



ETHNOGRAPHIC CONSERVATION NEWSLETTER

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Letter from the Coordinator

15th ICOM-CC Triennial Meeting, New Delhi, 2008

It is time again to think about preparing your submissions for the next ICOM-CC Triennial Meeting, to be held in New Delhi, India, on the 22-26 September 2008, on the theme: *Diversity in Heritage Conservation: Tradition, Innovation and Participation*. Please refer to the **Call for Papers**, further below in this Newsletter. As is usual, the Preprints will be limited to approximately 150 peer-reviewed papers. I encourage those of you who are working on innovative treatments, interesting projects, research, etc, to submit an abstract, as it is through your submissions that our Working Group is represented and allocated a session. Remember that your submission will be rated higher if it falls within our *Program*, as determined at the ICOM-CC Triennial Meeting in The Hague, the Netherlands and ratified by the membership in December 2005:

The Working Group on Ethnographic Collections will investigate, research and report on the following areas of interest:

A. Ethnographic collections on exhibit

1. Decision-making for long term needs and maintenance
2. Interpretation and presentation of collections on display

B. Collaborations

1. Community involvement in conservation and preservation decisions
2. Consultations and collaborations with cultural groups who are stakeholders of ethnographic objects

C. Pesticides in collections

1. History of pesticide use and identification
2. Deterioration of materials caused by pesticides
3. Mitigation and removal of residues

D. Material science studies

1. Identification of materials found in ethnographic objects
2. Deterioration of materials found in ethnographic objects
3. Treatment studies and case histories

E. Cross-Disciplinary Projects

1. Composite ethnographic objects
2. Modern materials in ethnographic objects

I look forward to receiving your abstracts by **April 13th, 2007**, at: carole.dignard@pch.gc.ca.

ICOM-CC Ethnographic Working Group's Pesticide Session with Symposium 2007

Jane Sirois, Conservation Scientist at the CCI, has graciously taken on the task of developing our Group's Pesticide Session within the upcoming *Symposium 2007: Preservation of Aboriginal Heritage: Technical and Traditional Approaches* in Ottawa, Canada, September 24-28, 2007. This will include talks within the conference as well as a workshop with panel discussions. The Pesticide Session should interest a broad range of participants, from those just starting to investigate pesticide issues, to those with more specialized experience. Further details will be announced within the next few months. Our Working Group will also hold an Interim Business Meeting, most likely in an informal restaurant setting. This shall be an opportunity to network and become better informed with each other's activities, pressures and priorities, and to

discuss how our Working Group can continue its work and better serve our membership. I hope many of you are planning to attend! *Symposium 2007* will be a unique gathering of conservators and North American Native stakeholders sharing expertise within a rich program of technical, ethical and socio-cultural presentations. Concurrent workshops planned on the last day include Native crafts such as beadwork, quillwork, grass weaving, birch bark basketry and hide tanning. I look forward to meeting many of you in my home town in September!

Pesticide Database Project

The Pesticide Database Questionnaire was sent to our membership as well as to other ICOM-CC Working Groups concerned with this issue. Approximately 10% of our membership replied – which is a good turn-out. The respondents were currently dealing with pesticide issues of some sort, which shows how this topic is a common major concern. The survey has provided a window on how pesticide data and issues are multi-faceted and complex. Drawing from this feedback, our Working Group has decided that rather than undertake the second questionnaire as originally planned, it would serve our membership better by providing a bibliography and linking up with other organizations towards promoting and disseminating the theme of pesticides and data analysis. Further information is provided in the Pesticide Project Report, further below in this Newsletter.

Membership and Restricted vs. Open Access

A meeting of the ICOM-CC Board of Directors and of the 23 Working Group Coordinators took place for the second time in ICOM-CC history at the Getty Institute in Los Angeles last October. One of the main topics discussed was membership, and whether or not access to Working Group activities should be restricted to paid ICOM members or Friends of ICOM-CC. Needless to say, Working Group Coordinators were unanimous in recommending that all information exchanges remain openly accessible to all, as has been the long-standing tradition in ICOM-CC. After deliberations, the Board of Directors recognized the importance and advantage for Working Groups to communicate with a broad network of professionals and agreed to the following:

- Working Group email exchanges remain free and open to anyone interested - they are not to be confined to ICOM members only.
- Working Group Newsletters will remain openly accessible to all, including to the public, for the first 5 weeks of electronic posting on the ICOM-CC website. After 5 weeks, access becomes restricted to paid ICOM or ICOM-CC members/Friends.
- Discussions are ongoing concerning access to Working Group listservs.

The ICOM-CC will proceed with restricting access to some parts of its website, in consultation with the Working Group Coordinators - for example, past Working Group Newsletters will become restricted, as well as membership lists. An ICOM-CC listserv will be created for members only; and past Preprints articles will be posted on the website for members only, with the possibility of others downloading them for a fee. These changes to the website will take effect imminently. Other ICOM-CC issues that were discussed, such as the budget, website design and the next Triennial Meeting, are more fully presented in the November 2006 issue of ICOM-CC Newsletter No. 24, available on the ICOM-CC website here: <http://icom-cc.icom.museum/Newsletters/> .

Online Payment of ICOM-CC Membership Dues

The Board has also taken steps to make it easier for anyone to become an ICOM-CC member, by providing the means for online payment (via Paypal) on the ICOM-CC website. Visit the ICOM-CC home page and press the “*Register and pay online*” button, here: <http://icom-cc.icom.museum/Home/> . Again, I urge you all to actively support the ICOM-CC by subscribing! The organization needs the financial resources to promote conservation within the ICOM family and the heritage field, and to provide you and your colleagues world-wide with access to an organized, international framework and network of conservation professionals.

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ICOM-CC-WG Ethnographic Collections Listserv and Webpage

To visit the ICOM-CC-Ethnographic Collections listserv, go to: <http://groups.yahoo.com/group/icom-cc-ethno/>

To subscribe to the listserv, email:
carole_dignard@pch.gc.ca

with: ICOM-CC-Ethno listserv in the subject box.

To visit the ICOM-CC-Ethnographic Collections web page on the ICOM-CC website, go to:

[http://icom-cc.icom.museum/WG/
Ethnographic_Collections](http://icom-cc.icom.museum/WG/Ethnographic_Collections)

ICOM-CC-Ethnographic Working Group News

Pesticide Database Project Update

In the last newsletter, we extended the deadline for the return of the first round of pesticide database questionnaires, and late this summer, the questionnaire was also sent to the Textile, Leather and Natural History Working Groups. Even though these efforts did not lead to large numbers of additional responses, the results of the survey are nevertheless meaningful.

The questionnaire was returned by fifteen museums and two centralized state government conservation organizations that serve a number of museums. Ten of these institutions are located in Europe. We received four responses from North America, two from Australia and New Zealand, and one from Indonesia. The results of the survey are summarized below:

- As was to be expected, all responding institutions are interested in the subject of pesticide use in collections, and it is very important to them that information on the subject is collected and made available.
- The vast majority of institutions have at least some records of their use of pesticides. For most, this consists of written information such as old documentation, bills and orders, product information etc., and of oral information from current or former staff. One third of the responding institutions also hold researched and documented information on their history of pesticide use.
- Two thirds of the institutions indicated that they are currently researching and documenting their history of pesticide use, or that they are planning to do so in the next couple of years. Most research is carried out in regards to the history of pesticide use as well as on potential health hazards and adequate health and safety measures. One third of the respondents also collect information on the chemical and physical characteristics of pesticides, and on the mitigation and removal of pesticides. The information is mostly compiled in a collection of (computerized) documentation and paperwork, rather than in an institutional database.
- The majority of those institutions that have information on their history of pesticide use, on the chemical and physical characteristics of pesticides, and on the mitigation and removal of pesticides would be willing to make this information available to the public, either with reference to their institution

or anonymously. About half of the institutions would make their information on health hazards and health and safety measures available to the public.

- Areas in which the responding institutions see the greatest need for more information are identification of pesticides, health hazards, health and safety measures and information on the mitigation and removal of pesticides.
- If the collected information was made available for public access, respondents would like it to be either a searchable database or an active searchable database to which information can be added, and preferably it would be accessible through a website. Some institutions expressed their wish that the website should also serve as a forum for discussions and professional exchange, and that information on current methods of eliminating pests on museum objects, including safer pesticides, should be included.
- Almost all of the institution from which we received responses would be interested in participating in a more detailed survey of the information that is currently available.

The responses to the questionnaire show that the identification of pesticides, health hazards, health and safety measures and the mitigation and removal of pesticides are the most pressing issues at this time. They also show that many institutions already research information concerning these issues. We are very pleased that a majority of those that responded would be willing to make the information available to the Working Group and the wider public, and that almost all of them would be interested in further participation in the project.

With these results in hand, the goals of this Pesticide Database Project were reviewed. The survey has confirmed that the development of a centralized database of pesticides used in the past in museum collections, with a centralized, web-based bibliography or references on identification, hazards and mitigation, would be very useful to the conservation field. However, the amount of work and expertise that would be required to create a forum where pesticide related information is collected, organized and made available to museum and conservation professionals, is beyond that of the Working Group coordinators or anyone who works in a full time position. The project would need funding in order to proceed, or institutional backing with commitment of staff time. Our Working Group has therefore decided to shift the focus of our efforts towards (1) building a bibliography and posting it on our Working Group's web-page of the ICOM-CC website; and (2) raising the awareness of potential

conservation organizations, institutions and training programs who may have the means or staff time to take on the larger, centralized database of information project. We would welcome the input of the membership if they have further ideas on how to carry this work forward.

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Assistant Coordinators
ICOM-CC Working Group on Ethnographic Collections



The ICOM-CC Working Group on Ethnographic Collections consists of:

165 members – 48 members joined in 2006, an increase in 30%!

Geographical distribution:

- 69 from Europe, or 42% (UK=25; Germany=9; the Netherlands=8; France=8; Italy=4; Switzerland=4; Sweden=3; Norway=3; Austria=2; Denmark=2; Iceland=1)
- 68 from North America, or 41% (USA=35; Canada=33; Mexico=0)
- 18 from Oceania, or 11% (Australia=10; New Zealand=8)
- 3 from Asia (2 Indonesia, 1 China)
- 2 from Central or South America (Cayman Island and Brazil)
- 2 from the Middle East (Egypt)
- 0 from Africa.

Over 95% are conservators, and over 75% specialize in Ethnographic Objects or Objects.

Other specialties include: Archaeological Objects (6 exclusively); Preventive Conservation (5 exclusively); Textiles (4 exclusively); Leather (3 exclusively); Metals (2 exclusively); Paper and Archival Documents (2 exclusively); Conservation Science (2 exclusively); Wood, Urushi or Furniture (2 exclusively); Sculpture (1 exclusively); Musical

Instruments (1 exclusively); Paintings (1 exclusively); Decorative Arts; Natural History; Plastics; Rock Art; Management; Curatorship.

26 members work in the private sector (16%). 16 members are Educators (10%). As of February, 79 members (48%) are paid ICOM-CC Members or Friend of ICOM-CC, or their institution is a paid member.

Articles/Reports

Unique Problems with the Use of the Handheld XRF Spectrometer for Pesticide Surveys of Ethnographic Collections

Nancy A. Fonicello

Introduction. The handheld X-ray fluorescence (XRF) spectrometer has become increasingly popular as a practical tool for surveying ethnographic collections for the presence of metallic pesticides. Handheld instruments are efficient, easy to use, and do not require destructive sampling in order to obtain good results. But ethnographic collections pose a unique problem for these surveys. Ethnographic objects are often made up of diverse materials. It is not uncommon to have leather, metal, glass beads, vegetal fibers, feathers, fur, pigments, and textiles combined in a single object. Mercury, arsenic, lead, and other metals deriving from these materials may be mistaken for the presence of pesticides. Environmental factors can introduce detectable levels of metallic pollutants into collections. Data from the analyzer itself can be prone to misinterpretation without the proper understanding of its capabilities and limitations.

Nevertheless, the handheld analyzer can provide valuable information about the chemistry, and therefore perhaps, the history, of the objects. It is the intent of this article to provide an overview of some of the complexities associated with the use of the handheld XRF spectrometer in ethnographic collections, and to examine some common sources of non-pesticide metals that one may encounter during an XRF pesticide survey.

Innov-X Systems Portable Handheld XRF

Analyzer. The author was recently involved in a survey of a Native American ethnographic collection held by the Charles M. Russell Museum in Great Falls, Montana. The museum is known primarily for its collection of the works of western artist Charles M. Russell and his contemporaries, but it also has a rather large Native American art collection in storage that has never been surveyed. The collection consists

mainly of objects from the Plains, Plateau and Southern Plains peoples, as well as a number of Northwestern and Athabaskan items.

The instrument chosen for the pesticide survey was an Innov-X Systems Alpha series Portable Handheld XRF Analyzer. This device uses an X-ray tube rather than a radioisotope X-ray source, making it safe and extremely portable. Embedded software allows the user to add or subtract elements from the scan, calibrate the instrument in the field, and also allows the user to view the actual X-ray spectra in addition to a list of elements and concentrations (in ppm). This last feature is essential for proper interpretation of the results, as discussed below. The instrument was set in the soils analysis mode and calibrated by the supplier before being shipped to the museum. The soils analysis mode was chosen in consultation with the Innov-X staff as the best available option for our application¹. Routines for the analysis of arsenic, lead and mercury were included in the software package, as well as various other elements pertinent to soils analysis. The software version was the most current available as of August, 2006.

During the survey, XRF readings were taken directly on the surface of the objects, without removing a sample. Precautions were taken to eliminate false readings from materials beneath the sampled objects. In most cases this was accomplished by using a one to two inch layer of ethafoam or acid free corrugated board underneath the object. When this was not practical, i.e. when an object could not be removed from a permanent installation, background XRF readings of the underlying mounting materials were taken for comparison.

The Presence of Lead and Arsenic in Glass Beads.

Early in the survey it was noted that the XRF analyzer gave extremely high readings for lead and arsenic when used directly on any object bearing glass beadwork. The average lead reading in or near the beaded areas on these pieces was 19-35%, $\pm 1.1\%$, with levels of arsenic ranging from 7- 10%, $\pm 0.5\%$. Areas of the same object that bore no bead decoration tested negative for both elements in all cases. It was inferred that the high readings were due to the glass beads and not to the presence of pesticides.

The presence of lead and arsenic in glass beads was not surprising, but the high concentrations of arsenic were unexpected. Oxides of lead and arsenic were commonly added to optical glass during the manufacturing process in order to change melting points, hardness, as refining agents to remove bubbles, or to impart color (Kurkjian and Prindle, 1998). Morey (1937) reported levels of As_2O_5 ranging from 0.2-0.22% in leaded optical glass. An X-ray fluorescence analysis of West African trade beads reported levels of arsenic in leaded glass beads of European manufacture in the 2-4% range. (Davison, et. al, 1971). Typically glass trade beads brought to Africa and the Americas during the 18th and early 19th centuries originated from the same sources in Europe. Arsenic levels in the test results appeared much higher than those examples cited in the literature for glass and glass beads.

A detailed examination of the chemistry of glass beads is outside the scope of this paper, but it does serve to illustrate a point: at high concentrations of certain elements, the analyzer's interpretation of the data may give unreliable results. It is well known that some elements interfere with others in X-ray fluorescence spectroscopy. Because lead and arsenic have similar emissions spectra in the α (alpha) bands (As: $K\alpha$ 10.54 KeV, Pb: $L\alpha$ 10.55 KeV) the only way to tell them apart is by the presence or absence of emissions in the β (beta) bands (As: $K\beta$ 11.73 KeV, Pb: $L\beta$ 12.61 KeV). The analyzer is programmed to use these β emission bands to differentiate between the two elements, but because of the high concentration of lead, and the corresponding high margin of error in the resulting data, it is possible for the analyzer software to misinterpret the results for arsenic. By using the instrument to view the actual spectra for the glass, it was possible to verify that arsenic was indeed present due to the marked emission spike at 11.7 KeV (see image). It would be possible to use the intensity values at this peak to calculate the actual concentration of arsenic present; however this data was not pertinent to the pesticide survey. The spectra were stored in the museum database for future analysis.

