

# Textiles Working Group Newsletter

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H&M Innovation Circular Design Story "Oversized Faux Fur Coat (recycled polyester) and Sequined Trousers (recycled PET bottles for sequins without a metallic finish and recycled polyester textile)".  
Photo: Sarah J. Benson / Nationalmuseum, Sweden.

## From the Coordinator

**Sarah Benson**

Dear Textiles Working Group Members,

We are coming in to the final month of this triennial. It has indeed been an incredible journey for me as the Textiles Working Group Coordinator over the past three years. I have learned so much, made wonderful connections and new friends, and am proud of our Working Group's accomplishments throughout. We have started the first social media page, implemented informal Zoom meetings (of which I hope the group is able to continue), participated in larger ICOM projects such as the Solidarity project under COVID in which we provided preservation advice for the new collections of facemasks. And for me, I feel extremely proud of our Joint Interim Meeting with the Modern Materials & Contemporary Art Working Group.

We were very fortunate that our grant application to the AKC Fund through the Stichting ICOM-CC Fund was granted and this allowed the meeting to be free and open to all as the funding will cover the costs of the Post-Print publication (due to be out early 2024).

We had an amazing turnout with over 600 registered, 400 attended live and over 100 requested the recordings. Registrations came from 6 different continents and 58 countries. Truly fantastic and we are so pleased with the results of this meeting and the dynamic sessions we had during the 3 day event! I would especially like to thank my wonderful co-coordinator of the Modern Materials & Contemporary Art Working Group Anna Laganà, our committee for the event made up of four of our Assistant Coordinators: Bronwyn Cosgrove, Julia Langenbacher, Kendra Roth, and Sarah Scaturro, and also to those that helped on the days of the event: our secretariat Joan Marie Reifsnnyder, Carlota Vieira, Margherita Mazzotti, Melina Kachrimani, and Helena Ernst. An extra thank you to our chair Kate Seymour and Joan again for all the help and work in making this event happen!

In this Newsletter we will be covering the work that the Textiles Working Group committee has been up to since the last Newsletter. Afterwards we have upcoming events with a special focus on the ICOM-CC triennial meeting in València, Spain. All the working groups have been working on the triennial for the last 2 years and we are all very much looking forward to a wonderful conference in beautiful València and to finally having an in-person opportunity to see the numerous presentations, keynote speakers, network, go on technical visits and also enjoy the wonderful culture and food of Spain.

We have several great submissions for treatment and experience highlights for this Newsletter. After we go into recent publications and appointments before ending with our special recurring section on recent graduate theses in textile conservation.

We are always developing the Newsletter and please do get in touch if there is something you would like to publish with us, if there are other graduate programmes you have contacts for receiving abstracts, or any other suggestions are always welcome!

During the triennial the new Directory Board and all the new Working Group Coordinators will be announced. As a voting member of ICOM-CC and of the Working Group, you can vote for both Directory Board and Coordinators. Voting for the candidates for the 2023–2026 ICOM-CC Directory Board and the Working Group Coordinators will open on Monday 04 September 2023 at 09:00 (UTC+2) and will continue through Tuesday 19 September 2023, closing at 17:00 (UTC+2).

Voting is done electronically through email ballots. In order to receive a ballot, you must be a voting member of ICOM-CC with an active ICOM-CC web account (student members/account holders are not eligible to vote).

If you need any assistance or have any questions about your voting status in ICOM-CC, please contact [secretariat@icom-cc.org](mailto:secretariat@icom-cc.org)

Each coordinator can stand for a maximum of 2 trienniums. This has been my first triennium and you will see that I have put in my candidacy to stand one more term. Indeed it is a huge commitment to being coordinator, but I feel it is also very rewarding and if I am selected again, I hope that I will be able to continue to organise interesting events and projects that bring together the Textiles Working Group and textile conservators internationally.

I hope you enjoy reading our final Newsletter of the triennial and look forward to seeing many of you at the triennial conference in València!

**Sarah Benson**  
**-ICOM-CC Textiles Working Group Coordinator-**  
**(2020-2023)**

# Interim Meeting

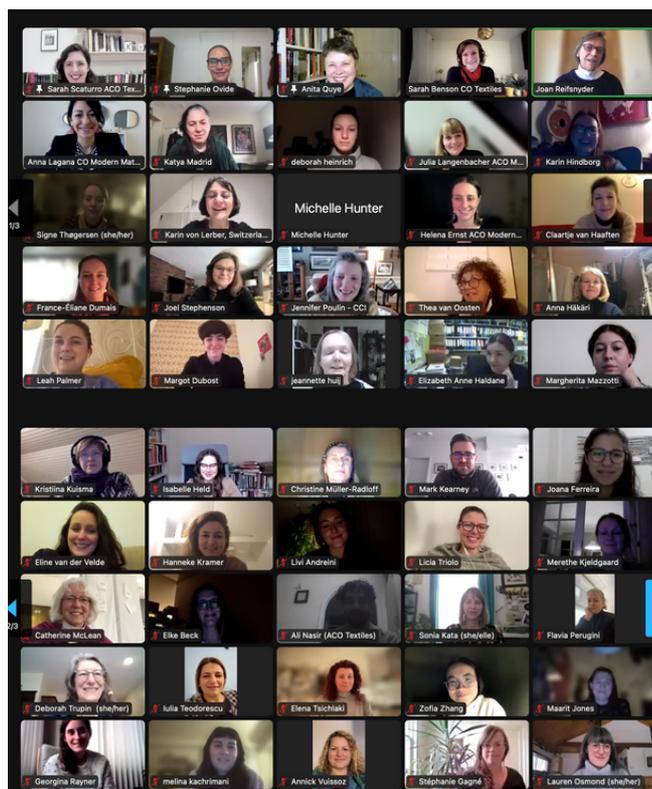
## ICOM-CC Textiles & Modern Materials Working Groups Joint Interim Meeting (2023) Review

by *Maria Lourdes Po*

*Conservator  
Museo ng Arkidiyosesis ng Maynila  
Roman Catholic Archbishop of Manila, Philippines*

The joint interim meeting, Semi-synthetic and Synthetic Textile Materials in Fashion, Design and Art duly organized by the ICOM-CC Modern Materials and Contemporary Art and Textiles Working Groups, brought together conservators, conservation scientists, curators, designers and innovators, scholars, and students who are engaged in the conservation, study, design, and production of synthetic and semi-synthetic textiles. This three-day online event, held from February 21 to 23, 2023 via the ICOM-CC Zoom platform, is the first collaboration of the two Working Groups, and the first interim meeting within ICOM-CC with a theme that focused on the conservation and preservation of these modern man-made textile materials through presentation and sharing of current knowledge and research on their identification, degradation and conservation, as well as production technology and innovation.

Day 1 of the interim meeting focused on synthetic and semi-synthetic textiles in collections, their history, identification and characterization. The first keynote was a case study on the acquisition of a collection made



from recycled and recyclable materials, which provided insight into fashion sustainability and circular design, and the challenges of acquiring synthetic materials that should be recycled from a curatorial perspective. The succeeding keynote explored the historical connections that led to the development of military-industrial synthetics in intimate apparel. Discussions and sharing during the Q&A were also very interesting.

Topics during the paper session included the early material history of artificial silk and rayons, and a guide for their identification, protocols and tools for technical analyses of modern heritage textiles and synthetic materials on historic garments, and the development and composition of the synthetic fabric Lurex. Likewise, presentations in the poster session were a review of synthetic materials in a museum collection, a study on the effects of accelerated aging on nylon, and the use of a technical journal as a sample reference for semi-synthetic fibers.

A fascinating virtual tour of the TextielMuseum in Tilburg, the Netherlands provided an overview of its textile collection and exhibitions. One of the highlights of the virtual tour was a feature of the TextielLab, which is a unique professional workspace and center for textile development. Artists and designers work together with a product developer in the TextielLab to produce customized synthetic and semi-synthetic textile materials, novel, sustainable and eco-friendly yarns like PET yarn, Lyocell, and temperature textiles. The TextielLab also hosts a weaving archive for viewing and reference.

Day 2 of the program began with three keynote speakers by fashion designers who create and innovate with synthetic materials in the production of 3D-printed and smart textiles, and unconventional materials and methods.

The paper and poster presentations were on the use of analytical techniques such as spectroscopy for the identification, study of degradation, visual and instrumental analysis, as well as treatment investigations and preventive methodologies for synthetic textile materials.

The final part of the second day program was a 'speed exchange', which was a brief sharing and discussion of research, case studies, or projects involving synthetic textiles.

Day 3 of the program opened with a keynote on the conservation of synthetic and semi-synthetic textile materials at the Victoria & Albert Museum, London. An overview of key projects and treatment interventions through the last half century of these textile materials was presented. The importance of an interdisciplinary and collaborative approach among conservators, scientists, and curators was highlighted in order to understand and care for their collections.

