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TEXTILE CONSERVATION NEWSLETTER

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Disclaimer

Articles in the Textile Conservation Newsletter are not intended as complete treatments of the subjects but rather notes published for the purpose of general interest. Affiliation with the Textile Conservation Newsletter does not imply professional endorsement.

TCN FROM THE EDITORS

Once again it's renewal time (1999-2000) and a form has been included for your convenience. The only change in rates is that back issues and supplements now cost \$5.00 in Canada.

Judging by the number of inquiries we've had about the subscription term I think it's time for a review. The subscription term is two years and includes four issues and two supplements. The subscription rates are: Canada: \$35.00 CDN; USA and International: \$38.00 US. Back issues and supplements are available for \$5.00 CDN in Canada, all other locations: \$5.50 US.

In order to keep the workload reasonable (we're volunteers) all subscriptions begin and end at the same time - there is no overlap of subscription year, ie. 1998-1999. If a person subscribes part way through the subscription term they receive all the back issues plus future issues of that term. New subscriptions received after the last issue of the two year term but before the first issue of the next term are carried forward to the new term.

After much discussion the current editorial team has reached the conclusion that it's time to hand over the editorship of the TCN. We feel that we've contributed as much as we can and in order to keep the Newsletter vital it's time for a new perspective. We will bring the Newsletter into the new millennia but will not continue beyond the year 2000. We've enjoyed the challenge.

WANTED: Textile Conservation Newsletter editor(s). Must have a sense of humour, be capable of wheedling articles from reluctant authors and be prepared to work on a volunteer basis.

Anyone interested?

Helen Holt

WELDON'S LADIES' JOURNAL



"Luvisca"
(INCIDERE...)

*The popular material
for Blouses, Dresses,
Children's Frocks, etc.*

NOT alone in beauty does "LUVISCA" outshine all rivals. In wear, and in the supremely important factor of durability, "LUVISCA" stands alone. Made from genuine artificial silk—British throughout—its beautiful sheen is permanent. "LUVISCA" has the appearance of real silk with the durability of cotton and something of the warmth of wool—an especial advantage for Sports Wear.

All leading drapers sell "Luvisca" in latest shades and colorings, 12, 18 in. wide. Design 8/11 and 12 in. 6/8 per yard. Also in Blouses ready to wear. as all our own styles & designs.

CAUTION:

Look for the STAMP on SELVEDGE of every yard, or for the TAB on every GARMENT NONE GENUINE WITHOUT.

If you difficulty in obtaining "LUVISCA" please write to Mr. W. J. WELDON, 122, (Dept. 101) 19, Aldersgate, London, E.C. 1, and will send you the name of the nearest retailer; they will send you the name of the nearest retailer; they will send you the name of the nearest retailer; they will send you the name of the nearest retailer.

Weldon's Christmas Journal
No. 510, December 1921

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TEXCONS - An Electronic Discussion List

TEXCONS was created as a result of a snail-mail exchange between Mary Ballard and myself. Both of us wondered how it would be possible to create an internet discussion list exclusively for Textile Conservation. I was becoming frustrated with reading all of the information on the ConsDistList and finding little of interest to Textile Conservators. I thought that it would be great to have a discussion group just for Textile Conservators and thought that it would be a good way to communicate with others in cyberspace. Myself, working as a private conservator out of my home, enjoy very much my keypals in the internet world. I find it to be a very low cost way of communicating with colleagues virtually all over the world.

Mary Ballard was able to involve David Bridge as our Technical Consultant and we, together with input from Helen Holt and Susan Mathisen developed the criteria for the TEXCONS discussion list which is as follows:

Welcome to the Textile Conservation Discussion List. This electronic discussion list, TEXCONS, has been developed to expedite communication among textile conservators within the textile community worldwide.

TEXCONS is an open un-moderated discussion list. The list co-owners are Mary W. Ballard in Washington, D.C. (mwb@cal.si.edu) and S. Gail Niinimaa in Calgary, Alberta (niinimaa@nucleus.com). The primary purpose of TEXCONS is to serve as a discussion forum to help colleagues with questions/answers on specific problems, treatment materials, techniques, methods, and other specific problems or queries relating to textile conservation. For example, some subjects appropriate to the TEXCONS discussion and exchange are:

1. Health and safety information, especially product hazards and sources for information on containing/handling hazards.
2. Suppliers/products, but not advertisements. Suppliers should post only if they are answering an inquiry about a particular product.
3. Literature citations that are of interest to textile conservators, particularly those in non-conservation journals.
4. Exhibition announcements with dates, museum hours, catalogues (with price and currencies, shipping/handling).
5. Courses, symposia, and seminar announcements. Pertinent information should include: dates, location, topics, sponsoring organization, address, telephone and FAX numbers, whom to contact.
6. Hotels (with room rates), travel bargains, and other travel services, preferably vetted by course/symposia /seminar announcers. Roommate searches to defray costs of attending such a conference or seminar.
7. Position and intern announcements, related to the Textile Conservation profession.
8. Other topics that affect communication among textile conservators and the textile conservation profession i.e. address and position changes, deaths, relocation, etc. Matters of a personal nature should not be distributed through this forum.

To SEND a message to the TEXCONS discussion list, address it to:
TEXCONS@simsc.si.edu

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and your message will automatically be sent to all members of the list.

To SUBSCRIBE to the TEXCONS discussion list, send a message to:

majordomo@simsc.si.edu

in the body of the message enter:

subscribe TEXCONS your-real-name your-email-address

The discussion list is supported by the "majordomo" software. To learn more about the majordomo commands, send a message to:

majordomo@simsc.si.edu

in the body of the message enter: HELP

This technical support for this discussion list is provided by the:

Museum Support Center
Smithsonian Institution
Washington, DC 20560 USA
Attn: David Bridge or Jason Young
David@simsc.si.edu YoungJ@simsc.si.edu

Archiving the messages sent to the Textile Conservation Discussion List.

All messages posted to TEXCONS will be automatically archived at Conservation OnLine and made available for browsing and searching on the World-wide Web at <http://palimpsest.stanford.edu/byform/mailling-lists/texcons/>

This service and support is being graciously provided by Stanford University Libraries, Stanford, California.