Ultimately, the presence of the glass beads thwarted our attempts to test for arsenic and lead based pesticides with the XRF. Unless there was a bead-free area on an object large enough to allow sufficient clearance for the head of the analyzer (approximately 3 x 7 cm, although the actual sampling area is only about 5 x 8 mm), accurate testing was impossible. Wipe tests and alternative chemical analyses should be considered where heavily beaded objects are suspected of being contaminated with pesticides.

¹ The soils analysis mode assumes a homogenous sample of finely ground soil approximately 1 cm deep. Because the tested ethnographic objects were made of widely varying materials (leather, cloth, feathers, glass, etc.) unlike a soil matrix, the analyzer results could only be considered qualitative in this application, according to the manufacturer. It would be advisable to develop a more precise method of field calibration specifically for different types of ethnographic materials.

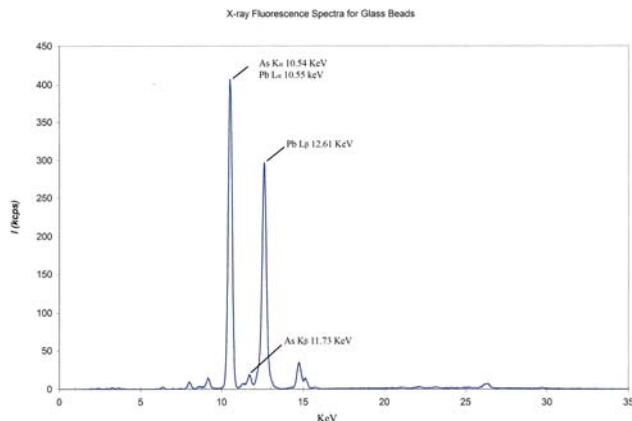


Figure 1. X-Ray Fluorescence Spectra for Glass Beads.

Mercury in Blue Wool Stroud Cloth. The C.M. Russell collection contained a number of objects made of blue and red wool cloth with a white undyed selvedge. This textile type is commonly referred to as Stroud cloth, for the original place of manufacture in Stroud, England, (though the term is loosely applied to all early trade wools of European manufacture), and is also known as Saved List cloth. During the survey, the XRF analysis revealed unusually high levels of mercury in the blue Stroud, but not in the red. The concentrations averaged in the 700-1000 ppm range ± 20 ppm. There was no detectable mercury in areas of the objects not containing this blue wool cloth. It was therefore considered unlikely the mercury was from a pesticide, rather, was an artifact of the cloth manufacturing process.

Research into the historic dyes for the time period revealed a likely source for the mercury in the blue wool cloth. Up until the late 1800s, natural indigo was the primary blue dye used in the textile industry.

A method for the production of synthetic indigo was developed in 1880, but the process was too inefficient to allow for large scale production. The first step in the synthesis of indigo was to oxidize naphthalene (available in great abundance as a byproduct of the coal tar industry), to phthalic acid, which is converted to phthalic anhydride. However, this reaction was very slow and yielded too little anhydride. By accident, a BASF chemist broke a mercury thermometer in the reaction vessel one day and discovered that the reaction was greatly accelerated in the presence of the mercury. The elemental mercury reacted with oxygen and sulfuric acid to make mercuric sulfate, a catalyst for the rapid conversion of phthalic anhydride. The result was a method of producing synthetic indigo at a much

cheaper cost than that of the natural dye, and large scale commercial production began by the late 1890's. The accidental broken thermometer changed the entire dye industry; within ten years the production of natural indigo in India alone had dropped by 75%. (Nagendrappa, 2003).

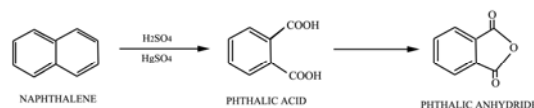


Figure 2. Synthesis of phthalic anhydride.

It is entirely likely that the mercury observed in the blue wool cloth is a byproduct of the synthetic indigo production process. If indeed the mercury is residual from the anhydride synthesis, one would expect to see Hg(II) as mercuric sulfate ($HgSO_4$) and other mercury salts. It is interesting to note that the mercury catalyst was replaced by vanadium pentoxide (V_2O_5) in commercial phthalic anhydride production sometime in the 1930s or 40s. This suggests the handheld XRF might have applications as a tool for identifying and dating textiles dyed with synthetic indigo. Namely, the presence of mercury in blue cloth might be used as an indicator that a particular textile was produced between the late 1890's and the 1930s.



Figure 3. A portion of a Plains saddle bag decorated with glass beads and vermilion paint. X-ray fluorescence spectra shows high concentrations of lead, arsenic, and mercury, but no pesticides are present.

Chrome Yellow and Vermillion on Plains Indian Leather Goods. The ethnographic collection surveyed included several leather objects that originated from the people of the Southern Plains - Kiowa, Apache, and Comanche. Typically these objects were made of tanned deer hide tinted yellow with a powdered pigment; a practice that is characteristic of their art even today. On most of these objects, XRF readings for lead averaged in the 5000-6000 ppm range ± 30 -50 ppm. One example

tested over 20,000 ppm lead. Arsenic levels were below detection limits, so it was unlikely that the lead was from the pesticide lead arsenate.

Curious about the source of this lead, the author asked a Kiowa acquaintance about the history of these pigments, and the response was “Ask any Kiowa who purports to know anything about old ways and they’ll tell you it’s earth pigment from Paloduro Canyon in Texas” (Jennings, 2006). Lead ore in the American west most often occurs in conjunction with ores of zinc, silver and copper (Samans, 1949). All three elements were easily detectable by the analyzer in the soil analysis mode, but the concentrations of all three were beneath the limits of detection on the sampled objects. The high concentration of lead in a bright yellow powder without these other elements present suggested the use of something other than a naturally occurring pigment. The element chromium was present on all these objects in the range of 1300-1700 ppm, \pm 70-80ppm.

Records of early trade goods indicate that chrome yellow (PbCrO_4) was introduced to the Plains Indians in the first half of the nineteenth century, (Hanson, 1981). This yellow pigment, along with verdigris (copper acetate), chrome green (Cr_2O_3), Prussian blue (Iron II) and Iron(III) cyanoferrate compounds, and Chinese vermilion (HgS) were all popular commodities throughout the fur trade and well into the early twentieth century.



Figure 4. A collection of old Kiowa paint pigments in their original bags, dating from the early 1900s. Yellow pigments spot tested positive for lead.

Carl and Vanessa Jennings of Fort Cobb, Oklahoma graciously loaned the author samples of old paint pigments for comparison. These earth paints had belonged to Vanessa’s Kiowa grandfather. The powder pigments were spot tested for lead using Plumbtesmo test papers (Odegaard et al, 2000). One sample, a bright yellow powder stored in a very old

beaded leather bag, tested positive. The Jennings’ yellow pigment and samples from the Russell objects will be submitted for further chemical analysis to verify the presence of chrome yellow.

As mentioned above, vermilion, or mercuric sulfide, was another material much favored by the Indians. It was used to decorate objects and also, rubbed onto the skin as body paint. Vermillion was present on a number of rawhide containers and a painted saddle bag in the Russell collection. The XRF spectrometer readings showed greater than 10% mercury on these objects when sampled directly in the pigmented areas.

Several objects in the collection were composed of various combinations of glass beads, yellow pigmented leather, vermilion paint, and blue wool Stroud. The XRF readings showed high levels of mercury, lead, and arsenic on these objects, and yet none of these elements were from pesticide residues. In the presence of these artifact materials the handheld XRF was rendered useless for identifying metallic pesticides. Alternative means of chemical analysis must be employed in order to survey such items for pesticides.

Environmental Sources. Unique to the collections at the museum are a number of objects personally owned by Charles M. Russell. Russell lived in Great Falls most of his adult life until his death in 1926. He was fond of collecting Indian clothing, weaponry, horse trappings and cowboy gear, and these he displayed on the walls of his log studio which still stands at its original site on the museum grounds.

All of Russell’s ‘studio’ objects were tested for pesticides during the course of the XRF survey. Over 90 percent of these objects had lead levels in 100-400 ppm range, \pm 6-10%. Even though these levels are relatively low, they would still be considered well above background levels. The fact that the levels were so consistent across the entire collection was very unusual. Research into the history of the Great Falls area revealed a possible source for the lead. From 1893 to 1980, a metals refinery complex and large smelter operated on a 250-acre piece of land just north of the city, approximately 1.5 miles from Russell’s studio. The smelter was shut down in 1982, and is now designated as a “Superfund” hazardous waste site by the Environmental Protection Agency. Soils in the area are contaminated with lead, arsenic, and other toxic metals. The lead observed on the studio objects is most likely residual from the operation of the nearby smelter.

Apparently it is not uncommon for smelter and refinery residues to be detected by XRF spectroscopy. During a conversation with the author,

Mr. David Walters, sales representative for the Innov-x company, explained that he was demonstrating the use of the XRF analyzer in an area where there was a large mining and smelting operation in progress. To show the presence of metals in the immediate environment, he ran his fingers down some window glass inside a classroom. With a piece of scotch tape he lifted the material from his fingertips and placed the piece of tape over the x-ray port of the analyzer. The readings from the XRF showed levels of metals well above normal background levels, presumably from the mining operation nearby. It is therefore quite possible that the elevated lead levels in Russell's studio collection are attributable to the smelter that operated north of the city during his lifetime.

Conclusion. The handheld X-ray fluorescence spectrometer is an effective tool for conducting surveys of ethnographic collections for the presence of metallic pesticides, with some caveats. Unique materials found on ethnographic objects may result in readings for arsenic, mercury and lead that can be misinterpreted as pesticide residue, and it is important that these materials be taken into consideration when conducting pesticide surveys. Alternative analytical methods may be necessary when materials such as glass beads and lead and mercury based pigments are present on objects. Environmental influences such as regional factories and refineries may contribute detectable levels of these metals as well. The versatility and ease of use of the handheld XRF analyzer makes it valuable not only for detecting pesticides, but for revealing more about the chemistry and the history of ethnographic collections.

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Nancy Fonicello holds a degree in Environmental Chemistry from the State University of New York at Syracuse. She is a long time student of Native American art, and is a practically-trained objects conservator. She maintains a private studio in Wilsall, Montana, where she specializes in the preservation of Native American ethnographic objects for private collectors and museums. Email: porcupine@ancientartways.com

Reliability of X-Ray Fluorescence for the Quantitative Analysis of Arsenic in Contaminated Leather

Kathleen Bond

The following is a summary of research undertaken for the Master of Art Conservation program at Queen's University in Kingston Ontario, Canada in 2005. The research came about with the increasing concern over the presence of toxic components in pesticides, such as arsenic, that have been used in the past to treat ethnographic materials. The exact chemicals, amount, method of application and frequency used, is not always known. The intimate contact that museum staff and, increasingly, Native groups have with these artifacts, has led to concerns of the health and safety effects of exposure to pesticide residues. An effective method of quantitative analysis is necessary to evaluate the correct amount of arsenic actually present on cultural objects and, through this, the implications of handling contaminated artifacts.

This study investigated the reliability of X-ray fluorescence (XRF) as a means of quantitative analysis of arsenic on ethnographic leather. Three different arsenic pesticides were chosen based on old recipes used by preparators and collectors of museum collections. Known quantities of each of these arsenic solutions were applied to two types of leather samples: buckskin and rawhide. The arsenic solutions were applied to the leather samples using both spraying and brushing methods. The choice of the three arsenic recipes used in the past, the two types of skin preparations, and the two methods of application, were thought to give a representation of the conditions existing for ethnographic conservators today. The leather samples were then subject to analysis by using the soil mode of the Innov-X Systems Portable XRF Environmental Metals Analyzer operated using the iPAQ pocket PC Model 2200 to obtain a quantitative measurement. The result of this analysis was compared to the concentration of arsenic in the leather pieces as determined by the TJA Solutions VG PQ ExCell Inductively Coupled Plasma Mass Spectrometer (ICP-MS).

Rawhide and buckskin samples were prepared in a traditional method and then treated with the following three arsenic recipes using either a spray or brush application. The amount of each recipe applied to the leather samples was decided upon so that it represented an object that had been treated several times. For example, each spray application consisted of a total of five sprays. Each brush application consisted of three strokes one way and three strokes in the perpendicular direction.

Recipe #1:

- Laundry soap 200 ml (50.2 grams in deionised water - filled to 200 ml on beaker)
- Arsenic trioxide, As_2O_3 50.0 g
- Potassium carbonate, K_2CO_3 9.6 g
- Camphor, *cinnamomum camphora* 7.5 g
- Ethanol 13 ml

Recipe #2:

- Arsenic trioxide, As_2O_3 23.0 g
- Sodium carbonate, Na_2CO_3 45.0 g
- Deionised water 200 ml

Recipe #3:

- Arsenic trioxide, As_2O_3 1.5 g
- Deionised water 100 ml
- Ethanol 100 ml

Leather samples that were to be tested using the portable XRF were tested in three different locations in an effort to determine the arsenic concentration in the entire leather sample. For leather samples to be tested using the ICP-MS, one quarter of each leather sample was digested and then diluted to prepare it for analysis. The three arsenic recipes were also diluted and tested using the ICP-MS

The results of the XRF analysis did not match the arsenic concentrations as determined by ICP-MS, but rather were consistently higher than those obtained by the ICP-MS. However, the comparison of the XRF and ICP-MS results shows a strong linear relationship: the r-value found using Pearson's Correlation Coefficient was 0.93. As a result of this strong linear relationship, it is realistic to say that when using XRF to analyze a general ethnographic collection, an approximate quantitative measurement of arsenic can be obtained by dividing the XRF reading in ppm by 2.64, the slope of the line of best fit in the graph below.

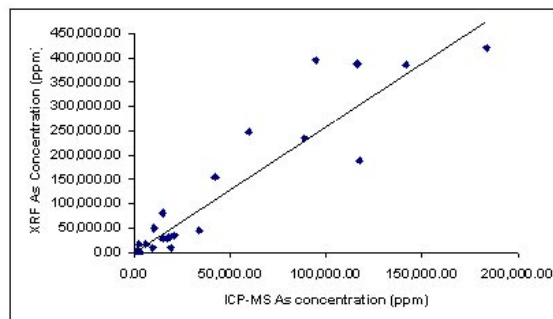


Figure 1. Plot of XRF and ICP-MS Data using Pearson's Correlation Coefficient.

As a result of this linear relationship, several conclusions can be drawn from the data:

- The linear correlation between the XRF and ICP-MS readings was much stronger for the buckskin samples than it was the rawhide samples.
- When using XRF for analysis of an artifact composed of buckskin or buckskin type material, an approximate quantitative measurement of arsenic can be obtained by dividing the XRF reading in ppm by 2.47, the slope of the line of best fit.
- When using XRF for analysis of an artifact composed of rawhide or a rawhide type material, an approximate quantitative measurement of arsenic can be obtained by dividing the XRF reading in ppm by 1.46, the slope of the line of best fit.

These results indicate that XRF could be used as a reliable quantitative technique for this application.