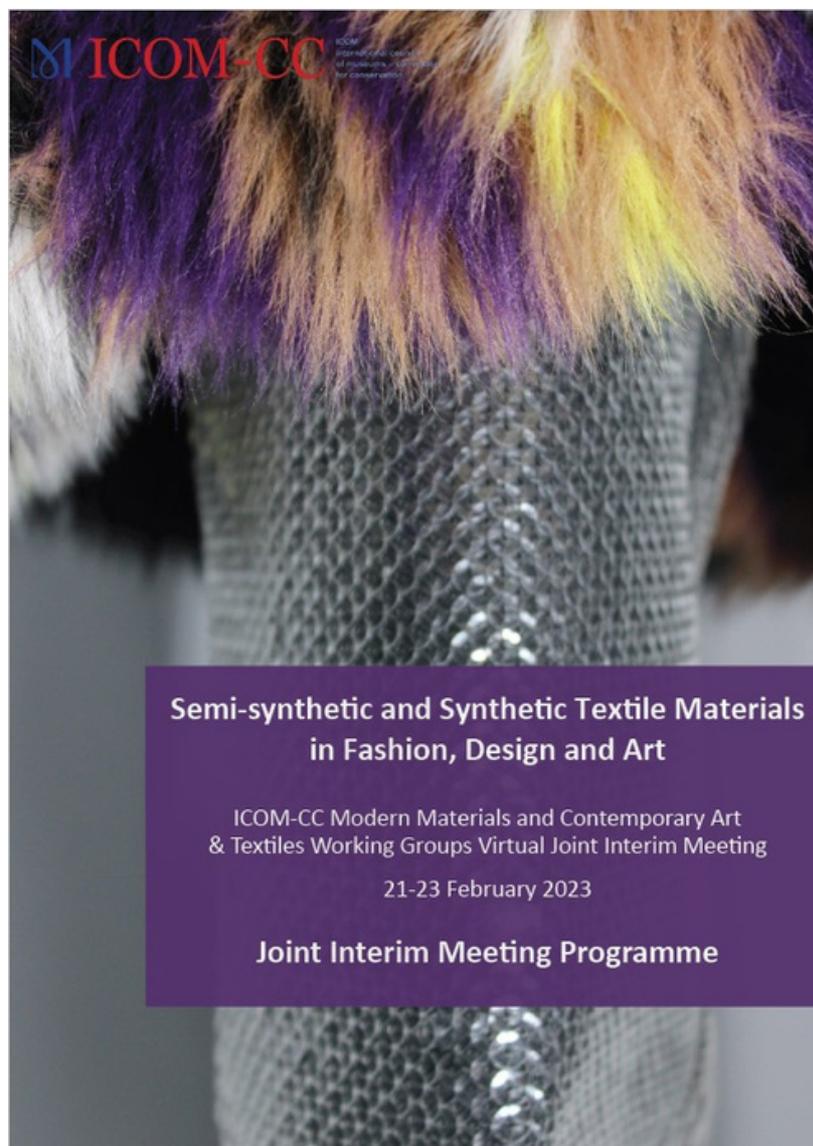
Presentations during the paper session were on the degradation of synthetic fibers, cleaning and storage of plasticized polyvinyl chloride, the consolidation of synthetic polyurethane leather, and the identification and assessment of synthetic and semi-synthetic theatrical costume materials. The identification of materials through spectroscopy and microscopy, treatment intervention and repair methods, identifying potential risks and a cautious approach to collecting vulnerable or problematic materials were discussed.

Another highlight of the third day program was a virtual tour of the conservation lab of the Metropolitan Museum of Art Costume Institute in which they showed different objects made of synthetic materials from their collection, cleaning methods and innovative storage systems, and the challenges of conserving these objects. A brief presentation of case studies of different synthetic textile materials was done during the second speed exchange.

The final session of the three-day meeting was an in-depth panel discussion entitled: How can we do it? Preserving Synthetics and Semi-synthetic Textile Materials in Fashion, Design and Art. The panelists who are specialists in the study and conservation of synthetic textiles talked about the challenges and issues that affect the conservation of synthetic textiles, the development of conservation tools and protocols, and the future of synthetic textile conservation and preservation.

One of the objectives of this joint interim meeting was to promote collaboration, exchange and inclusion within the conservation profession, and the free online meeting enabled anyone anywhere to be able to participate and contribute to the event. This allowed access to what would otherwise be inaccessible to others, particularly those with limited opportunities or those unable to attend the event if it were in-person. The event provided opportunities for professionals from far and wide to be able to participate at the convenience of their own time and availability.

As a relatively new member of ICOM-CC who works in a developing country, it was a great opportunity for me to be able to access the program and learn from the presentations and discussions. The session topics were comprehensive and with multidisciplinary participation. The Q&A sessions were also very interesting and interactive. This Joint Interim Meeting has been a groundbreaking event for knowledge on synthetic and semi-synthetic textile materials and opened new doors for further research, collaboration and discussion into their conservation.



Link to the full program from the Interim Meeting:

<https://www.icom-cc.org/en/downloads/icom-cc-joint-interim-meeting-synthetic-textile-materials>

The Post-Prints are planned to be available on the ICOM-CC Publications Platform early 2024.

# Committee News

## *Sustainability*

Textile conservation as a profession has evolved over the last century. What perhaps started as a holistic approach to safeguard textiles, later became a profession focused towards accepting treatments/practices that were purely supported by science. Science trumped traditional wisdom, but then we weren't asking the right questions!

Today, when we are consciously searching for sustainable and greener solutions in the conservation profession, we only look back with admiration at some of the remarkable practices that were being followed traditionally. It is time that we use science to help us understand indigenous practices that are deeply rooted in sustainability. One such practice is wet cleaning of textiles using natural surfactants such as saponins (plant-based). Saponins derived from bark, roots and fruit have been most commonly used over the centuries in different cultures. It is heartening to see the research in the field by fellow textile conservators from across the globe and the diversity of the practice in leading conservation studios. Some are engaging with the organic material and extracting the saponin, while others are working with the purified extract in powder form. There are limitations



are limitations and there are advantages! It is time for us to be inclusive and integrate such practices with critical understanding of working with the saponins.

Through the Textiles Working Group we are hoping to bring experts together to share their experiences so we can make informed decisions and explore the wider possibility of adapting saponin for wet cleaning of textiles, historical and beyond.

**Deepshikha Kalsi**  
**ICOM-CC Textiles Working Group**  
**Assistant Coordinator**

## *Social Media*

The Official Facebook page for the ICOM-CC Textiles Working Group was created during this triennium and has continued to grow in numbers over the past three years. The Working Group posts on relevant textile conservation news and events as well as ICOM events that are pertinent to the Textiles Working Group.

This Facebook page is managed by the ICOM-CC Textiles Working Group Coordinator and Assistant Coordinators. All followers can post to the Facebook page, with new content visible to the public after review by the Coordinator and Assistant Coordinators.

Please follow and like our page, click on the picture below!



# Upcoming Events

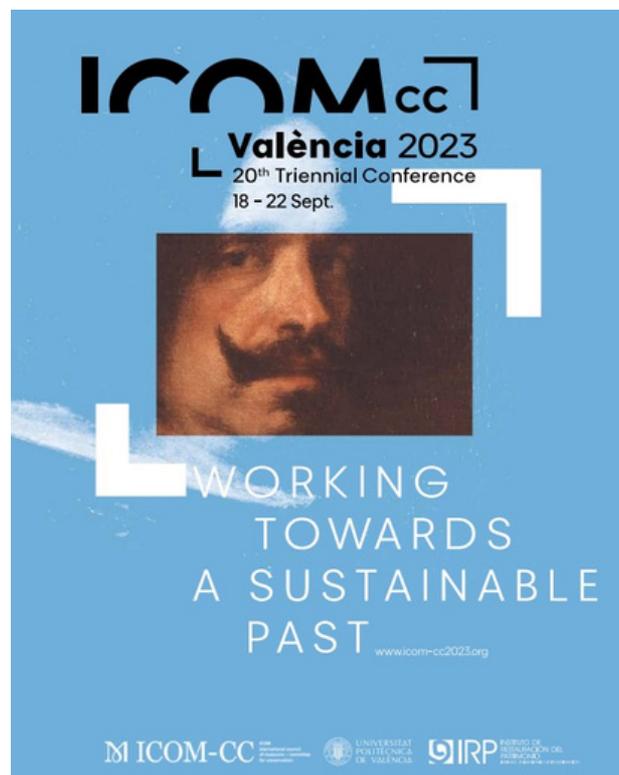
## *Working Towards a Sustainable Past: 20th Triennial ICOM-CC Conference*

**September 18-22nd**

València, Spain will be the upcoming host for the 20th ICOM-CC triennial conference this September. The conference consists of the 20 Working Group conference paper presentations and posters, plenary sessions with Keynote speakers focusing on the conference theme of sustainability, a trade fair, technical visits and social events under the 5 official days of the conference. For all details and still the possibility to register and sign up for technical visits, see the conference website:

<https://icom-cc2023.org/the-conference/>

I would very much like to congratulate all the authors and co-authors that have had their articles accepted to the conference. Indeed, having your article accepted at the ICOM-CC Triennial Conference is a great achievement that starts over two years before the authors present at the conference. There are rather intense sessions of peer review with back-and-forth comments to the authors by the Working Group Coordinator and Assistant Coordinators, an anonymous peer reviewer who is an expert in the field, the Directory



Board, as well as the invaluable inputs by the superb Janet Bridgland, managing editor of the Pre-Prints. The quality of the selected articles is outstanding, and I am very much looking forward to hearing their presentations in Valencia! I hope to see many of you there as well, but if you cannot attend, remember that the entirety of the Pre-Prints will be available open access on the Publications Platform after some months.

<https://www.icom-cc-publications-online.org/>

**Papers** to be presented at the Triennial meeting:

- Combining paintings and textile conservation approaches in the treatment of a silkwork picture. **CAMP Annabelle**, Laura Mina, Matthew Cushman
- To wash away or stay away: A controlled study of the fastness of indigo carmine dyes. **GARCIA-VEDRENNE Laura**, Julie H Wertz

- A 1000-year-old story told over 70 metres: A multidisciplinary approach for the future conservation and display of the Bayeux Tapestry. **GAUVIN Cécilia**, Elodie Aparicio Bentz, Gilles Tournillon, Leïla Sauvage, Raphaëlle Déjean, Thalia Bajon Bouzid
- Understanding old treatments: Oseberg textile artworks studied from the conservation perspective. **LUKESOVA Hana**, Hartmut Kutzke
- A vacuum of research? Examining textile vacuuming techniques. **RILEYBIRD Awyn**, Catherine Matsen, Jocelyn Alcántara-García
- Natural surfactants: A sustainable alternative for washing historic textiles. **TEMPLETON Rini Hazel**, Satish Pandey
- Research on styles of archeological costume during restoration. **WANG Shujuan**, Rulin Yang

**Posters** to be presented:

- Innovations in Mount-Making for Textile Display and Preservation for the King Tutankhamun's Textiles. **YOSRI Mohamed**, Hend Yassin, Hussein Kamal, Menna Allah Mohamed, Midori Yokoyama, Mie Ishii, Mina Shibata, Sarah Ismael
- Applicability of Darning Stitches in Textile Conservation. **ZHANG Mengying**, A.F. (Ana) Albano Serrano, M.E. (Marjolein) Homan Free

The Textiles Working Group Planning session will be held on-site after the final Textile session paper presentation. We hope all those who are present at the conference can attend and a summary of the session will be shared via the Working Group email afterwards.

