



LEATHER AND RELATED MATERIALS WORKING GROUP

NEWSLETTER – JUNE 2017

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Newsletter Editors: Laurianne Robinet and Carole Dignard

FROM THE COORDINATOR

Dear members, dear colleagues,

Here comes some news from the Leather and Related Materials Working Group and its members !

As I told you some month ago, Lieve Watteuw had to step down as coordinator of the ICOM-CC Leather & Related Materials Working Group, and I have been appointed by the Directory Board as Coordinator to finish the triennium. I am candidate for election of the group coordinator for the 2017-2020 triennial period.

To introduce myself briefly, I am a conservation scientist working since 2011 at the Research Center for Conservation (CRC) based at the natural history museum in Paris (known in the past as CRCDG). I am in charge of the leather and parchment department and I develop research to improve the characterization and the conservation of skin-based artefacts.

During the triennial period, the number of members has increased with currently around 140 members registered to the working group, predominantly from Europe. Although no interim meeting could be organized within the Leather & Related Materials Working Group during the triennial period, several specialist meetings involving many members of the group took place in Europe during the period, and you will learn more about these by reading this newsletter. This issue of the Newsletter also contains reports from technical and restoration projects, collaborative research projects, new publications and further events. There is much about gilt leather as you will see in the newsletter but there is info on, or applicable to, other types of leather too.

Together with my two assistant coordinators, Carole Dignard and Abdelrazek Elnaggar, we have been busy in the past few months preparing the triennial conference in Copenhagen and this newsletter to provide you with some news on the activity of the group. We hope you will enjoy it !

Laurianne Robinet

Coordinator, ICOM-CC Leather and Related Materials Working Group

ICOM-CC TRIENNIAL CONFERENCE



The 18th ICOM-CC Triennial Conference of the International Council of Museums Committee for Conservation (ICOM-CC) will take place in beautiful Copenhagen, the capital of Denmark on **September 4-8, 2017**.

The theme of the conference is “Linking Past and Future”. Inspired by the 50th anniversary of ICOM-CC, the Conference theme revolves around the past and future of conservation.

The 18th Triennial Conference will present 150 peer-reviewed papers and 100 posters in 21 working groups and international keynote speakers.

The conference will offer visits to conservation workshops as well as receptions and social events during the week that will be ideal for networking. We hope to see more than 800 delegates, including conservators, scientists, historians and art historians, curators, librarians, archivists, students, collection managers and directors from the world’s leading cultural institutions and the private sector.

Her Majesty the Queen of Denmark has accepted the patronage of the 18th ICOM-CC Triennial Conference.

For more information and registration visit the website: www.icom-cc2017.org.



Copenhagen canal

The session for the **Leather and Related Materials Working Group** will take place on Tuesday 5th September in the afternoon. We are pleased to have **four papers** and **four posters** selected that are listed below. At the end of the session will take place the traditional business meeting for the group. The program details should be on the website shortly.

Leather and Related Materials Working Group

Papers

Gilt leather conservation: a critical review to promote improved conservation strategies - Martine Posthuma de Boer, Roger Groves & Eloy Koldeweij

Impacts of manufacturing and conservation on the silver leaf tarnishing in gilt leather - Marie Radepont, Céline Bonnot-Diconne, Sylvie Thao, Claire Pacheco, Muriel Bouttemy & Elise Delbos

Gilded Goddess: The technical examination of an anonymous Italian gilt leather painting at the Mauritshuis - Ribits Julie & Vandivere Abbie

Measuring the hydrothermal stability of leather and parchment - the significance of heating rate and shrinkage intervals - Dorte Sommer & René Larsen

Posters

Pilot treatment for the conservation of 20th century suede leather wall covering in an historic house museum - Mariabianca Paris, Anna Valeria Jervis, Silvia Checchi, Manuela Zarbà, Paolo Scarpitti, Maria Rita Giuliani, Marcella Ioele & Paola Biocca

Characterisation (macro to nano-scale) of the effects of novel nano-particle based conservation treatment of vegetable-tanned leather and its long term effects - Marianne Odlyha, Sabina Masterson, Nafisa Ahmed, Angelica Bartoletti, Laurent Bozec, John Duncan, Lucia Melita, Manfred Anders, Paolo Matteazzi, Adrian Hawley, Nick Terrill, Elena González Arteaga, David Chelazzi, Rodorico Giorgi & Piero Baglioni

Historical or archaeological leather ? An investigation on condition of heat and moisture damaged, excavated leather items - Edit Darabos & Róza Brenner

Conservation study of MUMMY CIT 10 - Rania El-Atfy & Rania Ahmed

In the other working group sessions, we also identified three papers and two posters relative to studies on skin-based materials that could be of interest to the members of the group:

Other working groups

** Graphic documents*

Paper: Establishing the relation between degradation mechanisms and fibre morphology at microscopic level in order to improve damage diagnosis for parchments - A preliminary study -
Kathleen Mühlen Axelsson, René Larsen & Dorte Sommer

** Objects from Indigenous and World Cultures Tissue*

Paper: Issues: Reconsidering Winter Gut - Amy Tjongn, Judith Levinson, Samantha Alderson, Gabrielle Tieu, Jessica Pace & Lesley Day

