



# NEWSLETTER

WORKING GROUP : TEXTILES  
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Religious Textiles", on 10th September 2005 in The Hague--the Saturday before the ICOM-CC. You will find information on the ICOM-CC sessions in this Newsletter; Newsletter Issue #21 listed the topics for the TC conference. If you have accidentally neglected to register for the TC symposium, please see the notice in this issue. For ICOM-CC registration please go to [www.icom-cc2005.org](http://www.icom-cc2005.org).

It has been a pleasure to serve you all as the TWG coordinator these past three years--especially because I have had excellent support from the assistant coordinator Elsje Janssen, Co-ordinator Collections Management, Head of Conservation and Restauration of the Municipal Museums of Antwerp, Belgium, and from the fine co-editors of this newsletter: Jan Vuori of the Canadian Conservation Institute; Pia Christensson from Helsingborg Museums, Sweden, and Tracey Wedge, a private conservator in New Zealand. Because of their care and professionalism, we have had six issues of this Newsletter broadcasting textile conservation news around the world! I hope to see you all in the Hague to thank you individually for your support of the group--organizing and attending the interim meeting, providing articles, news, and announcements for the newsletters--and by keeping the field of textile conservation an active and exciting place to be!

## **FROM THE CO-ORDINATOR**

Hello everyone! I hope everyone who can manage to come to the Netherlands is preparing to attend both the ICOM-CC Triennial Meeting and also the pre-conference symposium on religious textiles.

We are incredibly fortunate to have one of the most active and productive working groups in the ICOM-CC. Authors will be presenting a broad range of textile projects in four sessions. In addition, the Netherlands Textile Committee (TC) has organized a superb symposium "The Preservation of

Sincerely yours,  
 Mary Ballard,  
 TWG coordinator

## ICOM-CC TRIENNIAL MEETING IN HAGUE

### Textiles

The Working Group Textiles deals with the preservation, conservation and restoration of all kinds of woven textile fibres, either organic or inorganic in origin. Presided by Mary Ballard (co-ordinator), Elsje Janssen and Jan Vuori the meetings of the Working Group Textiles will take place on Tuesday 13 and Thursday 15.

### Tuesday 13 September 2005, 14:00-15:45

Chair: Mary Ballard

- 14:00 Welcome and agenda
- 14:15 Karin von Lerber Laser cleaning of Silk—A first Evaluation
- 14:45 M. Sousa, A Green Approach to Textile Cleaning
- 15:15 Irene Karsten, The effect of Adhesive Concentration, Reactivation Time and Pressure on the Peel Strength of Heat & Solvent-Reactivated Lascaux 360/498 HV bonds to Silk

### Tuesday 13 September 2005, 16:30- 18:15

Chair: Elsje Janssen

- 16:30 Claudia Santamaria, Treatment of 103 Fragments found in Water during the Archaeological Excavation in the Ancient Harbor of Genova (poster discussion)
- 16:35 Carmen Marian, Conservation of Two Archaeological Textiles (poster discussion)
- 16:40 Octaviana Marcincas, Celebrating 500 Years of Continuity & Survival (poster discussion)
- 16:45 Jan Vuori, A Preliminary Study of the Use of Bathophanthroline Iron Test Strips on Textiles
- 17:15 M. R. van Bommel, The analysis of synthetic dyes in an embroidery of Emile Bernard (c. 1892)
- 17:45 L. Dussubieux, M. Ballard, Accuracy, Precision, and the Investigation of Mordants on Textiles

### Thursday 15 September 2005, 14:00-15:45

Chair: Jan Vuori

- 14:00 Nominations received, balloting
- 14:15 K. Hallett and D. Howell, Size-exclusion chromatopgray of Silk—Inferring the tensile strength and assessing the condition of historic tapestries
- 14:45 S. O'Connor and M.M. Brooks, Making the Invisible Visible: The potential of X-radiography as an investigative technique for textile conservation decision-making
- 15:15 R. Hofmann-de Keijzer, Ancient textiles - recent knowledge. A multidisciplinary research project on textile fragments from the prehistoric salt mine of Hallstatt

### Thursday 15 September 2005, 16:30-18:15

Chair: Mary Ballard

- 16:30 M. Pagan and C.Hadsel, Vermont's Painted Theater Curtains and their Communal Custodians
- 17:00 T. Kousoulou, C. Margariti, Textile Conservation in the Greek Ministry of Culture. A case study of the conservaiton of Costumes from the Ethnographical and Historical Museum of Larissa
- 17:30 D. Trupin, Don't Give Up the Flag: The Conservation of the United States Naval Academy's 1813 "Don't Give Up the Ship" Flag
- 18:00 Panel of M. Ballard, J. Vuori, E. Janssen: Close of sessions; election results; future programmes

## CALENDAR OF TEXTILE CONSERVATION MEETINGS

**The Preservation of Religious Textiles**, organised by the Netherlands Textile Committee (TC) on 10th September 2005 in The Hague will be held at the Koninklijke Bibliotheek (in the auditorium), Prins Willem, Alexanderhof5, The Hague. If you have not sent in your registration payment please do so by August 1st. In exceptional cases it is possible to pay your fee on the day of the conference. Please arrange this with me by sending a request by email to [boersma-ryan@zonnet.nl](mailto:boersma-ryan@zonnet.nl). For information about the program and registration information please see the Textile Working Group ICOM-CC Newsletter Issue #21 (October, 2004) or visit the TC website at [www.textielcommissie.nl](http://www.textielcommissie.nl)

### Comite Nacional de Conservación Textil Meeting México, 7 November 2005

The next meeting of the Comité Nacional de Conservación Textil will take place at Escuela Nacional de Conservación, Restauración y Museografía, ENCRyM –INAH), México City, México.