See you in València!

**Sarah Benson ICOM-CC Textiles Working Group Coordinator**

## *Considering Costume: The Conservation of Apparel, Adornment and Accessories*

14th North American Textile  
Conservation Conference  
October 22-26, 2023  
Williamsburg, Virginia, USA

Join us for 'Considering Costume,' the 14th biennial North American Textile Conservation Conference (NATCC), October 23 – 27, 2023. The meeting will be held in the Hennage Auditorium at the Art Museums of Colonial Williamsburg, Williamsburg, Virginia, USA. Considered the oldest and largest living history museum, The Colonial Williamsburg Foundation has a long tradition of studying and collecting historic textiles, costumes, and accessories to inform and create a more authentic costumed living history.

The list of speakers, presentation titles, and the three-day schedule of talks can be found [here](#).

Workshops will be offered two days before (October 23 – 24) and the day after (October 27) the paper and poster presentations. A detailed description of each workshop can be found [here](#).

A variety of tours will be offered two days before (October 23 – 24), during (October 25-26), and the day after (October 27) the paper and poster presentations. A detailed description of each tour can be found [here](#).

Registration is now open and has the option of in person and online (live, no recordings): <https://natconference.com>

# Exhibition in focus

## Last Garments

Grave finds from the Assi el-Hadath cave in Lebanon

30 April – 12 November 2023

Open daily from 2p.m. to 5.30p.m.

Abegg-Stiftung, Switzerland



Tunic made of cotton with silk embroidery, Mount Lebanon, 13th century Direction Générale des Antiquités du Liban, inv. no. 116369

The Abegg-Stiftung has been studying, documenting and conserving more than 200 archaeological textiles from the National Museum of Beirut, Lebanon, for several years now. Before they are returned, these unique witnesses to medieval life are to go on show as the subject of this year's special exhibition.

On display will be garments and accessories discovered between 1988 and 1993 during excavations in the Assi el-Hadath cave in the Qadisha Valley, about 100 km north of Beirut. Several adults and children were buried in this remote, inaccessible cave in the thirteenth century. All of them were fully clothed and wrapped in sheets. Thanks to the dry climate, their «last garments» have survived to this day. The many repairs and modifications tell us that they were not made specially for burial but were already

worn during the wearer's lifetime. Textiles were precious material. Unusable items of clothing were not thrown away but were reworked for new purposes. These cloths, tunics and head coverings therefore paint a fascinating picture of ordinary life during the thirteenth century and the many different forms of recycling then practised. Both media release and the photo are available as e-mail attachments.

Please contact Brigitte Dällenbach:

+41 (0)31 808 12 01, [info@abegg-stiftung.ch](mailto:info@abegg-stiftung.ch)

Link to get further information and images of textiles displayed in the special exhibition:

<https://abegg-stiftung.ch/en/collection/das-letzte-gewand-grabfunde-aus-der-hoehle-assi-el-hadath-im-libanon-ab-30-april-2023/>

# Treatment Highlights

## Compressing springs: An intern's experience

Margot Dubost

*Institut National du Patrimoine textile conservation  
intern at Nationalmuseum, Sweden*

### Introduction and objectives

The armchair (museum number NMK 122/2013) is part of a set of 8 capitonné chairs, one of which is on display at the National Museum of Sweden. The armchair will be rotated with another from the set which requires conservation. The springs of the seat have expanded and distorted the original shape of the upholstery and threaten the upper original layers of the seat as well as the webbing and the structure of the chair's frame. Most of the buttons have fallen off due to this stress and also light damage had occurred to the silk. The tufted shape is also distorted. The objectives were to stabilise the seat by compressing the springs from the inside by opening the seat as little as possible and to recreate the original shape.

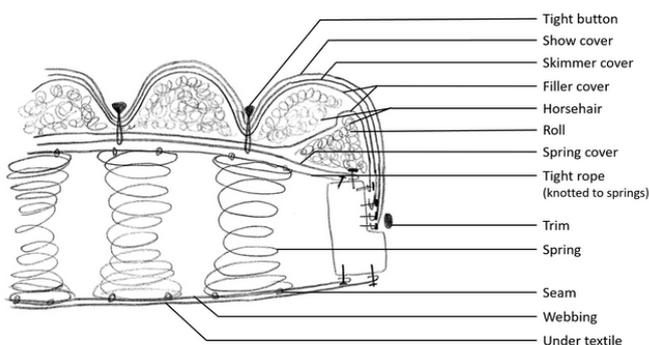


Figure 1: Diagram of the cross-section of the sprung upholstered seat based on documentation. Diagram by Margot Dubost, copyright Nationalmuseum, Sweden.

### Treatment

The seat was documented before the opening with the help of literature research, tracings and proposed cross-section diagrams (Fig. 1). Then, the seat was opened by removing the nails with a thin crowbar and spatulas with Melinex® to protect the wood and the textile from abrasion and tearing. Some nails were too corroded and attached to the textile, so these were carefully cut around the nail's head with a scalpel. The webbing was partially opened at the sides to keep the original upholstery intact as much as possible (Fig. 2). Just enough to access the middle of the seat from the inside was removed.



Figure 2: Undercover before opening and webbing opened on both sides of the seat. Photos by Margot Dubost, copyright Nationalmuseum, Sweden.

The springs were first compressed and held with temporary nylon cable ties then changed to a metal sustainable system. The first attempt consisted of a stainless-steel cable held with a screw electrical connector that was unwrapped from its plastic cover. Small pieces of Melinex® were put between the cable and the springs to prevent abrasion. This system proved to be too complicated to screw inside the seat with such limited access. The second attempt was to use polyester-coated stainless-steel cable ties that are adjustable back and forth, easier, and faster to use (Fig. 3). The webbing was closed with its original nails, and they were covered with a new cotton cover that was stapled with Melinex® in between the hem fold to give more structure to it and to protect the wood from the stamping deformation.



Figure 3: Compressing the springs from the inside with polyester-coated stainless steel cable ties (left) and the first metal system (right). Photo by Margot Dubost, copyright Nationalmuseum, Sweden.

Remaining buttons were covered with crepe line and the missing buttons that created the tufted shape were recreated with acid-free cardboard covered with a red dyed silk and held in place with a system of threads and button stops as shown on the diagram and pictures (Figure 4 and 5). The original cover that was too fragile to be stitched or nailed back to the frame was stitched around the edges to the cotton cover with a taut crepe line overlay (Fig. 5).



Figure 4: Creating new buttons out of acid-free cardboard and silk fabric, then tightening them in place recreating the tufted shape. Photos and diagram by Margot Dubost, copyright Nationalmuseum, Sweden.



Figure 5: Button stops holding the buttons down (Left) and placement of the original undercover, held by a crepe line overlay (Right). Photos by Margot Dubost, copyright Nationalmuseum, Sweden.

## Results

The springs are now stabilised, and the tensions are released from the different layers of the original upholstery and the wooden frame. The seat was compressed 4cm total in height and is now flatter and more to the original intended shape. The buttons are now restored and the capitonné shape is visible again (Fig 6).



Figure 7: NMK 122/2013 before and after treatment of the armchair. Photos by Margot Dubost, copyright Nationalmuseum, Sweden.

## Discussion

The final polyester-coated stainless-steel cable ties technique has revealed an easy to use and quick way to treat the springs of this armchair. I spent 3 hours to fasten one cable with the first technique and 2 hours to finish the 7 remaining springs with the metal cable ties. The polyester-coated stainless steel is sustainable and won't release or loosen as a traditional rope knotting technique can. I hope this experience could be helpful to other conservators with their treatments of sprung furniture.

## Materials

White polyester-coated stainless steel cable ties with Roller Ball system (360mm x 4.6 mm) from RS PRO: <https://se.rs-online.com/web/p/cable-ties/7436320?gb=s>

## Main References

- TRUPIN, D.L. 2002. Bottoms up! (some solutions for supporting sprung seats in historic upholstered furniture). *The Wooden Artifacts Group Postprints, (AIC) 73-80.*
- OSSUT, C. 2003. *Tapiserie d'ammeublement.* Ed. H. Vial

# Weave drafts of canvases in paintings and textile fragments: A tool for the study of technical art history

Helena Loermans  
Cristina Balloffet Carr

In an essay “The close examination of textiles” 2014 ICOM-CC Newsletter #35,

Cristina Balloffet Carr wrote: *“Macro images breathe life into an object by presenting an intimate view of core characteristics. Whether via a unique- one- time image, a sequence of images, a video, or in the context of a systematic database, digital technology has transformed the perception of material objects. As digital technology further evolves, the visual information these images provide is also becoming familiar and expected.... an important part of the most esoteric theories and can even wordlessly present an entire argument....In a world of instantly shared images a material object can be shared with transparency, fostering a dissemination of visual information that transcends cultural experience and bridges generations and disciplines.”*

X-ray images and photomicrographs have opened a window onto a new branch of research in art history focused on the textile that provides a foundation and support for the complex act of working and re-working paint to create a composition. Geometric weave patterns remain preserved in at least 250 works by Italian and Spanish Masters and Helena Loermans has been working in her weaving workshop / Lab O in the South of Portugal, to decipher these textiles.

