/Unesco/prott.htm

CCI Designs and Fabricates a Combination Easel/Table for Large Paintings

by Robert Arnold, Senior Conservator, Fine Arts, CCI

Conservation treatment is often extremely intricate and can require incredibly specialized equipment. Sometimes the needs are so precise that a suitable device is not commercially available. In such instances it becomes necessary to design and fabricate the required item from scratch. This was the case when CCI created a combination easel/table to lessen the need for frequent handling of a large fragile painting that was undergoing treatment. The benefits of this new apparatus will extend well beyond one treatment. In fact, the use of this design in future treatments, at CCI and elsewhere, may prevent accidental damage to numerous large paintings.

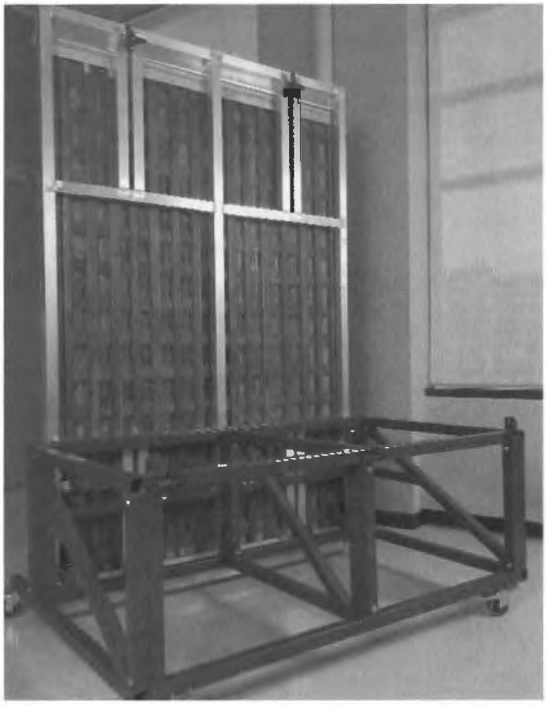
When treating paintings, conservators must frequently handle and manipulate them to gain access to both the front and back surfaces, or to change their position between horizontal and vertical. For normal-sized paintings this is not usually a problem. However, the size and weight of oversized paintings make handling hazardous, and the danger becomes even more acute if a painting is in fragile condition. It was the need to avoid this risk of damage during handling that led to the development of the combination easel/table.

Conservator Robert Arnold at work on a large painting mounted on the easel/table. The horizontal position provides easy access to carry out treatment.

Paul Heinrichs and I designed the apparatus, and Paul built it at CCI using materials purchased locally. It consists of two sections:

- The **base** is made from 2-in. (approx. 5-cm) diameter square steel tube, welded to form individual sections that are bolted together.
- The **carriage**, which actually holds the painting, is formed by welding pieces of 2-in. (approx. 5-cm) square aluminum tube. The two sections are attached along one of the top edges of the base with a long piano hinge.

The easel/table is currently being used in the treatment of a large 16th-century panel painting. This painting had suffered extensive damage during its lifetime, and undergone numerous restoration campaigns. Structural damage includes loss of sections of the original panel as well



The painting is supported on the easel/table in vertical orientation.

Supported on the carriage, the painting can easily be lowered from a vertical orientation to a horizontal position.

as numerous splits through the remaining original wood. At some point the panel had been thinned to about one-half its original thickness, and a heavy pine cradle secured to its reverse. Over the years the cradle had ceased to function as intended, and numerous new splits formed through the panel. These run vertically, following the grain of the wood. To make matters worse, much of the original wood is riddled with insect tunnels, rendering the panel weak and subject to further damage. The weight, size, and fragility of the painting make handling it difficult and hazardous.

The treatment of this painting has now spanned several years, and the painting has been secured to the carriage with aluminum supports along its top and bottom edges the entire time. The carriage can be locked in place in either the horizontal or vertical position with metal pins. Rubber bumpers absorb shock where the carriage contacts the base, and hydraulic pistons, one on each side, dampen the fall of the carriage as it is moved from vertical to horizontal. Locking casters on the bottom of the base allow for easy movement of the painting from one location to another.

The easel/table has proved extremely versatile and useful. By allowing us to move the painting between horizontal and vertical without touching it, we have been able to access all areas of the paint surface without putting the painting at risk. This has facilitated many treatment procedures. The apparatus was also useful when renovations at CCI made it necessary to move the painting to an alternate conservation facility (Parks Canada laboratories in Ottawa) to continue treatment. Supported on the easel/table in the horizontal position, the painting was easily rolled into a truck at CCI and off of the truck at its destination. We did not have to handle it at all.