This year members of the CNCT will present their works, but non members will be also welcome to join.

The language of the meeting will be Spanish.

For more information and registration contact: [comite@cnct.cl](mailto:comite@cnct.cl) or [fanny.espinoza@mhn.cl](mailto:fanny.espinoza@mhn.cl)

### Reunion del Comite Nacional de Conservación Textil México, 7 de Noviembre de 2005

La próxima reunión del Comité Nacional de Conservación Textil se realizará en la Escuela Nacional de Conservación, Restauración y Museografía (ENCRyM–INAH), ciudad de México, México.

En esta ocasión se presentarán trabajos de los socios del Comité. Personas que no pertenezcan al Comité son bienvenidas a participar en la reunión, que se realizará en español.

Para mayor información e inscripción contactarse con: [comite@cnct.cl](mailto:comite@cnct.cl) o [fanny.espinoza@mhn.c](mailto:fanny.espinoza@mhn.c)

## THE FIFTH BIENNIAL NATCC MEETING

### *Recovering the past.....*

#### ***The Conservation of Archaeological and Ethnographic Textiles***

México City, Mexico November, 2005

The fifth biennial NATCC meeting will focus on the conservation, research, diffusion and exhibition of archaeological and ethnographic textiles. The conference is dedicated to Irmgard W. Johnson, who has worked for over fifty years to research, rescue, and preserve the textile designs of several ethnic groups of Mexico.

#### **November 9 - 11**

Keynote speaker, conference papers, posters  
Registration (until September 1) \$275\*\*\*  
Colegio de las Vizcainas, *National Museum of Anthropology, Escuela Nacional de Conservación, Restauración y Museografía.*

#### **November 7-9 & 12**

Optional tours (cultural trips), including Teotihuacan  
\$30-40 per tour

#### **November 8 & 9**

Optional workshops- Cleaning systems, Storage Methods and Materials, Dyeing with Natural dyes, Backstrap Loom Weaving.

\$110-140 per workshop

\*\*\*Registration includes one copy of conference Preprints; transportation between the conference hotel and conference sites; attendance at keynote lecture; paper and poster presentations on Wednesday evening, Thursday and Friday; receptions on Wednesday and Friday; lunch and breaks on Thursday and Friday.  
**Workshops and cultural trips are not included in the registration fee.**

Registration via the website: [www.natcc.inah.gob.mx](http://www.natcc.inah.gob.mx)  
will open in mid- July

**Conference hotel:** Calinda Geneve, Londres Strett 130, in the Zona Rosa.

*Participants are responsible for making and paying their own hotel reservations. A block of room has been requested at the special rate of \$ 80, plus tax, per night, per room, including breakfast. Rate valid until Oct. 25*

**For hotel reservations: Denisse Pérez or Amparo Sanguino** [reservgeneve1@calinda.com.mx](mailto:reservgeneve1@calinda.com.mx) or **Martha Andrés: ventascorp1@calinda.com.mx** telephone: (52) 55 50 80 08 00 fax (52) 55 50 80 08 33

**Conference speakers** Note: Papers will be presented in English or Spanish, with simultaneous translation provided. The Preprints will be published in both languages, with an abstracts in English, Spanish, and French.

#### **Armando Alcántara Berumen. México**

“Flips you must do before you are born”. The weave in curve in the Quechquemiltl of Northern Mountain on Puebla

**Lena Bjerregaard. Germany**  
The Leymebamba Textiles

**Jeanne Brako & DY Begay. USA**

Using Collections to Bridge Communities

**Mary Brooks & Sonia O’Connor. U.K.**

Looking into the Past: the Potential of X-Radiography as an Investigative Technique for Archaeological & Ethnological Textiles

**Soledad Hoces de la Guardia Chellew & Ana-María Rojas Zepeda. Chile**

An Atacamanian Pre-Columbian Trousseau: Interpretation of the Tactile and visual dialogue in its Textiles

**Cándida Fernández de Calderón. México**

Mayan Textiles Centre of San Cristóbal de las Casas, Chiapas, México. A Commitment with the conservation & Diffusion of Textile Art

**Luciana da Silveira, Arabel Fernández López & Elizabete Mendonça. Brazil**

Rediscovering Pre-Colombian Peruvian Textiles: Their Conservation & Documentation at the National Museum, Federal University of Rio de Janeiro, Brazil

**Virginia Davis. USA**

Irmgard Weitlaner Johnson. Outstanding Researcher of Textiles

**Fenella France. Argentina and New Zealand**

Textile Treasures of Lulluillaico

**Judith Gómez. México**

To Repair or To Conserve the Ethnographic, The Ethnographic Displays at the Anthropology Museum in Mexico.

**Mercedes Gómez-Urquiza de la Macorra. México**

Mexico’s Protection Project of Movable Goods in Religious Buildings A Textile Study

**Christine Giuntini & Maya Naunton. USA**

Examination & Treatment of a Basketry & Textile Tent Divider from Sudan

**Susan Heald, Lauren Chang, Jenifer Bosworth & Jessica Johnson. USA**

Identification & Quantification of Organic Pesticides on Ethnographic Textiles During Treatment Phases

**Stephanie Hornbeck. USA**

The Treatment & Preparation for Exhibition of a Composite Material Ceremonial Warrior’s Costume from the Loma People in Liberia

**Tatiana Kousoulou. Greece**

First Aid & Preventive Conservation for Ecclesiastical Vestments in the Greek Orthodox Monasteries