** Scientific Research*

Paper: Influence of manufacturing and alteration on skin-based artefacts characterized by nonlinear optical microscopy - Laurianne Robinet, Sylvie Thao, Marie-Claire Schanne-Klein & Gaël Latour

Poster: Optical Coherence Tomography as an imaging tool for the non-invasive assessment of the state of preservation of mineralised collagen based artefacts - Lucia Noor Melita, Jonathan Knowles

** Wet Organic Archaeological Materials*

Poster: Conservation and exhibition of a human mummy from a salt mine in Zanjan, Iran - Hassan Ghaseminejad Raeini, Roshanak Saadati



Copenhagen Canal

ELECTIONS 2017

Elections for Directory Board and for Working Group Coordinators for the 2017–2020 triennium will be conducted by electronic voting during a two-week period preceding and ending at the 18th Triennial Conference in Copenhagen. Voting will open on Monday 21 August 2017.

The candidates for WG Coordinators and ICOM-CC Directory Board 2017-20 can be found on the ICOM-CC website at:

www.icom-cc.org/351/about/elections-2017/

👉 **Only voting members of ICOM-CC** (with an open and active ICOM-CC web account) on the opening date of electronic voting will be eligible to vote.

PLEASE CHECK your account. ICOM-CC voting members belonging to a particular Working Group (signed up on the ICOM-CC website) by the opening date of electronic voting will be eligible to vote in the election of that Working Group's Coordinator.



Opening reception at The Black Diamond

NEWS

TREATMENT AND PREVENTION OF TEARS IN HISTORICAL DRUMHEADS USING BEVA 371 FILM AND SPUN-BONDED TEXTILES¹

By Sarah Shortliffe, BFA, MAC

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The treatment of drumheads present a unique challenge for conservators. The skin of a drumhead is subjected to constant tension and is extremely susceptible to dimensional change in the presence of moisture or aridity. Damaged drumheads stored in a fluctuating environment result in the propagation of new tears and curling of the torn edges. The objective of this experiment was to determine which treatment was strong enough to withstand any fluctuations in the surface of the skin while not being so tenacious that it forces the skin to fail before the substrate.



Damaged Drumhead

Tensile strength testing was performed on samples using an Instron instrument with a 1000 lb load cell with a rate of extension of 0.5 inches/minute. All samples were cut from a cured deerskin into dog bone shapes in accordance with typical tensile specimens as shown in Figure 1.

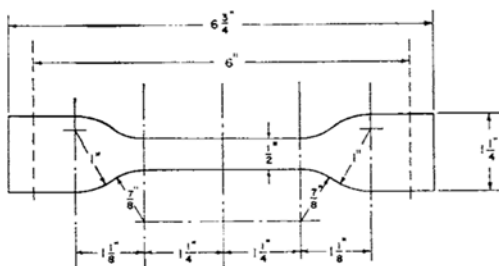


Figure 1. Tensile strength testing sample geometry.

Each sample was prepared by lining the support textile or paper with BEVA 371 film using a tacking iron and adhering the substrate to the deer skin sample. Two spun bonded textiles, Holitex and Reemay were tested as well as a traditional Japanese (Kurotani) tissue along with a sample without lining. The samples were observed while testing and in post-testing to determine how the different linings behaved under stress.

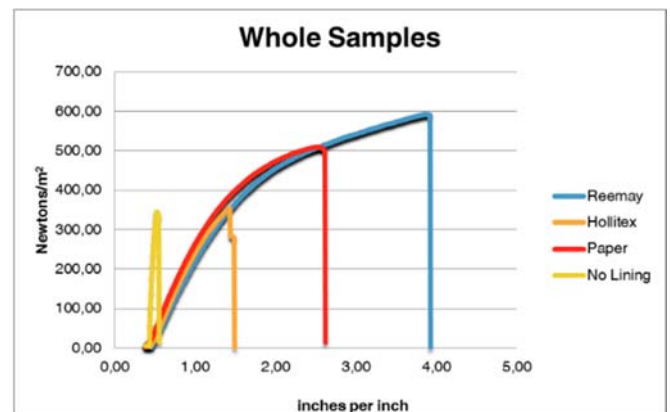


Figure 2. Engineering Stress/Strain Curves: Whole Samples

As shown in Figure 2, the three linings tested (Reemay, Holitex and Japanese paper) improved the strength of the samples under tension. The Reemay-lined samples were the most successful at withstanding the greatest tension before breaking. Reemay is a spun-bonded polyester fabric that is non-woven and as a result this textile is not prone to stretch or 'give' in any specific direction, making it a favorable choice for lining the drumhead.