Conservation is an ever changing and evolving science. The development of this combination easel/table is but one example of how the treatment needs of an artifact can lead to the design and fabrication of new equipment and improved procedures within the conservation profession.

As a result of a cooperative project between the Prince of Wales Northern Heritage Centre (PWNHC) and the Canadian Conservation Institute (CCI), conservators Rosalie Scott (PWNHC) and Tara Grant (CCI) have revised the *Conservation Manual for Northern Archaeologists*.

The updated manual provides basic conservation information for Northern archaeologists, stressing aspects of preventive conservation that will ensure the safety and preservation of excavated objects. Contents include excavation techniques; on-site holding and conservation treatment considerations; lists of packing materials; cost calculations; and selected references. The information will be particularly useful for archaeologists applying for an Archaeologist Class 2 Permit from the Government of the Northwest Territories, who must show that they will provide adequately for the conservation of the excavated artifacts and samples.

The manual is available free as a PDF file on the PWNHC Web site (pwnhc.learnnet.nt.ca/programs/conserve.htm).

Canadian Conservation Institute | Institut canadien de conservation

Adhesives for Paleontology Collections Workshop

October 16–17, 2006

In conjunction with the Society of Vertebrate Paleontology 2006 Annual Conference in Ottawa, the Canadian Conservation Institute is offering a two-day workshop on adhesives for paleontology collections.

Format
This 2-day workshop will combine scientific lectures on various adhesives of interest to the paleontology community with practical hands-on sessions. The workshop will be held at Parks Canada, 1800 Walkley Road.

Lecture topics

- an introduction to adhesives and bonding
- properties of a good adhesive for conservation with specific reference to paleontology collections
- CCI research on the degradation of cyanoacrylate adhesives in the presence and absence of fossil material; on poly(vinyl acetate) and acrylic adhesives; and on epoxy resin adhesives
- an overview of poly(vinyl butyral)s

Practical hands-on sessions:

- comparing various adhesives (i.e. cyanoacrylates, PVACs, acrylics, epoxy resins and PVBs) on fossil (and other) material
- measuring the pH of fossil material
- calculating the force on a bond
- examining various adhesive additives

Instructor
Jane Down, Senior Conservation Scientist, CCI's expert on adhesives

Registration
Enrollment is limited (minimum 30 and maximum 45 participants). Language of instruction will be English. CCI reserves the right to cancel this workshop 1 month prior to presentation in the event of insufficient registration, and make program changes and/or substitute instructors as deemed necessary.

Registration fee

(includes all workshop materials, manual, lunches, breaks, and transportation between the conference hotel and workshop venue):	CAN$300 for Canadian participants US$265 for all others

Deadline for registration is September 7, 2006.

Application procedure
Download the Registration Form and Pre-workshop Questionnaire from the CCI Web site (www.cci-icc.gc.ca/learning-opportunities/svp/index_e.aspx), and forward the completed forms to CCI by mail, fax, or e-mail:

Sales and Distribution Coordinator
Canadian Conservation Institute
1030 Innes Road
Ottawa ON K1A 0M5 Canada
Tel.: 613-998-3721 or 1-866-998-3721 – Fax: 613-998-4721
E-mail: cci-workshop.atelier-icc@pch.gc.ca

Framework to Focus CCI Research

by Charles Costain, Associate Director General and Director of Conservation and Scientific Services, CCI

Over the past year, the Canadian Conservation Institute (CCI) has been developing a framework to help us describe the research we carry out, and make better decisions regarding the projects we undertake. There are two primary axes to this framework — "research priorities" and "types of research."

Research Priorities

Museum collections comprise an infinite variety of objects and materials, many of which are influenced by their environment or are inherently unstable. Preservation of collections thus gives rise to such a vast number of questions that CCI cannot possibly conduct research on all of them. Instead, we must select certain areas on which to focus.

When determining our research priorities, our emphasis has always been, and will continue to be, problems facing Canadian institutions and Canadian collections. We take into account three major criteria:

- impact on the preservation of heritage collections in Canada
- impact on the accessibility and understanding of Canadian collections
- corporate considerations

The first criterion for research is that it has a positive *impact on the preservation of heritage collections in Canada*, i.e. research with a specifically Canadian emphasis. Studies on the deterioration of heritage materials or investigations of ways to improve the care and management of collections exemplify this type of research. Our work in this area includes studies on the treatment of waterlogged basketry from archaeological sites in British Columbia; investigations of modern materials, especially those associated with electronic media — the deterioration of which could lead to the total loss of some components of heritage collections; studies into materials or artifacts with unique Canadian aspects such as birch bark and leather; and the ongoing development of risk-based decision-making tools that could lead to more effective collections preservation or preservation management for all museum or archival collections in Canada.