**Patricia Lissa, Isabel Iriarte, Silvana Di Lorenzo & Pía Villaronga. Argentina**

The Conservation Treatment of Bolivian “Traje of Danzante of Ethnographic Museum of Buenos Aires”

**Anne Mackay. Canadá**

A Study of Moosehair Embroidered Souvenir Objects

**Kjerstin Mackie. Canadá**

Long Ago Person Found. An Ancient Robe Tells a New Story

**Priya Ravish Mehra.** *India*

An Invisible Craft

**Lana Panko, Alejandro Ruiz & Zoila Ramires Sales.** *Canada* Negotiating Meaning & Cultural Memory with Maya Textiles

**Lorena Román, Abner Gutiérrez y et al.** *México*

The Conservation of the Feathers Mosaic: "Cristo Salvador del Mundo", of the National Museum of the Viceroyalty, Tepotzotlán INAH, Mexico

**Soraya Serra.** *Puerto Rico*

Recovering Indigenous Basketry from the Caribbean: An Analysis of Impressions on Griddles (burenes) from Vieques, Puerto Rico

**Beth Szuhay.** *USA*

Darn that Spot! Investigations into Cleaning Raffia Cut Kuba Cloth

### Posters

**Priscilla Alvarado.** *Chile.* Rescue a Textile Collection

**Lisa Anderson, Lauren Chang, Susan Heald.** *USA.* Rehousing Archaeological Textiles during the National Museum of the American Indian Collections Move

**Susanna Conti.** *Italy.* S. Marina's veil

**Ann French & Frances Pritchard.** *U.K.* Easy Access? Approaches to the Care & Storage of Archaeological Textiles at the Whitworth Art Gallery

**Beatriz Garcés Gómez.** *México.* "The Izote" An Antique Fiber

**Judith Gómez.** *México.* Maya's World of Brocades & Embroideries, Preserving a Collection & a Tradition

**Susan Heald, Marilyn Jones, Anne Murray & Lauren Chang.** *USA.* Investigating the Presence of Dog Hair in Coast Salish Blankets

**HarbyEzz eldeen Hasan, Yassin Zidan & Kh El- Nagar Egypt.** Aging Behavior of Silk Fabric Dyed with Safflower Dye.

**Monica Ruiz Hernández.** *México.* Palimpsests & Pentimentos in the Canvas Codices in the Codices Collection of the National Library of Anthropology & History

**Cinzia Oliva.** *Italy.* Mummy of Merit: A Conservation Project on the Funeral Outfit (Equipment)

**Nicola Smith.** *Australia.* Evaluation & Preliminary Conservation of a Dong Son Burial Shroud from the Red River Delta in Vietnam

**Pamela Scheinman.** *USA.* Tracking Clues to the Past in Maguey-Fiber Sandals

**Jenna Tedrick Kuttruff.** *USA.* Analysis & Conservation of Prehistoric Footwear & Bags from Midwestern North America

**Yuri de la Rosa.** *México*

Cuatro Ciénegas de Carranza, Coahuila. Looting of sites.

## CALENDAR OF TEXTILE CONSERVATION COURSES

### ICN-masterclasses 2005

#### International courses for conservators and curators

Adhesive techniques in textile conservation  
September 5-9, 2005

Content: The aim of the workshop is to try out main groups of adhesives commonly used in textile conservation (thermoplastics, cellulose based and natural adhesives), with some of their varieties; to experiment with different casting methods for applying the adhesive to support fabrics and to experiment with different application methods, using heat, solvents and barrier layers, and assessing their suitability. The workshop enables the participant to make an informed choice on the suitability of adhesive treatments between solvent re-activation or heat re-activation; to select the appropriate adhesive and to prepare it and to select the appropriate application method. The course will pay attention to the theory of adhesives, health and safety; case studies and practicals. Too many techniques and materials are involved in this workshop to do in five days.

After the basic exercises the participant is free to choose a program of personal interest.

Target group: Conservators of textiles

Instructor: Emmy de Groot

Textile conservator and teacher ICN, The Netherlands

Participants: 10

Cost: €795,-

For further information, see

<http://www.icn.nl/Dir003/ICN/CMT/homepage.nsf/HFS?readform&language=English&menu=700> or contact:

ICN / The Netherlands Institute for Cultural Heritage  
Angeniet Boeve ([angeniet.boeve@icn.nl](mailto:angeniet.boeve@icn.nl)) or Monique de Louwre ([monique.de.louwre@icn.nl](mailto:monique.de.louwre@icn.nl))

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### Art courses in Barcelona 2005

26-28 October 2005 Identification and Preservation of Photograph collections, 550€\$, Waldthausen + info

9-11 November 2005 Modern Techniques of Porcelain Restoration, Van Lookeren, 550€\$ + info

16-18 November 2005 Fibre identification workshop:  
natural and  
synthetic , Barnett, 550€\$ + info

4-7 April 2006 Conservation of tile and tile pictures, Van  
Lookeren,  
650€+ info

Further information: [www.balaam-art.com](http://www.balaam-art.com)

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## REVIEWS OF WORKSHOPS AND CONFERENCES

### Aqueous Systems for Cleaning Historic Textiles Workshop

A Master Studies workshop entitled 'Aqueous Systems for Cleaning Historic Textiles' geared to mid-career conservators was held for one week at the end of July, 2004. It was the first time that this workshop was presented by the American Institute for Conservation of Historic and Artistic Works (AIC) in partnership with the Winterthur Museum, and the latter acted as host. The Winterthur Museum, Garden and Library, is a vast, exquisitely beautiful tract of land housing several outbuildings, naturalistic gardens, library and the impressive former estate home of Henry Francis du Pont, now the Winterthur Museum. The textile conservation laboratory housed in the Crowninshield Research Building was a comfortable, spacious and well-equipped teaching and wet laboratory venue for the thirteen workshop participants.