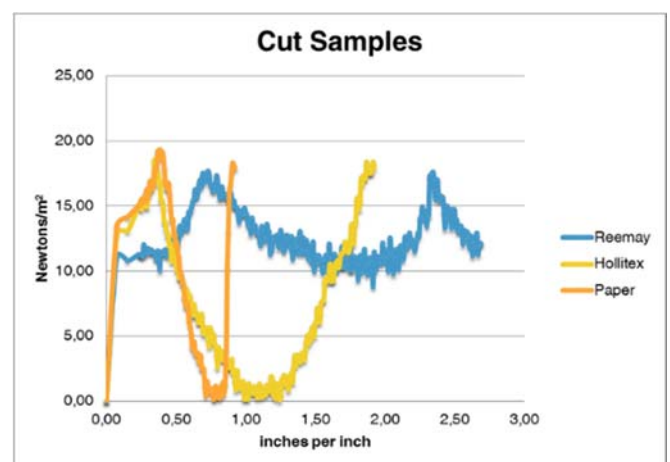


Figure 3. Engineering Stress/Strain Curves: Cut Samples

Figure 3 shows the stress-strain results for the samples that were first cut in half, then repaired using BEVA 371 film and the three lining materials. This test was intended to test the strength of the linings and adhesive film and their connection to the skin. Again, the Reemay-lined skin resisted better than the skin backed with either paper or Hollitex. The paper sample tore before releasing from the skin, while the Reemay and Hollitex more often came off entirely without tearing.

The conclusion arrived at after experimentation was that, although Reemay seemed a heavy-handed treatment, it is the most supportive to the drumhead and would prevent further shifting of the skin even if subjected to high stresses (e.g. as could occur if exposed to sudden large RH fluctuations). Lining the entire underside results in even support over the entire drumhead, not just the torn edges, creating less chance for new tears to form. It also has the advantage of making a barrier that, although not impermeable, may lessen the effect of moisture on the drumhead.

¹Excerpt from: Sarah Mullin, 2013, Treatment and Prevention of Tears in Historical Rawhide Drumheads Using BEVA 371 Film Using Traditional Lining Materials, Research submitted to the Department of Art in Conformity with the requirements for the Degree of Master in Art Conservation, Queen's University.



EVIDENCE OF THE USE OF VEGETABLE TANNINS IN LEATHER TANNING IN THE MIDDLE KINGDOM / NEW KINGDOM OF ANCIENT EGYPT *

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The tanning materials (vegetable tannins and alum salts), pigments and dyes used in ancient Egyptian leather processing have been studied in this work. The analytical investigations focused on assessing the development of the technology of ancient tanners using high-performance liquid chromatography (HPLC), surface-enhanced Raman spectroscopy

(SERS), X-ray fluorescence (XRF), Fourier transform infrared spectroscopy (FT-IR), X-ray radiography and a scanning electron microscope connected to an energy-dispersive X-ray detector (SEM-EDX).

Reference leather samples and archaeological leather objects were investigated to identify the animal skin species and the early use of hydrolyzable vegetable tannins for leather tanning. While further supporting the analysis of a wider corpus of leather artefacts, evidence of the use of vegetable tannins in leather tanning in the Middle Kingdom/New Kingdom of ancient Egypt was found for the first time based on chromatographic analysis of microsamples.

The work confirms that the colouring techniques of the leather objects surveyed depend on padding (staining) of the grain layer, while immersion of leather in pigments was also employed using a red earth pigment. Leather is difficult to dye or colour, which is evidenced by the different application methods.



Object 31.3.88, the Metropolitan Museum of Art

* See the Full paper: The Characterization of Vegetable Tannins and Colouring Agents in Ancient Egyptian Leather from the Collection of the Metropolitan Museum of Art. Archaeometry, Volume 59, Issue 1, 2017, Pages 133–147.



NEW GILT LEATHER ROOMS ON EXHIBITION

by Céline Bonnot-Diconne, Centre de Conservation et de Restauration du Cuir - 2CRC (France)

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In the past months, three large gilt leather decors have been conserved and reinstalled in the south of France.

The first one is visible in Marseille at the “Musée des arts décoratifs, de la faïence et de la mode” (museum of decorative arts, faïence and of fashion) in Borely castle (<http://culture.marseille.fr/les-musees-de-marseille/musee-des-arts-decoratifs-de-la-faïence-et-de-la-mode>). It is a 45 sqm wall-hanging, today divided in two panels separated by a chimney. Originally coming from the villa Fabre-Luce, a private mansion in Marseille, it was acquired by the town council in 1986. This leather is typically Italian and can be dated from the first half of the 18th century. It is constituted of 27 leather lengths, 3.5 meters high, stitched to the others to form larger surfaces. At the top, bottom and on the sides, specific motifs are forming borders. The gold aspect is very well-conserved. The backgrounds were originally green but the copper-alloy pigments turned black. Fruits and flowers are beautifully painted in the central areas of the decors.



Leather room, Borely castle. Marseille

Fully restored in 2013, it is now in permanent exhibition in a room on the ground floor of the museum. During the conservation process, stickers and inscriptions were discovered on the back of some of the panels. These are handwritten in Italian and demonstrate the geographic area of production.

The second decor is on exhibition in Aix-en-Provence at the “musée Estienne de Saint Jean” (formerly musée du vieil Aix)

<http://www.aixenprovence.fr/Musee-Estienne-de-Saint-Jean>. It is a 74 sqm flocked gilt leather wall-hanging. It is a unique case of such a large flocked décor in France.

Unfortunately, we have no information on how it was acquired by the museum. Until 2010, it was poorly attached to the walls of a storage room where it had suffered from water leaks and moth attacks. The museum decided to change this area into a new exhibition room.