The second criterion — equally important — is the *impact the research will have on the accessibility and understanding of Canadian collections.* While improved conservation treatments make objects more accessible to Canadians in a physical sense, research into artifacts or collections leads to increased knowledge and understanding for researchers — which can be construed as accessibility in an intellectual sense. Research in this genre includes studies into the materials and techniques of Canadian creators or artists that allows us to understand better how they constructed their works, as well as investigations into materials and object types of importance to Canadian collections. Work we have carried out includes investigations into the materials and techniques of Canadian artists A.Y. Jackson, Jean-Paul Riopelle, and Norval Morriseau; analyses of pigments found on First Nations artifacts; and explorations of treatments for flags and banners, which often have an iconic significance to a community.

The third criterion we take into account is *corporate considerations.* The directions and priorities established by the Department of Canadian Heritage are major factors but there are also practical concerns, such as whether we have the appropriate expertise and equipment to carry out the research. In addition, we do not want to duplicate research being carried out elsewhere, although we are happy to collaborate with partners when this is beneficial.

Our research is also driven by the *needs of the heritage community in Canada.* This community is extremely heterogeneous, ranging from large federal heritage institutions to provincial archives to small volunteer-run community museums and art galleries, and from Aboriginal cultural centres to provincial museum associations to artists. To maintain an awareness of the needs of such a diverse community, we rely on an informal network of conservators and other heritage professionals.

In addition to these informal contacts, we regularly solicit input on potential research areas through structured activities. We hold brainstorming sessions at some conferences of the Canadian Association for Conservation. Delegates generate a list of research priorities, and rank them in terms of importance. Research projects originating from this process include studies on the handling and treatment of mouldy artifacts, and projects on documents containing iron gall ink. We also meet annually with the Preservation Committee of the Canadian Council of Archives to discuss research ideas and results. These meetings have been instrumental in our research into a permanent paper standard, environmental standards for archives and libraries, and the preservation of modern media.

Other venues at which ideas that influence our research are exchanged include the annual meetings of the Canadian Museums Association and the symposia that we host periodically on subjects of relevance to the Canadian heritage community.

Types of Research
CCI does not carry out basic or pure research. Instead, our conservation scientists and conservators conduct applied research and development activities that focus on the preservation and conservation of heritage collections in Canada. Within this range of research we have four categories defined by the nature of the work, the results, and the users of the results.

Foundation research results in new knowledge and/or techniques that are required as building blocks for other types of research within CCI, but which may not, on their own, answer a conservation question. Foundation research at CCI normally involves either the study of materials (in order to understand the chemical and physical properties of heritage materials) or the development or refinement of scientific methods that are required for other research. Examples of our foundation research include a study of iron corrosion mechanisms, and the development of a technique to measure the degree of polymerization of cellulose in paper.

Applied scientific research is undertaken to answer conservation and preservation questions based on an accumulation and interpretation of scientific data, and results in new knowledge for treatments and for collections. Much of CCI's science laboratory research falls into this category. Examples include our investigations of techniques and materials used by Canadian artists, and the work done on the treatment of waterlogged wood.

Treatment and methods development is aimed at developing practical solutions to challenges with conservation treatments or artifact preservation. This type of research is generally carried out by conservators working directly with an artifact or groups of artifacts. Examples include the development of techniques for local stain removal in textiles using a small suction disk, and the development of a technique to remove rancid whale oil from a large contemporary whale-bone sculpture.

The fourth category, *collections preservation research*, is research into "preventive conservation." Results from this type of research can improve decision-making and minimize deterioration of heritage collections through cost-effective management. Examples of collections preservation research include our current work on risk-assessment approaches to collections care, and studies undertaken to prepare technical guidelines or standards.

Future of the Framework
The research framework will be a living document, and will be adjusted as it is implemented in the coming years. Within CCI, it will be used to make choices about our research activities, to ensure that decisions are made in a consistent manner, and to keep our research focused on the needs of the Canadian heritage community. It will also be used to communicate and promote our research activities to our clients and partners.

A list of our current Research and Development Projects is available on our Web site (www.cci-icc.gc.ca).

Upcoming Workshops

CCI's educational initiatives are an essential means of communication. They allow us to share the results of our current research and conservation practices with you, the heritage community, while simultaneously learning about your emerging needs and concerns. We are pleased to provide the following workshops in collaboration with various Canadian heritage associations and organizations across Canada during 2006–2007. More dates and locations may be posted on our Web site at www.cci-icc.gc.ca [under Learning Opportunities] as they are confirmed.