High resolution x-ray images made for conservation purposes prior to treatment of a painting, reveal details of the canvas. Each vertical thread and the binding points with the horizontal threads can be identified and the textiles re-constructed. Decoding the weave draft and recreating the textile can help identify when a painter used a textile with the same pattern for more than one painting as well as when the textile was used by other painters. Drafts of these woven patterns were first published in the *Kunst und Bild*

*Buch* by Marx Ziegler in 1677, Ulm, Germany, reproduced by Patricia Hilts as *The Weaver’s Art Revealed, Facsimile, Translation and Study of the first Published Books on Weaving; Ars Textrina*, Vol 13, December (1990).

Fragments of patterned woven linens, carefully stored in museum collections, are often a mixture of rhombus shapes and lines. Photomicrographs of historic textile fragments can help to identify subtle differences between canvases, providing useful comparatives in the analysis of high-resolution x-ray images.

This study seeks to correlate archived textile fragments with the canvases used in historic paintings. The focus is on identifying weave structure to document the occurrence, character, geographic spread and development over time of these fabrics.

In 2023, large data files can be readily accessed and Loermans and Carr are able to share information learned from both historic and re-created textiles. In developing a better understanding of an understudied subject, they hope to contribute insights that will inspire others to pick up the thread.

For project updates and hi-res photos, please see the website: [www.labo.pt](http://www.labo.pt)

See also the new publication:

Historic Canvases Deciphered: Five Case Studies, in *Conserving Canvas* edited by Cynthia Schwarz, Ian McClure and Jim Coddington. Getty Publications 2023, open source: <https://gty.art/43vfX4V>



# *My fellowship experience through the countries of Europe*

*Prajakta Jadhav*

*Indian Conservation Fellowship programme*

## **Introduction**

My name is Prajakta Prabhakar Jadhav and I am a textile conservator working at Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (CSMVS Museum) in Mumbai, with almost 11 years of experience in the conservation of textiles and costumes.

Textiles in all shapes and forms have always been close to my heart and having been awarded the Indian Conservation Fellowship Programme (ICFP) in 2022 allowed me to learn more about the conservation of these beautiful and fragile works by visiting museum and private textile conservation studios across Europe and to interact with professionals in the field of textile conservation.

The ICFP is a ten-year programme supported by the Andrew W. Mellon Foundation and the Ministry of Culture of the Indian Government that aims to promote and enhance the conservation of Indian collections organized by Stichting Restauratie Atelier Limburg (SRAL), Maastricht and the Metropolitan Museum (MET), New York. The goal of the fellowship programme is to encourage an all-round development of individuals in the field of conservation by providing training and fellowships in conservation practices and ethics, along with encouragement of collaborations between participating institutions in India and abroad in forming networks for the future. The project aims at capacity building within the field of conservation in India.

Hosted by SRAL and under the guidance of Ms. Kate Seymour (Head of Education & Paintings Conservator, SRAL) I was able to visit textile conservation studios in the Netherlands, Belgium, Sweden, Germany, Austria and France.

Inspired by my mother and grandmother, my love for textiles has evolved over the years such that I carry it with me in my role as a textile conservator at the CSMVS where I am responsible for the care of more than 1200 textile objects in the Museum's collection, along with my team.

My work involves the conservation, mounting and display of textiles as well as preparing objects for loan to other institutes. I also work closely with traditional craftsmen (rafoogars), who have been a part of the textile conservation team at the CSMVS Art Conservation Department for several years. Working closely with them, we each learn from the other and are able to collectively conserve important and delicate textile objects by blending traditional practice of textile repair with more modern techniques and materials keeping in line with ethical conservation practices.

My aim during this fellowship period was to learn about different materials and practices that exist elsewhere in the world and how they can be adapted or adopted to the conservation of Indian textiles in the museum's collection.

## **My Travels Through Europe**

My fellowship began in The Netherlands at the SRAL where I was introduced to the various departments and was fortunate enough to attend lectures and seminars that helped me prepare for what lay ahead. My journey then took me to more than 10 institutes and conservation studios where I had a unique opportunity to interact with textile conservators in both the museum and private sphere, getting a behind the scenes peak at how these places work. There was a free exchange of information and learning without reservation, as these professionals freely imparted their knowledge while being curious about my own work with the CSMVS and traditional craftsmen.



Figure 1: Practical work on the tapestry with Sarah Benson, textile conservator at National Museum, Stockholm. Photographed by Sarah Benson, copyright Nationalmuseum, Sweden.

At the National Museum of Sweden under the supervision of Sarah Benson, I got a chance to assist her in the lining of a tapestry by Swedish artist Gunnar G Wennerberg (Fig.1). It was interesting to note the lining technique used - which involved the use of support stitches after determining placement and ease with pins, that allowed for the even distribution of the weight without generating stress in the object (Fig. 2). Upon my return I was able to use a similar technique to line an object in the CSMVS collection with great results. I was also interested in learning about how conservators here used a 'hanging test' to evaluate the stability of the object.



Figure 2: Working on the tapestry at the Textile conservation center at National Museum, Stockholm. Photographed by Sarah Benson, copyright Nationalmuseum, Sweden.

Through my travels during the fellowship, I learnt about different materials and techniques but what caught my attention was how conservators across Europe approached the dyeing process and how they used specific and pre-written recipes for dyeing their materials to the desired colour.

These recipes are documented and used to replicate colours as needed. It was Doortje Lucassen, a private textile conservator associated with the Social Historisch Centrum Voor Limburg, and her friend Monica Paredis-Vroon, a textile Conservator associated with The Aachen Cathedral Treasury in Aachen, Germany who introduced me to this process in practice where they refer to their prepared dyeing charts and folders to be able to dye a fabric of a specific weight. This technique and method had such a great impact on me that I was able to use it to dye a silk cloth for use in mending of a textile object with excellent results.

Dyeing is usually a time-consuming process that requires several hours to achieve a desired result after much trial and error. Conservators in Vienna however introduced me to a product (Deka Silk paints) used by them on smaller sample patches with brushes, which reduces the long process of dyeing smaller samples with effective results. This product is Oddy tested and safe to be used for textile conservation. I am keen on testing out its use in the Indian context.

During my time in Vienna, I was able to visit the Institute of Conservation in the University of Applied Arts Vienna. Here I met with Dr. Tatjana Bayerova, a scientist who introduced me to various instruments such as SEM (Scanning Electron Microscope), Polarised light microscopy and their scope in the analysis of textiles. While I was aware of these instruments and their applications, it was interesting to see their functionality and understand how best I can utilise these methods of analysis in the future.

During my fellowship I also got a chance to visit the Textile storage of the Rijksmuseum in Amsterdam. A vast space that spans multiple floors, the storage space houses the museum's textile collection and a conservation studio. Here I was able to interact with Carola Holz, Textile Conservator and learn more about their methods for storing both flat textiles and costumes. (Fig. 3) She showed me how they were able to safely hang some of their stable costumes to maximise utilization of available space. The building also houses The Cultural Heritage Agency of the Netherlands (RCE), a dedicated research department that carries out research and analysis for various institutes.



Figure 3: Methods of storing the textile collection in Textile Storage, at Rijksmuseum, Amsterdam (Left) and explaining the methods of storing of their collection by Carola Holz, Textile conservator, at Rijks Museum, Amsterdam (Right). Photographed by Prajakta Jadhav.

Besides having a vast array of analytical instruments, here I was able to see how testing is carried out on objects to monitor their behaviour in various environmental situations (Fig. 4).

Another interesting visit during my fellowship was to the Textile Museum of Tilburg, which is a working museum located in a former textile factory. What interested me here was their procedure of archiving the step-by-step processes in the making and manufacture process of its collection. This allows them to preserve important knowledge of each step of manufacturing from material to technology. This in turn aids them in making more informed decisions in future conservation treatments. These documents are also bound and displayed in the gallery for visitors. (Fig. 5)

Besides visits to conservation studios, I was also able to visit a number of museums and churches such as the Louvre in Paris, Royal Palace in Sweden and the Servaas Church in Maastricht, where beside interacting with fabulous works of art, I was able to closely observe different methods of display techniques, gallery lighting designs and security systems that can detect movement near display cases. I was also fortunate during my visit to the Rijksmuseum in Amsterdam to see first-hand the conservation of Rembrandt's famous masterpiece, *The Night Watch*.

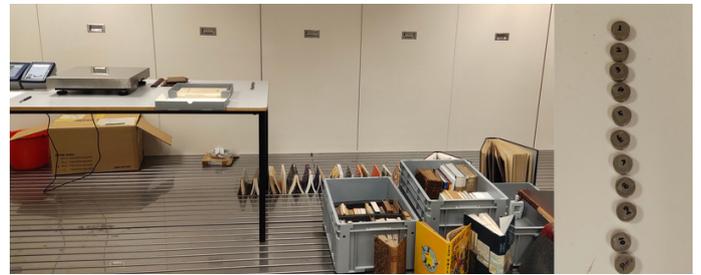


Figure 4: The environmental chamber with the previously mentioned sensors to track the behavior of the materials (Left) and close up sensors inserted in objects to monitor the behavior (Right) at Cultural Heritage Laboratory, Amsterdam, Netherlands. Photographed by Prajakta Jadhav.



Figure 5: The step-by-step documentation of the object in the collection of the Textile Museum, Tilburg. Photographed by Prajakta Jadhav

## Conclusion

The experience and exposure I received through this fellowship have added to my skills and my overall development as a textile conservator. Learning and understanding new methods, materials and practices used around Europe has broadened my mind to different possibilities.