Other interesting conclusions from the research included:

- The portable XRF unit used in this experiment had an upper detection limit around 100,000 ppm, a limit that was previously unknown to this researcher. Although the comparison of the XRF readings above the upper detection limit did show a linear correlation with the ICP-MS results, this limit must be taken into account when analysing artifacts with a possible large arsenic concentration.
- Leather artifacts, even those containing high levels of arsenic contamination, may not exhibit visual evidence of past arsenic pesticide treatments.

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TRAINING PROGRAMS

Ethnographic Conservation at the Institute of Archaeology, University College London

The Institute of Archaeology UCL has a long and well established reputation in the research of archaeology and conservation.

In the last few years the Institute has been extending this focus to the study of indigenous archaeology and conservation, the social and political context of cultural heritage, the changing roles of museums and the ethics and social theory of conservation.

A number of very interesting dissertations have come out of these efforts. Anne Turner Gunnison and Arianna Shackle (see articles) are representatives of the latest crop of dissertations exploring issues related to conservation and Indigenous Peoples. While Gunnison chose to explore the impact of Indian gaming and casinos on Native American cultural heritage, Shackle explored the use of cultural repair techniques within conservation.

Both studies are insightful pieces of high standard research and very relevant to the understanding of the complexity of the conservation process, and more specifically to ethnographic conservation.

Here you have a taster of these pieces. These are modified and abridged versions of assessed work completed for the MA in Principles of Conservation. Both will be presented in the poster session of the 35th American Institute for Conservation’s (AIC) Annual Meeting in April 2007.

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The Study, Use and Feasibility of Pottery Vessel Cultural Repair Techniques within Conservation

Arianna Shackle

Through my recent studies at the University College of London in the MA in Principles of Conservation program I made a startling realisation. It was a realisation that something is lacking within the very ethical foundations that conservation practice is built upon. There is no reference to the material culture of living cultural groups. There is a lack of cultural pluralism within most western-based museums. Many European and North American museum infrastructures are still based on the colonialist context in which they evolved. This context results in a biased, one-sided interpretation of objects that affects the ways in which they are treated, exhibited and stored.

It was after this initial realisation, that I was determined to explore various avenues that would thrust conservation in the direction of a more culturally diverse and encompassing guiding principle. This principle is one that emphasises cultural pluralism and the inclusion of multiple

voices in all aspects of museum practice and philosophy. I discovered that one such way this could be accomplished was through the examination, study and possible use of indigenous techniques within conservation practice.

First, it is important to note that this particular emphasis of cultural pluralism has evolved from the wider context of the efforts of indigenous groups to revitalise, regain and restore their cultural heritage. This movement has been occurring within the United States for the past few decades and has resulted in government legislation, such as the Native American Graves Protection and Repatriation Act (NAGPRA) (1990) and the National Museum of the American Indian Act (NMAIA) (1989) (Echo-Hawk & Trope 2001). As a result of these legislative acts museums are re-examining and investigating their own practices and policies with regard to indigenous cultures. This investigation has ultimately resulted in an understanding that many objects within museum collections are not representative of dead or lost cultures, but are extensions of living cultures and peoples.

Several museums in the United States are becoming more culturally sensitive through collaborations and/or consultations with indigenous groups. For example, the Arizona State Museum in Tucson, Arizona hosted a series of consultations with various Native American representatives to determine the proper storage conditions and construction guidelines for their new pottery storage. Thus, there is evidence that museums are experiencing a shift away from the colonialism-based infrastructure. However, much of this effort has been made with regard to exhibition, care and maintenance of objects, not with the physical treatments applied to objects. Thus, the study and possible use of indigenous techniques in conjunction with professional conservation practice can be another avenue in which the cultural pluralistic paradigm is realised.



Figure 1. This Tohono O'odham water jar (E-3907) exemplifies a particular cultural repair technique with creosote lac that can be studied and possibly utilised in conservation. (The Tohono O'odham Nation is in south, central Arizona, in the Southwestern, U.S. (Photo provided by Arizona State Museum, University of Arizona, 2006)

This practice has many benefits for all stakeholders involved. For example, if meaningful partnerships can be forged within museum and conservation contexts, it is intuitive that recognition of indigenous rights will follow within other contexts. Also, conservators can aid First Nations communities in maintaining active roles with the representation, life and future of their own cultures. The museum and conservation communities can now become places of equality, understanding and community cohesion. The goals of the museum will inevitably migrate towards even greater accessibility. The museum will no longer be an institution that speaks to a select group of people (knowingly or unknowingly). The general public will be affected by this change as well. There will be a new source of knowledge within museum and conservation communities. Primary source knowledge will be accessible to the general public in which it is hoped that stereotypes become dismantled. By combining academic and indigenous knowledge, objects will be endowed with new meanings and significances. More insight will be gained into both the physical and impalpable aspects of objects. The interpretive bias that can exist within a museum will deflate with the potential of gaining primary source information.

There are several examples in which other types of cultural techniques have been used within conservation with success. For example, several museums in India have used neem leaves and tobacco to ward off insects. They have also used natural and native techniques in adhesives, storage, climate control and cleaning (Agrawal 1981).

Another example of the use of indigenous techniques within conservation occurred at the Mission de San Xavier del Bac in Tucson, Arizona. The mission building is constructed of adobe covered in plaster. There were many attempts to use modern materials, such as concrete, during restoration. However, concrete did not allow enough porosity for the adobe to 'breathe' and exacerbated deterioration of the interior. After consulting with traditional Mexican builders and examining old building plans, they used a mixture of lime, sand and cactus mucilage. This traditional construction technique allowed the adobe to breathe and has subsequently succeeded in preventing further rapid deterioration (Fr. G. Adolf 2006 pers. comm. 22 July).

My research concluded with the fact that more extensive examination is necessary in this subject area. Each application and situation involving indigenous techniques will be different and the ultimate decisions made will be context dependent. Museums and conservation will only continue to include the Native voice as it progresses and evolves. The study and use of indigenous techniques in

conservation can fulfill the cultural pluralistic paradigm. There are many benefits to using indigenous technologies within conservation - whether it is to combat inadequate funding or because it is the only strategy that physically works. In this particular context it is to gain better understanding, new knowledge and aid in the preservation of a culture. Conservators need to be proactive to ensure the relevance and future of conservation within a society that is continuously evolving.

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The Impact of Indian Gaming Casinos on the Preservation and Resurgence of Native American Cultural Heritage

Anne Gunnison

To walk into the National Museum of the American Indian, or the NMAI, opened on September 21, 2004 in Washington DC, is to walk into an institution that is representative of the resurgence and reemergence of Native Americans as a cultural and political presence in the United States. The exhibits as well as the conservation and collections management in the NMAI are indicators of the influence of Native American perspectives as well as the importance of First Nations cultural heritage preservation efforts throughout the country. This movement has been partially fueled by an unlikely catalyst of bingo parlors and slot machines. Revenue from casinos and

gaming operations on tribal lands is making this movement financially feasible.

This is illustrated in the donations made to the construction of the NMAI. Thirty million dollars was given by the Mashantucket Pequot of Connecticut, the Oneida Nation of New York, and the Mohegan Tribe in Connecticut, who own respectively, Foxwood Casino, Turning Stone Resort and Casino, and the Mohegan Sun, three of the most successful Indian gaming casinos in the United States.

Indian gaming is a contentious issue, one that is surrounded by misconceptions, misinformation, and erroneous stereotypes about Native Americans who are involved in the gaming industry. Casinos and gaming, which has become an economic boon on many Native American reservations has brought unprecedented wealth to a few tribes, while to many it has, at the very least, created job opportunities and revenue for services like health care on reservations, which have been plagued for generations by high unemployment rates and poverty.

Conservation, preservation, and revitalization of tangible and intangible cultural heritage by Native American tribes is directly affected by Native Americans' sovereign rights to own and operate casinos and gaming facilities. With the establishment of a solid economic base through gaming, tribes are finally able to control their cultural heritage by using their revenue to fund the establishment of museums, cultural centers, and language revitalization programs. Tribes can work against the setbacks to their heritage suffered under years of oppression and forced assimilation. They are also better able to define themselves to the outside communities through control of cultural resources and educational programming.

This can be seen in the example of the Agua Caliente Band of Cahuilla Indians in Palm Springs, California.

Opening the doors of its first casino in 1995, the Agua Caliente own and maintain two casinos on their reservation. This four hundred-member tribe has become very wealthy, generating more than \$250 million a year on their slot machines (Sweeney 2006). They are also politically active in state and federal government, donating \$21 million in "campaign contributions to initiatives and officeholders and candidates of both parties" over the past eight years (Sweeney 2006).

In their financial and political growth, the Agua Caliente have not forgotten their cultural heritage. The tribe showed its dedication to the preservation of history and traditions even before the casinos were built and the tribe had a stable economic base.

The Agua Caliente Cultural Museum was started not as "tribal government enterprise" but by tribal members as a 501(c)(3) non-profit, independent of the tribal government in the early 1990's. The operations of the museum are funded by the tribal government, but remain independent in the decisions the museum makes, how the museum is run, and the exhibits it displays (Ridgway, pers. comm. 14 August 2006).

However, the museum has been affected by the tribe's increased revenues. When Ginger Ridgway, the Curator and Head of Programs for the museum, started in 1996, only one other person joined her on staff. Now there are fourteen staff members, including an executive director hired in 1999 because an ambitious project was in the planning stages. In 2008, the tribe plans to open a new Agua Caliente Cultural Museum, largely paid for by tribal gaming revenue. The tribe is committed to underwriting a large portion of the costs. Currently it has donated \$5 million with an additional \$15 million matching grant. The rest will be covered by donations and fund-raising (Agua Caliente Cultural Museum 2006).

The museum has an architect, Johnpaul Jones (Cherokee/Choctaw) who also worked on the NMAI project. The Agua Caliente Cultural Museum is also a Smithsonian Affiliated Museum, the first tribal museum to become so, though now joined by the Mashantucket Pequot Museum and Research Center in Connecticut. The affiliation means that the museum will be able to receive loans from the Smithsonian, as well as bring in Smithsonian exhibits. The Agua Caliente envision their museum as becoming "a world-class institution, acting as a west coast educational resource for native and non-native scholars." (Agua Caliente Cultural Museum 2006)



Figure 1. Future Site of the Agua Caliente Cultural Museum. Photo by A. T. Gunnison.

Ridgway says the tribe wants "the public to know their story and want them to know that they are still vital cultures. They aren't what they were 200 years ago, but they want them to know... that there are still a lot of their traditional beliefs and values still within

them and that this is carrying on. So that it's for themselves and it's for the public. The public in this country has never been educated about this other half of their own history. It's my own history even though I'm not Native American. I'm Native American in that I was born in this country and I grew up with this heritage behind me." (Ridgway, pers. comm. 14 August 2006)

These cases of preservation, conservation, and dissemination of cultural heritage indicate the strength that the Agua Caliente has garnered as a tribe. While there was pride and practice of cultural heritage prior to the opening of the casino, the revenues have made the continuation and control of it possible in a broader scope.

As Ridgway states: "When you don't have political power or economic power, you are at the mercy of those who deal with those issues or interpret you. And when you have economic power and you can create the structure, you can...begin to take control of what others are doing. And that is wonderful. They have not been in that position for a very long time." (Ridgway, pers. comm. 14 August 2006)

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The UCLA/Getty Program in Ethnographic and Archaeological Conservation

The UCLA/Getty Master's Program in the Conservation of Ethnographic and Archaeological Materials is the first academic program on the west

coast of the United States devoted to conservation education and training, as well as the first program in the United States to focus exclusively on ethnographic and archaeological collections. Created as a partnership between the Cotsen Institute of Archaeology at the University of California at Los Angeles (UCLA), and the Getty Conservation Institute, this program ensures that both a major research university and an institution with a major mandate for conservation of the artistic heritage of the world are working to create a rich and vibrant conservation training opportunity. Program faculty members hold appointments at UCLA, where there is also a conservation research facility. Exceptional training laboratories have been provided by the Getty Conservation Institute at the Getty Villa.



Figure 1. The labs at the Getty Villa

The UCLA/ Getty Master's Program is a three year program, with students spending two years in the classroom, with summers and the third year spent on internships. The first class of six students began in September 2005, and the program will continue to accept six to ten students every second year. The deadline for applications for 2007 was December 15th, and the next opportunity for applications is December 2008. Students in the program take a total of sixteen required courses, many of which focus on fundamental topics necessary for any conservator. These include documentation, ethics and decisions, and the characterization, technology and deterioration of inorganic and organic materials. Where the program becomes more specialized in archaeological and ethnographic materials is through required courses such as Repatriation of Native American Human Remains and Cultural Objects offered in the UCLA Anthropology Department and Conservation courses including Ancient Building Materials and Sites, and Ethnography and Conservation. Another highlight is three courses devoted to management and prevention: two dedicated to collections and one to sites. Each student further specializes through the selection of 4 elective courses, along with their choice of internship sites and topics chosen for the Master's thesis.

The course on repatriation explores how Native Americans in the United States have been successful in obtaining the passage of federal and state laws, not only preventing the further disenfranchisement of human skeletal remains and cultural objects, but also repatriating remains and objects to appropriate tribes and individuals. This course examines this phenomenon by reviewing the development of legislation, historical practices of collecting, and conflicts between scientific studies of Native material. The complexities and alternatives to repatriation are discussed. One student noted after completing this course that he could never again see Native American cultural materials as purely physical artifacts.

A second required course focusing on ethnographic materials is entitled Ethnography and Conservation. This course provides students with an introduction to working as conservators with an indigenous repository housing cultural collections. In Winter 2007, the students will work with community, staff and objects from the Agua Caliente Cultural Museum in Palm Springs, CA, and will focus on painted wood and Cahuilla basketry. Students will be introduced to the roles of Agua Caliente Band members, and native and non-native staff, in decision-making in the museum. Students will become familiar with different models for tribal museums and cultural centers. Students will collect plant materials and learn coil construction methods with Cahuilla basket weaver Donna Largo, informing them about material selection and properties in the baskets they are treating. Course topics will include basketry as a cultural revitalization tool, and readings and discussion will focus on historical and current methods in the collecting and conservation of ethnographic materials.



Figure 2. Liz Werden viewing Smithsonian winter count.

Because of the importance of non-interventive methods in ethnographic conservation, the ability to work preventively is given emphasis in the program. Student take a course entitled Principles of Preventive Conservation, emphasizing the historical development of monitoring and standards, and mitigation methods for deterioration due to temperature, relative humidity, radiant energy,

pollutants, and biological agents. A second required course provides students with a background in collections management practices often carried out collaboratively with conservators. Topics to be covered include collections assessments and surveys, cataloguing and tracking, storing collections, exhibiting collections, including mount making, risk assessment, and disaster planning.

Students in the UCLA/Getty Conservation Program have pursued more specialized study in their four required electives, which may be drawn from a wide number of UCLA departments including American Indian Studies, Archaeology, Anthropology, Art History, Chemistry, Geology, Near Eastern Languages, or Materials Science. Electives may also include individual supervised research, collections projects, or treatments arranged with colleagues at area museums and sites, including the Getty Conservation Institute, the J. Paul Getty Museum, the Fowler Museum, the Autry National Center, the Los Angeles County Museum of Art, and Los Angeles County Museum of Natural History. Student electives have thus far included UCLA courses in computer visualization modeling for documentation purposes, and courses entitled Working with Tribal Communities, Textiles of the Americas, Arts of Korea, and Ancient Civilizations of Andean South America. Independent study projects have included technological studies, research, and treatment on Mimbres ceramics, mummified materials, an Eskimo whale bone sculpture, a Lakota Sioux painted textile, and a Byzantine icon.



Figure 3. Molly Gleeson with Pomo basket at SW Museum.