For ease of use, please add this address to your bookmark list. Report technical problems with the Web archives to Walter Henry
<waiscool@palimpsest.stanford.edu>

One of the clear benefits of the list is that the questions and replies have been placed on the WWW by Walter Henry. This enables anyone to go through the archives and see if their concern or question has been addressed before. It is also a useful way of having all of the information about Textile Conservation in one convenient location. This was done when the list was set up which over time will be useful for students, researcher and conservators to find answers to queries. To be quite honest however there have been some drawbacks and I would be remiss if I didn't mention them. Unfortunately having the word textile in our description has enabled what I would call Junk Mailers to send us many messages which have really no resemblance to the guidelines which we have posted, but some vague connection with some textile product somewhere in the world. Also due to the fact that it is an un-moderated discussion group has allowed an infiltration of material that is not always what

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you wish to read. On a few occasions we have been the recipient of an e-mail loop, whereby the same message was sent over and over again filling up our mailboxes with unnecessary junk.

These problems can be corrected somewhat through an improvement of software and we are looking into correcting these problems, however the list will remain as an un-moderated one due to the time consuming task of trying to moderate it. Another drawback that we have encountered is that some of "our members" are new to email, mailing lists, etc. so that is another problem. Some members do not always refer to the question that they are answering so the messages sometimes become confusing to follow. It is also very important that people do not try to send messages of a personal nature as everyone on the list (all 175 people from approximately 18 nations) will also read it.

In summary I would like to say that the development of TEXCONS has added another dimension whereby Textile Conservators can and do communicate in cyberspace. I would like to encourage more people to answer questions and post questions as this list will only be as good as the sum total of the people participating in it. If you haven't had a chance to participate I encourage you to join up or to read the archives posted at the following address: <http://palimpsest.stanford.edu/byform/mailling-lists/texcons/>

We welcome your input about TEXCONS. Please don't hesitate to direct your comments to me or Mary Ballard. I would also like to express my sincere thanks to David Bridge who is very patient with our limited knowledge about the technical details of managing TEXCONS. We are very grateful for his interest and time in helping us with this project. I am also very pleased that Walter Henry agreed to add TEXCONS to his website and to archive the material for us. That I feel is a lasting contribution to the field of Textile Conservation.

Mary Ballard adds: On the plus side - there are often questions sent that we might never consider, and the variety of viewpoints is wonderful! For me, the discussion list has helped me reconsider "what is textile conservation", "where are we going (what problems do I have)" and what problems are we interested in solving!?! There are a number of talented textile conservators with skills and expertise that are truly amazing. The list is a chance to get to learn of these colleagues, from these colleagues. The viewpoints of everyone are valid, useful, informative.

*S. Gail Niinimaa
25 Cathedral Rd. N. W.
Calgary, Alberta
T2M 4K4*

S. Gail Niinimaa graduated from the University of Alberta in 1973 and went on to study Textile Conservation at Abegg Stiftung, National Museum of Denmark in Brede, and the Textile Conservation Centre. She returned to Calgary in 1979 and began to set up the Textile Conservation lab at the Glenbow Museum. When her first child was born 11 years ago she began to work part time in private practice and continues to combine her small home based business with the demands of two elementary aged daughters and her husband! In her spare time she is a Girl Guide leader, coaches and competes in biathlon and dabbles in multimedia and computers.

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Thangkas - A Mounting Concern

My conservation practice consists of consulting and conservation treatment on thangkas; in their entirety and in whatever form they currently exist. In addition, I am deeply engaged in general conservation outreach: in the form of a CBC live-to-air phone-in radio show, magazine articles and a television show on conservation which is in development with a large production company. We all understand the importance of preventive conservation, and I feel that working through the media is a powerful way to educate.

It should come as no surprise, however, that sometimes the advice of conservators is not followed, no matter how it is presented! And sometimes objects are already altered profoundly even before they leave their home country and enter the world's art market.

This article concerns a specific situation in the world of thangkas.

A thangka is a complicated, composite three-dimensional object consisting of: a picture panel which is painted or embroidered, a textile mounting, and one or more of the following: a silk cover, leather corners, wooden dowels at the top and bottom and metal or wooden decorative knobs on the bottom dowel.

According to my Tibetan informants, thangkas are not only their paintings. Their textile mountings are significant. The painting and mounting currently together in a thangka may each have a different history, but at this moment in time, they together form a thangka. When the painting is removed from the mounting, it remains as a Tibetan painting that was once a part of a thangka.

Other Tibetan informants hold a differing opinion that the painting itself can be considered a thangka, and that the mounting is added on by a tailor later, similar to a western print taken to a frame shop. While both opinions have weight, it is always important for a conservator to consider and respect the integrity of an object as it arrives in the conservation laboratory.

Sometimes there are markings on the mountings which provide valuable information about the artist, the monastery and the thangka's original location in the shrine hall. It is often possible to ascertain if the current mounting is in fact the original mounting for a picture panel by looking on the edges of the painting support where several rows of stitch holes can indicate that the mounting has been changed.

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The aesthetic and historical relation of a thangka's painting and its mounting is most interesting. Did the artist of the painting have any control over the style and proportions of the mounting? Was the original choice of mounting that of the patron or that of the tailor? Was the painting created in one part of Tibet and framed in another part of Tibet, China or Northern India? Did the silk come from China or the Middle East along active trade routes? Is the mounting done in a different style, technique and aesthetic from those of the paintings? Does the mounting obscure significant sections of the painting? Tailors have been known to sew mountings with a window so small that it covers important iconographic and aesthetically relevant sections of the painting composition.

I have worked with thangkas since 1970. All conservators set the highest standards possible for their work in "preventive conservation, examination, documentation, treatment, research and education ... governed by an informed respect for the cultural property, its unique character and significance, and the people who created it". These phrases are taken from the AIC Code of Ethics. But what about the choices of the people in a thangka's history who have removed the painting from its mounting? This was done sometimes in the thangka's home country to enable transport out of the country or by dealers and collectors who appreciate paintings more than a composite object (more difficult to appreciate and display).

The largest collector of thangkas these days is a wonderfully warm and interesting person who is a client of mine. Over 90% of the paintings he collects were removed from their mountings before he purchased them. Mere shreds of their original mountings framed others when he acquired them. Some of the thangkas that come his way consist of old paintings which have been remounted in inappropriate mountings made from contemporary textiles. He also has fine examples of complete thangkas, which are framed in their entirety.

Earlier this year, I became interested in a collection of detached mountings which the collector was not interested in keeping. I visited with the collector, and we discussed the value of these mountings from several points of view: that the mountings had value in themselves as unique historic and artistic textile objects and that some mountings could provide valuable information in relation to their paintings. We discussed that the collector could instruct his framer to archivally mark the textile mountings with the catalogue number of the thangka.