Spring 2006

Packing and Shipping (in French)
co-presented with the Centre de conservation du Québec (CCQ)
Host(s): CCQ/Société des musées québécois
Location: Quebec, QC
Date: May 17–18, 2006
Contact: Martine Bernier
Tel.: (514) 987-3264
E-mail: bernier.martine@smq.uquam.ca
Leader(s): Paul Marcon (CCI) and André Bergeron (CCQ)

Summer 2006

Environmental Agents
Host(s): Ontario Association of Art Galleries
Location: London, ON
Date: September 18–19, 2006
Contact: Demetra Christakos
Tel.: (416) 598-0714
E-mail: oaag@oaag.org
Leader(s): Cliff Cook and Jean Tétreault

Emergency and Disaster Preparedness
Host(s): Council of Nova Scotia Archives
Location: Public Archives of Nova Scotia, Halifax, NS
Date: September 18–19, 2006
Contact: Rosemary Barbour
Tel.: (902) 424-6070
E-mail: barbourv@gov.ns.ca
Leader(s): Deborah Stewart

Fall 2006

Emergency and Disaster Preparedness
Host(s): Nova Scotia Archives and Records Management
Location: Public Archives of Nova Scotia, Halifax, NS
Date: September 21–22, 2006
Contact: Rosemary Barbour
Tel.: (902) 424-6070
E-mail: barbourv@gov.ns.ca
Leader(s): Deborah Stewart

Preservation Management for Seasonal Museums
Host(s): Lanark County Museums Association
Location: Smiths Falls, ON
Date: October 11–12, 2006
Contact: Carol Miller
Tel.: (613) 283-8560
E-mail: hhmuseum@bellnet.ca
Leader(s): Deborah Stewart

Industrial Objects and Public Art
Host(s): Alberta Museums Association
Location: Wetaskawin, AB
Date: October 13–14, 2006
Contact: Carrie Herrick
Tel.: (780) 424-2657 ext. 223
E-mail: learning@museumsalberta.ab.ca
Leader(s): George Prytulak

Preservation Housekeeping in Historic House Museums
Host(s): Ontario Museum Association
Location: Picton or Napanee, ON
Date: October 23–24, 2006
Contact: Cathy Blackbourn
Tel.: (416) 348-8672
E-mail: cathyb@museumsontario.com
Leader(s): Janet Mason, Alastair Fox, and James Hay

Emergency and Disaster Preparedness
Host(s): Federation of Nova Scotian Heritage
Location: Yarmouth or Middleton, NS
Date: October 26–27, 2006
Contact: Margrete Kristiansen
Tel.: (902) 423-4677
E-mail: fnsh@hfx.andara.com
Leader(s): Deborah Stewart

Treatment of Wet Archaeological Materials
Host(s): Royal British Columbia Museum
Location: Victoria, BC
Date: November 1–2, 2006
Contact: Kasey Brewer
Tel.: (250) 356-8197
E-mail: kbrewer@royalbcmuseum.bc.ca
Leader(s): Tara Grant and Malcolm Bilz

Winter 2007

Care of Archival Collections
Host(s): Prince of Wales Northern Heritage Centre
Location: Yellowknife, NT
Date: February 15–16, 2007
Contact: Rosalie Scott
Tel.: (867) 873-7664
E-mail: Rosalie_Scott@ece.govnt.ca
Leader(s): Joe Iraci and Greg Hill

Permanence of Artists' Materials
Host(s): CARFAC Saskatchewan
Location: Saskatoon, SK
Date: March 2007
Contact: Frances Werry
Tel.: (306) 522-9788
E-mail: programs@carfac.sk.ca
Leader(s): Sherry Guild and Debra Daly-Hartin

To be scheduled

Modern Information Carriers
Host(s): Archives Association of British Columbia
Location: Victoria, BC
Date: TBD
Contact: Rosaleen Hill
Tel.: (604) 709-9263
E-mail: rhill@aabc.bc.ca
Leader(s): Joe Iraci and Tom Strang

Eradication of Pests
Host(s): Association of Manitoba Museums
Location: TBD
Date: TBD
Contact: Monique Brandt
Tel.: (204) 947-1782
E-mail: director@museumsmanitoba.com
Leader(s): Tom Strang

Care of Archival Materials
Host(s): Yukon Council of Archives
Location: Yukon
Date: TBD
Contact: Lesley Buchan
Tel.: (867) 667-5641
E-mail: Lesley.Buchan@gov.yk.ca
Leader(s): Joe Iraci and Greg Hill

Cliff McCawley Retires

by David Grattan, Manager, Conservation Research, CCI

The retirement of Cliff McCawley in November 2005 was in many ways a landmark occasion for CCI. Not only had Cliff made a major contribution to the Institute, he was one of the pioneers of conservation science in Canada.