Summer and third year internships are required, and these can be tailored to the needs and interests of individual students. Opportunities for field experience during the summer are presented by numerous expeditions, including those carried out by UCLA faculty. In 2006 students participated in internships at the classical site of Lofkënd in Albania, at the Tarapacá Valley Archaeological Project in northern Chile, at Gordion and Bodrum in Turkey, and at museums which include the Southwest Museum at the Autry National Center, the Los Angeles County Museum of Art, the Arizona State Museum, the Mashantucket Pequot Museum, and the Phoebe Hearst Museum at the University of California at Berkeley.

Current conservation students in the UCLA/Getty Program have enriched the course through their backgrounds in archaeology, anthropology, art history, computer graphics and science, and through their valuable preprogram experiences working in museums, field settings, and with university collections. The faculty and students would delight in the opportunity to show visiting colleagues our facilities and projects, and we hope you will contact us if you find yourself in balmy Los Angeles! Further information about the program is available on the website listed below.

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New MA Programme in Organics Conservation Textile Conservation Centre, University of Southampton, UK

From October 2007, the Textile Conservation Centre (TCC), University of Southampton, UK is offering a two year MA programme in Organics Conservation (leather, textiles, paper, modern materials). The programme is founded on the rationale that conservators rarely encounter only one category of material, and graduates will be able to approach a range of organic materials encountered in mixed media, social history, indigenous and applied arts objects in museums and collections.

The programme delivers a framework of theoretical knowledge, underpinned by science, and a range of practical experience using client owned artefacts, including a placement in a museum or institution. Students are encouraged to appreciate similarities and differences between the materials they treat and recognise the diverse environments in which artefacts are encountered and the multiple values they may hold. The training is cross-disciplinary to enable

students to play a role in the wider cultural sector and encompasses anthropological, historical, and museological perspectives of cultural property. At staged points, students study alongside those on MA programmes in Museums and Galleries, History of Dress, Conservation Science and Textile Conservation.

Teaching will be carried out by Textile Conservation Centre staff and external specialists. Part-time study over four years and a one year fast track route for candidates of advanced standing are available.

The Textile Conservation Centre is internationally recognised for training in conservation. Its combination of conservation training, research and commercial practice is unique and provides a stimulating environment in which to study. The programme offers a career entry level of education and is also an ideal foundation for PhD research in conservation. The AHRC Research Centre for Textile Conservation and Textile Studies is also based at the TCC.

Web: <http://www.wsa.soton.ac.uk/conservation-and-museums/>

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THE UNIVERSITY OF APPLIED ARTS HEAA ARC La Chaux-de-Fonds, Switzerland

The University of Applied Arts HEAA-Arc is a conservation program that aims at transferring knowledge and skills that form the base of highly specialized competences as required for the conservation of our cultural heritage. Its innovative teaching processes help to encourage the personal qualities of each student and stress a professional attitude, during both undergraduate and graduate studies. Research projects are developed on a regional, national and international level.

The conservation program offers both undergraduate and master degrees in conservation. The bachelor degree has a strong focus on preventive conservation and collections care, whereas the master degree concentrates on the conservation-restoration of artifacts and collections. There are two specializations for the master studies: (1) Archaeological and Ethnographic Objects; (2) Scientific and Technical Instruments and Clocks. The teaching language is mainly French, with some English; the students, however, may write their

reports, exams and research project in English, French, German or Italian. The HEAA ARC collaborates with institutions and partner organizations for developing specific market oriented products and services. It maintains exchanges with the traditional craft world, the industrial sector, museums, research centres and other universities.

The relatively small size of the HEAA-ARC positively encourages individual development by giving each student the support and personal attention he or she needs. It is an open-minded university that welcomes students from all horizons and backgrounds. Its close ties with various partner institutions also gives access to other higher education, both in Switzerland and abroad.

The following is a selection of student research projects relevant to ethnographic conservation. These and other projects are currently posted, or in the process of being posted, on the HEAA-ARC website, at: www.he-arc.ch/artsappliques.

2006:

Jana Egger, mentor Werner Schoch

Möglichkeiten des Einsatzes von ätherischen Ölen gegen Pilzwachstum auf Trockenholzobjekten (original language)

- *The use of essential oils against fungal growth on dry wood artefacts*
- *Possibilités d'utilisations d'huiles essentielles pour combattre la croissance de champignons sur des objets en bois secs*

Salome Guggenheimer, mentor François Schweizer
Investigation into the Potential of Low-Oxygen and Dry/Cold Storage for Freshly Excavated Iron Artefacts (original language)

- *Étude comparative du stockage immédiat des objets issus de fouilles : atmosphères pauvre en oxygène et milieu sec/froid*
- *Untersuchungen zur kalt/trockenen und sauerstoffarmen Lagerung von archäologischen Frischfunden aus Eisen*

Urs Lang, mentor Christine Bläuer-Böhm

Die Nachkonservierung eines mit flüssigem Nylon (Calaton®) konservierten ägyptischen Kalksteinreliefs (original language)

- *The re-treatment of an Egyptian limestone relief previously treated with soluble Nylon (Calaton)*
- *Le re-traitement d'un relief égyptien préalablement conservé avec du Nylon soluble (Calaton)*

Chloé Maquelin, mentor Christina Akré

Nos objets quotidiens... pourquoi, comment et que conserver pour demain ? (original language)

- *Our daily items....why, how and what to conserve for tomorrow ?*
- *Unsere täglichen Objekte....warum, wie und was für die Zukunft konservieren ?*

Antonin Tarchini, mentor Christian Degrigny
Le Mercure dans les collections du patrimoine technique et industriel : problématique de conservation (original language)

- *Mercury in technical and industrial collections : problems of conservation*
- *Problematik von Quecksilber in technischen und industriellen Sammlungen*

2005:

Sabine Brechbühl, mentor Madeleine Betschard
Untersuchung verschiedener Konservierungsmethoden auf erdfeuchtem bis nassem archäologischen Gagat und anderen Kaustobiolithen (original language)

- *Investigations in various conservation methods of waterlogged and humid jet and other caustobiolithes*
- *Etude de différents traitements pour la conservation du jais et autres caustobiolithes humides ou gorgés d'eau*

Maude Butikofer, mentor Olivier Guyot
Etude pour la conservation d'un site de peintures rupestres Maoris en Nouvelle-Zélande (original language)

- *Conservation study of a Maori site containing wall paintings in New Zealand*
- *Untersuchung und Konservierungskonzept eines Felsüberhanges mit Maori-Wandmalereien in Neuseeland*

2004:

Balsiger, Mirjam, mentor Michelle Françoise
Festigung matter malereien. Vergleich von Festigungsmitteln und Applikationstechniken am Beispiel der Malschichten einer Tanzmaske aus Neuirland (original language)

- *The consolidation of matte paintings: Comparative study of consolidants and application techniques on the paint layers of a dance mask from New Ireland*
- *La consolidation de peintures mattes. Comparaison de consolidants et méthodes d'application sur un masque de danse de la Nouvelle Irlande*

Gold, Mijanou, mentor Olivier Haillant
Les sièges contemporains :le problème de la conservation de la mousse souple de polyuréthane (original language)

- *Contemporary chairs : conservation problems of flexible polyurethane foams*
- *Zeitgenössische Sitze : Die Konservierung von flexiblen Schaumstoffen aus Polyurethan*

Lagger, Florence, mentor Denise Witschard
Alliages cuivreux dorés / argentés précolombiens : technologie, dégradations, élimination des produits de corrosion de surface par application de gels (original language)

- *Pre-columbian gilded and silvered copper alloys : Technology, degradation and removal of corrosion products by using gels*
- *Vergoldete und versilberte präkolumbianische Kupferlegierungen: Technologie, Zersetzung und die Entfernung der Korrosionsprodukte mit Hilfe von Gelen*

Vuissoz, Annick, mentor François Schweizer
L'effet des traitements de conservation-restauration sur l'ADN de cuir archéologiques (original language)

- *Effects of conservation treatments on the DNA of archaeological leather*
- *Einflüsse von Konservierungsmethoden auf die DNA von archäologischem Leder*

2002:

Klaus, Marianne, mentor Diana Fahrner
Die Übermodellierungsmasse auf mai-Masken vom Mittleren Sepik in Papua Neuguinea (original language)

- *The conservation of overmodelling pastes on Mwai masks of the middle Sepik in Papua New Guinea*
- *La conservation de la masse surmodellée des masques Mwai du Moyen Sepik en Papouasie Nouvelle Guinée*

Ledergerber, Martin, mentor Katharina Schmidt-Ott
Die Entfernung organischer Überzüge auf Bleiobjekten mit aktiver Korrosion als Vorbehandlung zur nachfolgenden Stabilisierung mit Hilfe elektrolytischer reduktion (original language)

- *The removal of organic coatings on actively corroding lead artefacts prior to stabilization with electrolytical reduction*
- *L'élimination de couches protectrices sur des objets en plomb avec une corrosion active pour permettre une stabilisation par réduction électrolytique*

Moser, Muriel, mentor Evelyne Charrière
La conservation-restauration des objets porteurs de fonctions : recherche et développement de la problématique pour le cas des instruments de musique (original language)

- *The conservation of functional objects : the problems encountered with musical instruments*
- *Die Konservierung von funktionellen Objekten : Die Problematik der Musikinstrumente*

Pozzi, Barbara, mentor Giacomo Pegurri
Etude comparative entre différents traitements appliqués à la conservation des bois de cerf gorgés d'eau en vue d'un séchage (original language)

- *Comparative study of various treatments used for the conservation of waterlogged antler prior to drying*
- *Vergleichende Studie von Behandlungsmethoden um nass-Geweih vor dem trocknen zu festigen*

Wild, Daniella, mentor Peter ImObersteg
Die Konservierungsproblematik der Lederobjekte der Tuareg-Kollektion des ethnographischen Museums in Neuenburg (original language)

- *Conservation problems encountered with leather Tuareg items from the collections of the Musée Ethnographique de Neuchâtel*
- *Les problématiques de conservation-restauration des objets en cuir de la collection Tuareg du Musée ethnographique de Neuchâtel*

2001:

Küpfer, Laure-Anne, mentor Matthias Kauffmann
La consolidation des peintures mates, à texture poreuse et à surface pulvérulente. Comparaison des différentes méthodes de traitement. Application aux objets ethnographiques (original language)

- *The consolidation of matte paintings with loose and porous surfaces. Comparison of conservation methods on ethnographic artefacts*
- *Die Konservierung matter Malerei mit poröser und pulveriger Oberfläche. Vergleichende Untersuchungen zu Behandlungsmethoden auf ethnologischen Objekten*

Studer Jenny, mentor Roland Leuenberger
Untersuchungen zum Einsatz eines Nd : YAG Lasers zur Entfernung von Korrosionsprodukten auf archäologischem Eisen (original language)

- *Investigations of a Nd:YAG Lasers for the removal of corrosion products on archaeological iron*
- *Etude sur l'utilisation d'un laser Nd:YAG pour l'élimination de produits de corrosion de fer archéologique*

Walter, Noémie, mentor Renato Pancella
Le début de « l'âge du plastique » : les esters de cellulose (original language)

- *Cellulose ethers : The beginning of the 'plastic age'*

- *Cellulose esther : Der Beginn des 'Plastikzeitalters'*

2000:

Cevey, Christian, mentor Anna Benjamin
Conservation-restauration d'objets amérindiens: politique de restitution, de prêt et de collaboration au sein de deux musées d'Amérique du Nord (original language)

- *Conservation of North American Indian artefacts : restitution politics, loan procedures and collaboration with native Americans within two North American museums*
- *Die Konservierung-Restauration von nordamerikanischen indianischen Objekten : Rückgabe, Ausleihprozeduren, und Zusammenarbeit mit den indigenen Völkern am Beispiel zweier nordamerikanischen Museen*

Isenschmid-Roth, Susanne, mentor Diana Fahrner
Restauration von lebensgrossen Wachsskulpturen « le grand cirque » : Studie über Werkstoffe, Herstellungstechnik und Restauration (original language)

- *The conservation of life size wax sculptures from 'le grand cirque' : Study on materials, technology and conservation*
- *La conservation-restauration de sculptures en cire du 'grand cirque' : Etude des matériaux, de la technologie et de la conservation-restauration*

Jacquemmettaz, Esther, mentor François Straub
Etude de l'action d'huiles essentielles contre le développement microbien dans les bains au polyéthylène glycol 400 à 15%, utilisés pour le traitement des bois archéologiques gorgés d'eau (original language)

- *The use of essential oils to combat microbiological growth in polyethylene baths (400, 15%) used for the conservation of waterlogged wood*
- *Machbarkeitsstudie für die Anwendung von ätherischen Ölen gegen mikrobiellen Wachstum in Polyethylenglykolbäder (400, 15%) zur Konservierung von archäologischen Nassho*

Nicca, Martina, mentor Walter Haberkorn
Untersuchungen zur Verwendbarkeit der flüchtigen Bindemittel Cyclododecan, Menthol und Tricyclen-Camphen als temporäre Festigungsmittel von fragilen oder pudrigen Farbresten auf Kalkstein in wässrigen Entsalzungsbädern (original language)

- *Investigation in the use of the volatile consolidants Cyclododecan, Menthol and Tricyclen-Camphen as temporary consolidants for fragile and powdery paint layers on limestone in desalination baths*
- *Etude des consolidants volatils Cyclododecan®, Menthol® et Tricyclen-Camphen® pour la*

consolidation temporaire de peintures fragiles et pulvérulentes sur de la pierre calcaire durant des bains de déchloruration

Vallée, Karen, sans mentor, Nathalie Ducatel remplaçante

Influence des traitements chimiques sur la conservation des objets d'histoire naturelle ; un exemple parmi les vertébrés supérieurs (original language)

- *The influence of chemical treatments on the conservation of natural history specimens ; an example of the higher vertebrate*
- *Der Einfluss chemischer Behandlungen auf die Konservierung von naturhistorischen Präparate ; ein Beispiel der höheren Wirbeltiere*

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MUSEUM ACTIVITIES

Maintaining Relationships: Fijian Conservators Visit Colleagues in Sydney

In early 2006 both staff members of the Conservation Department of the Fiji Museum, Mr. Tubuka Raikaci and Ms. Savita Devi, spent six weeks in Sydney continuing and building on existing professional relationships with fellow staff at the Powerhouse Museum and the Australian Museum.

Funds for this professional collaboration were provided, as part of a cooperative arrangement between the National Museum of Australia, International Council of Museums (ICOM) Australia's Museum Partnerships Program (IAMPP) and AusAID, to support Governance in Pacific Island Museums.

Powerhouse Museum conservators worked closely with Savita and Tubuka, with support from Technical and Further Education (TAFE) New South Wales, to complete two modules of the Certificate in Museum Practice. The opportunity to gain formal recognition for this training and knowledge was considered significant by both conservators.

Tubuka and Savita also spent one day a week at the Australian Museum and were involved in a wide range of practical activities and discussions. Visits to other institutions across Sydney and in Canberra provided opportunities to establish a wide range of specialist professional contacts in Australia.



Figure 1. Mr. Tubuka Raikaci and Ms. Savita Devi, assess Fijian cultural material in the Powerhouse Museum collection.

This program is the realisation of a long term mutual goal and has strengthened links with the Fiji Museum. Powerhouse Museum conservators have increased their knowledge of the manufacturing techniques, use and care of Fijian materials. Before their return journey, Tubuka and Savita selected basic supplies, equipment and reference material to aid their work. These items arrived in Fiji and recently aided Buka and Savita in the preparation of some loans from the Fiji Museum to France.

We look forward to continuing collaborative programs with the Fiji Museum and other partners in the Asia –Pacific region.