The workshop combined lectures on the theory of aqueous cleaning with practical laboratory exercises using the knowledge gained from the theoretical sessions. The ultimate goal was to give us the tools necessary for decision-making, by showing conservators how to combine various chemical agents effectively to tailor aqueous cleaning treatments to specific textiles.

The lectures and lab sessions were taught by Richard Wolbers, Associate Professor of the Art Conservation Department at the University of Delaware. Professor Wolbers, who has a biochemistry background, is well known for his development of cleaning systems for painting conservation, and has more recently applied this knowledge to study aqueous cleaning issues in the field of textile conservation. Joy Gardiner, Textile Conservator and Assistant Director of Conservation at the Winterthur Museum and Assistant Professor of Art Conservation of the

Winterthur/University of Delaware Program in Art Conservation, presented slides of artifacts treated in the lab that tied the theoretical concepts to the practise of textile conservation. Participants also were fortunate and appreciative to view certain of the treated artifacts, providing richness to the overall experience. Kathleen Kiefer, Associate Textile Conservator at the Winterthur Museum and Assistant Professor of Art Conservation for the Winterthur/University of Delaware Program in Art Conservation, gave a thorough overview of wet-cleaning materials, equipment and techniques used in textile conservation today, showing the participants examples from the Winterthur lab where possible. Joy and Kathleen also facilitated the sessions. Linda Eaton, Curator of Textiles at the Winterthur Museum presented an interesting history of the cleaning of textiles and shifts in the philosophy of cleaning in the young profession of conservation.

Participants were encouraged to read the following before attending the course:

Lewis, J. and D. Eastop. "Mixtures of anionic and non-ionic surfactants for wet cleaning historic textiles: a preliminary evaluation with standard soiled wool and cotton test fabrics." *The Conservator* 25 (2001), pp. 73-89.

Timar-Balazsy, A. and D. Eastop. *Chemical Principles of Textile Conservation*. (Oxford: Butterworth-Heinemann, 1998). The following chapters in Part 2 on Cleaning were recommended:

Chapter 7: Soiling on historic textiles  
Chapter 8: Solvents and solubility  
Chapter 9: Solvent cleaning of historical textiles  
Chapter 10: Water  
Chapter 11: Wet cleaning  
Chapter 12: Cleaning by chemical reactions  
Chapter 13: Stain removal  
Chapter 15: Case histories

The workshop leaders generously provided a selected bibliography of recent publications from the conservation literature broadly related to the topic of wet cleaning of textiles including: Research, Case Studies, Chelating Agents, Enzymes, Bleaching, Stains, Local or Spot Cleaning and Specialized Soiling, Drying, Dry or Solvent Cleaning and Beyond. The ones we found the most useful are the following:

Ballard, M. and H. Rhee. "The Effect of Surfactant Residues on Silk." In *SFT Jubilee Conference - Silk: Different Aspects* (Stockholm: Svenska Föreningen för Textilkonservering, 1997) no pagination.

Fields, J.A., et al. "Finding Substitute Surfactants for Synperonic N." *Journal of the American Institute for Conservation* 43 (2004), pp. 55-73.

Gneisinger, W. and D. Watkinson. "Innovative Uses for Aqueous Foams in Conservation Practice." In *Tradition*

and Innovation: Advances in Conservation - Contributions to the Melbourne Congress, edited by R. Ashok and P. Smith (London: International Institute for Conservation of Historic and Artistic Works, 2000) pp. 77-81.

Margariti, C. "The Use of Chelating Agents in Textile Conservation - An Investigation into the Efficiency and Effects of Three Chelating Agents Used for the Removal of Copper and Iron Staining from Cotton Textiles." In *Dust, Sweat and Tears: Recent Advances in Cleaning Techniques* edited by L. Dawson and M. Berkouwer (London: UKIC Textiles Section, 2003) pp. 28-38.

Tinkham, R. and N. Kerr. "Effectiveness of Soil Removal by Two New Nonionic Surfactants, Orvus WA Paste, and Surfactant Blends." *American Institute for Conservation Textile Specialty Group Postprints* 11 (2001), pp. 47-57.

Tse, S. "Wash Water Quality Requirements for Textile Conservation: An Overview of Canadian Conservation Institute Research" In *Strengthening the Bond: Science and Textiles - Preprints*, compiled by V.J. Whelan (North American Textile Conservation Conference, 2002) pp. 143-151.

Wolbers, R. Cleaning Painted Surfaces - Aqueous Methods (London: Archetype Publications Ltd, 2000).

The approach many textile conservators take is to use as few wash bath additives as deemed necessary to carry out wet cleaning, based on past experience. Professor Wolbers provided a different perspective of the process of wet cleaning. He suggests that, when appropriate, we should make the most of wet cleaning, as the artifact may never be cleaned again and that a well thought out cleaning chemistry that takes advantage of the synergistic effect of the various ingredients is adaptable to each particular textile's needs.

Topics covered in the theory sessions by Professor Wolbers included a discussion of the chemistry of water, including the pH or hydrogen ion concentration in water, the use of buffers to maintain a constant and appropriate wash bath pH, and the ionic concentration of solutions. Professor Wolbers also shared a great deal of information about the composition and characteristics of surfactants\* or detergents conservators use in aqueous baths, as well as chelating agents and enzymes. The impact of temperature on wash bath additives, the role of foam or lather, and solvent cleaning systems were also discussed.