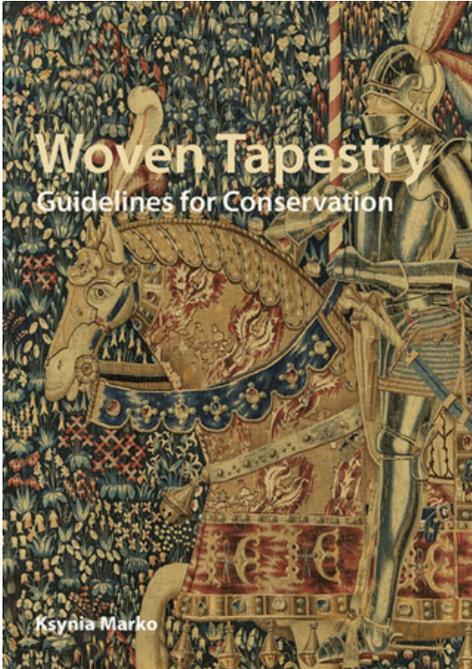
What I also noticed during my visits were dedicated working spaces for each department like textile objects, three dimensional objects, paintings, plastics, wood and stone and that they have storage areas that are separate from the museum building, which is quite different from museums in India, where conservators work on a variety of different materials in a single space.

I was also impressed by the awareness that exists in these countries about the conservation field. Conservation is still a growing field in India and is slowly gaining recognition throughout the country as conservation professionals are stepping out of the shadows and sharing knowledge through public and private forums.

I was very fortunate to participate in the Andrew Mellon fellowship programme and I look forward to using all that I have learnt by adopting and adapting these practices and materials to use in the Indian context for the conservation of the CSMVS Museum's textile collection.

I am extremely thankful to have met people who were interested in helping me and answering my questions with ease.

# Recent Publications



Ksynia Marko

*Woven Tapestry: Guidelines for Conservation*

From the Middle Ages, tapestries with figurative or other ornament were used by royalty and aristocrats to furnish their palaces and houses. While often observed as two dimensional art, they are three dimensional structures requiring specialist skill to maintain and conserve them.

This publication aims to help conservators carry out assessments in order to arrive at appropriate options for treatment by focussing on: the techniques of tapestry manufacture; agents of deterioration, and current practice of methods of cleaning, methods of support and repair.

ISBN 9781909492721

Binding Hardback

Dimensions 210 x 297mm

Pages 368

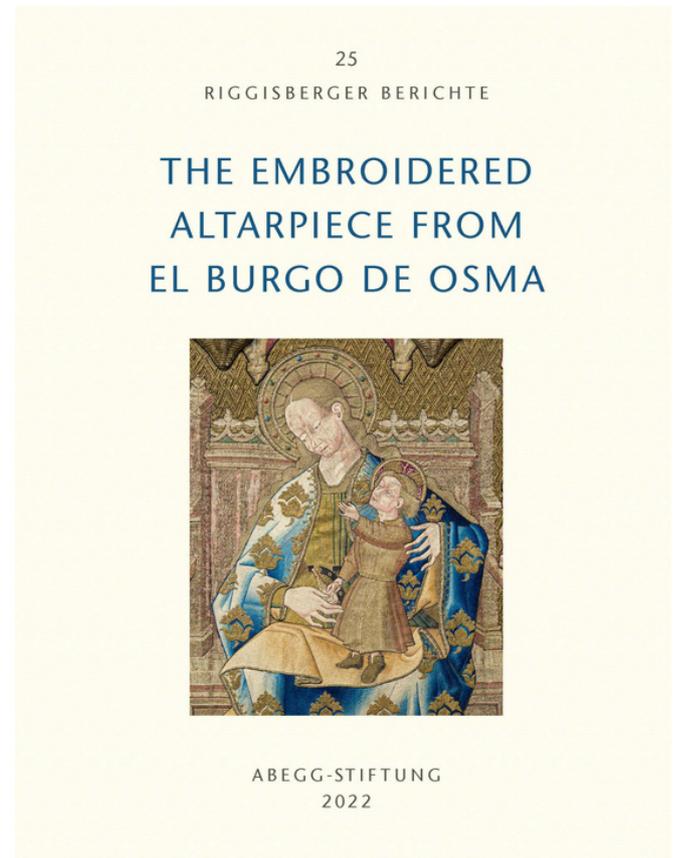
Illustrations 85 colour, 96 halftone, 57 line

Published June 2020

Price £85.00

Purchase the publication here:

<https://archetype.co.uk/our-titles/woven-tapestry-guidelines-for-conservation/?id=288>



Evelin Wetter and Martha Wolff (eds.)

*The Embroidered Altarpiece from El Burgo de Osma*

The retablo of Pedro de Montoya, bishop of Osma (1453–1474), is the largest example of an embroidered altarpiece. Today, it is part of the collection of the Art Institute of Chicago. The altarpiece underwent conservation / restoration and technical documentation in the Abegg-Stiftung. This was followed by an international workshop focusing on the concept and technique of the altarpiece as well as on its art historical and historical context. The essays locate this masterpiece of an ambitious donor in the artistic milieu of fifteenth-century Castile. Contributions on the art of embroidery in the Crown of Aragon complete the volume.

Riggisberger Berichte 25

With contributions by M. Abt, J. Berg Sobré, R. Cornudella, G. Macías, B. Niekamp, E. Wetter, M. Wolff

ISBN 978-3-905014-72-3

428 p., 268 figs., 40 pl., hardcover, 24 x 31.5 cm

Published 2022

CHF 85.00

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<https://abegg-stiftung.ch/en/publication-category/riggisberger-berichte-en/>

# New Appointments



The Fashion Institute of Technology's Fashion and Textile Studies MA Program is delighted to announce the appointment of Kaelyn Garcia as Assistant Professor in Textile Conservation, starting Fall 2023. In her capacity as Assistant Professor in Textile Conservation, Garcia will spearhead the curriculum development and pedagogical direction of one of the world's premier training programs for Textile and Fashion Conservation. Garcia hopes to continue to strengthen FIT's conservation program, building on the foundation that Denyse Montegut and other faculty have developed over the past 40 years.

Garcia received her MA in Fashion and Textile Studies (FTS) with a concentration in conservation from the Fashion Institute of Technology in New York (2016-2018) and her BFA in Fashion Design and Art History from Columbia College Chicago (2005-2009). She is currently a contract conservator for the Museum of the City of New York and has previously worked for the Art Institute of Chicago, the Museum of Fine Arts St. Petersburg, the Museum of Art and Design, MoMA PS1, and for private clients, artists, and companies.

Garcia was the Polaire Weissman Fund for Conservation Fellow at the Metropolitan Museum of Art's Costume Institute from 2019-2023, where she researched synthetic materials, developed cold storage and anoxic procedures for plastics in the collection, and was an integral member of the conservation team working on exhibitions, loans, acquisitions, and more. From 2018-2019 she was the post-graduate Fellow in Conservation in the Costumes and Textile Conservation department at the Philadelphia Museum of Art. She held graduate conservation internships with the Textile Conservation Laboratory at the Cathedral of Saint John the Divine, the Cooper Hewitt Smithsonian Design Museum, the American Museum of Natural History, and the Hispanic Society of America.

Garcia has been an adjunct instructor in the Fashion Institute of Technology's Fashion and Textile Studies graduate program since Fall 2020. She has also worked for more than fourteen years as a designer and textile instructor, specializing in weaving, embroidery, and bobbin lace. Garcia has taught workshops and lectured at the Textile Art Center, the American Folk Art Museum, and the Museum of Modern Art where she worked as a consultant for the Learning Programs and Partnerships Department and the Studio and Artists Programs.

Garcia is an active member in the American Institute for Conservation and Secretary/Treasurer to the CAN! (Contemporary Art Network) Specialty Group. She previously held positions as the Wiki Co-Editor and the ECPN liaison to the Textile Specialty Group. Garcia co-founded the Brooklyn Lace Guild and has been a member of the International Institute of Conservation, the International Council of Museums, the Textile Society of America, the New York Guild of Hand-Weavers, and the International Organization of Lace for many years.

# Masters Theses 2022 - 2023

## *Investigation of the residual impact of Vellux® used to mechanically clean historical textiles*

**Sarah Almeida** | University of Glasgow, UK

Vellux® is a brand of insulation blankets commonly marketed for the hospitality sector. It has a laminar structure with a net core between two layers of polyurethane foam flocked with nylon fibres. In the early 2010s, heritage conservators incorporated it into their cleaning supplies. Vellux® blankets showed good cleaning properties as they would combine the benefits of vacuuming with a gentle brush and the protection of a nylon screen. Additionally, the foam would act as a filter and collect the soiling. However, blankets started yellowing and shedding nylon fibres as they aged. Fibres were likely being left on objects, and limited research had assessed their composition or deterioration. The Vellux® fibres are hardly visible and go completely unnoticed on white surfaces due to their translucency and short 2mm length. Shedding can also release particles of polyurethane foam and unknown additives.

This MPhil dissertation investigated Vellux® properties and quantified shedding, evaluating options to reduce it. The research aimed to bring awareness to nylon fibres being left on cultural objects and transferred to sewage and waste sites. The methodology included experiments simulating mechanical cleaning with Vellux®. The tests compared a new blanket to a two-year-old blanket and were performed on fabrics of different textures. The fabrics were photographed with ultraviolet lights, which increased the visibility of nylon fibres. The fibres were counted with the support of the free software image and analysed statistically. The research also included SEM, ATR-FTIR and Oddy test to assess the composition and deterioration of the material.

The experiment demonstrated that a startling amount of fibres could be left on surfaces after cleaning. Tests revealed that techniques with more manipulation of the blanket increase shedding.