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Le Musée du Quai Branly

(Note: an English translation follows the French text)

Implanté au cœur de Paris, le musée du quai Branly, dédié aux cultures et aux arts d’Afrique, d’Asie, et des Amériques, a ouvert ses portes en juin 2006. Novateur, il est à la fois musée, centre d’enseignement et de recherche et espace à vivre pour les publics, dans un écrin architectural signé par Jean Nouvel. Dix ans après le projet annoncé par le président Jacques Chirac de donner leur place en France aux arts extra-européens, le projet aura été jalonné d’une période de préfiguration suivie de la phase de réalisation de tous les chantiers, amorcée en 2001 pour s’achever en 2006. Les collections ethnographiques trouvent également leur place au musée du Louvre, à travers une sélection de 120 pièces maîtresses exposées au Pavillon des Sessions, inauguré en 2000.

Les collections

La collection comporte environ 267 417 objets qui proviennent en majorité du musée de l’Homme (236 509 objets du laboratoire d’Ethnologie) et de l’ancien Musée national des arts d’Afrique et d’Océanie (22 740 objets), auxquelles viennent s’ajouter près de 8168 acquisitions. Un fonds photographique important comprend 700 000 items (dont 580 000 provenant du Musée de l’Homme et 66 000 de l’ancien Musée des Arts d’Afrique et d’Océanie). Cet ensemble comprend quatre unités patrimoniales continentales : l’unité patrimoniale Amérique, qui compte 97 372 objets ; l’Afrique 70 205 ; l’Asie 54 041, ; l’Océanie et ses 28 911 objets. Trois unités transversales présentent de fortes spécificités : **Les textiles** (25 000) ; **les collections d’ethnomusicologie** (8831 instruments de musique) et **le fonds historique** (4987 objets liés aux découvertes et à l’histoire coloniale française).

Chantier des collections : 2001-2004

D’octobre 2001 à septembre 2004, un chantier des collections a permis le récolement, le dépoussiérage et la désinsectisation, la conservation-restauration (minimale), la prise de vue d’identification et la documentation de l’intégralité des collections. Pour cela, une base de données unique utilisant le logiciel TMS (The Museum System) regroupant les inventaires respectifs des deux musées d’origine, a permis d’assurer la gestion physique des collections. Un module de gestion utilisant le support du code-barre a été ajouté à chaque fiche d’inventaire pour en assurer la traçabilité.

Ce chantier de conservation préventive visait également la mise à jour documentaire et juridique

des collections. La normalisation du thésaurus ainsi que la correction des fiches sont toujours d’actualité. Le catalogue en ligne permet de découvrir les objets, exposés ou non, grâce aux photographies numériques. Il est également possible de contempler sous toutes leurs faces ceux qui ont une vue en 3 dimensions (environ 370 objets). L’ensemble de la collection des objets pourra être étudié à la **muséothèque** du musée, sur accréditation et rendez-vous, dans des salles de consultation jouxtant les réserves. Un chantier de déploiement des collections en réserve prévue en janvier 2007 devrait rendre ce service opérationnel à la **fin de l’année 2007**.

Chantier muséographique : 2005-2006

En 2005, **3 500 objets sélectionnés pour la muséographie** du plateau permanent ont été préparés dans le cadre d’une campagne de soilage, de prise de vue éditoriale, et de restauration. Le chantier d’installation des œuvres sur le plateau muséographique a duré trois mois avant l’ouverture (entre le 21 mars et le 19 juin, avec une moyenne journalière travaillée de 12h pendant le dernier mois). Parallèlement aux travaux de parachèvement du plateau de référence, les œuvres ont été installées par une équipe d’une dizaine de socleurs, en collaboration avec les responsables scientifiques, 6 restauratrices (2 temps pleins en interne et 4 mi-temps en sous-traitance), 6 régisseurs (dont 4 régisseurs temps plein en sous-traitance).

L’actualité des missions :

L’institution articule son offre autour de plusieurs pôles :

Autour de la préservation et la valorisation des collections de référence, associées à des présentations temporaires exploitant la diversité des ressources du musée, ou issues de collaborations internationales.

Recherche et enseignement : avec la création d’un pôle de recherche interdisciplinaire. A la fois musée et campus universitaire, le musée du quai Branly met à disposition du grand public les outils d’information de sa médiathèque de 230 places (qui comprend le service de l’iconothèque, le portail documentaire accessible via le réseau et par l’Internet, une future filmothèque). La communauté des chercheurs y bénéficie également d’un centre d’étude de premier plan.

Véritable carrefour des cultures du monde, ouvert au plus grand nombre, le musée du quai Branly propose également une politique de programmation de spectacles vivants dans son théâtre –arts de la scène, théâtre, danse, musique–créant ainsi une véritable cité culturelle des arts extra-européens.

Enfin accessible à tous, l'Université populaire du quai Branly ouvre le débat sur les enjeux historiques et contemporains et encourage le dialogue sur les questions liées à l'Autre au travers de ses cycles de conférence.

Les missions en 2007 :

Mais l'ouverture ne clôture pas l'ère des chantiers, puisque la *mise en place du service de consultation des œuvres de la muséothèque* nécessite préalablement le déploiement des collections en réserve qui sont en grande partie stockés sur palette (notamment pour les textiles).

Le roulement muséographique des pièces le plus fragiles à l'exposition lumineuse et présentées sur le plateau permanent, prévu pour la fin du premier trimestre 2007 fait également partie des objectifs prioritaires du service de préservation.

Parallèlement, *l'atelier de préservation* reste à équiper pour une livraison prévue fin février 2007. Sa politique de fonctionnement, prédéfinie en 2004 par l'unité de restauration dans le cadre du projet d'aménagement spatial, sera redéfinie dans le cadre d'un fonctionnement pérenne. Le service de gestion physique des collections permanentes est composé de cinq unités réparties comme suit :

- *La régie :*
 - La régie des collections permanentes en réserve, composée de : 3 régisseurs pour la gestion des réserves (dont le service de la *muséothèque opérationnel à la rentrée 2007*).
 - La régie des prêts, dépôts et acquisitions (1 régisseur et une secrétaire)
 - La régie des collections muséographiques du plateau permanent, composée de 2 régisseurs
- *La conservation préventive et restauration :*

En 2007, seront poursuivies et développées les mesures de conservation préventive visant à contrôler et inspecter les conditions de conservation des collections. Elle concerne les activités liées à la muséographie (conception de la vitrine, conditions d'éclairage, soilage, empoussièrement, pollution, climat.), aux conditions de stockage en réserve et aux mouvements des collections.

- *L'unité de décontamination biologique et d'expertise chimique : 1 personne*

En janvier 2007, une campagne de *détection des infestations* (piégeage des insectes) et l'installation

du *dispositif de traitement de désinsectisation* seront mis en œuvre. L'installation est composée de deux enceintes en dur d'une capacité de 12 m³ chacune : l'une pour le traitement par anoxie et l'autre pour le traitement thermique. Une poche souple d'anoxie reliée au compresseur d'azote de l'enceinte d'anoxie, sera également utilisable en cas de besoin. Seront *traités systématiquement tous les objets entrants en réserve* (acquisitions, retours de prêts et dépôts, retours d'expositions temporaires internes, retour des roulements muséographiques du plateau permanent, etc.).

Cette unité a également en charge le *développement d'un laboratoire d'analyse physico-chimiques* pour l'identification des matériaux constitutifs des objets des collections et pour répondre à des problématiques de conservation-restauration.

L'unité de conservation-restauration : 3 restauratrices spécialisées

L'unité assurera, en étroite collaboration avec l'unité de décontamination biologique et la régie, la rédaction de *protocoles* de conservation préventive et de *préconisations* (manipulation, emballage, transport, conditions d'exposition, soilage, protocole de consultation des œuvres, plans d'urgence). Le *suivi des collections* auquel elle participe comprend le contrôle sanitaire, mais aussi environnemental et documentaire (fiches d'inspection, constats d'état, rapports de traitement, études spécifiques).

Un *atelier de préservation de près de 280 m²* (mise en place prévue fin février 2007) permettra d'accueillir les interventions de restauration menées en prestation extérieure sur les collections permanentes et pour le service des expositions (ou en interne selon le type et la durée du traitement). Il comprend également un espace partagé avec la régie des collections permanentes pour la *préparation au soilage des textiles et objets bidimensionnels souples du plateau de référence*.

L'unité de restauration, quelle que soit la filière muséographique des collections, (exposition temporaire ou plateau de référence) assure le *suivi technique des restaurations* menées par le musée du quai Branly. Les objets gérés par le service des prêts, dépôts et acquisitions sont constatés et suivis par l'unité de restauration. Les *constats d'état* réalisés dans le cadre des expositions temporaires sont sous-traités par le service des expositions. L'unité de restauration travaille néanmoins en étroite collaboration avec ce service pour l'assistance et le conseil à la manipulation des objets fragiles et au suivi des collections (conditions d'expositions, interventions de conservation-restauration minimales, constats d'état si nécessaire). L'atelier de

préservation prévoit également un espace de près de 15 m² pour accueillir le laboratoire d'analyse physico-chimiques.

Le site internet du musée (www.quaibrantly.fr) permet de répondre à toutes les questions relatives au musée et à sa programmation des manifestations (qu'il est possible de recevoir en inscrivant sur le site). Pour toute information complémentaire : Liens utiles : contact@quaibrantly.fr

The Musée du Quai Branly

The Musée du Quai Branly, an institution dedicated to the arts of Africa, Asia, Oceania and the Americas located in the heart of Paris, opened its doors in June 2006. Innovative, it combines the roles of museum, education facility, research institute and public gathering space, in a building designed by the architect Jean Nouvel. Ten years ago, President Jacques Chirac had announced the creation of this new museum as a means of providing a greater visibility in France for arts originating from cultures other than European. After a few years of planning, construction started in 2001, ending 5 years later in 2006. Ethnographic collections from around the world are also present at the Musée du Louvre, by means of 120 masterpieces exhibited in the Pavillon des Sessions (the Sessions Hall).

The Collections. The collection consists of approximately 267,417 objects, the majority of which come from either the ethnographic collections of the (former) Musée de l'Homme (Museum of Man) - 236,509 objects - or the former Musée national des arts d'Afrique et d'Océanie (National Museum of African and Oceanic Arts) - 22,740 objects. There are also approximately 8168 recent acquisitions. The collection is divided in four heritage units, by continents: Native American heritage (97,372 objects); African (70,205 objects); Asian (54,041 objects); and Oceanic (28,911 objects). There are three major cross-units, grouped thematically: **textiles** (25,000 objects in total); **ethnomusicology** (8,831 musical instruments); and **French history** (4987 objects related to French discoveries and colonial history). As well the important Photographic Collection consists of 700,000 items (580,000 from the Musée de l'Homme and 66,000 from the former Musée national des arts d'Afrique et d'Océanie).

Preparing the Collections : 2001-2004. From October 2001 to September 2004, the collections underwent extensive preparations for the move to their new premises, including: an inventory, cleaning and treatment for pest infestation of the objects, basic treatment (when required), as well as photographic and written documentation. A new database, using TMS (The Museum System) software, was created to

merge into one collection management system the inventories and other records from the 2 main original collections. Accession number tags and inventory cards were bar-code numbered to better manage and trace each object's location.

As well, collection preparations were aimed at updating the objects' documentation including their legal ownership status. A standardized thesaurus was developed and records were reviewed and if necessary corrected. This work to standardize the documentation remains ongoing. An online collection catalogue was established to provide access to objects via their digital images, whether on exhibit or in storage. Over 370 objects with multiple views were digitally photographed from all sides. Upon request, researchers will have access to the Muséothèque or museum documentation library, with consultation rooms located adjacent to the storage rooms. This service, with access to the collections, is being organized starting in January 2007 and will become available at the end of 2007.

Preparing the Displays: 2005-2006. In 2005, conservation work for the **3,500 objects selected for exhibition** in the main exhibit room included input on exhibit documentation, treatment as well as mounts or bases. Installation took three months prior to the opening (March 21 to June 19, 2006), with an average of twelve-hour work days during the last four weeks before the opening. While the exhibit platforms and design were being finished, a team of twelve technicians installed the works, with input and assistance from the curators, six conservators (two full-time museum staff and four part-time on contract) and 6 collection managers (of which four were hired full-time on contract).

Mission. The Institution's mission is focused on the following priorities:

Preservation of, and Access to, the Reference Collections: this is carried out in part with temporary exhibits highlighting the diversity of the collections, or with international collaborations.

Research and learning : a means of carrying this out has been through the fostering of interdisciplinary research. Since the museum is also a university campus, the museum provides to the general public information tools in its Médiathèque (museum documentation library) which can seat 230 persons. The library also includes image library, Internet and Intranet access to records and in the future, a film library. Researchers also have access to a first rate Research Centre.

Crossway between World Cultures: open and inclusive to all, the Musée du Quai Branly proposes a

program of cultural events in its amphitheatre highlighting art forms such as theatre and performing arts, dance and music, creating a rich and exciting venue for non-European cultural expressions. As well, with its series of lectures, the university college which is accessible to all, engages in debates and dialogues on historic and contemporary issues concerning the meeting of worlds and other peoples.

Goals for 2007. Although the museum is now open, work is still ongoing to finish off various projects, in particular to make objects in storage accessible through consultations using the Muséothèque resources. For now many objects are still stored on palettes (in particular the textiles).

Another priority project for the conservation department this year is to start replacing the light-sensitive objects currently on display in the permanent galleries. This is planned to be completed at the end of the spring.

At the same time, various equipment and hardware items for the preservation laboratory are being delivered at the end of February 2007. The lab's policies and procedures which were established in 2004 by the conservation department when space allocation was decided will be reviewed so as to schedule ongoing activities.

Management of the permanent collections is composed of the following units:

- *Collection Management :*
 - Section on Storage of the Permanent Collection: three coordinators who focus on the storage collections (including the Muséothèque services which will start in the course of 2007).
 - Loans and Acquisitions Management Section (one coordinator and one assistant)
 - Permanent Exhibits Section: two coordinators

- *Conservation Dept. (Preventive Conservation and Treatment):*

In 2007, the Conservation Department will continue and further develop its preventive conservation strategies aimed at monitoring and controlling the environment and other conditions affecting the collection. Sphere of activities include exhibits (display case design, lighting conditions, mounts and bases, housekeeping and maintenance, filtering and HVAC system maintenance and monitoring) as well as storage conditions and safe in-house moving of the collection.

- *Biological Pest Control Unit and Chemical Expertise: 1 person*

In January 2007, a campaign to detect infestations (using insect monitoring traps) and the installation of the pest treatment equipment will be carried out. The equipment consists of 2 chambers with hard walls, each being able to hold 12 m³. One is for anoxic treatments and the other for thermal treatments. Along with the anoxic chamber, there is also a flexible 'bubble' membrane linked to the nitrogen compressor which can be used if need be. All incoming objects (loans from other institutions or being returned, acquisitions, return of objects from traveling exhibits, objects taken down from the permanent exhibit platform, etc) will systematically be treated.

This unit is also in charge of developing an Analytical Laboratory to identify materials of which the objects are made and to assist in other problems concerning the conservation or care of the collections.

The Conservation Unit: 3 specialized conservators. The Conservation Unit is responsible for writing up preventive conservation protocols as well as guidelines for handling, packing, transportation, exhibits, mounting, consultations and emergencies. This is done in conjunction with the Pest Control and Collection Management Units. Conservation also provides collection care services such as housekeeping management, environmental controls and documentation (inspection forms, condition reports, treatment reports, reports on special studies).