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In the end, his assistants located and collected the textile mountings. Some of the mountings were old and fine examples of their type of weaving, silk, dyes, construction, style etc. I suggested that the collector allow me to look for a museum home for the mountings. Then I contacted several large museums with textile collections. I flew to New York and rolled the mountings for shipment and worked with the collector's assistant to photograph/catalogue them as much as possible in a short time period.

The mountings found a home at the Asian Art Museum of San Francisco, where the Conservation staff is excellent and the Curator is very knowledgeable about thangkas. The museum was thrilled to have the mountings, perhaps the only collection of so many interesting and diverse mountings in the world.

According to the Curator, Terese Tse Bartholomew, "This generous donation of thangka mountings significantly increases our ability to learn about the use of Chinese textiles in the mounting of Tibetan thangkas. Students and scholars will have access to them and will have rich new sources against which to reinterpret their findings and views about art from this area."

*Ann Marra Shaffel MSc, MA
Fellow IIC & AIC, CAPC
Conservator*

Measuring Silk Deterioration

Investigation into the usefulness of high performance size exclusion chromatography, viscometry, and electrophoresis

This paper was presented at the American Chemical Society National Meeting in Boston; Historic Textiles and Paper Materials Symposium on August 26, 1998

(This paper may be published as part of the symposium proceedings.)

Introduction

The deterioration of *Bombyx mori* silk fibroin has been studied for more than a century, with protein chemists focussing on the molecular weight, structure, conformation, composition and amino acid sequence, and textile chemists attempting to improve the properties during processing, dyeing, and finishing. During the past 30 years, textile conservators and conservation scientists have become concerned with silk deterioration, specifically with monitoring the state of degradation of silk textiles in museums, and understanding the effects of storage, display conditions, and cleaning treatments on their long-term stability.

A number of comprehensive reviews and studies on silk deterioration have helped us understand how the history of use, storage and manufacture of these textiles can affect their present condition. They also provide information on how to choose suitable display and storage environments, but the effects of various treatments on the long term-stability of degraded silk is a topic that requires further investigation.

During the past two years, one of the goals of the Conservation Processes and Materials Research division at the Canadian Conservation Institute (CCI) has been to develop and evaluate treatments for silk textiles. To accomplish this, we needed to develop routine analytical methods that are sensitive to small changes in silk as a result of deterioration caused by storage, display conditions, or treatments.

Silk damage can include fading of colours, loss of surface properties such as gloss or luster, or mechanical damage from abrasion or yarn breakage. In our study we focussed on damage that results in decrease in the molecular weight of the silk polymer or a shortening of the molecular chains. The relationship between average molecular weight of a polymer

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and its physical properties is well established. Higher molecular weights are generally associated with higher tensile strength and increased tenacity, toughness, chemical resistance, and abrasion resistance. For this reason we chose methods that measure changes in molecular weight.

Several methods that are quantitative (or semi-quantitative), rapid, not labour intensive, and use existing expertise and equipment have been investigated. These include high performance size exclusion chromatography (HPSEC), viscometry, and sodium dodecylsulphate polyacrylamide gel electrophoresis (SDS-PAGE).

DESCRIPTION OF METHODS

Viscometry

The viscosity of a dilute macromolecular solution is a function of its molecular size and shape at constant temperature. Viscometry is an important method for measuring molecular weight of polymers because of its simplicity. It is one of the oldest methods used to study silk deterioration. Degradation caused by random chain scission can be detected by changes in viscosity before any major loss of strength occurs.

At CCI, we have also used viscometry to determine the degree of polymerization (DP) of cellulose, using cadoxen solvent. It is a very sensitive and reproducible method, but because it is also labour-intensive and requires a relatively large amount of samples, more automated analytical techniques and instrumentation are needed. We included viscometry in our study primarily as a reference for comparing the other two methods.

Analysis of artificially light aged silk showed a large decrease in intrinsic viscosity in the initial stages of lightageing (28 hours). With further lightageing the amount of change in intrinsic viscosity decreases.

High Performance Size Exclusion Chromatography (HPSEC)

Size exclusion chromatography is the second most commonly used relative (as opposed to absolute) method for polymer molecular weight determinations.

In size exclusion chromatography (HPSEC), polymer molecules in solution are carried into the column's gel matrix by the mobile phase. Larger

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molecules, incapable of entering the gel pores, are eluted first; small molecules are retained longer on the column and are eluted later. The conventional method of size exclusion chromatography is extremely tedious, but the introduction of column packing materials suitable for high pressure systems has simplified the procedure and greatly reduced the time of analysis.

The use of HPSEC to characterize the size and molecular mass of proteins is relatively recent. At the 1992 Harper's Ferry Textiles Regional Group Meeting, David Howell reported the successful use of this method at the Hampton Court Palace conservation research laboratory for measuring silk deterioration.

In our study, we used two Zorbax® columns in series with a separation range between 4000 and 900 000 Da (Daltons). Protein molecular weight standards between 669 000 and 6500 Da were used to calibrate the columns, verify column performance, and calculate molecular weight averages. A 0.5 M tris-urea buffer, pH 7, was used as the mobile phase, with the column temperature maintained at 30EC.

The results showed major shifts in silk chromatograms, from high molecular weight (apparent peak molecular weight ~450,000 Daltons) of unaged silk to low molecular weight (apparent peak molecular weight ~17,000 Daltons) of artificially light aged silk (210 hours). There is also a very good correlation between the changes in the calculated apparent molecular weights and the intrinsic viscosity.

Sodium Dodecylsulphate Polyacrylamide Gel Electrophoresis (SDS-PAGE)

Electrophoresis is a common qualitative method for separating proteins according to their molecular weight. It has been used to study the molecular weights of silk subunits (light chain).

Polypeptides form a complex with sodium dodecylsulphate (SDS) under denaturing conditions, with the length of the protein-SDS complex being proportional to the molecular weight. When an electric field is applied, these protein-SDS complexes migrate through or sieve through the acrylamide gel matrix and are separated according to their molecular weights. The actual molecular weight of the protein is determined by comparison with the migration of different protein molecular weight markers on the same gel, using a calibration curve.

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In our experiments we used a Pharmacia Multiphor II flatbed system and precast, 15% homogeneous ExcelGel SDS for separation. The molecular weight markers ranged from 14 000 to 94 000 Da.