Cliff McCawley (centre) was "piped" into his retirement ceremony in true Scottish fashion — a tribute to the beginning of his career at the National Museum of Scotland. Shown here with former CCI colleague Joe Dorning (left) and piper Bob Tracy.

Cliff began his career as a conservation scientist at the National Museum of Scotland in Edinburgh. After a meeting with Brian Arthur, Director General of CCI from 1976 to 1980, he became a devotee of Brian's concept of integrating conservation science and conservation treatment into one discipline. Brian was impressed with Cliff's enthusiasm for the idea of conservators and scientists working together as equal partners — as well as his ability as a scientist — and persuaded Cliff to come to Canada. On his arrival, Cliff worked in the Analytical Laboratory of the Parks Canada Conservation Division in Ottawa. While there, he introduced the lab staff to diamond cell infrared spectroscopy and contributed a paper on the technique at the International Council of Museums – Committee for Conservation (ICOM-CC) conference in Venice in 1978.

By the late 1970s Cliff had followed Brian to CCI, where he became the first Chief of Conservation Processes Research (CPR). This section was, in many ways, Cliff's unique creation. Hitherto, science in conservation had focused mainly on analysis or on environmental issues. However, under Cliff's influence, CPR studied the scientific aspects of conservation methods with emphasis on the behaviour of materials. Many conservation processes that are now well understood had not been studied at that time. Thus, CPR's work proceeded in multiple directions: photographic conservation under Siegfried Rempel; paper conservation under Helen Burgess; metals under Mark Gilberg; and my work on waterlogged wood treatment. Cliff always encouraged his scientific staff to work with conservators on the basis of equality and mutual respect. With his guidance, this partnership has prospered at CCI and been fundamental to the development and success of the Institute.

Over the years, CPR's research became ever diversified. Cliff's section became an important feature of CCI, the basis of the Conservation Processes and Materials Research division and, more recently, the Conservation Research division. Cliff's career diversified too. His energy and enthusiasm kick-started CCI's celebrated Mobile Laboratory Program, and he became its first Director. In 1992, he became Director of Conservation Research Services, a post he held through CCI's reorganization in 1995–1996.

Cliff was also active throughout his career in many conservation organizations. He was president of the International Institute for Conservation of Historic and Artistic Works – Canadian Group (IIC-CG) in 1977–1978, and he served ICOM-CC as a member of the Directory Board (1987–1990) and Chair of the Board (1990–1993). His election as Chair is indicative of the respect he earned from his international colleagues. Cliff put a huge amount of effort into ICOM-CC. I remember him spending evenings, weekends, and days off working away — and this was in the days before e-mail made communication easy. But Cliff's hard work paid off, judging from the focus and quality of the ICOM-CC Preprints from that period.

After serving the Institute in so many capacities over the years, Cliff's influence will be felt long after his retirement. For his part, he will be spending more time with his grandchildren. We envy them!

Judy Logan Retires

by Charlotte Newton, Conservator, Archaeology, CCI

Judy Logan retired from the Archaeology Lab at the Canadian Conservation Institute on April 5, 2006 after more than 33 years with the Government of Canada.

The facts of Judy's career can tell only a small part of her story. Her legacy to conservation goes well beyond her work, articles, and presentations. Her great gifts as a professional and a colleague lie in her passion for the field of archaeological conservation and the generosity with which she has shared her knowledge and insights. Anyone lucky enough to have worked with Judy will know exactly what I mean. She cares passionately about archaeological conservation and the part it can play in an archaeological project. She has always been convinced that the two fields should be complementary, that they share the same goal. In fact, this attitude has carried over into all areas of her work and her life — her view that we are all in this together, working towards the same end, and can benefit most from sharing what we do and what we know. She has always been completely openhanded and eager to share her experience, whether with students, interns, co-workers, or the public.

Judy graduated from the University of Calgary in 1971 with a B.A. in Archaeology, and began working shortly thereafter as a Conservation Technician at the Parks Canada Conservation Division in Ottawa. This was the early days of Parks Canada conservation, when the labs were located in cramped quarters in the Keyes Building in the downtown area. Conditions were primitive by today's standards, with artifact storage in the basement and one lab on the main floor for all types of artifacts and treatments. But the staff was young, enthusiastic, and inventive, drawn from different parts of the world and different backgrounds to help develop the profession of archaeological conservation in Canada. While working at Parks, Judy continued her studies and earned a M.A. in Art Conservation from Queen's University in Kingston in 1978.