We are accustomed to taking the pH of our wash solutions at various intervals, but it is a simple matter to also measure the conductivity, or the ionic strength of the wash solution. Hand-held pH and conductivity meters are useful tools for monitoring the wash bath, as the readings provide information on potential effects of the solution on the artifact. For instance, pure water has a resistivity of 18 mega-ohms/cm which is converted to conductivity of 0.055 micro Siemens/cm ( $\mu\text{S}/\text{cm}$ ). Resistivity is the inverse of conductivity. Typically, the conductivity of tap water is

approximately 300  $\mu\text{S}/\text{cm}$ . Adding salt, detergent (except for non-ionic surfactants) or even the textile itself will raise the ionic content of the water. Sodium lauryl sulphate, the anionic surfactant in Orvus increases the conductivity by dissociating into ions in solution. Raising both the conductivity and the pH of a solution will cause swelling of fibres such as cellulose, and thus increase the potential reactivity and cleaning power. The critical micelle concentration (CMC) of a surfactant is the minimum concentration needed for it to have a cleaning effect. In the case of a rise in conductivity, the CMC of the surfactant is lowered, thus less detergent is required, and many soils are ionized making them more prone to go into solution. More polar molecules are easier to rinse out in water. Conductivity levels beyond 2000-3000  $\mu\text{S}/\text{cm}$  may cause damage to fibres. The use of a conductivity meter can not only gauge the ionic activity of the solution but it can help to determine when to terminate rinsing. (It was also reassuring to hear Professor Wolbers confirm that the practical/ low tech shake test for wash solutions using Orvus is quite a useful indicator for this purpose). In one lab session we immersed an old, yellowed linen textile sample in deionized water for 10 minutes. The pH of the room temperature water before immersion was 6.2 and the conductivity was 7  $\mu\text{S}/\text{cm}$ . After the first soak in water only, the pH was 4.8 and the conductivity was 150  $\mu\text{S}/\text{cm}$ . We rinsed the sample in a few more wash baths until the pH and conductivity of the water resembled the pre-immersion figures.

Knowledge of the chemistry of solutions enables one to tailor a wet cleaning system to the needs of the artifact. The temperature of the wash bath is important as it impacts on the efficacy of the wash bath additives. For anionic detergents to work in warmer water more surfactant is needed in solution, as opposed to non-ionics which become less soluble and less effective at cleaning at higher temperatures. As a rule, non-ionic surfactants are more difficult to rinse out, and are even absorbed onto hydrophobic fibres such as polyester. The addition of salts lowers the CMC of a surfactant, resulting in less detergent needed for cleaning. The addition of alcohols such as ethanol for removal of greasy soil raises the CMC, requiring the use of more surfactant. We learned that it is possible to blend anionic and non-ionic surfactants in order to tailor the CMC and the hydrophile-lipophile balance (HLB), a number which represents the strength of the surfactant, or its ability to form and maintain emulsions of oil in water. In this case, one would benefit from the best features of each type of surfactant in solution. It is not recommended to mix anionic and cationic detergents as they would precipitate out of solution. In the practical sessions, participants were encouraged to combine solutions to gauge the effect of, for instance, detergents only or in combination with chelating agents, variations of the solution pH, etc.

Chelating agents are weak acids or bases added to the wash bath that will bind with metal ions in solution until they can be rinsed out. The salts of metals such as calcium, magnesium or iron can be sequestered to form water-

soluble products. It is important to use chelating agents at a pH range of between 6 and 9. In the lab sessions we tried using citrate, a weak chelator, and EDTA, a stronger one, mixed with lauryl sulphate on a severely water stained cotton sample. In each case not all the brown line staining was removed; however, better overall cleaning was achieved using the EDTA. Not all chelators are as effective at binding with all metal ions, so it is helpful to know what metal ions need to be complexed before beginning treatment so that the appropriate agent can be chosen. One must be cautious with dyed textiles because chelating agents can bind with mordants having metal ions, with the result that the dye can bleed or change colour. In the lab we tried a citrate solution at two different pH's. Colour measurements showed a marked lightening of the stained cellulosic fabric at both pH's.

Time was spent discussing other cleaning agents such as enzymes which are used in conservation to break down large biological molecules such as starch into smaller parts so that they can be more easily removed, oxidative and reductive bleaches which are used to make coloured stains colourless, emulsions, in this case mixtures of water, solvent and surfactant for removal of complex soils, and solvents such as those used by dry cleaners for solvent cleaning. We had interesting discussions about the use of stable surfactant foams or lather as a soil suspension mechanism during wet cleaning. We also learned about using materials, such as Agarose, a gelling agent formed into gel blocks that can be custom-formulated to include enzymes, chelating agents, bleaches, etc for dealing with localized staining.

Professor Wolbers suggests adding sodium or potassium ions (these are monovalent ions) to the final rinse, leaving the conductivity at about 50  $\mu\text{S}/\text{cm}$ . This would be instead of the traditional calcium or magnesium ions that paper conservators use. In the case of textiles that were previously washed, there often is an accumulation of calcium in the form of insoluble calcium soaps, manifested by a grey appearance. Wolbers also suggested adding a buffer to the last rinse, so that when the textile is dry it is in an electrically neutral state, less prone to attracting dirt.

Each afternoon laboratory session included hands-on exercises relating to the material presented that morning. Participants were provided with plenty of good-sized, naturally aged didactic sample fabrics soiled with different types of dirt that would be representative of artifacts conservators would encounter in a collection. The samples were all cellulose apart from some polyester samples provided by a workshop participant. Professor Wolbers kindly took colour readings of each sample, before and after treatment to quantify the results of the cleaning experiments. Most of our results demonstrated a degree of improvement in the lightness and a decrease in the yellowness of the samples.