The results showed that the intensity of the ~30,000 Dalton band assigned to the silk subunit (light chain) decrease with light ageing indicating progressive loss of the subunit. These results are consistent with the current understanding of the mechanism of silk degradation.

RESULTS AND CONCLUSIONS

Molecular weight determinations are useful for assessment of polymer degradation because of the well-established relationship between molecular weight and the physical manifestation of deterioration. The main advantage of our methods is their sensitivity to specific types of polymer – random chain scission. These methods are also found to be useful for studying polymer association and changes in conformation. These are important factors for assessing silk deterioration, and interaction with cleaning agents.

The major limitation of our methods is that they require polymers to be in solution. Analysis of weighted silk, for example, cannot be done unless the weighting is removed. Also, these methods are not suitable for detecting mechanical damage, end-wise degradation, or changes in surface texture.

In our analyses of artificially and naturally degraded silk, viscometry and HPSEC gave similar results: both were very sensitive to the deterioration of undegraded or moderately degraded silk but much less sensitive with very degraded silk. SDS-PAGE gave information about the integrity of the silk light chain which was directly related to the state of the silk deterioration. In addition to degradation assessment, these methods also gave information about the interaction between treatment chemical residue and silk protein in solution.

HPSEC has several advantages over viscosity measurements and electrophoresis as a routine method: it requires a simpler sample preparation and a smaller sample size; it is much less labour intensive; and it gives more comprehensive information. For the assessment and monitoring of very degraded silk, these methods are not very sensitive to small changes in molecular weight. But they can be used, especially if other

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well characterized samples are analyzed at the same time as references.

For conservation research, these methods are useful for evaluating treatment procedures and chemicals where new silk test samples can be used and are available in large quantities. They will be used in future studies, at the CCI, to evaluate the effects of more aggressive stain removers and other cleaning agents on silk.

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Conservation Scientist
Conservation Processes and Materials Research
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*Anne-Laurence Dupont
Research Intern (1996-1997)
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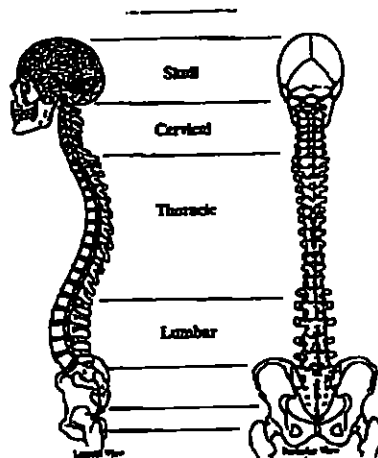
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Good Posture Works

As a firm believer in and recipient of the benefits of chiropractic care, I asked my doctor if she would write a short article for the TCN about 'preventive' measures. Dr. Pratt kindly contributed the following. Helen Holt

Your posture really does make a difference in how you look and feel. Good posture boosts your self-confidence and energy. You project a more positive, healthy self-image. You can prevent all sorts of nagging aches and pains and injuries.

The goal of good posture is to maintain the three natural curves of your spine in their normal, balanced alignment. Your spine has three natural curves: the cervical curve of your neck, the thoracic curve of your middle back, and the lumbar curve of your lower back. Proper posture is maintained when your ears are over your shoulders, your shoulders are relaxed, and your pelvis is in its neutral position. To keep your spine aligned, you need strong, flexible muscles to hold your spine in position. Then, by learning how it feels to be in good posture, you'll develop the body awareness that helps you stay in good posture throughout the day, no matter what you're doing.



Poor posture starts as a comfortable habit, but eventually it hurts - not just in your back, but all over. Those aches and pains may even be signs of a serious posture-related problem. Poor posture causes muscle tension, stiffness, fatigue, backaches, neckaches, and headaches. Over time poor posture aggravates existing problems and can cause repetitive strain injuries. Use the following tips to increase your comfort level, reduce your stress level and maintain good posture:

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The key to good posture is to maintain the three natural curves in your spine, no matter what you're doing.

- Sit erect with your feet firmly on the floor or footrest.
- Sit close to your desk/work table with your buttocks against the back of your chair.
- Use a chair with a lower back support or lumbar roll to support your lower back.
- Take frequent breaks from sitting and/or alternate duties.
- If standing use a low box or stool to rest one foot on to help support your lower back. If possible, raise or lower your work surface to keep your shoulders and neck relaxed.
- Wear low, comfortable shoes.
- If you're lifting objects keep them close to your body, keep your back straight and lift with your legs and buttocks.
- When bending, keep your spine straight, with your neck and back in line and bend at the hips.
- Control your weight.
- When varying things, try to put actual weight on both sides of your body.
- Physical fitness and exercise help maintain strong, flexible muscles that support your spine.
- If working on a computer place the monitor screen at eye level or slightly lower.
- Sit directly in front of the computer.
- Set the keyboard so your forearms are horizontal to avoid bending your wrists up or down.
- Eliminate reflections from the screen to reduce eye fatigue.

*Dr. Mary-Lee Pratt B.Sc. D.C
Chiropractor
Kemptville, Ontario*

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Textile Conservation Centre Future Developments

For over two decades the Textile Conservation Centre has been instrumental in establishing and developing the profession and techniques of textile conservation. It has never received Government revenue funding and, after 23 years, the Centre remains a premier international training institution for textile conservators. Our Studies and Research Department offers high quality, science-based postgraduate education in textile conservation: over 170 people have studied here and now work in twenty countries. The Conservation Services Department, with its large team of trained textile conservators, undertakes conservation projects for museums, commercial companies and private clients on a commercial basis. This gives the students a unique opportunity to observe textile conservation in progress.

The Centre has an outstanding publications record in this field and has done much to develop the profession on textile conservation.

The TCC's key objectives for the future are as follows:

1. Further development of textile conservation education to meet the needs of the profession in the millennium.
2. The increase and development of research, including PhD and post-doctoral studies.
3. The establishment of short courses as part of programmes for conservators' and curators' continuing professional development.
4. The development of the textile conservation services which the Centre offers to museums and private clients.

Hampton Court Palace provides a beautiful location but our premises are cramped and awkward; we therefore investigated options for new partnerships and for relocation from Hampton Court. As a result, the Textile Conservation Centre has merged with the University of Southampton; this merger took place on August 1st. The Centre will remain at Hampton Court until September 1999, when we will relocate to a new, purpose-designed building on the University's Winchester School of Art (WSA) campus.

The Textile Conservation Centre will retain its distinct identity and its name. Our Conservation Services Department will continue to provide a service for museums and private clients - the purpose-designed premises will enable us to work much more efficiently than is possible at present.