Gilt leather, musée Estienne de Saint Jean, Aix-en-Provence

In 2016, the gilt leather panels have been put back in place into the renovated space. During the restoration work, lots of technical details came to the surface, for instance many original leather rings used to suspend the tapestry. This is the reason why the décor is today exhibited in a loose way. Also, this large décor is in fact composed of two different ones (of two different

lengths) probably made for two different rooms and which have been gathered at an unknown date. Originally, the main panels are red flocked but the color has changed to orange due to degradation. The borders are green flocked and all the gilt backgrounds are punched.

The third and last décor is conserved in the surrounding area of Aix-en-Provence in the castle of Fonscolombe, now a 5 stars hotel (not visible unless you are a client). It is a 39 sqm Italian gilt and silvered leather. Widely punched and painted, it is made of panels glued together to make large surfaces corresponding to available spaces into wainscot. There are seven panels of very different sizes in total (the larger one is 5.3 m long and 3 m high). It was put back into place in January 2017 in a newly renovated space, now a dining room. The conservation challenge has been to find a way to attach the leather in an uncontrolled climate environment and with the constraints of the wood paneling.



Gilt leather, Fonscolombe castle, Aix-en-Provence



Gilt leather detail, Borely castle, Marseille (left).
Gilt leather detail, musée Estienne de Saint Jean (right)

NOVEL CONSERVATION STRATEGIES FOR LEATHER-BASED WORKS OF ART

by M. Odlyha, A. Bartoletti and L. Bozec

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<http://www.nanoforart.eu>



Methods used to conserve leather objects are always under review and in current practice there has been a movement away from interventive treatment towards a more preventive approach. Recent developments, however, in improved damage assessment techniques for collagen in parchment, has provided a set of damage markers from the nano to the macro scale. These were initially developed in the EU funded IDAP (Improved Damage Assessment of Parchment) project and work has continued since then improving the combined approach of macro and nanoscale techniques as performed at Birkbeck, University of London (Department of Biological Sciences) in collaboration with UCL Eastman Dental Institute (Department of Biomaterials and Tissue Engineering) and working with the School of Conservation Copenhagen. The ability to perform damage assessment presents the possibility of testing new treatments while being able to evaluate effects, if any, on the physicochemical state of the collagen.

In the past few years, there has been a growing interest in the application of nanotechnology to the preservation of art objects. Evidence of this is in the work conducted in the Department of Chemistry “Ugo Schiff” and Center for Colloid and Surface Science (CSGI), University of Florence, headed by Professor Piero Baglioni. A recent publication describes the nano-tools developed by the CSGI group over the last three decades, such as dispersions of nanoparticles, micellar solutions, microemulsions and gels [1]. The information presented in this article summarises some of the work performed in the EU funded NANOFORART project (<http://www.nanoforart.eu>), coordinated by Professor Baglioni, during the three year period (2012-2015). The project involved 15 partners and included chemists, conservation scientists and conservators. In this project, the overall aim was to assess the impact of novel nanoformulations synthesised for the conservation of a wide range of cultural heritage materials, including collagen-based ones, and these were provided by CSGI, MBN Nanomaterials and ZfB (Zentrum für Bucherhaltung GmbH). Different formulations have been developed for the conservation of leather addressing issues related to the cleaning and pH adjustment of leather. For cleaning, novel formulations including chemical hydrogels were

specifically designed by CSGI based on semi-interpenetrating chemical poly (2-hydroxyethylmethacrylate)/polyvinylpyrrolidone networks (semi-IPN pHEMA/PVP). These gels present different degrees of retention of the loaded liquid (i.e. cleaning solution, which can be water, micellar solution of some microemulsions) and thus might be particular useful for the treatment of highly water-sensitive materials and some are now available on the market (<http://www.csgi.unifi.it/products/gel.html>). In addition to issues related to cleaning, leather conservation presents another challenge related to the lowering of pH as a result of leather degradation and the combined effects of oxidation and hydrolytic processes. The pH adjustment of leather was realized through the application of dispersions of nanoparticles in specific solvents. The nanoparticles prepared by the group in Florence involved calcium hydroxide and calcium lactate in propan-2-ol. Calcium lactate was used to moderate the effect of calcium hydroxide alone.

Characterisation of the prepared nanoformulations was performed using scanning electron microscopy (FEG SEM), infra-red spectroscopy (FTIR), X-ray Diffraction (XRD), Dynamic Light Scattering (DLS) and turbidity measurements through UV-Visible spectroscopy. The characterisation of the physico-chemical state of collagen and the effects of the treatment, if any, was monitored using ATR/FTIR, FEG-SEM, pH measurements, controlled relative humidity dynamic mechanical analysis (DMA-RH); some preliminary analysis have been also performed using controlled relative humidity dielectric analysis (DEA-RH) and small angle X-ray scattering (SAXS) and data are under review now for future publication. The evaluation of the impact of these novel formulations was performed at UCL Eastman Dental Institute, Birkbeck, University of London, CSGI and IPCE (Instituto del Patrimonio Cultural de España) also with interaction with conservators at IPCE.