In 1981, Judy joined the Archaeology Lab at CCI. Over the years she worked in a variety of capacities, including Senior Conservator and Chief of the Archaeology and Textiles Division. She also carried out fieldwork on a number of sites, in Canada and abroad. One of the most challenging and exciting was the site of a 16th-century Basque whaling station at Red Bay, Labrador, excavated during the late 1970s and 1980s by Memorial University of Newfoundland. Here she was instrumental in developing techniques for the recovery and treatment of wet organic materials and approaches for dealing with the large number of artifacts found on a well-preserved historic site.

Throughout her career, Judy was active in numerous archaeological and conservation professional associations, including the Canadian Association for Conservation of Cultural Property, the ICOM Committee for Conservation Metals Working Group, the ICOM Committee for Conservation Waterlogged Organic Materials Working Group, the Canadian Archaeological Association, the Society for Historical Archaeology, and the Archaeological Institute of America. She also authored more than 30 journal and newsletter articles, and developed and delivered many workshops and seminars on the recovery, care, and conservation of archaeological collections and materials.

Judy will truly be missed as part of the daily life of CCI, but will undoubtedly continue to pursue her dedication to archaeology and conservation in the future. We will all benefit from that.

We wish Judy (and her cats) all the best in their future adventures.

More information on CCI and its activities can be found on CCI's World Wide Web pages:

www.cci-icc.gc.ca

CCI Services: Lectures, Workshops, and Site Visits

In cooperation with provincial museum and art gallery associations, CCI responds to specific needs within the heritage community by offering workshops, lectures, and site visits related to the conservation and care of museum and art gallery collections. CCI staff also participate in and present lectures to meetings of professional groups and associations.

For the period December 1, 2005 to March 31, 2006, CCI staff were involved in the following activities:

Conferences/Meetings

Archaeological Institute of America (AIA) 107th Annual Meeting and 6th Annual Digging into Archaeology: A Hands-On Family Fair, Montreal, QC, January 5–8, 2006
Judy Logan co-chaired the session "New Dimensions in Recording Sites and Collections: Laser Scanning and 3D Printing" with André Bergeron (Centre de conservation du Québec) and attended the Conservation and Heritage Management Committee meeting; Charlotte Newton and Tara Grant attended the conference and staffed a booth (with André Bergeron) showcasing the conservation of concretions from the l'Anse aux Bouleaux shipwreck *Elizabeth and Mary* at the AIA archaeology fair for the public.

Cultural Property Protection Conference (organized by the Canadian Museums Association), Ottawa, ON, January 16, 2006
David Tremain and Deborah Stewart were on the program planning committee; David also presented "Situation Report: Museum Emergencies. Where We Are Now and Where We Should Be"; Jeanne Inch participated in the panel discussion "Risk Management — From Conception to Implementation" where she discussed "Management Perspectives on Helping Museums Adopt Risk Management"; Shanna Ramsay and Julie Murtagh staffed the CCI booth; other CCI staff in attendance included Michael Harrington, David Grattan, Siegfried Rempel, and Jean Tétreault.

Transition Metals in Paper (MIP) Final Conference and 2nd Iron Gall Ink Meeting, Northumbria University, Newcastle upon Tyne, UK, January 24–27, 2007
Season Tse presented "Effect of Aqueous Treatments on 19th Century Iron Gall Ink Documents: Part 2: Artificial Aging by Heat, Humidity and Light" and a poster "Proposed Risk Model and Survey Form for Iron Gall Ink Containing Paper Objects and Collections."

International Council of Museums Conservation Committee (ICOM-CC) Directory Board Meeting, New Delhi, India, February 9–12, 2006
Marie-Claude Corbeil, Vice-chair of ICOM-CC, attended the meeting, which was hosted by the National Museum Institute, New Delhi, India.

Save Paper! Paper Deacidification: Today's Experiences — Tomorrow's Perspectives, Berne, Switzerland, February 15–17, 2006
Paul Bégin attended the conference and visited the Swiss National Library, the Swiss Federal Archives, and the Papersave Swiss deacidification plant.

International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) Bureau Meeting, Paris, February 23–24, 2006
Charlie Costain participated in the meeting to brief the New Director General of ICCROM, Mounir Bouchenaki.