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In our new building we will offer new Masters courses and short courses. Research activity will be increased and, as part of this, the Centre will develop a core of PhD students. These developments, and the immense scope for joint academic and research development with University departments such as Chemistry and Archaeology, are enormously exciting!

The arrival of the Textile Conservation Centre will act as a catalyst for the development of WSA's research and publication activity: one of the School's key priorities. The School has a highly respected Centre for the History of Textiles and Dress and it offers courses in textile design, art history and design history. **The addition of the Centre to this core will create a centre for textile study, research, conservation and development which will, we believe, be unrivaled anywhere in the world.**

The total cost of the whole project is £4.8 million and we have a major capital campaign underway to raise the funds required for the new building, development and relocation, equipment and bursary endowment. We have so far raised over £2.7 million - more than half way to our target.

The new building has been designed to our specifications by architecture plb, of Winchester. The new building will give the Centre state of the art facilities. Student and Conservation Services workrooms will be adjacent - which will foster the important links between students and conservators.

The world of museums and collecting is changing rapidly, as is higher education in Great Britain. The Centre wishes to lead rather than react to these changes in order to educate and develop textile conservators for the next millennium. Accordingly, after great consideration involving members of the profession, employers and educational specialists, it has been decided to develop MA programmes.

The two year MA in Textile Conservation has been carefully set up to offer a comprehensive career entry education for textile conservators with a balance of practice and theory. The small numbers to be admitted to this MA (maximum 8 per year) will enable the Centre to maintain its reputation for intensive and focused teaching and learning. The approach will be object centred and preventive conservation concepts and practice will continue to be an important element.

One of the most exciting aspects of the merger with the University of Southampton is the opportunity for conservation and curatorial students to study

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together. The one year MA in the Preservation and Interpretation of Cultural Material will provide an opportunity for both new graduates and established professionals to study the history of collections as well as the theory and implementation of the care, interpretation and display of collections together with the management of resources.

If you would like to find out more about the MA or PhD opportunities please contact Mary Brooks at:

The Textile Conservation Centre
Apartment 22, Hampton Court Palace
East Molesey
Surrey KT8 9AU
UK

Tel: 0181 977 4943

Fax: 0181 977 9081

e-mail: tccuk@compuserve.com

1998 Final Year Project Summaries

Postgraduate Diploma in Textile Conservation

Students in the final year of the three year postgraduate Diploma in Textile Conservation offered by the Textile Conservation Centre in affiliation with the Courtauld Institute of Art, University of London, undertake two twelve week projects. One is an object-based project which addresses a complex conservation problem. The other is an investigative project which may focus on a particular issue in conservation theory or practice, either preventive or interventive.

The 1998 projects highlight some current concerns in textile conservation - exploring how interventive treatments, mounting and display may enable both the preservation and understanding of artefacts so they can be understood, studied and enjoyed by both museum visitors and textile specialists. The conservation of the folding hunting kite, Irish coatee and the hanging pocket and baby cap all involved considerations of these issues as well as requiring a sensitive level of intervention to make them comprehensible and safe. The trend towards less interventive treatments is reflected in two of the investigative projects exploring the methods and implications of different pressure mounting techniques and the possible consequence of retaining soil on degraded textiles as evidence of use and context. Textile conservators are required to think about textiles in bulk as well as single objects as evidenced by the project focusing on strategies for moving a textile collection.

These reports may be consulted at the Karen Finch Library at the Textile Conservation Centre, Hampton Court Palace. appointments should be made with the Librarian, Sue Brady, on 0181 977 4943.

- **ANNA HARRISON**

Investigation Project

An investigation into the degradative effects of the retention of soiling on historic and archaeological textiles and strategies for future preventive care, with reference to a seventeenth century doublet (TCC 2304.1)

The project investigated the degradative effects of soiling on historic and archaeological textiles and reviewed accessible methods for soiling analysis as

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an aid to recommending future preventive care strategies. The move away from cleaning in textile conservation has implications for the preservation of soiled textiles. Soiling can be defined as staining, particulates or ingrained matter which may have occurred during a textile's manufacture, its intended use, or when it was no longer fulfilling its original function. It may also consist of degradation products from the textile itself, related components, or be the result of previous repair or conservation treatment. Soiling is likely to cause increased and accelerated degradation. The degradation processes can be physical, chemical or biological and will depend on the individual characteristics of the textile and on various catalytic factors. Reasons for leaving soiling in contact with textiles are varied. Soiling may be retained due to its potential evidential value or because a textile will be damaged by a cleaning treatment.

The case study is a textile on which the soiling will be retained. It is a rare example of a seventeenth century doublet, a man's outer garment worn over a shirt from the fourteenth until the seventeenth century. It was found, possibly deliberately concealed, under floorboards in a house in Abington, Oxfordshire. On the basis of results of examination and testing, recommendations are made for future preventive care of the heavily soiled doublet as its return to the attic space will be detrimental to its long term preservation.

The investigation identified ways of examining and testing soiling on the case study to determine its potential for degradation. Visual examination methods involve documenting the soiling in-situ through the stereomicroscope, using UV light, infrared and x-ray photographic techniques and the examination of individual soil particles under the compound microscope. Chemical testing includes pH testing, conductivity tests and tests for metal ions. The potential applications of each method are discussed and areas for further development and research are identified. Preventive conservation strategies, including control of the environment and appropriate handling, are found to be particularly important for soiled textiles. It is concluded that the amount of information on soiling that is necessary to obtain through analysis will depend partly on the future conditions to which a textile is returned. The longer term benefit of carrying out soiling analysis during the routine process of documentation is that information, will be built up on the effects of soiling which can subsequently be used by conservators to make more informed conservation decisions.

The preparation for display of an eighteenth century baby's cap and pocket, found concealed in a wall cavity (TCC 2304.2 and 3)

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The project concerns the conservation treatment of two eighteenth century textiles, a pocket and a baby's cap, which were found deliberately concealed inside a wall cavity filled with hops. The treatment brief required the textiles to be made safe and understandable for short-term display and storage in a museum.

Treatment objectives included: completing written and photographic records of the textiles' structure and condition prior to treatment and of treatment undertaken; setting treatment into context through background research; fulfilling the treatment brief as ethically as possible without compromising the character of the textiles; reducing physical and chemical damage both during and after treatment; and providing an evaluation of the treatment and report.