The potential application of semi-IPN pHEMA/PVP gel for the cleaning of leather was tested on both modern and historical leather samples. The modern sample was a vegetable tanned (sumac) leather, whilst the first historical sample was the cover of a Luther bible (1749 AD) and the second historical sample was the cover of a Missale Romanum (Roman Missal, 1725 AD). Both the historical samples exhibited surface deposits of dirt, salts, or waxy (or lipid materials) which needed to be removed. The cleaning tests were carried out by applying the pHEMA/PVP gel loaded with an oil in water microemulsion called EAPC (EAPC is a five-components fluid composed of water, sodium dodecylsulfate (SDS), 1-

pentanol, propylene carbonate (PC), and ethyl acetate (EA)), directly on the surface of the samples for 20 minutes. During this period, the gel was covered with a foil of Mylar to prevent evaporation of the volatile components of EAPC. The gel was then removed and a gel loaded just with deionised water was applied for other 20 minutes on the cleaned area to remove potential residues from the non-volatile components of EAPC (i.e. SDS surfactant). The surface was checked for residues by recording FTIR spectra (before and after the cleaning procedures) and none were observed.

For pH adjustment nanoparticle dispersions were applied on several areas of about 2x2 cm² applying 30 µL in 2-3 steps over each spot with a Gilson P200 pipette. Surface examination of leather samples before and after treatments was made using FEG-SEM. Accelerated ageing tests were also performed by heating the untreated and treated samples to 90°C for 24 hours. The infra-red spectra showed that for untreated samples a broadening of the Amide I peak occurred. In the case of the nanoparticle treated samples the ageing effects were reduced, demonstrating a protective action of the nanoparticle dispersion. Results from DMA-RH show that for treated samples there is no decrease in the measured displacement of the samples, indicating that no damage had occurred to the collagen in the leather. A recent publication reports on the results obtained [2]. Some preliminary AFM work was performed on leather but at this stage it was found that information on the D-banding on collagen was obtained more readily with small angle X-ray scattering measurements (SAXS). SAXS measurements showed that there was no effect on the structure of collagen at the nanoscale level. In contrast the effect of thermal ageing of untreated leather showed a decrease in the structure of collagen at the nanoscale level as evidenced by the reduction in D-banding of the collagen. This work will be reported in more detail in the near future and will provide details of all the results obtained in the NANOFORART project on the cleaning and pH adjustment of leather.

Reference

1. Baglioni P., Chelazzi D., Giorgi R., Nanotechnologies in the Conservation of Cultural Heritage: A compendium of materials and techniques. Dordrecht: Springer Netherlands; 2015
2. Baglioni, M., Bartoletti, A., Bozec, L., Chelazzi, D., Giorgi, R., Odlyha, M., Pianorsi, D., Poggi, G., Baglioni, P., Nanomaterials for the cleaning and pH adjustment of leather, Applied Physics A: Materials Science and Processing. 2016; 122(2)



CORDOBA AND CORD'ARGENT PROJECTS

By Laurianne Robinet, Centre de Recherche sur la Conservation - CRC (France)

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Gilt leathers are luxurious decorations used all over Europe to embellish the interiors of the richest residences, dating predominantly from the 16th to the end of the 18th century. Despite the name, they are not defined by the presence of gold. Instead they were made by applying to the leather a silver foil which had the appearance of gold after being covered with a yellow varnish. As gilt leathers are often not signed, dating and classification are usually assumed based on stylistic studies.

A collaboration gathering scientists, a conservator, an art historian and curators started in 2011 to develop research on these decors. The aim was to characterize the different components within gilt leather to learn about the manufacturing technique, in particular the recipe specific to each workshop, and to better understand the degradation processes. First, a multi-technique approach was developed based on the CHARISMA European infrastructure and was applied to a selection of decors from different countries and periods. More recently, from 2014 to 2016, two research projects, **CORDOBA** and **CORD'ARGENT** funded by the French foundation PATRIMA took place in France to pursue the work on specific aspects.



CORDOBA project team (from left to right: J.-P. Fournet, A.-J. Etter, E. Poirault, C. Bonnot-Diconne, C. Bor, M. Barbier, L. Robinet, M. Radepont, C. Pacheco, R. Février, R. Cortopassi, M.-J. Dubois)

The CORDOBA project, coordinated by the research center for conservation (CRC, in Paris) in collaboration with the C2RMF (Paris), the National Renaissance museum (Ecouen), a freelance leather conservator (C. Bonnot-Diconne) and an art historian (J.-P. Fournet) funded a postdoctoral contract (M. Radepont) for one year from October 2014. The project focused on the characterization of the silver foil by non-invasive ion beam analyses. This combines analyses by PIXE (Particle Induced X-ray Emission) to characterize the silver foil composition and RBS (Rutherford

Backscattering Spectrometry) to measure the foil thickness. As part of the project, model gilt leather samples were prepared according to an 18th century recipe and used to optimize the analytical methodology. Then a corpus of over 50 historical samples originating from different geographic areas in Europe was analyzed by the techniques cited above. In October 2015, a study day on gilt leather was organized at the National museum of Renaissance in Ecouen as a conclusion of the CORDOBA project. That day, that gathered around 70 persons, included presentations from art historians, conservators, curators and scientists, who provided different views on these decors, followed by presentations of the results gained through the research project. The publications of all the data are in progress.



Visit of the gilt leather collections during the study day on gilt leather organized at the national museum of Renaissance in Ecouen, France. October 2015.