A 280 m² conservation lab, which should be operational at the end of February 2007, will provide the facilities for conservation treatments on the permanent collections, carried out either by external specialists or by staff, depending on the type and length of treatment. The labs will also be used for work related to the exhibits. Part of the lab space, shared with Collection Management, is designated for mounting textiles and 2-dimensional flexible objects from the reference collections.

For both the reference collections and temporary exhibits, the Conservation Department carries out treatment assessments. Objects that are managed by the Loans and Acquisitions Department. are examined and assessed by the Conservation Unit. Condition Reports for temporary exhibits are sub-contracted by the Exhibits Department, however the Conservation Unit works closely with Exhibits by providing handling advice and assistance for fragile objects and as well collection care (exhibit conditions, minor treatments, exhibit condition

reports if necessary). The Conservation Unit also includes a fifteen m² space which will be reserved for the Analytical Laboratory.

The museum website contains a wealth of information which should answer any questions concerning the museum or its programs and events, and one can subscribe online to get regular updates. For further information, email: contact@quaibrantly.fr

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Regional and National Activities

ICON Ethnography Group

The ICON Ethnography Group, formerly known as the UKIC Ethnography Group, is devoted to the conservation of ethnographic museum collections from local, national and international cultures. The Group was organized to support the professional development of its membership who treats a broad range of media and objects. Members include conservators employed at museums, private conservators, and researchers.

The discipline of ethnographic conservation and its wide-ranging nature presents historical, ethical, social and scientific facets. The Group is concerned with responses to challenges such as: access, decision-making processes, display, documentation, ethics, First Nations, intangibility, interventive treatments, pesticides, public outreach, storage etc.

One of the most important aims of the Ethnography Group is to promote forums where these professional issues can be discussed, especially in the form of seminars or workshops. Papers presented in these events are subsequently published by Archetype Publications in an ethnography conservation series.

The Ethnography Group has a new committee. Their current main concern is to see through the backlog of activities started in the past and only then move on to

new enterprises. It is within this agenda that we have been working on the long overdue publication of the post-prints for UKIC Ethnography Group meetings 'Conservation of Ethnographic Painted Surfaces', 'Unusual Materials', 'Caught in a Compromising Position' and 'Questioning the Boundaries of Ethnography'.

These publications have now been edited by Margot Wright and will soon be published by Archetype. The new projected release dates are July 2007 for 'Conservation of Ethnographic Painted Surfaces', soon to be followed by 'Unusual Materials'. Contributions from 'Caught in a Compromising Position' and 'Questioning the Boundaries of Ethnography' will be published in one single combined publication.

The Ethnography group committee humbly apologises to all contributors and members for the long delay in the publications and any inconvenience this may have caused.

Plans for 2007

The Ethnography Group has active participation in the editing of ICON News. The Group is now going to promote a new column called 'Conservation Everywhere'. The main aim of this column will be to showcase creative and innovative conservation practiced in different parts of the planet. Besides having an inspirational effect, this will also allow fresh views to impart more depth to discussions pertinent to our profession.

The Group will also organise a workshop to address a particular issue encountered by conservators in the treatment of ethnographic material. The membership has been encouraged to express their needs and a decision regarding the exact theme and venue of the workshop is due to take place in January 2007.

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ICON Ethnography Group Website:

http://www.icon.org.uk/index.php?option=com_content&task=view&id=112&Itemid=

Report from Western Canada Region

These past few months have brought some exciting developments to those investigating pesticide residue contamination of collections on the British Columbia west coast. In June 2006, the University of British Columbia Museum of Anthropology (MOA) purchased a hand-held Innov-X X-ray fluorescent

spectrometer with the assistance of the Canadian Foundation for Innovation and the Museum Assistants Programme. Conservators Carol Brynjolfson from the Vancouver Museum, Kasey Brewer and Lisa Bengston from the Royal BC Museum (RBCM) as well as Kathy Bond and Heidi Swierenga from the Museum of Anthropology (MOA) received training in the use of the unit. A few of the trainees have since passed the federal exam and are now certified to use the unit.

Over the next two years, MOA hopes to gain an understanding of the level of pesticide contamination in its own collection. To date, the results have been encouraging; for example, out of almost 200 objects tested, only 2 objects have been found to have readings for arsenic which are considered to be very high (<50,000 ppm).

In early November, the Pacific Conservation Group met in Victoria BC for their 34th biannual meeting. This year's fungus theme precipitated several great papers which were complemented by a tour of the mycological collection of the Pacific Forestry Centre. The meeting was preceded by a two-day workshop presented by the Canadian Conservation Institute and organized by the RBCM on the conservation of waterlogged organic materials.

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Book Reviews

Old Poisons, New Problems: A Museum Guide for Managing Contaminated Cultural Materials, Nancy Odegaard, Alyce Sadongei and Associates, Altamira Press, Walnut Creek CA, 2005; 126 pages, paper-back, US \$39.95; ISBN 0-7591-0515-4.

NDLR: the following book review was first published in the Journal of the Canadian Association for Conservation Vol. 31 (2006) and is reprinted with permission.

In the fall of 2004, the University of British Columbia Museum of Anthropology (MOA) undertook a small study to confirm that pesticide contamination was an issue for the institution. A limited sampling of 345 objects using a hand-held X-ray fluorescence spectrometer revealed that 39% of the object tested had detectable levels of arsenic; 12% tested positive for mercury and 55% for lead. The results were paralyzing. The unknowns were many. To what degree were the contaminants

transferable and how much was bound within the paint layer? What were the associated health risks for the museum staff who worked with the collections and the community members who borrowed the material for potlatches and dance performances? The weight of it all was and still is daunting.

MOA's challenges in this area are by no means unique. The use of toxic compounds by collectors, dealers, and museums as a means to mitigate against insect infestation was a common practice in the past. The staff at the Arizona State Museum (ASM) has been looking at the issue of pesticide contamination of cultural material since the early 1990s. A significant output during this time was the March 2000 workshop entitled "Contaminated Cultural Materials in Museum Collections". This workshop brought representatives from the 21 American Indian tribes in the state of Arizona together with museum staff, chemists and health professionals to share information on the contamination of collections. *Old Poisons* marks an attempt to share the results of this and other ASM initiatives with a broader audience.

This collection of presentations and papers and resource materials would have been a very useful publication to have on hand during MOA's preliminary testing. While the publication does not purport to answer all of the outstanding questions, it advances a collaborative model for interpretation and dissemination of results required to move forward on the issue. The authors demonstrate that effective dialogue requires representation from a broad group that includes conservators, First Nations people, industrial hygienists and chemists. The book also strives to equip the participants with the common language needed to enter into effective discussions around the use and repatriation of contaminated belongings.

There are specific initiatives that museums should take to enhance their contribution to this dialogue. Residue analysis is one aspect of what is needed, but the authors suggest that institutions must also undertake research to develop a comprehensive understanding of their own pesticide use history. The book points to a shortcoming of the Native American Graves Protection and Repatriation Act (NAGPRA). US federal legislation states that institutions have a legal obligation to inform communities of "any presently known treatment" of repatriated material with pesticides, but museums usually know little about their own history of pesticide use, and even less when comes to determining whether or not a specific object has been contaminated.

As a relatively young institution, MOA's pesticide use documentation process is less daunting than it

would be for older museums. Given that documentation of museum pesticide use prior to the 1970's is exceedingly vague, the task can be a sleuthing effort of some magnitude. The authors of *Old Poisons* employ a methodical approach – oral histories and recollections of retired employees combine with physical evidence of pesticide use such as powder residue and skull and crossbone tags to reveal potential candidates for contamination. The book's inclusion of a detailed sample conservation technical report provides a clear method for object history compilation. The sample report's analysis results and donor information sections create a comprehensive picture of a given object. While the level of detail in this report sample may be impractical for those institutions with small or non-existent conservation departments, it serves as a useful model.

Numerous other useful resources included will ensure that *Old Poisons* gathers little dust in museum labs. Overviews of analytical test methods, spot-testing instructions, history of the legislated use of pesticides in the United States and easy to read charts outlining characteristics, classification, and trade names of pesticides are but a few of the items which make this volume a solid resource.

Old Poisons limits its focus to the use or disposal of objects specifically following repatriation. However, there are other circumstances in which pesticide contamination must also be dealt with. The risks associated with community use of materials within the museum environment and the loaning of family belongings for potlatches or ceremonies must also be evaluated and discussed. MOA has honoured more than one last-minute request from a community member to "dance" an object. In such instances, because only a small sample of the collection has been tested, the institution is usually unable to say definitively whether the object is contaminated or not. This ignorance inhibits the ability of the community user to make an informed decision on whether the use of the object is worth the potential risk or not.

MOA is hoping to undertake additional pesticide residue testing beginning this summer and will be drawing upon *Old Poisons* to help develop the protocols required to enter this next phase. It is an important publication that will compliment the growing body of conference symposia and proceedings on the issue and it should be considered required reading for anyone engaging with it.

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Collection Forum, Volume 20, Numbers 1-2, Spring 2006

The 2004 Eastern Analytical Symposium (EAS) included a technical session organized by Judith Bischoff on the topic "Contaminated Collections and Inherent Collection Hazards – Testing for Contaminants". A number of papers from this conference were published by the Society for the Preservation of Natural History Collections (SPNHC) Collection Forum. Soon these papers will be available at the SPNHC website at: http://www.spnhc.org/publications/collection_forum.html.

Articles from the conference include:

Investigation of Solid Phase Microextraction Sampling for Organic Pesticide Residues on Museum Collections by Mark Ormsby, Jessica S. Johnson, Susan Heald, Lauren Chang and Jenifer Bosworth.

Testing Cultural Material for Arsenic and Interpreting the Results: A Case Study at Carnegie Museum of Natural History by Barbara Hamann

Pesticide Contamination on Native American Artifacts – Methods, Results from Six Case Studies and Next Steps by Peter T. Palmer, Matthew Martin, Gregory Wentworth, Salvatore Ostini, Chris Propero, and Madeleine Fang.

Detection and Mitigation Strategies for Contaminated NAGPRA Objects – The Seneca Nation's Experience by Peter Reuben

Using of a Handheld XRF for the Study of Pesticide Residues on Museum Objects by Nancy Odegaard, David R. Smith, Leslie V. Boyer, and Jae Anderson.

Conference and Workshop Reviews

IIC Congress 2006 – The Object in Context: Crossing Conservation Boundaries Munich, Germany

The IIC Congress 2006 was held 28 August – 1 September in Munich, Germany, and was attended by around 450 conservators, restorers, conservation scientists, students and other allied professionals. The Doerner Institute hosted the conference, which was impressively well-organised and run – in no small part due to the dedication and efficiency of a cohort of student volunteers, whose good humour and enthusiasm can only be congratulated. Papers were

presented in either German or English, and simultaneous translation facilities were made available to all attendees.

The conference program was full, and as you would expect at the IIC Congress, diverse, encompassing the full spectrum of conservation disciplines including paintings, paper, objects, stained glass, furniture, rock art, built heritage, sculpture and textiles. All presented papers engaged with the conference theme of the conservation of cultural material considered in some larger context which impacted on treatment: historical, technical, cultural, spiritual. Gael de Guichen's Forbes Prize Lecture was a great start to the programme. Not only was the content stimulating, discussing 'conservation' vs. 'restoration' and pleading for debate and consensus within the profession, it was also hilarious. Gael managed to incorporate audience participation, and photos of himself pondering conservation ethics in the bathtub – no mean feat.

Many unusual and challenging contexts, and their impact on conservation treatments were discussed throughout the conference programme. Garments deliberately concealed in building cavities and walls were then conserved and displayed in a manner which reflected their multiple histories of use (garment vs. evil-averting agents), providing access to insight regarding the psychosocial basis of their concealment (D. Eastop and C. Dew, *'Context and meaning generation: the conservation of garments deliberately concealed within buildings'*).

The preservation project undertaken at the library of the Monastery of Saint Catherine on Mount Sinai showed how the longevity of the collection (over a millennium), responsibilities of custodianship, and location all have a part to play in the decision-making process (N. Pickwoad and A. Velios, *'Conservation and Continuity: Preserving the Library of the Monastery of Mount Sinai'*).

The conservation of artefacts associated with unidentified human remains from World War I trenches, excavated as part of a documentary film, highlighted the emotional, social and cultural processes inherent in conservation, rather than the technical (R. Peters and D. Sully, *'Finding the fallen: conservation and the First World War'*).

While papers from a variety of disciplines did address ethical issues as a determining context, and so presented information of relevance to ethnographic conservators, the day three programme was primarily concerned with artefacts that cannot be considered purely from a Western perspective. The spiritual, cultural and technical specifics of the ongoing care and play of a gamelan (an Indonesian

orchestra consisting of instruments of divine origin and imbued with spirits) showed the importance of developing long-term protocols for the care of artefacts to ensure continuing integrity, and also questioned whether this was actually possible in a museum environment (H. Jones-Amin, H. Tan and A. Tee, *'Gamelan: can a conservation-conceived protocol protect it spiritually and physically in a museum'*).

The fact that replacement and re-painting of historic painted Buddhist figures in shrines is considered the responsibility of Buddhist practitioners who gain merit for these undertakings was examined in contrast to Western approaches to the conservation of wall paintings (S. Dhar, *'Challenges in the context of the living sacred tradition of Mahayana Buddhism'*).

Other Buddhist religious artefacts (wall paintings, tsha-tshas) were also the subjects of presentations (C.L. Reedy, *'Multiple functions and multiple histories of Tibetan Tsha-Tshas'* and K. Han and S. Lee, *'Contextual change and the conservation of wall paintings: the case of Korean Buddhist temples'*).

American Indian ceramics, both contemporary and archaeological, and their specific treatment and display needs were also discussed (J. Fletcher, C. Patterson, N. Blomberg and P. Nordstrand, *'The role of context in the conservation of contemporary American Indian ceramics'* and M. Thompson and A. Elliott, *'The Mimbres journey: how shifting contexts necessitate a multi-disciplinary conservation approach'*).

From Australia came an anecdotal and personal exploration of learning and respectful communication between a conservator and the traditional custodians of several significant rock art sites in the Central desert (A. Thorn, *'Tjurkulpa: A conservator learns respect for the land, the people and the culture'*). Mr. Thorn is ICOM-CC Assistant Coordinator of both the Stone Working Group and the Working Group on Mural Paintings, Mosaics and Rock Art.

Overall the conference was stimulating, diverse and satisfying. The social functions held at the Pinakothek der Moderne, and a famous beer hall were also highly enjoyable, the latter providing a real insight into the German cultural context! Abstracts and full-text versions of all of the presented papers, of which I have only mentioned a very few, are available to IIC members online at: http://www.iiconservation.org/conferences/munich/munich_index.php.

My attendance at the conference to give the paper *Conservation of a Māori eel trap: technical and ethical issues*, co-author Heike Winkelbauer was

made possible through the generous support of the University of Otago (NZ) and the Pasold Research Fund (UK) who I would like to take this opportunity to thank.

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Don't Panic! Dealing with Hazardous Materials in Museum Collections

**ICON Care of Collections
and Metals Section Conference
Birmingham Museum and Art Gallery, UK
21st-22nd November 2006**

Don't Panic was on the surface a very good name for this excellent conference, although it did lull my colleague and I into a false sense of security prior to detailing how the seemingly innocuous objects in our collections could be harmful not only to our health, but that of the visiting public. However, if we managed to survive all the hazards being thrown at us we still had the threat of legal proceedings against us for failing to follow current legislation!

For fear of alarming readers with my tabloid press alarmist first paragraph, I shall take you through the proceedings of the two days of papers in a calm and reasoned approach.