A positive alternative to reduce residues would be pre-washing the blankets before cleaning; however, this would carry other concerns regarding Vellux® physical stability, water consumption and pollution of sewage with nylon fibres. Additionally, removal of the residual fibres by vacuum suction might be a viable solution for some objects.

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## *A Digital Tool for Textile Conservators: Investigating the Applicability of Digital Image Correlation to Evaluate Strain Across Three-Dimensional Textiles*

**Livi Andreini** | University of Amsterdam, The Netherlands

The complicated construction of three-dimensional textile objects like clothing, accessories, and household items often poses a challenge in the conservation and restoration of these invaluable cultural objects. Heavy embellishments, bulky and asymmetrical layers, and incompatible materials can introduce uneven levels of stress throughout a garment. Without evidenced-based tools for understanding the degree and impact of this stress, conservators and collections professionals are often faced with difficult decisions regarding storage methods and display time. Furthermore, prohibitive factors like space, time, and cost can create additional obstacles when confronted with these choices. What is too heavy to be stored hanging or be hung or laid flat? What impact does a one-, three-, or six-month exhibition have on a garment? Most importantly: how can these questions be answered? This study argues that upon further material investigation and software development, an optical method called Digital Image Correlation (DIC) is an exciting potential tool for addressing these unknowns.

This master thesis aimed to investigate the efficacy and accessibility of Digital Image Correlation as a tool for conservators to understand strain across three-dimensional textiles. This study included two experimental phases that were influenced by conversations with conservators and DIC experts as well as a rich body of existing research on the application of DIC to other heritage objects.

The first phase of research focused on the suitability of embellished clothing for DIC measurement and found the surface pattern of most chosen study garments insufficient for analysis. To evaluate the accessibility of the technique, the second phase of research opted for common photographic equipment that many conservators already have in their studios, rather than costly DIC-specific hardware. In this phase, the first open-source DIC software capable of performing three-dimensional analysis was investigated against one private software and one costly commercial software. This study concluded that due to the open-source software's early stage of development and the cost of private and commercial programs, DIC is currently not an accessible method for measuring strain by budget-limited institutions. This exploratory study identified the need for a methodology to better measure and understand strain in three-dimensional textile objects. It also outlined the current experimental and theoretical limitations of using DIC to do so. Many avenues for further investigation were uncovered. The results of this study suggest that future investigation into the use of weave structure as a correlation device for DIC, and the development of an accessible DIC software designed for the needs of heritage professionals would have notable implications for the treatment, storage, and display of three-dimensional textile heritage.

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*Home Grown: An Experimental Analysis of Home-Methods of Mold Removal on Textile Substrates*

**Paige Bailey | University of Rhode Island, USA**

When seeking information on how to clean away mold from clothing and textiles, searching the internet can lead to an overwhelming amount of confusing and vague information. A lack of reputable references and consistent measurements across methodologies makes attempting to clean textiles, valuable or not, potentially damaging to the textile itself. As such, the objective of this experiment was to select a handful of these cleaning methods and test them with the expectation that the results will contribute to reliable information on what methods could possibly work for cellulosic or

protein-based textiles.

It is the hope that this information will be made accessible to the public by means of publication so that anyone may benefit from it and make more informed decisions when it comes to home laundry or historic object care. This testing was done by inoculating select textile substrates with live fungi, then cleaning those textiles using the selected internet-found cleaning methods that were collected over several websites and home-making blogs. Additional procedures were adapted from The American Association of Textile Chemists and Colorists' Technical Manual, such as the evaluation of results using AATCC Gray Scale tools and AATCC methodologies established to grow mold on textiles. This combination of internet homebrew laundry methods and testing routines developed by scientists resulted in an array of samples that ranged in their color, texture, smell, and size. The methods that yielded the most pleasing results (best stain and scent removal) included using substances like bleach, hydrogen peroxide, rubbing alcohol, and lemon juice.

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*Ver(s) l'éphémère. Étude et conservation-restauration d'un drapeau en coton composté de Claire Pentecost, Proposal for a New American Agriculture (2008 ; Metz, 49 Nord-6 Est FRAC Lorraine). Application de la technique de corrélation d'images pour le suivi des déformations des textiles patrimoniaux*

**Chloé Barle | Institut National du Patrimoine, France**

This thesis presents the study and conservation-restoration of a composted cotton flag, made in 2006 by the American artist Claire Pentecost, under the title Proposal for a New American Agriculture. It is conserved at the Frac Lorraine in Metz, an institution known for its intangible and parity collections. This intriguing work invites the viewer to question Western agricultural practices. It proposes a return to a more reasoned agriculture, as with the use of compost, used to destroy the American icon of the Star-Spangled Banner and create a vast gap in its middle.

The technical-scientific subject is interested in the application of a digital image correlation (DIC) protocol for the observation of the deformations of suspended textiles. Two magnetized hanging systems were compared using this technique, enabling the Frac Lorraine to propose a new exhibition system. In this way, the conservation-restoration interventions carried out on the object are adapted to a new deontology, which is imposed by the particularities of contemporary art collections. A synthesis of the different research carried out in recent decades on this theme introduces the treatment proposal. This summary sheds light on a new way of understanding the conservation of recent works.

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### *Conservation of a Pair of c. 1865 Silk Walking Boots*

**Alexandra Blach** | **Fashion Institute of Technology, USA**

The subject of this paper is the conservation treatment of a pair of c. 1865 red silk boots. The contents of this paper describe the identification, testing procedures, treatment proposal, and conservation treatment of the boots. The first section of this paper places the boots within a historical context that assists in dating the boots. Topics include technological improvements, fashionable dress, footwear construction, and comparable examples from museum collections. The second section of the paper discusses the conservation treatment of the boots. The boots were in poor condition. The red silk was fragile and disintegrating, and the internal structure was poorly supported and at risk of further damage. Testing was necessary to determine the best formulas for custom dyeing support fabrics with Lanaset dyes and an adhesive treatment with Lascaux. The treatment proposal also includes a custom-built mount and box to support the boots structurally. Each aspect of the treatment is described in detail along with photographic documentation of the treatment process. An assessment of the treatment and discussion of future concerns concludes the paper

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*Preserved under debris.*

### *Characterisation and conservation of a 15th-century embroidered corporal box*

**Noa Quinteiro Carrera** | **Abegg-Stiftung, Switzerland**

The focus of this master's thesis is a corporal box discovered in the parish church of the Holy Cross in Geisenheim, Germany. This box, from the end of the 15th century, has never been altered. The main interests of this thesis are the study, the conservation decisions and the conservation treatment of this altar parament. The investigation started with optical and technical analyses of the object supported by scientific research methods such as microscopic analysis, X-rays, SEM-EDX and FTIR. These methods helped determine the materials and the manufacturing process. The study of this type of objects led to a similar corporal box from the same period in the Bayerisches National Museum (Munich), which provided evidence and allowed the establishment of a hypothesis about the manufacturing workshop of both objects. The conservation treatment demonstrated the capacities, precision and thoroughness of the gas cylinder vacuum cleaning system and the unveiling of many possibilities for the display of the corporal box. In the course of this thesis, a compact storage system was also built. This storage system not only protects the object and minimises the manipulation needed, but also permits the safe storage of all four exhibition mountings. The research in this thesis and the resulting conservation treatment provided stability and a correct interpretation of the corporal box from Geisenheim.

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*Voiles et vapeur. Étude et conservation-restauration de la maquette du voilier Mac-Mahon (XIX<sup>e</sup> siècle, Musée national de la marine), mise au point d'une méthode de doublage et de réactivation verticale d'un adhésif par vapeur de solvant : impact de la méthode de réactivation sur l'adhérence et les résidus d'adhésifs*

**Claire Chalons | Institut National du Patrimoine, France**

This dissertation focused on the study and conservation of the model of the Mac-Mahon sailing ship, dating from 1898. This model was made at the Ateliers et Chantiers de la Loire in Nantes and was exhibited at the 1900 Universal Exhibition. It was then donated to the Musée de la Marine, where it still belongs. This model shows silk sails. This fiber, which is very sensitive to light, has suffered from long exposure, from being held under tension and from rubbing against other parts of the model. The silk has lost much of its cohesion, has many tears and holes, and fragments can fall out whenever it is handled. The degradation of the sails requires consolidation using adhesive. This practice, commonly used in the UK and the Netherlands, is not yet widely adopted in France. As the usual flat adhesion method could not be applied to the Mac-Mahon sails, we explored another method which proved to be suitable for textiles intended to remain flat or to be held temporarily, but not suitable for our case. To successfully consolidate the sails of the Mac-Mahon, the usual method of solvent reactivation was adapted by applying a brush containing ethanol in vapour form to a thin Japanese paper that was first coated and then placed on the sails. The sails were all consolidated on the least visible side, the most degraded and deformed sails were consolidated on both sides.

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*Investigating and Testing Historic Methods for the Creation of Imitation Pearls*

**Savanna Crowther | University of Rhode Island, USA**

Pearls have been treasured as rare and valuable objects for thousands of years and across many different cultures. Due to their inherently rare and expensive nature, however, a demand for cheaper and more accessible substitutes was created. While imitation pearls have existed for thousands of years, a lack of surviving examples, photographs, or other visual evidence means that it is unknown what early imitation pearls would have looked like. The purpose of this research was to examine the development of artificial pearls throughout history, using a mixed-methods experimental design. By examining various historic methods for producing imitation pearls, this will allow for a better understanding of forces driving the continued development and refinement of these production methods. Various historic methods for preparing imitation pearls were examined, and a total of four recipes spanning from the 3rd/4th to the 20th century were selected for replication.

The four selected recipes had varying degrees of success, with regards to their imitative properties. A recipe written by Leonardo da Vinci c. 1480 served to create the most successful imitation with regards to color and pearlescence, while the other three recipes created pearls which featured pearlescent qualities but were the wrong color, or vice versa. Various factors playing into the success or failure of each recipe are discussed. Some of these factors may include a lack of clarity in the original recipe, deviations made throughout the experimental process, or researcher error. Research implications are discussed, including potential applications in sustainability.