Infrared and Raman Users Group Seventh Biennial Meeting (IRUG7), The Museum of Modern Art, New York, NY, March 28–31, 2006
Kate Helwig and Scott Williams attended the conference and participated in the IRUG database spectral review committee meeting.

Workshops

Construction of Mannequins for Historic Costumes was co-presented by Janet Wagner and Renée Dancause on March 1–2, 2006 for the Yukon Tourism Heritage Branch at the Yukon Beringia Interpretive Centre in Whitehorse, YT.

Modern Information Carriers was co-presented by Joe Iraci and Tom Strang on March 2–3, 2006 for the Royal British Columbia Museum and British Columbia Archives at the Royal British Columbia Museum in Victoria, BC.

Preservation Housekeeping in Historic House Museums was co-presented by Janet Mason, Alastair Fox, and James Hay on March 23–24, 2006 at the New Brunswick Museum in Saint John, NB.

Industrial Objects and Public Art was presented by George Prytulak on March 24–25, 2006 for the British Columbia Museums Association at Exploration Place in Prince George, BC.

Modern Information Carriers was co-presented by Joe Iraci and Tom Strang on March 30–31, 2006 for the Council of Nova Scotian Archives at the Public Archives of Nova Scotia in Halifax, NS.

Site visits for facilities development or upgrading

Site visits conducted by Cliff Cook, Brian Laurie-Beaumont, and/or Siegfried Rempel, include the following:

Alberta — The Art Gallery of Alberta, Edmonton.

Manitoba — Manitoba Agricultural Museum, Austin; Canadian Fossil Discovery Centre, Morden; Indian Residential School Museum of Canada, Portage la Prairie; Transportation Heritage and Technology Centre, Winnipeg.

Quebec — Musée du Bas-Saint-Laurent, Rivière-du-Loup.

Nova Scotia — Mi'kmaq Cultural Network, Africville Genealogical Society, Halifax; Old Sydney Society, Membertou Heritage Centre, Sydney.

Other site visits

Complexe Guy-Favreau, 200 René-Levesque Boulevard West, Montreal, QC — On December 13, 2005, at the request of Public Works and Government Services Canada, Robert Arnold and Wendy Baker examined a damaged contemporary sculpture (untitled) by artist Ulysse Comtois. A follow-up report regarding the sculpture's treatment needs was prepared along with a referral to the private sector for treatment.

Saint-Joseph's Oratory of Mount Royal, Montreal, QC — On December 13, 2005, Robert Arnold and Wendy Baker provided advice regarding the condition and conservation needs of a marble altar table.

National Arts Centre, Ottawa, ON — On December 20, 2005, Jan Vuori, Renée Dancause, and Janet Wagner carried out the second day of cleaning tests on the decorative stage curtain made by Micheline Beauchemin for Southam Hall. Carl Bigras took photographs. A follow-up report was prepared.

Bytown Museum, Ottawa, ON — On December 20, 2005, James Hay and Alastair Fox visited the Bytown Museum's storage facility at the Diefenbunker Museum in Carp, ON, to discuss the condition and conservation needs of a chair that had been used by Ottawa's mayors between 1876 and 1903. Robert Arnold and Wendy Baker visited the storage facility at the Diefenbunker Museum on February 15, 2006, and the Bytown Museum in Ottawa on March 24, 2006, to discuss the conservation needs of a cast plaster sculpture of Sir John A. MacDonald by artist Louis-Philippe Hébert in preparation for its inclusion in an exhibition *The Life and Times of Darcy McGee* opening in April 2006. The sculpture was subsequently transported to Parks Canada's regional conservation facility in Ottawa where it was treated by CCI staff.

Dundurn National Historic Site, Hamilton, ON — On January 24–25, 2006, Nancy Binnie and Alastair Fox investigated the historic paint in three rooms in Dundurn Castle.

Library and Archives Canada, Preservation Centre, Gatineau, QC — On February 6, 2006, Jan Vuori examined stuffed fabric caricature sculptures of four former Prime Ministers of Canada that were made in the 1970s by Heather Danylewich and provided advice concerning their display and storage.

Awards/Recognition

CCI is proud of the talent, commitment, and dedication of its staff, and is pleased to provide a program of awards to recognize their contributions to the Institute.

The **Bon Appétit Award** is presented biannually in recognition of exceptional contributions to the achievement of CCI's mission, goals, and objectives. The Winter 2006 award was presented to Judy Logan.

The **Team Work Award** is presented annually to honour a team that exemplifies the effectiveness of working together and makes a significant contribution to the achievement of CCI's mission, goals, and objectives. The Spring 2006 recipients were Alastair Fox, James Hay, Janet Mason, Julie Murtagh, and Deborah Stewart who worked together to develop the *Preservation Housekeeping in Historic House Museums* workshop.