Simon Houghton (Health and Safety Advisor, English Heritage) began the first day's proceedings by pointing out the need to realistically interpret Health and Safety legislation and balance risk against control. Risk management is not about creating a risk free society or scaring people by exaggerating trivial risks. Don't Panic, manage the risk was Simon's ultimate message. Next up was John Burns (Birmingham Science Museum) whose paper 'Handling the Unknown: Risks from Asbestos' made us realise that asbestos is far from being a modern problem or one confined to the built environment. Along with Jackie Britton (Victoria and Albert Museum - V&A) speaking on 'Asbestos in Collections' later in the afternoon, we learnt that an ethnographic collection could harbour asbestos in the form of Egyptian mummy wrappings, woven fabrics or lengths of rope. These papers also highlighted the need for conservators and collections managers to maintain access to the education department handling collection, where it was noted that asbestos containing World War II gas masks could easily lurk. So as not to lead us too gently into the morning coffee break, Martin Bastone (V&A) rounded off the first session with 'Can I Panic Now?' which looked at all the potential hazards in a museum collection in

the context of a disaster situation. This paper, along with Andy Holbrook's (Imperial War Museum) 'Panic on the Streets of London' on day 2, discussed the need to have locations of hazardous materials clearly documented for the safety of both emergency services and museum staff in an emergency response situation.

After coffee we moved onto two papers looking at firearms and explosives. Firstly, George Gear, a freelance consultant, discussed safe storage and environmental conditions for live ammunition, and raised the issue of checking references and ID of researchers wishing to study firearms/explosives. Secondly, Peter Smithurst (Royal Armouries) discussed firearm legislation and checking firearms for ammunition.

The first session for the afternoon dealt with the issue of radiation. Jannicke Langfeldt (Science Museum) spoke on 'Radioactive Material Management' including the methods of checking objects for radiation, safe storage following identification and protective measures for staff working with the affected collections. Following this, consultant Les Fullerton discussed 'Ionising Radiation Regulations', including the presence of naturally occurring Radon gas in geological specimens.

Following afternoon tea (this being a conference in the UK after all) we moved seamlessly into discussion of two other problematic heavy metals. Catriona West (MLA) discussed 'Mercury: Dealing with the Slippery Customer in your Collections' based on her experience at the Whipple Museum of the History of Science, University of Cambridge. Apart from salient information regarding the appropriate materials for storing mercury containing objects and regulations on dealing with spills, Catriona raised the issue of a conservators' ethical responsibility to the objects integrity with regard to removal of the mercury from an object. Russell Turner (Eura Conservation) then went on to talk about 'Lead and Associated Hazards' by first giving us some idea of the varied uses of lead over the past 8000 years, before moving onto some of the potential health hazards - including madness! On the downside Russell gave us statistics that show men can withstand double the dose of women, but with the glimmer of hope that once the source of lead is removed the body can make a full recovery! Day one ended with two quite practical papers. Firstly, consultant Ian Clark discussed equipment, training and planning for 'Heavy Object Handling', followed by Trevor Reynolds (English Heritage) who in 'Ship, Lend or Dispose' ran through the logistics and legislation of doing just that.

Perhaps surprisingly most delegates returned for day two with renewed vigour. Tacey Philipson (National Museum of Scotland) took us through some ideas for staff training, under the auspice that we would want to pass on the information we had learnt in order to avoid becoming the museum hazard expert. Owen Yorath (Health and Safety Executive – HSE) then went on to reassure us that we were not alone and that the ‘HSE can help you’.

After coffee we moved on to plastics, firstly with David Walsh (Head of Preservation, Imperial War Museum) discussing ‘This Film is Dangerous’. David talked us through the realities and misconceptions of cellulose nitrate (CN) film before showing us a scary movie simulation of how quickly a fire in a CN store can take hold and how ferociously it burns. Anita Quye (National Museum of Scotland) then moved onto ‘Drastic Plastics’ where the break down of CN, cellulose acetate (CA) and Poly Vinyl Chloride (PVC) plastics was discussed, along with recognising the signs and smells of deterioration and methods of slowing the inevitable.

Returning from another super lunch Simon Moore (Hampshire Museums) looked at the risks associated with ‘Wet Spirit Collections’ from the fumes inherent in fixatives and preservatives, to potential biohazards from broken jars. Vicki Purewal (National Museum of Wales) then whittled down ten years of Doctoral research on ‘Historical Pesticide Use’ into 25 minutes. Although Vicki works as a botanical conservator in a herbarium, her research into the use of naphthalene and mercury had a resonance for all of us with historical organic collections. Brendan Derham, a former conservation scientist and now Research Fellow at the University of Newcastle, rounded off this session with the subject ‘Natural Toxins and Narcotics in Museum Collections’. Brendan’s paper was of particular interest to ethnographic conservators as it included very useful information on the geographical spread of various poisons found on museum objects, particularly arrows.

Consultant Dr Jagjit Singh began the final session with a look at the ‘Management of Mould’, which he described as a weapon of mass destruction and showed some fairly gross photographs in support of his claim. Gillian Scott’s (Hancock Museum) presentation on ‘Human Remains’ discussed potential hazards from remains in four forms (mummified, bones, plasticized and pickled), before outlining safe storage and current legislation. Finally, “in the graveyard shift to end all graveyard shifts” Briony Hudson (Royal Pharmaceutical Museum) presented ‘Pharmacy Collections – No Need to be Scared!’. Briony looked at ways to recognise poison bottles,

the books available to translate pharmaceutical Latin and the laws pertaining to drug holdings.

Following the final questions session of the conference Jane Thompson-Webb of Birmingham Museums, and one of the organisers of the conference, expertly summarised the events of the past two days before we all went our separate ways and returned to our scary collections. For me the conference clearly made the point of how important it is for museum staff, conservators or collections managers, to understand what they have in their collections. Taking the time to determine materials as accurately as possible whether they are new accessions or while working through conservation, cataloguing and improving the storage of existing collections. In a museum climate, in the UK at least, increasingly driven by short-term contracts and the outsourcing of conservation services, I felt that many of the issues raised in the conference and the systems needing to be put in place, could be harder to achieve. Many of the papers looked quite closely at the legal aspects associated with caring for particular materials, which was very informative. As the information given would however, only be pertinent to those working in the UK, I feel there is scope to run similar conferences for museum colleagues in other countries.

The organisation for the conference was excellent throughout the two days and all delegates were provided with a very useful conference pack filled with further reading, web addresses and contact details for many of the speakers. This event marked the first joint section conference under the newly formed Institute of Conservation (ICON) here in the UK and was a fine example of why a single institute for all conservators, regardless of discipline, was such a good idea.

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XRF Pesticide Workshop, Arizona State Museum, October 23, 2006

On October 23, 2006, a meeting of several North American groups involved in X-ray Fluorescence (XRF) testing of Native American artifacts in museums was sponsored by the Arizona State Museum with assistance from the NAGPRA Grant Program. The Tucson meeting focused on detecting the presence of inorganic pesticide residues i.e. lead (Pb), mercury (Hg) and arsenic (As) on cultural materials. The day-long workshop provided a venue for informal discussions on the following topics: readings provided by the XRF spectrometers;

standards for reporting; interpretation of the results; detection limits and calibration issues; and health/medical interpretations. Participants were from: the Hopi tribe; Tamastlikt Cultural Institute; the Canadian Conservation Institute (CCI); the Museum Conservation Institute (MCI), Smithsonian Institution; the National Museum of the American Indian (NMAI), Smithsonian Institution; University of Arizona/Arizona State Museum (ASM); National Museum of Natural History (NMNH), Smithsonian Institution; the Field Museum; and a representative from XRF manufacturer NITON.

The Hopi and Tamastlikt participants were present to share their experiences of having repatriated objects tested for pesticide residues and to help museum staff work positively with Native communities. It is important that the needs and wishes of the communities are understood and that the test results are provided in a way that is helpful and useful to whoever will have the responsibility of caring for the objects.

The three Smithsonian groups (NMAI, MCI, and NMNH), CCI, ASM, the Field Museum, and the Burke Museum are all currently involved in artifact testing for inorganic pesticide residues with handheld XRF spectrometers. Most of the groups are doing their analysis and reporting in slightly different ways and a set of uniform calibration standards, analytical methods and reporting schemes is desired. Since the last meeting in 2004, progress has been made in reporting and in preparing better calibration standards and more consistent methods of analysis.

Current projects to further develop analytical methodology are underway. NMAI, MCI and NIST (National Institute of Standards and Technology) are preparing a series of standards for calibration of XRF spectrometers used in the bulk or soil mode for arsenic. CCI will be preparing mercury standards for use in the thin film mode. NMAI and MCI are also investigating the statistical aspects of the analysis, i.e. accuracy, precision, and reproducibility of measurements as well as database construction for data storage.

Updates on analysis to date and projects in progress were provided by the various participants. The NMAI is currently undertaking a program to test two large groups of objects in their collection. The Burke Museum tested the collection and shelving of the Tamastlikt Cultural Institute for pesticide residues. As arsenic was detected, the Tamastlikt Cultural Institute is putting the Burke collection in storage. The NMNH is refining their pesticide history and is also testing a loan of approximately 650 artifacts by XRF. Most of the artifacts that NMNH has repatriated did not test positive for As, Hg or Pb. The

Field Museum has been testing handheld XRF spectrometers for inorganic pesticide analysis over the last year and will replace spot testing with the XRF method. CCI has analysed over 2000 artifacts in Canadian Museums and is continuing work on XRF calibration standards and streamlining reporting.

The Arizona State Museum reported that they have analysed thousands of artifacts in collections from all over the country. The ASM has started testing a collection of Navajo blankets. The approach the ASM takes for its analysis is to look for a general contamination issue. They use XRF results as the basis of a toxicological assessment of the artifact, and assume the worst case scenario if contamination is found. In general, the analytical results and a recommendation based on the toxicology are given to the client and it is then the client's decision to determine how to use the artifact.

There are still questions about analytical methods, reporting, and data interpretation that remain to be answered. These questions are being addressed. Consensus will then need to be reached to achieve uniform analytical procedures and reporting schemes. As a group, it was agreed that publication of survey results should be encouraged to make information on pesticides available to other researchers. To continue the discussion, a newsgroup was initiated through yahoo newsgroups for XRF users undertaking pesticide analysis. The newsgroup is found at: http://tech.groups.yahoo.com/group/pesticide_research/ and the link for subscription is pesticide_research_subscribe@yahoogroups.com.

Overall, the workshop provided a worthwhile venue for participants to discuss their work to date, how they approach their analysis and also enabled the participants to work towards a common goal. A future meeting on this topic would be welcome to continue the development of a common method.

I would like to thank the Arizona State Museum, Nancy Odegaard and Alyce Sadongi in particular, for organizing this meeting and providing the opportunity and venue for this fruitful discussion.

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Treatment of Waterlogged Wood and Leather Report on the RBCM Workshop

On November 1-2, 2006, the Royal British Columbia Museum in Victoria BC hosted a two day workshop presented by the Canadian Conservation Institute's

(CCI) Tara Grant and Malcolm Bilz on the treatment of waterlogged materials. The workshop was held at the Huntingdon Hotel located in Victoria's beautiful inner harbour area. Archaeological and ethnographic conservators were joined by a number of archaeologists interested in preserving waterlogged materials at the dig site.

The workshop focussed not only on the variety of treatments possible for waterlogged materials but also investigated the structure and chemistry of wood, basketry, and leather materials, and the changes they undergo while in situ, after removal, and after various treatments. Past projects and treatment methods were reviewed and new research was discussed, including current investigations on the use of low-molecular weight polyethylene glycol (PEG) as a bulking agent for baskets made from the inner bark of cedar. Hands-on components allowed the participants to examine the different wood samples, try their hand at determining degree of wood deterioration, as well as planning treatment methodology using the PEGcon program. Due to space constraints, some lab components such as determining the density of wood through weighing, two-step PEG tank preparation, and different techniques for monitoring the concentration of PEG in the tank, were demonstrated by Malcolm and Tara.

Day one of the workshop began with a lecture on wood structure, chemistry, deterioration and wood/water relations. This talk involved a thorough introduction to the different wood types and the effect that the different structures and densities will have on the choice of treatment method. The present use of PEG, the process of bulking, and its suitability for the treatment of waterlogged wood were discussed thoroughly. The CCI/Parks Canada computer program PEGcon was demonstrated and then used to calculate both the deterioration of wood and the required PEG concentrations for various waterlogged material scenarios. (Note: PEGcon is available on the CCI website here: http://www.cci-icc.gc.ca/tools/downloads/pegcon-download_e.aspx)

Day two of the workshop began with a review of the pros and cons of previous waterlogged material bulking agents including sucrose and sugar alcohols (mannitol, lactitol), acetone rosin, and silicone oil, as well as the history of PEG use. Large-scale historic treatments such as the Bremen Cog, the Kinneret Boat, and the Vasa were discussed. Various drying techniques following bulking treatments were evaluated and the method of determining the success of the overall treatment, the calculation of anti-shrink efficiency (ASE), was demonstrated by Tara. The complexity of marine wood and leather was discussed separately due to the pre-treatment required to remove soluble salts and various metal

contaminants prior to the bulking treatment. Finally, waterlogged materials other than wood were discussed, and the various issues surrounding the treatment of basketry and leather were examined.

All in all, the workshop was extremely informative and well-presented. In addition to this large amount of information, participants took home a manual full of the lecture and lab notes, as well as articles for further reading. Thanks to Kjerstin Mackie and Colleen Wilson organizing the workshop and to the conservation department at the RBCM for hosting the workshop.

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Upcoming Conferences and Workshops: Announcements and Calls for Papers

**CALL FOR PAPERS AND POSTERS
ICOM-CC 15th Triennial Meeting
New Delhi, India
September 22-26, 2008**

Theme: *Diversity in Heritage Conservation:
Tradition, Innovation and Participation*

The Call for Papers and Posters for the upcoming 15th ICOM-CC Triennial Meeting is now open. This will be a two-step process, consisting first of a Call for Abstracts of Papers or Posters, which deadline is **April 13, 2007**; from these submissions, there will be a Call for full papers and updated poster abstracts, with a deadline of November 9th, 2007. Further details on the Triennial Meeting, on the Call and its timeline can be found here: <http://icom-cc.icom.museum/TriennialMeetings/>.

1. Call for Abstracts of Papers or Posters:

The objective of the Triennial Meeting is to present an overview of the current state of conservation research and practice through reports by the ICOM-CC Working Groups.

Special attention will be given to papers and posters dealing with problems and progress in conservation in India, the region hosting the meeting, and to papers addressing the congress theme "*Diversity in Heritage Conservation: Tradition, Innovation and Participation*". The world is enriched with many different cultures (national, professional, social, etc.) and the values they assign to their heritage are not identical. It is a daily challenge to recognize and

respect this cultural diversity in order to avoid cultural elitism and to integrate this reflection in every aspect of conservation. The ICOM-CC Triennial Meeting in India is an opportunity to celebrate diversity and differences in approach to conservation; ICOM-CC welcomes, for example, contributions which:

- explore the relationship between heritage conservation and local, national or regional traditions;
- compare or contrast approaches to conservation – e.g. low tech versus high tech methodology;
- question or compare standards or best practices across cultures or regions;
- relate to development, research and education in heritage conservation regionally as well as internationally;
- discuss how professionals communicate the significance of heritage conservation in their local, national or regional contexts; or
- deal with the mechanisms which allow the participation of non-professionals, owners and users in heritage conservation decisions.

Although the theme is focused on diverse approaches and celebrating differences, at the same time it is important to identify common threads and unifying themes. ICOM-CC thus also welcomes contributions which:

- explore convergences in conservation approaches across cultures and across cultural heritage manifestations.