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*How to Solve(nt) a Problem:  
Implementing Commercial Dry  
Cleaning in a Textile Conservation  
Setting*

**Sophia Daniel | Fashion Institute of  
Technology, USA**

This qualifying paper is an investigation into the past and current state of how commercial dry cleaning (solvent cleaning) is being used as a treatment option in textile conservation. Literature on the topic of dry cleaning in conservation is for the most part dated. Additionally, there is a barrier of entry into treatment as machinery is expensive and requires working with someone who owns and knows how to operate the equipment. An update on the current uses of dry cleaning in the conservation field and changes in the dry-cleaning industry would be beneficial to those wishing to expand treatment options for collections in their care. Investigating the topic of solvent cleaning will be accomplished through tracing developments and literature review to better understand where commercial dry-cleaning stands in the field of textile conservation in terms of application. This text will also act as an overview of how to process works so those interested in utilizing dry cleaning as a treatment have a resource that combines several areas of research. This paper's first chapter will give an overview of the history of commercial dry cleaning, the chemical principles of solvents, and machinery. This will act as a grounding point to establish a better understanding of the dry-cleaning process and act as stepping stones for discussing treatment. Commercial dry cleaning will be referred to as dry cleaning throughout the text. This is not to be confused with surface cleaning, a common form of treatment in textile conservation. The term dry cleaning arose from its conception when Jean-Baptiste Jolly recorded his waterless process of removing soil from a tablecloth. Latter sections will delve into ethics, literature review, considerations, and health hazards. The paper will conclude with a focus on how to work with a dry cleaner, documented dry cleaning treatments in textile conservation, and the future of the industry

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*The 1697 Project: Unraveling a  
Mystery Surrounding a Set of  
Patchwork Blocks*

**Katherine E. Williams-O'Donnell |  
University of Rhode Island, USA**

The University of Rhode Island's Historic Textile and Costume Collection (HTCC) recently accessioned a grouping of disarticulated patchwork blocks that once belonged to a coverlet. The coverlet was assumed to have been created in 1697 in British North America, making it the oldest firmly dated patchwork currently known to exist in this area and placing this art form in the European colonies fifty years earlier than previously documented. However, because the blocks were disarticulated with companion pieces spread between numerous collections, it was crucial to analyze the blocks in depth to understand if this origin story was correct or had been manufactured later to increase its economic and social value.

The 1697 Project utilized a material culture methodology involving a two-pronged approach. First, observable data was collected, establishing a detailed physical description of the patchwork as it currently exists. A digital reconstruction of the coverlet as it may have originally appeared was then created and was used in comparison with extant samples originating from the seventeenth century for the purpose of dating. Second, the objects' provenance was reconstructed from documentary evidence and combined with interviews of object stewards to establish where the coverlet was produced. Results confirmed that the patchwork is the oldest firmly dated example in North America but originated in England, demonstrating how narrative construction impacts our understanding of patchwork history.

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*Étude et conservation-restauration  
d'un prototype de robe de mariée  
réalisé par Madame Grès, collection  
printemps/été 1960 (musée de la mode  
de la Ville de Paris, Palais Galliera),  
évaluation de l'efficacité et de  
l'impact du lavage aqueux sur une  
étoffe en polyamide altérée*

**Mylène Ducharme | Institut National du  
Patrimoine, France**

This dissertation focuses on the conservation treatments of the prototype of a wedding dress created by Madame Grès for her spring/summer collection of 1960 and preserved at the Palais Galliera, the fashion museum of Paris. This study explores the context of the dress's creation and its material history, including its textile and its use in William Klein's film "Who are you, Polly Maggoo?" Inappropriate handling and storage materials have triggered a physical and chemical degradation of the material of which this dress is made: a nylon Bucol cigaline. Few have studied this fibre in heritage conservation-restoration and, as such, the cleaning of aged nylon was the subject of our scientific protocol. These experiments allowed us to determine and adapt the composition of a washing solution to improve the overall condition of the dress's nylon fabric. Conservation interventions were carried out in order to stabilize the numerous tears and gaps in the altered nylon and to better restore its legibility.

*Spray application of agar gels: a  
preliminary assessment of viability  
for textile conservation*

**Erinn Dunlea | University of Glasgow,  
UK**

This research aimed to assess the viability of spray application of agar gels for textile conservation purposes, using a commercially available electric HVLP applicator. This technique is reported to have been successfully applied in the treatment of paintings and plaster. This research compared the following techniques: direct spray application of agar gel in single and double-layers; agar gel films cast separately using the conventional technique and by spray application, applied as poultices.

Gels were applied to cotton samples stained with water-soluble inks, and results were examined by empirical observation, photography, microscopy, FTIR-ATR and SEM. The results strongly indicate that a direct spray application of agar gel to a textile substrate is not a suitable technique for conservation due to the deposition of significant agar residues deep within the textile structure. These residues were not observed on samples treated with cast gels applied as poultices. Spray application allowed large agar gel films to be cast successfully at a 3% concentration. These gel films offered superior control of moisture to conventional agar gels at the same concentration, but the reasons for this behaviour are ambiguous. At depths of 2mm, spray cast agar gels were more flexible and could be handled easily, but direct correlation between a flexible handle and close conformation to a woven textile surface were not observed. The concentration of gel which can be prepared by the spray method has an upper limit due to the increase in viscosity, with this research finding that a 5% solution could not reliably be processed. Conventional agar gels at higher concentrations still exhibit superior moisture control and soiling uptake. The spray casting technique is unlikely to be efficient for preparing small gel films due to the quantity of gel solution required to operate the device, but it may be useful in cases where large, continuous sheets of gel are required.

*A pilot study on stain reduction -  
Effects of stains, cleaning agents, and  
cleaning methods on polyester textiles*

**Karin Hindborg | Göteborg University,  
Sweden**

The thesis was an experimental pilot study that investigated efficiency and effects of stains and cleaning agents on polyester textiles. A literature review and interviews with textile conservators were used to understand the degradation of polyester fibres and to find suitable staining and cleaning agents to use in the experiments of the study. The experimental part contained aged and stained samples of polyester fabric. The samples were stained with acidic coffee, alkaline ashes and fatty synthetic sebum and cleaned with Orvus WA Paste, Dehypon LS54, Gall soap, triammonium citrate and ethanol.

Two cleaning methods were used: cotton swabs dipped in cleaning agent and cleaning agent dripped through the sample on a suction table. All cleaning agents and cleaning methods were effective for stain reduction on some types of stains. No cohesive changes in degradation caused by the different staining agents or cleaning agents were shown in the results from tensile testing.

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*On the conservation of dress shields using the example of women's clothing from the 19th and 20th centuries from the Germanisches Nationalmuseum Nuremberg*

**Larissa Hollmann | Technical University of Cologne, Germany**

Since the middle of the 19th century, dress shields have been used as an exchangeable and quickly washable hygiene product to protect outerwear. These usually consist of a moisture-absorbing layer, usually fabric, and a moisture-repellent layer, mainly rubber. For the evaluation of aging mechanisms and the design of a conservation concept for dress shields, 155 women's dresses from the collection of the Germanisches Nationalmuseum Nürnberg were examined. In 20% of the clothes examined, dress shields or their remains could be found. By recording with the help of an adapted form and analyzing the materials, in particular by means of FTIR spectroscopy, typical aging phenomena could be determined. A closer look is taken at a selected object that has a significant migration of rubber components into the surrounding tissues and resulting damage in the armpit area. Using this object as an example, conservation measures, including the reduction of the rubber layer by solvents, are discussed, and then summarized in a preservation concept. Furthermore, general recommendations are made for the restorative and conservation handling of garments containing dress shields.

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*Investigation into the Loss of Efficacy of Dyes Used in Textile Conservation*

**Kirstin Ingram | University of Glasgow, UK**

Dyeing is part of many textile conservation treatments. Several dye stock solutions can be made up during trials to find the right colour for a treatment, with much of the solution being disposed of soon after as they may deteriorate. As there is an increase to make conservation more sustainable, reducing the amount of stock solution made would reduce the amount being disposed. Dyes are extremely hazardous to the environment and can pollute water and soil and are hazardous to human and aquatic life. This research aimed to discover whether dye stock solutions lose efficiency over time and cannot be used, experimenting with Lanaset® dye for protein fibres in two different colours, in a combination of softened and deionised water, and kept inside and outside of the fridge. Stock solutions were tested over a 5-month period to find whether they noticeably changed. Through the investigations carried out, there appeared to be minimal change to the colour of the dyes when used on fabric. There was a change to the dye stock solution's pH and dyed fabric sample's saturation which may increase over longer periods of time and eventually become noticeable.

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*The epitaphios of Ormylia: study, analytical research and proposed course of conservation work-non-destructive application of physico-chemical methods of analysis*

**Kalantzidou Kyriaki | Aristotle University of Thessaloniki, Greece**

The present thesis concerns the detailed study of the epitaphios of Ormylia, a Byzantine liturgical textile object of significant artistic, scientific, and religious value. The aim of this thesis is to collect information on the technology and construction materials of the epitaphios as well as on its state of preservation using a methodology based on visual observation and the use of analytical methods without extracting samples from the object.