Participants were paired and came up with a cleaning strategy for their set of samples. Each group completed customized wet-cleaning treatments using combinations of

pre-prepared cleaning solutions containing a variety of cleaning agents. Each 'before immersion' bath and 'final rinse' bath was monitored in terms of its pH and conductivity, making it clear to us how ionically active our cleaning solutions were. Unfortunately, participants did not have time to complete experimental wash treatments for all the samples provided using combinations of the cleaning solutions provided. On Thursday afternoon, Professor Wolbers shared the results of colour measurements of one cleaning trial that each group had in common. The results were unexpectedly diverse, revealing that the variability may have been due to differences in each group's mechanical agitation of the wash solution during wet cleaning.

Time was allowed for discussions centred around textiles with cleaning challenges that participants were encouraged to bring with them to the workshop. Often this led to potential cleaning proposals, using the knowledge gained. The workshop was an opportunity to discuss aqueous cleaning experiences (and other textile conservation challenges) with colleagues in various stages of their careers, and all participants benefited from the knowledge shared with us by the experienced staff of the Winterthur Textile Lab. During the week, we had the chance to tour the other conservation labs at the Winterthur Museum, visit the historic rooms and the Library (not to mention the gift shops!). All in all, this workshop was an invaluable learning opportunity.

\*The terms surfactant and detergent are used interchangeably for the purpose of this article.

Renée Dancause  
Conservator (Textiles)  
Canadian Conservation Institute  
1030 Innes Road  
Ottawa, ON K1A 0M5  
Canada

Gretchen Guidess Kappelmann  
Pre-program textile conservation student, currently working as a part-time conservation technician with E. Lahikainen & Associates in Salem, MA, USA.

### **The Forgotten History – Upholstery Conservation, May 12-13, 2005**

Held in Vadstena, Sweden and organized by the Carl Malmsten Center of Wood Technology and Design and Birgitta Forum, the Faculty of Arts and Sciences at Linköping University

The first upholstery conservation symposium held in Europe and one of only a handful of conferences on furnishings and upholstery in the past 2 decades took place in Vadstena, Sweden on May 12 and 13<sup>th</sup>. Fifteen conservators spoke on topics ranging from treatment

descriptions, analytical techniques and historical upholstery techniques to over 85 participants from 9 northwestern European countries and the US and Canada. The group included traditional upholsterers working in either their own businesses or on royal collections, and textile, furniture and upholstery conservators working in private practice or in museums or public collections. The conference was largely organized by Mats Grenfalk, an instructor in the fairly recently developed upholstery division at the highly acclaimed Carl Malmsten Institute, a college within Linköping University situated in Stockholm. Many of us first met Mats when he gave a talk at the Bard Symposium, 'Uncovering the Past: New Research on Historic Upholstery 1600 – 1850' held in 1998 at Bard College, New York City, NY to honor the publication of Geoffrey Beard's book "Upholsterers & Interior Furnishing in England 1530-1840".

The conference was both introduced and concluded by Elizabeth Lahikainen, and upholstery conservator associated with the Peabody Essex Museum in Salem, Massachusetts, U.S.A. Elizabeth is one of the earliest practitioners of upholstery conservation beginning her career in the early 1980s at the Society for the Preservation of New England Antiquities, and now in private practice. Elizabeth neatly framed the many questions one must ask when approaching an upholstered object requiring interpretation and eventually, some intervention prior to exhibition. She stressed that to interpret the necessarily fragmented upholstery information on an object, one must be conversant in historical technical upholstery practices and materials and included short histories of some of the materials. For instance, in America jute was referred to as naval fiber until around 1860. Elizabeth continued with the technical conundrums confronted during this investigative process may not yield enough information to proceed in expected directions. To illustrate this she showed an example of a decorative nailing pattern taken from fragmented information on the object that was a plausible period configuration but the final assessment was that the information on the object was not conclusive enough to be used in the final interpretation. In Elizabeth's concluding presentation at the end of the conference she revisited many of the same objects presented earlier now providing examples of technical solutions using modern materials, such as the use of expanded polyethylene (Ethafoam™), and demonstrated how information gleaned during the investigative process was incorporated into the final interpretation and presentation of these objects.

Several papers continued the theme of investigating and documenting historical materials and techniques. Mats Grenfalk, Upholstery Conservator, Carl Malmsten Center for Wood Technology and Design, Linköping, University, Sweden, described Swedish upholstery materials and techniques he has found on 17<sup>th</sup> and 18<sup>th</sup> century Swedish chairs. The use of reindeer hair, a short, thick, white and hollow fiber, was frequently used for stuffing rather than horsehair. This was not a material that most of the rest of us had seen or could identify. Heather Porter, textile conservator in Brighton, England, described the

construction and fillings of cushions; from knife-edge cushions to boxed forms. Heather noted the difference between pillows and cushions; pillows have inside seams and the seams on cushions face to the outside. She also discussed the various fillings found in English cushions, such as the artic Eider ducks, whose feathers are gathered from their nests, and the dubious practice of corrupting filling materials by using dirt and cheaper fillers. Nancy Britton of the Metropolitan Museum of Art in New York and Mark Anderson of the Winterthur Museum in Winterthur, Delaware, described the changing techniques found in American edge rolls in the 17<sup>th</sup> to the 19<sup>th</sup> centuries and their relationship to the upholstered profile and showcover fabric cutting methods. The forming of the later more sophisticated edges was accomplished by the introduction and increasing use of stitches, often in a variety of combinations. Tools and upholstery methods influenced the choice of stitches and the speakers invited further investigation by others as there might be particular stitches and techniques associated with cultural preferences. Anne Battram, upholstery conservator at the Biltmore Estates in Asheville, North Carolina, discussed the varieties of slipcovers found on furniture and their continuous use from the 17<sup>th</sup> century to the present, therefore being correct at any period. Among her many images, Anne showed the leather covers that were put over the cut velour showcovers on the 17<sup>th</sup> c. chairs at Ham House in England. Another form of slipcover functions as the showcover on the 18<sup>th</sup> c. Houghton Hall parcel gilt chairs in England. These elegant damask showcovers are not tacked to the frame as they appear, but are attached by a lacing method. She then discussed an American easy chair that was made originally for slipcovers; the lack of showcover tack evidence in the linen filler-cover indicated the chair never had fixed upholstery.