The subsequent CORD'ARGENT project, which started in October 2015, focused on the tarnishing of silver leaves in gilt leather decors. For this project, the Lavoisier Institute from the university 'Saint Quentin en Yvelines' joined the team to provide an expertise on metal foil properties. Silver tarnishing on gilt leather decorations is commonly observed, generally localized, and, in extreme situations, total blackening of silvered areas can occur. Consequences are important as it affects their readability and finally many of these objects are left in storage. In some cases this degradation may be related to past conservation interventions. Consequently, the impact of maintenance and conservation treatment on gilt leather and particularly on the silver leaves is questioned, nevertheless the question of silver tarnish in gilt leather has little been investigated. For that reason the CORD'ARGENT research explored the role of the materials and environment interacting with the silver leaf, considering two steps in the life of these decors: the manufacture and the maintenance, including conservation. In the project, new analytical

techniques were implemented to answer the different questions raised by the study, such as atomic absorption spectroscopy (AAS), field emission gun scanning electron microscopy (FEG-SEM), electron backscattered diffraction (EBSD), X-ray fluorescence (XRF), pyrolysis gas chromatography-mass spectrometry (GC-MS). The project provided many new information on these decors regarding the impact of the manufacturing, the environment and the conservation on silver tarnishing in gilt leather. These results will be presented at the ICOM-CC triennial conference in Copenhagen in September 2017.



NICAS GILT LEATHER PROJECT: TAKING RESEARCH AND CONSERVATION OF GILT LEATHER TO THE NEXT LEVEL

by Martine Posthuma de Boer (Netherlands)
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Many gilt leather objects are in a perilous condition, or have already been lost. Various aspects concerning the history and conservation of this delicate and complex material still need to be understood. In 2016 international gilt leather experts gathered to put up a common research agenda for gilt leather. A symposium and expert meeting were organised at Stichting Restauratie Atelier Limburg (SRAL) in Spring 2016 in Maastricht by a Dutch consortium collaborating in the NICAS gilt leather project.

Symposium and Expert Meeting 2016, Maastricht

International invited speakers presented their research in gilt leather and related techniques at the symposium. Approximately 60 persons from 11 countries attended: conservators, scientists, art historians, students interested in gilt leather and even a maker of gilt leather. The conclusions of the day were that gilt leather community is small, enthusiastic, and further cooperation in sharing of information is highly desirable.

The expert meeting, held the next day, was composed of discussion sessions on the themes of '*Technical Art History*', '*Material Dynamics*', '*Conservation Challenges*' and '*Diagnostics*'. In the theme '*Technical Art History*', the main conclusions were to perform state of the art technical analyses on pristine objects from a broader European context, and connecting

technical data to archival studies of the major production centres of gilt leather. A database of technical data, archival and source research is much demanded. Under '*Materials Dynamics*' it was found that the aging process is not well known nor understood. Interactions between the leather and residual tanning chemicals with the silver leaf, pigments, oils and varnishes, as well as the relationship between aged materials, tensioning in the hanging system, indoor climate and mechanical damage require further study.

Cleaning and dealing with the effects of past conservation treatments were defined as the highest priority within the session '*Conservation Challenges*'. The loss of the flexibility of old leathers and their hygroscopic behaviour remains an issue in gilt leather conservation.

The expert meeting also considered the theme of '*Diagnostics*'. The latest generation of instrumentation allows some technical art history and conservation topics to be investigated in more depth.



Speakers gathered at the end of the Symposium, Bonnefanten Museum Maastricht.



The discussion on conservation treatments at the expert meeting, chaired by René Hoppenbrouwers (SRAL).

Gilt Leather Artefacts. White Paper on Material Characterization and Improved Conservation Strategies within NICAS.

The topics discussed during the expert meeting, and the research directions for gilt leather for the period 2017-2025, are published in the book 'Gilt Leather Artefacts. White Paper on Material Characterization and Improved Conservation Strategies within NICAS'. Copies have been distributed to all major libraries and conservation schools. A digital version has been widely spread, and can be downloaded:

www.researchgate.net/publication/309763114_Gilt_Leather_Artefacts

Testing new analytical techniques on gilt leather

Part of the Gilt Leather Project was preliminary testing, performed on gilt leather fragments of the Rijksmuseum, the Maastricht Town Hall and the Lengenhofje in Dordrecht. Non-destructive analyses were performed with hyperspectral imaging in order to get a better understanding of specific degradation phenomena taking place within the decorative layers, facilitated by the 'Aerospace Non-Destructive Testing Lab' at Delft University of Technology. Results are presented and published at Lacona XI, conference on lasers in the conservation of art works (19-23 September 2016, Cracow, Poland).



Bianca van Velzen presenting the various gilt leathers under conservation at SRAL studios Maastricht.

Perspectives: a gilt leather society

In conclusion it is important to raise the awareness of gilt leather as being an endangered part of our cultural heritage. Due to the small size of the gilt leather community, it is really important to cooperate both nationally and at an international level to build up knowledge and experience. In 2017 an initiative called the Gilt leather Society started, which will work on setting up a digital platform with information on production techniques, the effects of successful and

less successful conservation methods, a databases of materials and patterns, and access to diagnostic equipment and willing scientific experts to support the heritage activities.