The study of historical textiles in Greece is not as developed as the study of other cultural objects such as excavated artefacts, portable icons, etc. However, the existing studies prove that important information can be collected from this type of object, which contribute both to the comprehensive study of cultural heritage objects and to their better preservation. In particular, the interdisciplinarity observed in recent years in the field of archaeology and conservation, as well as the specialized training acquired by scientists of both fields, help in the more effective and detailed study and documentation of textile objects. Epitaphios seem to be the kind of object that has received the most attention and research, compared to other textile objects, on a theoretical but lately also on an analytical level. Epitaphios of Ormylia, is one of the oldest surviving in Greece and unique, as explained below, although it has received limited study. This thesis aims to contribute to this field as a comprehensive study of a very important ecclesiastical textile object that was constructed about 700 years ago and is one of the few examples of ecclesiastical embroidery of the Byzantine period. In the first theoretical part, information on gold embroidery in Greece since antiquity is presented, as well as information on the raw materials and techniques used for the manufacture of the precious objects of ecclesiastical embroidery. An attempt is then made to describe the object in detail, its iconography, the techniques, and the materials that have been applied to place the epitaphios in a new general chronological and artistic context in relation to the other more prominent extant examples. The theoretical approach concludes with a discussion of the object's state of preservation, which is discussed at length in a separate chapter. In the second experimental part, which begins with a literature review, the results of the imaging and analytical techniques applied are presented and analyzed. The methodology was applied after the epitaphios transferred to the diagnostic center of works of art "Ormylia" where the analyses took place on the prototype robotic system the center has developed. The imaging methods are X-ray imaging, infrared reflectography (IRF imaging) and fluorescence imaging in the visible spectrum after ultraviolet excitation (UVF).

While the second experimental part concludes with the results and commentary on the application of elemental analysis of X-ray fluorescence spectroscopy/XRF. The thesis concludes with proposals about the appropriate conservation methodology of the epitaphios, while appendices at the end of the issue provide additional information for the better understanding of the data presented within the text.

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*Study of the Viability of Clay  
Poultices in Regenerated Cellulose  
Membranes as a Treatment Option in  
Textile Conservation*

**Camille Lafrance | University of  
Glasgow, UK**

This dissertation attempted to shed some light on the use of clay poultices in regenerated cellulose membranes developed by a French textile conservation student in the 2000s but that remained relatively unknown in the United Kingdom since. The research project aimed to determine if clay poultices in cellulose membranes were a viable treatment option for localised cleaning of textiles with elements prone to dye bleeding. To do so, essential properties of poultices, barrier layers, and clays were discussed, then literature was reviewed to inform the framework of an experimental investigation on cotton, silk, and wool samples replicating textiles with fugitive dyes. The experiments revealed clay concentrations, fibre types, and application time of clay poultices in membranes influence their mitigation of dye bleeding. A preliminary case study was also conducted to test on an historic textile the properties exhibited during the investigation in addition to evaluating the poultice cleaning abilities in comparison to localised cleaning using a vacuum-suction table. Even though the viability of the poultice could not be confirmed during the project, further testing would be relevant because it displayed relatively good properties at limiting dye bleeding on cotton and several variables of the poultice method remain undefined.

## *A Comparative Investigation into the Conservation of Velvet Bound Books*

**Katica Laza | University of Glasgow, UK**

This research paper aimed to investigate whether a combined adhesive and stitching treatment is more effective than an adhesive treatment when conserving the joint area of velvet covered books. The experiment, extrapolating from three previous case studies, trialled various adhesives and support fabrics to rank the effectiveness of current conservation techniques. Three methods of conservation were trialled. The first samples were conserved with double-sided adhesive supports (adhesive only), the second with double-sided adhesive supports and stitching (combined adhesive and stitching), and the third where the adhesive was only used to create a two-layered fabric support but was otherwise supporting the velvet through stitching (stitching only). The experimentation was undertaken in three phases: conservation, mechanical testing, and reversibility. The results showed that samples which used a combined method of adhesives and stitching performed better in reinstating functionality to the object, than a single adhesive treatment. The third, stitched method, was superior at supporting and creating a functional object and incurring the least amount of damage in the process. Analysis further found the best performing adhesive to be a mixture of Lascaux 498 HV: 0.25 Carboxymethyl Cellulose: 0.25 KlucelG. The choice of support fabric did not influence the test results.

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## *The textile figures of the kinetic sculpture Othello & Desdemona (1990/91) by Eva Aeppli & Jean Tinguely. Development of a restoration and exhibition concept*

**Cora Lisbach | Technical University of Cologne, Germany**

This thesis is dedicated to the kinetic sculpture Othello & Desdemona (1990/91) by Eva Aeppli and Jean Tinguely with the aim of developing a concept for its future conservation and presentation.

on the research on the artworks' biography as well as investigations into the production technique, the materials used and their state of preservation, new methods for support in silk fabrics will be presented, including the use of specially made silk fleeces. These and other options for conservation and future presentation will then be discussed and weighed in detail. A visual representation of relevant conservation ethics criteria was developed to facilitate dialogue with stakeholders for decision-making by providing a way to illustrate the often-intangible aspects in decision-making.

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## *Silk, Lace and Pearls: Cataloguing and Interpretation of a 17th Century Mummified Girl's Burial Ensemble*

**Emma Marentette | Abegg-Stiftung, Switzerland**

This thesis focuses on the cataloguing and analysis of the clothing of the mummified remains of a 17th century girl currently held in the Musée historique de la ville de Strasbourg. The clothing is in exceptionally good condition, providing a rare opportunity to study a complete outfit from ~1630. The Strasbourg mummified girl is wearing a blue silk boned bodice and a matching smooth covered stomacher and outer petticoat. Her white linen partlet, kerchief, falling band, linen cuffs and wrist rufflers are decorated with white bobbin lace. Underneath her outer petticoat is a second purple and yellow patterned underpetticoat. She is also wearing stays, hemp stockings, a shift, and heeled shoes. This thesis comprises a catalogue that documents all textile elements of the girl's ensemble. It analyses the construction of each object, as well as describing and discussing the mummified girl's dress as an ensemble. Study of the clothing presented challenges as it could not be removed from her body. This is to ensure the best possible preservation of both the clothing and the girl's mummified body, an obvious choice for such a rare and intact ensemble. Analysis involved visual and sensory observation where possible, and where not possible, CT scans that allowed us to look inside the layers and isolate specific information using contrasts.

Finally, a sewn reproduction was used to assess the accuracy of the pattern taking and the construction analysis, and to give insight into construction methods that are not visible for analysis and can act as a useful study piece and possible museum display. Despite the challenges, it was possible to complete a detailed study of the clothing and offer new insights into 17th century French dress.

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*Patina and Textile? A comparative conservation study of two Chinese silk hangings of the 19th century from the German Textile Museum Krefeld*

**Maïke Oestern | Technical University of Cologne, Germany**

The present work deals in the broadest sense with the phenomenon of patina on historical textiles. The focus is on the comparative investigation of natural and possibly intentionally induced aging phenomena on two Chinese textile hangings with 19th century silk embroidery from the collection of the German Textile Museum Krefeld. Both textile technological features and later changes were recorded using different microscopic and multispectral analysis methods. The results of the sample study provide initial starting points for more in-depth research on this hitherto hardly considered topic within textile conservation.

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## *Bachelor Theses 2022*

*Silk and microorganisms: A qualitative study of bacterial and mold infestation of silk*

**Henny von Schantz | Göteborg University, Sweden**

In this thesis, bacteria and mold infestations of silk artefacts are investigated through a literature review, a survey sent out to textile conservators, an interview with a mycologist, and an examination of a mold-infested robe used as a case study. The robe was examined through methods found in scientific articles and the conservators' recommendations in the survey. The purpose of this thesis was to bridge the identified knowledge gap between practitioners' and scientists' perceptions of what kinds of microbes cause deterioration of silk. The focus of the case study was to review the ability of the adapted methods to provide information on the infestation. The study found that the different methods used in investigating an infested silk textile affect the perception of microbes causing deterioration. The study establishes that silk can be infested both by bacteria and by mold, and that the risk increases if the silk is part of a composite object. The study also concludes that the deteriorating effect of mold on silk is still not ascertained.

<https://gupea.ub.gu.se/handle/2077/72654>

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*Condition assessments: A development of methodology based on silk fragments from Birka*

**Gabrielle Weststeyn | Göteborg University, Sweden**

Despite being an indispensable assessment tool and an ethical obligation in the conservation of cultural heritage, traditional condition assessments encompass several shortcomings that reduce their ability to act as substantiated and unambiguous support for decision-making related to interventive and preventive conservation treatments.

Integrating opposing theories in the conservation of cultural heritage generates a method that intends to resolve these shortcomings. Traditional condition assessments, by adopting a material-based approach, concentrate on identifying changes in the physical fabric of the object to arrest physical decay. Value-based approaches emphasize that conservation primarily must focus on the preservation and enhancement of cultural heritage values and significance. In the present study, integrating material-based and value-based conservation approaches derives a comprehensive methodology for condition assessments that includes a value assessment, a statement of significance, an object description, a condition description and a concluding condition assessment. This methodology has been applied to a case study consisting of a selection of silk fragments from the excavation of Birka in the Swedish History Museum collection. The methodology succeeds in processing condition descriptions into condition assessments that consider cultural heritage values and significance, thereby relating tangible and intangible features. Consequently, condition assessments become more relevant. Risk assessments seem to provide condition assessments with essential executive functions. By including transparent descriptions of intuitive knowledge, visual inspections can profit from connoisseurship as a research method. Visual inspections should advantageously be combined with microscopic and advanced photographic techniques whereof micro-RTI proves to be particularly effective in this study. Employing scientific analysis that accords with the aim of the condition assessment can contribute to the assessment's reliability. However, some methods of scientific analysis, in this study ATR-FTIR, can interfere with the concepts of minimal intervention and reversibility. Condition assessments can obtain a satisfactory level of reliability without employing such scientific analysis. By making value judgments, choice of research methods, and data analysis explicit, condition assessments are better equipped to support decision-making in collection management.

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## Future contributions

If you would like to publish with our Newsletter or have ideas for the Newsletter please get in touch!

Please send contributions or inquiries to the [coordinator](#)

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