A second group of papers were case studies and conservation treatments. Gwen Spicer, in private practice as Spicer Art Conservation, discussed her investigation and treatment of an early 17<sup>th</sup> c. "X"-frame Italian chair in the Hyde Collection in Glen's Falls, New York. Comparing the upholstery materials on this chair to several comparable chairs revealed how problematic the identification of the age of the various upholstery materials on this chair was. An example was the webbing fabrication; the narrow webbings were whipped stitched together to form the needed seat depth from front-to-back and leather bindings sewn on the front and back edges. The yarns in the webbings were spun both S and Z correlating with the point twill direction. Agathe Strouk of Abaca Conservation-Restoration in Paris, described her conservation thesis project working on Georges Auguste Couthon's 1790s wheelchair from the Museum of the City of Paris, Carnevale. The construction of the chair identified it as having been made in Lyon and all of the underupholstery and showcover components were original and documented during the project. The gaufraged goat wool velvet on a linen ground showcover was a green-on-cream pattern and had losses and heavy soiling. The green dye was identified as an indigo derivative. The treatment plan included custom screen-printed underlay fabric, visually compatible

to ameliorate the losses. Nicola Gentle textile conservator in private practice in Heavitree, Exeter, England, presented a review of the conservation work she has done on several coaches. She discussed the upholstery materials and techniques she has documented in carriages, such as hammercloths, the textile skirt around the driver's seat in the front and hand holds, the carriage lace loop used by passengers to steady themselves, using Farr and Thorpe's 1888 book "Carriage Trimming" as a period reference. During her conservation work Nicola discovered the trimmer's (as the carriage upholsterer was known as) signature on a carriage body. In a 3-way paper, David Bayne and Deborah Trupin of the New York State Office of Parks, Recreation and Historic Preservation, Bureau of Historic Sites, in Waterford, New York, and Nancy Britton of the Metropolitan Museum of Art in New York described the development of the camelback sofa form as an extension of beds and daybeds that uses similar support systems, such as slats, and canvas with lacing, in addition to seating webbings. David described the physical evidence found on the frame that led to the unexpected conclusion that the seat support for the cushion was wood slats rather than webbing. Deborah showed the presence of the original sewn filler cover that relates the upholstery techniques of the sofa to the upholstery development of easy chairs in this same period that used slipcovers rather than fixed showcovers. In a contemporary vein, Joelle Wickens of the Textile Conservation Center at the University of Southampton, described her thesis work on Eero Aarnio's Globe chairs, a hard-shell sphere upholstered in the interior that first appeared on the commercial market in the 1960s. The conservation problems include modern materials of limited longevity and mass manufacturing techniques, often with variations in successive models of the same chair form. The Globe chair exhibited de-adhesion of the interior textile from its acrylic shell, and deformation and degradation of the foam rubber cushions. Inherent vice as a conservation and collection problem in modern collections was discussed.

Two papers discussed specific components of upholstery. Kirsi Rumbin, textile conservator in Helsinki, discussed the history and manufacturing of foam rubber and then described its degradation chemistry. When degrading foam rubber is in contact with textile components of the chair, the acidic sulphur degradation products causes localized color-shifting. Nancy Britton, Conservator at the Metropolitan Museum of Art in New York and Heather Porter, Textile Conservator in Brighton, England showed how upholstery springs function in chairs and described the manufacturing process, from drawing the wire to winding the spring wire on a mandrel to obtain the hourglass shape. They found that spring use varied between England and America, with England using springs in the 18<sup>th</sup> c. initially in chamber horses. When Americans began using springs in the 1820s, they were first placed on solid board seat bottoms, not on webbing as was the case in England.

Two papers addressed documentation of different sorts. Xavier Bonnet, Upholstery Conservator in Paris, discussed primary French upholstery documents as a source for

conservators and upholsterers. Of particular interest is Bimont, a Parisian upholsterer who wrote *Principes de l'art du tapisserie*", and period fabric books in the Bibliothèque Nationale in Paris. Xavier has also researched a Parisian upholsterer, Georges Bertault, known to be working in Philadelphia in the 1790s who is associated with several well-known sets of American furniture. Xavier discovered that Bertault was listed among the recorded Master Upholsterers records, now in the Louvre archives, and had been a Master in Paris in 1760 working with the furniture maker, Jacob. Bertault went bankrupt in 1776 and subsequently immigrated to America. Kate Gill, Senior Conservator/Lecturer at the Textile Conservation Centre at the University of Southampton, England, has been using x-radiography to non-invasively examine the often inaccessible interiors of seating upholstery. Because upholstered furniture can be quite fragile and unsafe to move, Kate designed and ran a project to test the use of a portable X-ray system, used in medical circumstances where patients cannot be moved. She found that differentiating the various organic materials, such as hair fillings, was difficult, while nylon-net showed up quite clearly.