Publications

Groves R. M., Koldewij E., Posthuma de Boer M., 'Ein gefährdetes Kulturgut. Neue Perspektive für die Konservierung von Goldleder in den Niederlanden'. *Restauro*. No. 7: pp. 58-63, 2016.

Groves, R. M., Papadakis V., Posthuma de Boer M., Mkhoyan T., van Velzen B., Seymour K., 'Spectral Imaging of Dutch Gilt Leather for Improved Conservation Strategies'. *Lacona XI Proceedings*. Cracow: 2016.

Posthuma de Boer M., Koldewij E., Groves R. M., *Gilt Leather Artefacts. White Paper on Material Characterization and Improved Conservation Strategies within NICAS*. Delft: 2016.



Participants of the expert meeting, April 2016, Maastricht.

The project was a collaboration between

Dr Roger Groves, Dr Vassilis Papadakis, Martine Posthuma de Boer MA, Delft University of Technology (Dept. Aerospace Structures and Materials), Dr Arjan Mol, Delft University of Technology (Dept. Materials Science and Engineering), Dr Eloy Koldewij, Dutch Cultural Heritage Agency (RCE), Elizabet Nijhoff Asser, Restauratie Nijhoff Asser (RNA) and University of Amsterdam (Dept. Conservation and Restoration of Cultural Heritage), René Hoppenbrouwers, Bianca van Velzen and Kate Seymour, Stichting Restauratie Atelier Limburg (SRAL).

Supported by the Netherlands Organisation for Scientific Research (NWO) under the Netherlands Institute for Conservation, Art and Science (NICAS) initiative.



THE GILT LEATHER SOCIETY

by Eloy Koldeweij, Cultural Heritage Agency of
the Netherlands – RCE (Netherlands)
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One of the outcomes of the Dutch NICAS research project on gilt leather was the confirmation of the common feeling that a new digital platform fully focusing on gilt leather would be highly desirable. This has been felt by many of us for a long time that the distribution of knowledge and experience should be improved, both for professionals and amateurs. Most persons who are working regularly with this material know each other and meet up during conferences, especially the well-respected ICOM-CC Triennial Conferences, and the Interim Meetings of the ICOM-CC Leather & Related Materials Working Group.

However, all persons that are less involved, don't have the financial resources or the time, or have language barriers, are in a far distance of all the information distributed during these meetings.

For this reason the initiative has been taken to set up an international society focussing on gilt leather. Even though the initial effective push for this society comes from the Netherlands, the board is very international indeed. One of the primary goals of the 'Gilt Leather Society', which has been launched earlier this year, is to be an international platform. According to its Acts, the society aims 'to promote and distribute knowledge, skills and care for gilt leather and gilt leather hangings in all its diversity'. The society seeks to promote the international exchange of knowledge in the most appropriate manner. Its first goal will be the launch of a website. Basic funding has been found for both the launch of the society and the building of an elementary website that will be launched: www.giltleathersociety.org. However, for a more ideal website with interactive modules and datasets, not to speak of other activities and/or initiatives, extra funding will be essential.

Ideally the full grown website will hold various kinds of information: production techniques, the effects of successful and less successful conservation methods, databases of materials and patterns, a bibliography, a list of willing scientific and experienced experts to support heritage activities, an access to diagnostic equipment, and amongst others, last but not least, an interactive map with the most important public collections, and other rooms with gilt leather hangings that can be visited by the public.

The official launch of the **Gilt Leather Society** will be in September in Copenhagen during the *18th ICOM-CC Triennial Conference*. This will be preceded by the first official board meeting, for which important topics will be amongst others fundraising, communication, membership, and website.

On behalf of all board members,
Eloy Koldeweij

The first board of the Gilt Leather Society:

Eloy Koldeweij (NL) (chairman), Martine Posthuma de Boer (NL), Arjan Bronckhorst (NL), Chris Calnan (UK), Céline Bonnot-Diconne (Fr), Laurianne Robinet (Fr), Mariabianca Paris (It)



DAYS OF LEATHERCRAFT AT THE LEATHER MUSEUM IN SPAIN

by Franklin Pereira

As it's been happening for the last 4 years, the Leather Museum in Allariz (Ourense-Spain) organized the **Days of Leathercraft on May 3-7, 2017**. About 60 persons attended the event, which included workshops dedicated to "Cuir Bouilli" (3 days), "Wet modeling" (2 days), "Recovering remains" (one day), and "Contemporary Gilt Leather"; all the workshops took place in a nearby hall. There was also an exhibition of drawings and mixed media on leather by Nelson Gómez Callejas, at a gallery; the Museum hosted another exhibition, dedicated to the Ox, as this emblematic animal is the protagonist of an annual party, which this year turned 700 years old. At the same time, a market for handicrafts, leather products and tools, with the participation of international manufacturers and distributors, took place in the courtyard of the Leather Museum.

Allariz is a small and beautiful town in northwest Spain that has a long tradition in the history of tanning, since in its past there were numerous tanneries that today have been converted to host hotels, restaurants, museums, etc... Of all this tradition subsists an old factory restored and turned into the Leather Museum. Allariz has received, several years back, an award for

its achievement in urban restoring, keeping its medieval look of stone houses and pavements.