The pocket, with a vertical opening for access, has a printed cellulosic outer fabric from about 1740, a silk lining, braid binding and ties. It was in a fairly poor condition, structurally weak and heavily soiled. The linen cap, dated 1740-70, has lace edging around the face and a lace infill at the gathered back. This was in a slightly better condition, although with ingrained soiling and staining and severely crushed.

Treatment of both textiles was set into context by researching into historical use and surviving examples. A survey was carried out into pockets in museum costume collections but no other comparable printed pockets were found. The significance of the textiles as deliberately concealed objects was also researched. Ethical issues, condition and, with regards to the pocket, problems of access guided treatment of the textiles. It was necessary to relax the creases in order to make previous function understandable. Therefore the pocket was opened out under water and a small amount of detergent solution. The braid edging and vertical opening was given a stitched support. A supportive padded board with a shaped recess for the pocket was made and a protective storage container constructed. A wet cleaning treatment was also carried out on the cap, which successfully reduced its grey appearance. A mount was made consisting of a supportive shaped form for the cap and a custom-made perspex stand. A suitable storage container was designed. Recommendations for future preventive care of both textiles were given.

The treatment and personal objectives were successfully fulfilled and the requirements of the treatment brief met. Therefore both the textiles were stabilized for future display and storage and their history, both as items of

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clothing as a deliberately concealed objects, made understandable through documentation and treatment undertaken.

- **RACHEL PHELAN**

Investigation Project:

Establishing a strategic plan for the permanent relocation of textile collection

This report is the result of a research project carried out over twelve weeks with the aim of providing information to conservators and curators on how to facilitate the transportation of textile collections from one location to another on a permanent basis. Through a literature search, a postal questionnaire and personal communication with museum specialists, the criteria to be considered when faced with relocating an entire textile collection from one site to another was established.

In order to set these elements out clearly and to supply a tool which may help with planning a relocation, a Textile Relocation Planner was designed. The Planner is a system of tables and guidelines created to aid the user in assessing the needs of moving their collection. It is untested as yet and should be treated as a pilot framework document.

The report is structured with the Planner at its core. Subsequent sections deal with the reasoning behind the incorporation of information into the Planner. These sections cover the allocation of resources - human, financial and physical; documentation; assessment of both current and relocated storage facilities; packing and unpacking; and security and transportation.

Object Treatment Project:

The conservation and display of a uniform coatee c. 1844 and a sash c. 1862 belonging to Thomas Francis Meagher

This report documents the conservation and preparation for long term exhibition of two separate objects: a coatee and a sash from the Meagher collection belonging to the Waterford Corporation, Ireland. They are to be displayed in a new county museum opening in the summer of 1998.

The coatee, part of the uniform of a mid-19th century Irish political club, is

made of dark green fulled wool, with embroidered velvet collar and cuffs and a quilted silk lining. A number of cleaning methods were considered before the object was surface cleaned and then humidified in sections. The structurally damaged sections of the silk twill lining were given a stitched support, using dyed silk patches with a silk crepeline overlay. A three-dimensional display mount was carved out of Ethafoam. The mount has removable arms, attached with Velcro. The form was constructed to fully support the coatee and visually minimize later alterations. A toile reduced handling of the object.

The yellow knitted sash is part of a Union General's dress uniform from the American Civil War. It has been damaged by previous display methods, resulting in sharp creasing and extensive iron stains. On account of the combination of silk, cotton and wool, the sash was cleaned using an aqueous solution and Stoddard's solvent. The latter acted as both a barrier and a cleaning agent.

The results of this treatment and of aqueous immersion on the iron stains are evaluated. After cleaning, the conservation needs of the sash were reassessed with a view to future display.

DANIELA SAILER

Investigation Project:

An investigation into different materials and methods of pressure-mounting for the display, storage and transportation of pre-Columbian fragments (TCC 2363)

This report describes the investigation into pressure-mounting, a mounting technique for textiles, with information based on fragments of a pre-Columbian 'painted' cloth (TCC 2363). The aim of this twelve-week project was to identify the needs of the object in order to propose a mounting method suitable for storage, display and transportation.

The research included a literature survey about pressure-mounting and published case studies. Observations from numerous responses from conservators in the United States and England have contributed and made it possible to bring information together.

Pressure-mounts are defined as sandwich-like constructions that consist of

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a rigid base covered with a resilient material, a mounting fabric and a glazing sheet. The padded support board inhibits the physical movement of the textile while it prevents it being flattened by the contact of the glazing material. The choice of material is dependent on the individual needs and role of the object, the accessibility, the available budget and the experience of the conservator. The advantages and disadvantages of pressure-mounting are discussed and evaluated.

The report also includes the description and evaluation of four pressure-mount models which were constructed using methods applicable for the pre-Columbian fragments. The models are constructed of different lightweight boards, such as an aluminum/glass fibre honeycomb (Hexlite 620, formerly known as Aerolam F) and an acid-free cardboard honeycomb panel (Tycore). Others consisted of wooden stretcher frames which were sealed and covered with conservation grade mounting boards. The resilient layers were constructed of cotton and polyester based paddings. Different fastening elements such as mirror clips and stainless steel screws were used to fasten the glazing to the mount. As a glazing, Perspex was used since glass would be too heavy and could break when the mount is transported. The pressure-mount models are kept for study purposes and future reference in the Reference Collection of the Textile Conservation Centre (RC 1695).

A suitable pressure-mount for the pre-Columbian fragments was proposed. The most appropriate mount considering the requirements of the client is a pressure-mount assembled from Hexlite 620 board which is very lightweight and rigid. It has also been tested for its safe, long-term use in contact with a historic object. Perspex is used as a glazing because it is suitable for transportation. Polyester padding was preferred to cotton since it is more resilient. The pressure of the glazing and the mount was achieved with screws and nuts which can be adjusted in the future. The eventual development of a microclimate in the interior of the mount is minimized by the possible air circulation through the side edges. These are covered with a fabric which is extended from a mat on the glazing. The effectiveness of the pressure-mount for display, storage and transportation was determined.

Object Treatment Project:

The conservation treatment and preparation for display of a collapsible hunting kite (TCC 2350.1)

This report concerns the conservation of a collapsible hunting kite (TCC 2350.1) with the treatment brief to stabilize it for display and occasional storage in the museum it belongs to. This unusual hawk kite (1290mm wingspan), also referred to as a partridge kite, comprises a brown cotton fabric which is attached to a framework of wood and cane with a combination of adhesive, metal fasteners and stitching twine. Other elements include a head profile of black card, two cloth wind cups, the bridle and bobbin with the flying line. The latter four elements are now detached from the kite.