Using the abstract template that can be obtained from the ICOM-CC website (www.icom-cc.icom.museum) or from the ICOM-CC Secretariat

(secretariat@icom-cc.org), the author is asked to provide a 1000-word description of the proposed paper or poster, the title, and the author and co-author's names, postal addresses and e-mail addresses. Abstracts must be submitted in English or French, but the final paper or poster may also be in Spanish; please indicate with your submission which language you will use for the final paper or poster.

Completed abstract templates – in the form of e-mail attachments - must reach the Working Group coordinators by April 13, 2007. For submissions concerning conservation of Ethnographic Collections, send submissions to: Carole Dignard, carole_dignard@pch.gc.ca. Contact information for other coordinators may be obtained from the website or e-mail address mentioned above.

Coordinators and the Peer Review Committee will evaluate and rank the abstracts, and the Editorial Committee will make its final selection by **June 23,**

2007. The abstracts – and later the full papers – will be reviewed according to the following criteria:

- Relevance to the Working Group's aim and triennial program
- Increase in knowledge base of specialization
- Usefulness for the field
- Relevance to the congress theme "*Diversity in Heritage Conservation: Tradition, Innovation and Participation*"
- Demonstration of collaboration between disciplines

During the review process, quality, originality and importance of the abstracts will of course also be considered.

2. Full papers and final, short poster abstracts

Authors whose abstracts have been provisionally selected for publication will be invited by the Working Group Coordinator to submit a full paper or an updated, print-ready poster abstract. Authors will receive detailed instructions with their invitation. Poster abstracts printed in the Preprints are not to exceed 250 words. Full papers and updated, poster abstracts must reach the Working Group Coordinators by November 9, 2007. Coordinators will assist authors in finalizing their papers and posters, and then rank them and forward them to the Peer Review Committee. The final selection of papers and posters will be made by the Editorial Committee in March 2008. **Submission of a full paper or updated poster abstract does not guarantee its acceptance.** In the event of space limitations, ICOM-CC members and (Student-) Friends of ICOM-CC are given priority in the final selection among manuscripts of equal quality.

**Cultural Heritage:
Context & Conservation**
*National Center of Conservation,
Restoration and Museology,
7th International Congress,
Havana, Cuba,
Holy Week (April 1-7) 2007*

The National Center of Conservation, Restoration and Museology (CENCREM), ascribed to The National Council of Cultural Patrimony, invites you to its **7th International Congress "Cultural Heritage: Context & Conservation"**, which will take place during the Holy Week of 2007, in the Convent of Santa Clara de Asis, located in Old Havana Historical Center, World Heritage Site, Cuba.

Participants

The following are invited to participate both as chairpersons or observers: Specialists in Conservation, Restoration, and Chemistry; Historians, Archeologists, Architects, Economists, Sociologists, Engineers, Biologists and all those specialists who are interested in the topics of the Congress.

Call for Presentations

The **summaries**, with no more than 250 words, can be mailed in 3 1/2 flex discs, Cds or DVDs, in Microsoft Word 97, 2000 or 2003 format, or attached via e-mail also in one of those 3 formats. **Lectures** should be planned to last 15 minutes at most, plus 10 extra minutes for discussion. **Posters** are also invited.

Registration Fees

Registration fees are \$100.00 CUC for the participants, and \$85.00 CUC for attendants who will enjoy of an optional agenda of tours and visits while the presentations and other technical activities are taking place. Registration includes the summary book, cocktails and technical visits, and also the publication of the presentations and the posters that will be edited after the Event.

Official Languages: Spanish and English.

For further information

Contact: Organizing Board, 7th Congress
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Museología
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ICON Ethnography Group Workshop 2007

Easter 2007

London or Winchester, UK

For the year 2007, the Ethnography Group of ICON will organize a workshop with the aim of addressing a particular issue encountered by conservators in the treatment of ethnographic material and to offer the opportunity to impart training expertise to their members. The Group Committee plans to organize this workshop in the Easter period and will take place in London or Winchester. A decision regarding the theme of the workshop has not yet been taken. However, the Committee suggests the conservation of feathers may be a relevant topic for many ethnographic conservators and is one not yet fully

developed in the framework of a workshop. Other ideas from the membership or interested parties are currently being solicited. The theme will be selected and announced by early 2007. If you have suggestions or any additional questions please do not hesitate to contact us. The details of the Committee members are posted at <<http://www.icon.org.uk/>>.

UPHOLSTERY + Interim Meeting of the ICOM-CC Textiles, Wood and Leather Working Groups and of ICOM Poland

Krakow, Poland,

May 13-18, 2007

An interim conference organized by the ICOM-POLAND Committee and the ICOM-Conservation Committee Leather Working Group, Textile Working Group, and the Wood, Furniture, and Lacquer Working Group in concert with the National Museum in Krakow, which will be held at the COLEGIUM MAXIMUM, JAGIELONSKI UNIVERSITY, Krakow, Poland.

This conference seeks to provide a forum for conservators of different specialties to join in discussing issues and problems related to upholstery encompassing a broad understanding of this subject. While one conservator might be asked to repair and conserve an upholstered object, the project may actually cross many borders and disciplines—from archaeology to tapestry, from leather to lacquer, from wood to ethnographic art. This meeting will focus on presenting an overview of the current state of conservation and restoration research, practice and progress in the field of upholstery and related materials. Successes, challenges, peculiar problems, good protocols, and cautionary tales are sought.

It is the intention of the organisers to publish all accepted papers in English and Polish. Oral presentations at the conference will also be allowed in both official languages of the meeting, and simultaneous translation will be provided.

For further details, contact the Working Group coordinators:

Leather: Andreas Schulze, Landesamt für
Denkmalpflege Sachsen, Schlossplatz 1, 01067
Dresden, GERMANY, E-mail:
andreas.schulze@lfd.smi.sachsen.de

Textiles: Mary Ballard, Museum Conservation
Institute, Smithsonian Institution, 4210 Silver Hill
Road, Suitland, MD 20746, USA, Fax: +1 301 238
3709, E-mail: ballardm@scmre.si.edu

Wood, Furniture, and Lacquer: Dr. Hany Hanna, Department of Conservation, Supreme Council of Antiquities (SCA), Cairo, EGYPT, Mobile: +2 012 4176742, E-mail: hnnnc@yahoo.com

**Workshop: Assessing the Skin -
Characterizing the Source, Processing
Methods and Deterioration of Animal
Hides**

*Winterthur Museum, Delaware, U.S.A.
June 25-27, 2007*

Partners: Bruno Pouliot, Richard Wolbers, and Lois Price, Winterthur Museum and Winterthur/University of Delaware Program in Art Conservation; Toby Raphael, National Park Service; Roy Thomson, formerly with the Leather Conservation Center in Northampton UK; Gregory Young, Canadian Conservation Institute. Funded by a grant from the National Endowment for the Arts.

Participants: 20 maximum. Particularly valuable for those working in object, ethnographic, costume, book, and furniture conservation.

Description: This three-day program will feature presentations, demonstrations by conservation scientists, conservators, and leather researchers on the characterization of unprocessed and processed hides, particularly leather. Focus will be on identification of animal sources through morphological features and immunological studies, characterization of processing methods through microscopy, micro-chemical spot-tests and analytical techniques, and finally on quantification of deterioration processes through physical and chemical testing. This is intended as a mid-career training workshop and participants are expected to already possess a good understanding of the issues related to the preservation of animal hides.

Registration: For a full description, costs, and registration materials, please go to the education section of the AIC website at: <http://www.aic-faic.org> or contact Eric Pourchot, Professional Development Director, AIC, 1717 K Street, NW, Suite 200, Washington, DC, USA; 202-452-9545, ext. 12; epourchot@aic-faic.org

ICOM 2007
“Museums and Universal Heritage”
Vienna, Austria
August 19-24, 2007

This is the 21st General Conference and the 22nd General Assembly of the International Council of

Museums. The special "early bird" rate of 230 Euros will be available until the end of January 2007.

For more information see:
<http://www.icom-oesterreich.at/2007/>

ICME Activities at ICOM 2007

Of particular interest to ICOM-CC Ethnographic Working Group Members are the International Committee for Museums and Collections of Ethnography (ICME) activities reserved including a guided tour and garden party at the Austrian Museum of Folk Life and Folk Art, afternoon discussions and dinner at the Vienna Museum of Ethnology, as well as a special visit to the ethnographic collections of the Mechitarist Congregation.

On August 25-26 there will be a ICME Post-Conference tour "The sum of cultures: About dealing with heritage". This will be a two-day tour of Burgenland, including encounters with local ethnographic researchers and artisans; visits to various museums, collections and cultural monuments; wine tasting, gastronomical delicacies - and more!

For more information see: <http://icme.icom.museum>

**10th Interim Meeting of the ICOM-CC
Wet Organic Archaeological Materials
(WOAM) Working Group**
Amsterdam, The Netherlands
10th – 15th of September 2007

The meeting will be hosted by the ROB/National Archaeological Survey (a merger in 2006 will change this name to RACM). The last day of the conference will consist of a day-long visit to Lelystad, where the National Institute for Ship and Underwater Archaeology (NISA; part of ROB) is located.

Programme

The following main topics have been identified at the previous 2004 Copenhagen WOAM Interim Meeting:

- Sulphur/acid formation in wood
- In-situ preservation
- Conservation of very large timbers by alternative means
- Composite objects of wood/iron etc.
- Long-term “case studies”, e.g. the Newport ship
- Problems of wood retreatment – practicalities, ethics & risks

However, we also welcome papers on other organic materials (such as archaeological bone, leather, textile, paper etc.) and papers discussing overall conservation techniques and methods.

Joint Session

In the week after ICOM-WOAM, ICN will host the ICOM-Metal conference in Amsterdam (*see below*). If there is enough interest, we plan to organise a joint session on the 16th of September that will accommodate presentations on subjects that are of interest to both groups like (1) composite objects, (2) in situ protection and possibly also (3) iron and sulphur acid formation in wood.

For more information, visit: <http://www.woam2007.nl/index.html>, or contact: Kristiane Straetkvern, Coordinator, WOAM Kristiane.straetkvern@natmus.dk.

Metal 07 Interim Meeting of the ICOM-CC Metals Working Group September 17-21, 2007 Amsterdam, The Netherlands

At the mid-point between general sessions of the ICOM-CC Triennial conferences, metals conservators and (conservation) scientists from around the world will meet in Amsterdam during the METAL 07 conference to discuss important issues and share research. The conference language is English.

Themes and subjects

The current programme foresees five days of plenary sessions grouped according to the following themes recently agreed by the Metals Working Group:

- *Where archaeometry and conservation meet*
Our objective here is to bridge two disciplines that are very close but which rarely meet. This theme is a follow up to the one of the previous triennial period: Better knowledge of artefact
- *Use of electrochemical techniques*
Electrochemical techniques are more and more used in many countries to understand corrosion processes, and to monitor and treat artefacts.
- *Innovative investigation of metal artefacts*
This theme covers all new technologies (non-destructive techniques, portable) recently developed to better diagnose metal artefacts and using simple to highly sophisticated instruments (accelerators, synchrotrons, lasers...).
- *Protection of metal artefacts*
The protection of metal artefacts is still a major problem. It is time to look at past practices and new developments in the field.

- *Study and conservation of composite artefacts*
This theme reflects overlapping concerns of ICOM-CC WGs whose objects include metal components in conjunction with archaeological, historic and modern materials.

Joint sessions. A joint session with the ICOM-CC Wet Organic Archaeological Materials Working Group (WOAM) around materials involving both metal and waterlogged organic materials elements is planned on the 16th of September 2007. The WOAM 07 Interim Meeting will be held in Amsterdam between the 10th and 15th of September 2007.

Furthermore a joint action has just been set-up with the ICOM-CC Working Group on Glass & Ceramics. Efforts will first be concentrated on enamels on metals.

For more information, visit <http://www.metal07.org/>, or contact: C. Degriigny, coordinator of the Metal WG
Email: Christian.degriigny@gmail.com

Symposium 2007 Preserving Aboriginal Heritage: Technical and Traditional Approaches Ottawa, Canada, September 24-28, 2007

Symposium 2007 *Preserving Aboriginal Heritage: Technical and Traditional Approaches* will take place in Ottawa on September 24–28, 2007. Organized by the Canadian Conservation Institute, this international conference will provide 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. It will be a unique venue for sharing concerns and approaches and for discussing state-of-the-art preservation practices. People from a variety of backgrounds and experiences will present their knowledge and expertise; multiple perspectives are welcome, including international viewpoints. With an eye to the future, exchanges will also focus on best practices for collaboration and on ways to enhance capacity to care for Aboriginal cultural objects. The Symposium themes are *Mutual Learning, Respect, and Ethics; Working Together; Technical and Traditional Approaches; Long-term Impact; Pesticides*.

Registration will begin in March 2007. We look forward to a rich and exciting Symposium, and in sharing these five days with you! For more information concerning the Symposium or its Program, visit the CCI Web site at: <http://www.cci->

icc.gc.ca/symposium/index_e.aspx ; or contact
symposium_2007@pch.gc.ca , or: Carole Dignard,
Program Chair by email: carole_dignard@pch.gc.ca
or phone: 1-613-998-3721 ext 151.

Museum Microclimates:

**A systematic presentation of the interplay between
rates of destruction of artifacts, the local climate
and the indoor climate in museums and archives**
Copenhagen, Denmark, 19-23 Nov. 2007
The National Museum of Denmark

This conference aims to present a coherent picture of our knowledge of the environmental influences on rates of degradation, the environmental standards derived from this knowledge, the active and passive methods of maintaining a protective microclimate conforming to these standards and the ways of ensuring the durability of the microclimate itself. Each session will have a review by an invited speaker followed by submitted contributions and time for discussion. There will be one day of excursions to museums and storage rooms with interesting climate control.

For further details and occasional updates:
<http://www.natmus.dk/microclimates>

Organizers:

The National Museum of Denmark,
ICOM-CC Preventive Conservation Working Group,
Conservation Centre Veale.

Note from the Newsletter Editor

We're always looking for information to publish in the Newsletter. If you have anything that you would like us to publish, for example:

- a conference or course announcement
- information on a course/conference you've attended
- a short note on research you've been working on
- information on a new material or technique
- requests for new information
- a book review

Sent it to me at:

Jessica S. Johnson
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You can now subscribe online at the ICOM-CC website using Paypal online payment. This feature represents an easy opportunity to get connected to every aspect of ICOM or of ICOM-CC's network as a MEMBER of ICOM, or a FRIEND or Student-FRIEND of ICOM-CC.

SEE: <http://icom-cc.icom.museum/Benefits/>

ICOM-CC Benefits to Members, Friends and Student Friends are:

- Subscription to the ICOM-CC Newsletter;
- Membership of Working Group(s) including subscription to Working Group Newsletters.
- Reduced registration fees at the ICOM-CC Triennial Meetings and Interim Meetings of Working Groups.
- Priority to have papers/posters accepted at the ICOM-CC Triennial Meetings (in case of papers/poster of equal merits).
- Second level access to the ICOM-CC website, providing all-time access to documents such as newsletters and Working Group membership lists, and participation in discussion lists.
- Voting rights for matters such as the election of the Directory Board members and Working Group Coordinators.
- Eligibility to stand for office within the ICOM-CC structure as a Directory Board member or Working Group Coordinator.

Additionally, ICOM Members receive:

- the ICOM card which provides free or reduced access to museums world-wide
- ICOM News, a quarterly newsletter
- various other benefits outlined here:
<http://icom.museum/individual.html>

A strong (in membership numbers) and healthy (in financial terms) ICOM-CC will have a greater impact on the conservation professional community and will have more possibilities to actively support the work of its Working Groups and members.

Join Now!