The **Technical Achievement Award** is presented annually for exceptional technical achievements that increase the effectiveness of CCI's organization or business practices in the delivery of conservation services, or advance knowledge in conservation science, conservation treatment, or preventive conservation. The 2006 winner will be announced in the fall.

In addition to CCI awards, a number of staff will be honoured with Government of Canada Long-Service Awards in 2006 in recognition of their many years of commitment to public service:
10 years service — Jennifer Poulin
15 years service — Carl Bigras, Jean Bisson, James Bourdeau, Sophie Georgiev, Paul Heinrichs, Carole Lapointe
20 years service — Gloria Bertolissi, Sherry Guild, Joy Patel
25 years service — Michael Harrington, Craig Lauber, Stefan Michalski, Elizabeth Moffatt, Jeremy Powell
30 years service — Robert Barclay, Charles Costain, David Grattan
35 years service — Scott Williams

Comings and Goings

Client Services Manager **Mary-Lou Simac** left CCI in the fall of 2005 to become a Senior Analyst in the Canadian Culture Online - Access and Environment Directorate of the Department of Canadian Heritage.

Our loss is their gain! Special thanks to **Vicki Davis** and **Raymond Dorion** who have handled Client Services since her departure.

Conservator and Materials Historian **Leslie Carlyle**, who has been on secondment to the Netherlands Organization for Applied Scientific Research in Amsterdam since February 2002, resigned from CCI to become the Head of Conservation at the Tate in London. Congratulations Leslie!

Jeannine Fernandes, long-time Administrative Assistant for Information Services and Marketing, left CCI to take on an assignment as Special Event Coordinator in the Strategic Partnerships and Heritage Branch of the Royal Canadian Mounted Police. We will miss you.

Building Services Assistant **Joe Balan** departed in December 2005 after more than 2 years with CCI.

Nicole Guenette-Allen, Finance and Human Resources Officer, retired on January 27, 2006 after more than 24 years with CCI. Nicole plans to spend more time with her family, in her garden, and in her kitchen trying out lots of new recipes. We wish her all the best.

Other recent retirees include **Cliff McCawley** (see p. 16) and **Judy Logan** (see p. 17).

Christine Bradley, formerly Sales and Distribution Coordinator with Information Services and Marketing, was the successful candidate for Nicole's position and has moved to Business Planning and Administration (BPA) to take over her duties. Joining Christine in BPA are **Marc Sévigny** and **Monica Boota**, who were selected for permanent positions as Finance Clerks.

Pujing Pan has been appointed to the position of Manager of the Analytical Research Laboratory. Pujing holds a Ph.D. in Physical Chemistry from the University of New Brunswick, and comes to us from Health Canada and, previously, Atomic Energy of Canada. He has spent the last 20 years working in a variety of scientific and professional fields including environmental sciences, radiochemistry, computer science, and nuclear physics. Dr. Pan takes over from **Marie-Claude Corbeil** and **Jane Sirois** who, with occasional assistance from **Elizabeth Moffatt**, have been managing the lab since the retirement of **Ian Wainwright** in 2004.

Conservator **Greg Hill** has joined the Works of Art on Paper Lab. Greg brings with him almost 20 years experience with works of art on paper and photographs at Library and Archives Canada. He has also worked with the Provincial Archives of Manitoba and in private practice. With the addition of Greg's expertise, CCI will be able to conduct research and provide training and services in the area of photography and archival material.

Roberta Partridge returned to CCI for another term on November 1, 2005. Roberta holds a diploma in Conservation of Books, Paper and Prints from the Institute for Art and Conservation in Florence, Italy (1991).

Also back for another term is Web Developer **Qiong Pei**. Qiong previously completed two Co-op placements at CCI as part of a 3-year diploma course in Computer Science at Algonquin College of Applied Arts and Technology.

Metals and Corrosion: A Handbook for the Conservation Professional

by Lyndsie Selwyn

This book discusses the chemical and physical characteristics and the corrosion products of nine common metals: aluminum, copper, gold, iron, lead, nickel, silver, tin, and zinc. It answers questions about these metals and their corrosion problems indoors, outdoors, and in archaeological settings, and is intended as a reference for conservators and conservation scientists: a place to refresh their memory, get started reading the literature, or look up alloys, plating combinations, and particular corrosion problems encountered with metals in museums. It will be an ideal tool for all heritage professionals who survey, care for, or treat metals, or who come across metals during the course of their work.

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