The two days were extremely full and informative and the company excellent! We all enjoyed the tour of Vadstena, the organ concert in the church and the lovely dinner in the abbey with light opera entertainment. Our thanks to Mats Grenfalk and Pia Johannson for their immense dedication and hard work for making this event happen with such ease and aplomb.

Something must be said about the town of Vadstena, where the conference took place. Vadstena is a 14<sup>th</sup> century lace-making town located in south central Sweden on Lake Vättern, the second largest lake in Sweden that is connected to the Baltic by the Göta Canal. The town is the site of the most important cloisters in Sweden, the Convent of St. Birgitta, Sweden's only Saint, established about 1370, and boasts one of Gustavus Vasa I's castles, built in 1545. Vadstena also houses one of the largest genealogical archives in Sweden which is open to the public.

Nancy Britton  
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Sherman Fairchild Center for Objects Conservation  
Metropolitan Museum of Art  
1000 Fifth Ave.  
New York City, New York

## NOTICES

### **Textile Exhibitions in the Netherlands/Pays-Bas Near the time of the ICOM-CC Triennial Meeting**

Amsterdam: Rijksmuseum  
Sparkling Satin--The best of Gerard ter Boch [painter of  
opulently clothed people]  
until September 4, 2005

Den Hag/The Hague/La Haye: Gemeentemuseum,  
Stadhouderslaan 41  
Indian Summer (i.e. Indonesia, the former Dutch East  
Indies)  
until September 11, 2005  
En Vogue! 18th century fashions from France and the  
Netherlands  
opens September 10, 2005

Maastricht: Bonnefanten, Avenue Ceramique 250  
Flemish Spondour of the 16th & 17th Centuries through  
January 1, 2006

Rotterdam: Museum Rotterdam  
Japanese Indigo: Kimonos and textile art 1825-2004  
through October 2, 2005  
Marokko: Kunst & Design 2005 through March 5, 2006

Tilburg: Nederlands Textielmuseum, Goirkerstraat 96  
Barbies en Actionmen: Wereldmodemakers (Fashion for  
Baribes & Actionmen)  
until September 25, 2005

### **Visit to De Wit Tapestry Laboratories Mechelen Belgium**

De Wit Royal Manufacturers of Tapestries has offered to  
show its conservation facilities to Textile Working Group  
members attending the ICOM-CC Triennial meeting.  
Especially notable is the aerosol suction wet cleaning  
developed to accommodate full size tapestries. Mechelen  
Belgium (Mâlines) is located 1.45 hours (direct line) by  
train from The Hague's central station. Two possible trip  
times are available: either Friday, September 9, 2005 8:30-  
14:30 or Friday September 16, 2005 13:30- 18:30. There is  
no cost to visit the laboratories, but the cost of  
transportation is 'on your own.' To sign up for the visit,  
please contact Miss An Volckaert, [info@dewit.be](mailto:info@dewit.be) or  
Tel: +32 (0)15 202905 Fax: +32 (0)15 204888. For further  
information on this establishment see [www.dewit.be](http://www.dewit.be)

### **New Book**

Newly Published! Author speaking at ICOM-CC TWG  
session at the Triennial Meeting! Congratulations to Regina  
Hofmann-de Keijzer on the recent publication of the book  
Hallstatt Textiles.

#### *Hallstatt Textiles*

Peter Bichler, Karina Grömer, Regina Hofmann-de Keijzer,  
Anton Kern und Hans Reschreiter (Eds.) Hallstatt Textiles -  
Technical Analysis, Scientific  
Investigation and Experiment on Iron Age Textiles. BAR -  
British  
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### **Fellowship**

The Getty Conservation Institute (GCI) offers residential  
and non-residential fellowships for the 2006-2007 year.  
Applications must be received by November 1, 2005.  
Applications and further information are available at the  
Getty's Web site at  
[http://www.getty.edu/grants/research/scholars/conservation.  
html](http://www.getty.edu/grants/research/scholars/conservation.html)

Any questions you have can be addressed to  
[researchgrants@getty.edu](mailto:researchgrants@getty.edu)



## **Investigation and conservation of composite materials containing metals** by Christian Degriigny, Metal WG coordinator

### **Questionnaire**

*PLEASE FILL OUT AND SEND TO [ballardm@scmre.si.edu](mailto:ballardm@scmre.si.edu)*

**WG:** Textiles

**ICOM number:**

**Name:**

**Education** (curator, archaeologist, art historian, conservator, conservation scientist, student...):

**Position:**

**Full address:**

#### **1. Needs in the investigation and conservation of composite metal artefacts?**

- type of composite metal artefacts you deal with
- investigation issues if any
- conservation issues if any
  - i. alteration of artefacts
  - ii. conservation of artefacts

#### **2. Possible answers?**

- investigation aspects
  - i. update on current approaches
  - ii. new developments: innovative analytical methods
- conservation aspects
  - i. update on current approaches
  - ii. innovative approaches

### 3. Pending issues?

- investigation issues
- conservation issues

### 4. How the ICOM-CC network could contribute?

- transversal discussion? Platform of discussion?
- Common research theme between WGs?
- Production of:
  - i. Bibliography
  - ii. Guidelines for the storage, investigation and conservation

All information would be available on the ICOM-CC website

PLEASE FILL OUT AND SEND TO [BALLARDM@SCMRE.SI.EDU](mailto:BALLARDM@SCMRE.SI.EDU)

#### NEWSLETTER SUBMISSIONS

Once again we call for your contributions to the next TWG Newsletter. This is an opportunity to keep colleagues informed of developments and events in your region. Notices of exhibitions and books are also welcome. Please send your submissions to either;

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