The kite was structurally in a sound condition but the fabric cover has suffered from damage with severe fibre loss. The adhesive used to attach the fabric to the framework has failed and the cover has therefore become detached in areas. This has also caused creases along the wingspan. The kite and its detached elements were heavily soiled, mainly with surface dust.

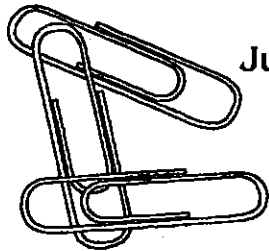
The fabric of the kite was surface cleaned using low power vacuum suction; other mechanical cleaning techniques such as erasers were used to remove dirt from the metal, wood and card elements. The kite's previous role of outdoor use was evident in the soiling and cleaning was therefore kept to a minimum. Slits and holes, which were vulnerable to further deterioration, were supported with polyester crepeline patches and applied with an acrylic thermoplastic adhesive (40% Lascaux 360/498 HV in de-ionized water). The area of loss was supported with an open weave cotton patch which was dyed to blend with the colour of the fabric cover. It was applied with a combination of adhesive and stitching. A thermoplastic film (Beva 371) was used in areas where the diluted adhesive solution did not achieve a sufficient bond strength. All adhesives were tested and evaluated before the treatment was carried out. The fabric cover was then re-attached to the framework by folding it around the wing elements. Instead of an adhesive, as was used originally, nylon net was wrapped around the wing sticks to which the fabric cover was stitched. This reduced the strong creases which were created by the uneven tension of the fabric before treatment.

A mount for hanging display was designed and fabricated from clear acrylic sheet (Perspex). It was aimed to be supportive for the kite to substitute its missing support elements and prevent the wings from collapsing since this would cause strain to the fabric cover. The transparent, simple to handle and light-weight mount enabled the kite to be suspended safely and stored on the mount.

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The treatment was successful in enhancing the long-term preservation of this rare hunting kite and the aim of a minimal intrusive conservation treatment was achieved. The kite with its detached elements is now displayed in the Cotswold Countryside Collection in Gloucestershire.

Mary M. Brooks FIC
Senior Lecturer & Head of Studies & Research
The Textile Conservation Centre



Just a reminder...

It's time to renew!

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Call For Papers

"CONSERVATION COMBINATIONS"
North American Textile Conservation Conference
Textile Symposium 2000
Grove Park Inn, Asheville, North Carolina
March 29-31, 2000

The second Biennial Symposium of the NATCC will be hosted by the Biltmore House Textile Conservation staff, headed by conference chairperson Patricia Ewer. The meeting will take place at the historic Grove Park Inn, an Arts and Crafts landmark located in the Blue Ridge Mountains of Asheville, North Carolina.

The symposium theme, "Conservation Combinations", will explore collaborations between textile conservators and other professionals. Collaborative projects may involve textile conservators and scientists, curators, designers, artists, archeologists, other conservators, etc. Submission of papers from professionals outside the field of textile conservation is strongly encouraged. All submissions should be clearly related to the symposium theme, and based on previously unpublished, original scholarship.

Abstracts up to 250 words in length must be submitted to the conference subcommittee by November 1, 1998. The abstracts will be reviewed by the NATCC Steering Committee, and notifications of acceptance will be given February 1, 1999. All submissions should consist of the speaker's name, address, e-mail address, telephone and fax numbers, a short one-paragraph biography, the title of the submission and a 250 word abstract. Papers will be published in the Symposium Preprints.

I. Categories of Presentation

- A. Slide/illustrated papers:** A suggested time limit of 30 minutes will apply to all papers, including time for introductions and questions.
- B. Posters:** Space will be available for poster demonstrations for the duration of the conference. A five minute discussion of each poster by its creator will be incorporated into the symposium schedule.

II. Requirements of presenters

Presenters will be required to pay regular conference fees and provide their own transportation and lodging.

Abstracts are due November 1, 1998

**NATCC Symposium 2000
attn: C. McLean/C. Varnell
L.A. County Museum of Art
5905 Wilshire Blvd.
Los Angeles, CA 90036 USA**

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The Conservation and Restoration of Upholstered Furniture

A FORUM - REVIEWING THE ISSUES

Professional Conservators in Practice

December 7, 1998 9:30 am to 5 pm

There will be a one-day seminar at West Dean College; it is organized in collaboration with the Textile Conservation Centre. Forum Leader: Kate Gill, Senior Conservator/Lecturer specializing in the conservation of textiles and upholstery, The Textile Conservation Centre. The forum is aimed at bringing together those who are involved in the care, interpretation and treatment of upholstered furniture to discuss and review the issues relating to its conservation and restoration. The day will [be] comprised of brief presentations by invited speakers who are specialists/practitioners in their fields. The different perspectives of curators, housekeepers, conservators, restorer and upholsterers will be presented for discussion. Examination of pieces of furniture will facilitate discussion on the factors influencing treatments, including appropriate levels of interaction, the role of the object and limitation of resources. The day promises plenty of opportunity for lively discussion and constructive debate.

Morning: Chaired by Lesley Wilson, an independent upholsterer.

Speakers include: Frances Collard, Victoria & Albert Museum

Caroline Rendell, The National Trust

Kate Gill, The Textile Conservation Centre

Peter Holmes, Spink & Son

Barry Ansell, RD Robins Upholsterers Ltd.

Afternoon: Chaired by Sherry Doyal, Conservation from the Royal Albert Memorial Museum

Speakers include: Derek Balfour, Victoria & Albert Museum

Lesley Wilson, an independent upholsterer

Bertram Chapman, Albert E. Chapman Ltd.

John Hartley, Tankerdale Workshop

The day ends with an open forum involving all speakers. There will be an opportunity during the day for a limited number of delegates, in small groups, to visit the College's Furniture Conservation and Restoration course.

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Forum Fee: (£75, to include coffee, lunch, and tea. The Forum is non-residential but information regarding overnight accommodations is available from the College Office. The Forum is open to anyone working in the field and places will be allocated as booking forms are received, in chronological order. To reserve a place, please contact the College Office for an application form.

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ANNOUNCEMENTS

Mount-Making for Museum Objects

by Robert L. Barclay, André Bergeron and Carole Dignard
with illustrations by Carl Schlichting

Mount Making for Museum Objects is a new publication produced jointly by the Canadian Conservation Institute and the Centre du conservation du Québec which should be of interest to anyone involved in museum mount-making, including preparators, conservators, designers and display technicians. Topics covered include: reasons for creating mounts; recommended materials, their chemical composition and working properties; tips on choice of materials; and methods for measuring objects. Many examples of custom-made mounts for a wide range of objects have been illustrated with photographs and detailed line drawings that explain step-by-step the mount-making techniques used. A bibliography is also included.

Available in English or in French at a cost of \$42.00 plus shipping charges from:

Canadian Conservation Institute
1030 Innes Road
Ottawa ON K1A 0M5
Canada
Tel: (613) 998-3721
Fax: (613) 998-4721
E-mail: cci-icc_publications@pch.gc.ca

Ordering information: shipping and handling charges: Canada: \$6; US: \$10; other countries: \$16. Canadians must also pay 7% GST and, where applicable, provincial sales tax (i.e. in NS, NB and NF an additional 8%). Please make cheques payable to the Receiver General of Canada. Payment by Visa or MasterCard also accepted.

Solvents/Alcohol Affect Colour Vision

HAZCHEM ALERT 13(2) p. 17, Feb, 1998

The following abstracts provide an artistic reason to avoid solvent exposure: colour vision is altered, especially the perception of blues and yellows. Those who drink alcohol in addition develop even greater colour vision defects as measured on the Bowman's "colour confusion index". (Perhaps this explains certain artist's work!)

ORGANIC SOLVENT occupational exposure leads to blue/yellow vision deficiency in workers exposed to low concentrations. Colour vision was examined in 24 workers exposed to mixtures of solvents and in 24 control subjects. Exposure to mixtures was below threshold-limit values. Colour vision ability was assessed using the Ishihara plates (to screen for congenial dyschromatopsia), the Farnsworth panel D-15 test, the Lanthony desaturated panel D-15 test, and the Standard Pseudoisochromatic Plates part 2 (SPP2 test). The comparatively less sensitive Farnsworth panel D-15 test failed to show any difference between the groups, but the Lanthony Panel D-15 desaturated test as well as the SPP2 test showed a significant impairment in the exposed group. Errors were of the blue-yellow type. (Int Arch Occup Environ Health 1997;70 (6):407-412;Medline 98103162)

SOLVENTS AND ALCOHOL occupational exposure leads to acquired dyschromatopsia in combined exposure to these materials. A total of 138 individuals exposed to solvents (toluene, CAS RN 108-88-3; xylene, CAS RN 1330-20-7; trichloroethylene, CAS RN 79-01-6; tetrachloroethylene, CAS RN 127-18-4) were examined using Lanthony's D-15 test and compared with 100 nonexposed controls. The extent of colour vision loss was quantitatively assessed based on Bowman's colour confusion index (CCI). A cumulative exposure index was calculated from the hours of exposure per day and the years of exposure. In 30 persons who were exposed to trichloroethylene and tetrachloroethylene, urinary trichloroacetic acid was assessed as a parameter of exposure. Individuals who consumed more than 250 grams of alcohol/week and were simultane-

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ously exposed to solvents showed a significantly elevated CCI. The combination of alcohol intake and occupational exposure to solvents discloses the risk of acquired subclinical color vision defects. (Int Arch Occup Env Health 1997;70(6):403-406;Medline 98103161)

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The Textile Conservation Newsletter, published twice yearly is a forum for textile and costume news from around the world. Submissions related to textile conservation, history, technology and analysis, information regarding recent publications, supplies and equipment, health and safety, employment opportunities, and upcoming courses conferences and exhibitions are invited. They should be typed and, if possible, accompanied by a disk using IBM Wordperfect 4.2, 5.0, 5.1 or ASCII formats.

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TCN Subscription Form

The TEXTILE CONSERVATION NEWSLETTER is an informal forum for textile and costume news from around the world. It contains information related to textile conservation, history, technology and analysis, recent publications, supplies and equipment, health and safety, employment opportunities and upcoming courses, conferences and exhibitions. The TEXTILE CONSERVATION NEWSLETTER is published twice yearly, in the spring and fall, with one supplement each year devoted to a specific topic.

All submissions should be typed or, preferably, forwarded on an IBM compatible 3.5" disk in Wordperfect or Microsoft Word formats. The disk will be returned. Inquiries, submissions and address changes should be sent to:

TEXTILE CONSERVATION NEWSLETTER
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3332 McCarthy Road
Ottawa, ON K1V 0W9
Canada

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The following back issues and supplements of the TEXTILE CONSERVATION NEWSLETTER are available:

SUPPLEMENTS

<u>Annotated Bibliography on the Use of Adhesives Used in Textile Conservation</u> <i>Jacinthe Moquin, Provincial Museum of Alberta</i>	Spring 1987
<u>Mannequins for the Royal Ontario Museum Gallery</u> <i>Alexandra Palmer, Textile Department, Royal Ontario Museum, 1987</i>	Spring 1988
<u>Warning! Dichloroovos Resin Strip Fumigation</u> <i>Sharon Hammick, Conservation Department, Royal British Museum, 1989</i>	Spring 1989
<u>Recent Trends in Costume and Textile Storage</u> <i>Jaquelin Beaudoin-Ross, McCord Museum of Canadian History, and Eva Burnham, Canadian Conservation Institute, 1990</i>	Spring 1990
<u>The Effects of Substrate Variation on Colorimetry Readings</u> <i>Leslie K. Redman, Canadian Museum of Civilization, 1990</i>	Spring 1991
<u>Characterization and Preservation of Weighted Silk</u> <i>Merrill Horswell et al, Department of Environment, Textile and Design, University of Wisconsin, 1992</i>	Spring 1992
<u>Conservation of an Egyptian Mummy Shroud</u> <i>Isabella Kravski and Diane McKay, Royal Ontario Museum, 1992</i>	Spring 1993
<u>Have Suitcase, Will Travel: Techniques for Packing Costume</u> <i>Irene F. Karsten, McCord Museum of Canadian History, 1994</i>	Spring 1994
<u>Intersecting Silhouette Mannequins</u> <i>Denis Larouche, Canadian Museum of Civilization, 1995</i>	Spring 1995
<u>Humidification of Glazed Cotton Fabrics</u> <i>Bonnie Halverson, 1996</i>	Spring 1996
<u>A Preliminary Investigation of the Tensile Properties of Yarns Used for Textile Conservation</u> <i>Shirley Ellis, 1997</i>	Spring 1997

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