The Leather Museum by the side of the river Arnoia

Leather meetings in Spain started in Allariz in 1992, and later happened in Valladolid and Cordoba; since 2014 the Leather Museum team took the main organization of the event.



THE ARCHAEOLOGICAL LEATHER GROUP

by Sue Winterbottom

<http://www.archleathgrp.org.uk>

The Archaeological Leather Group was set up in 1986 at a time when excavated leather artefacts were beginning to appear at an alarming rate in the UK, but there was little expertise in handling and recording them. For comparative material, excavators looked to museum collections; and for advice on treatment and preservation, they went to conservators and leather chemists. Thus a body of interested individuals came together who saw the potential of this relatively new class of finds. We could handle and piece together furnishings, footwear and other personalia from times where previously they were only known, if at all, from artists' depictions. The large part which leather played in all material cultures prior to our own began to be appreciated.

Today the Archaeological Leather Group has a very diverse membership: of field archaeologists, makers and re-enactors, museum and conservation professionals, shoe, costume and military historians, tanners and those who have worked in the leather industry and understand its historical and economic significance. We hold two meetings a year, one of which is usually a museum or site visit; the other a

conference. Both may be one-day meetings, or can extend over a weekend. A newsletter is published in March and September and is circulated to all members. We have a website and a facebook page which receives many contributions and queries from members and non-members alike on the construction, characteristics and survival of leather artefacts worldwide.

Although set up and based in the UK the group has numerous overseas members of long-standing and we have been on some memorable foreign visits, most recently to Frankfurt and the Deutsches Ledermuseum, now celebrating its 100th Anniversary. Contributions to the newsletter are always welcome, as are new members who share this still somewhat esoteric interest. Do please visit us at:

<http://www.archleathgrp.org.uk/>

<https://www.facebook.com/ArchaeologicalLeatherGroup>

to find out more!



Archaeological Leather Group

Enigma of Japanese Leather

Tuesday 19th September, 10:30 – 4:30
Leathersellers' Hall, City of London

The Archaeological Leather Group is holding a day seminar with focus on Japanese leather and traditional tanning methods employed to produce 'white' leather: oil, brain, smoke and alum.

There will be two speakers from Japan - Yuko Nishimura a social anthropologist looking at the social standing of tanners, and Shoji Nobi a tanner and historian - and they will be discussing the production of white leather at the leather making centre, Himeji. The program is currently being finalised but we are hoping to cover subjects such as, the chemistry behind traditional tanning methods, the use of white leather in Japanese armour, and routes by which brain tanning may have reached North America.

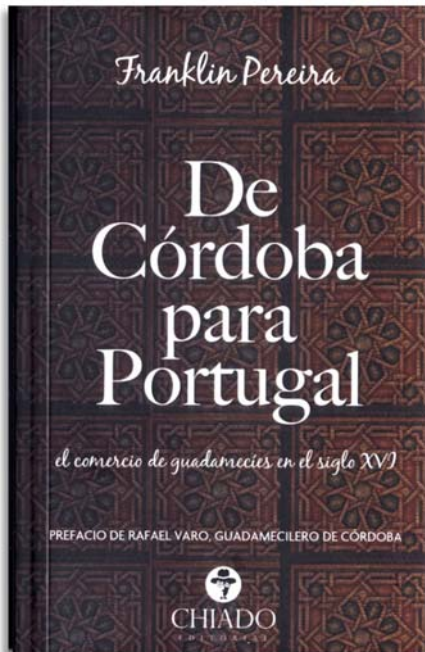
The cost of the day to include a buffet lunch will be £35 for ALG members and £50 for non-members. All welcome. Further details will be made available on the ALG webpage.

PUBLICATIONS

DE CÓRDOBA PARA PORTUGAL: EL COMERCIO DE GUADAMECÍES EN EL SIGLO XVI

by Franklin Pereira (Portugal)

E-mail: frankleather@yahoo.com



Franklin Pereira, researcher of Artis/Institute of History of Art – Faculty of Arts and Humanities - University of Lisbon, has a new book published in Spain, after "As cadeiras em couro lavrado e os guadamecis do Museu de Pontevedra" (Leathercarved chairs and gilt leather at the Museum of Pontevedra), in 2000.

This one, published by Editorial Chiado, "De Córdoba para Portugal: el comercio de guadamecíes en el siglo XVI" (From Cordoba to Portugal: the gilt leather trade in the 16th century) deals with three contracts of sales: 1515, to Faro; 1525, to Lisbon, by Rodrigo Alonso "vecino de Lisboa y guadamecilero del señor rey de Portugal"(neighbor from Lisbon, gilt leather maker of the king of Portugal); and 1552, dealt with somebody from the village of Odemira, in Alentejo. The three documents refer to altar frontals, cushions to sit "in the Moorish way", and wall hangings, having ornaments in brocade and paintings. The book has a chapter of dialogues between the ordinances of other Iberian cities' trade (Madrid, Barcelona, Valencia, Seville and Lisbon), which allows a better understanding concerning sheepskins' quality,

patterns and tooling, paints, golden varnish, pieces to be made at exams for mastership and time needed, and stamps to state the origins.

This book, of 76 pages, received the sponsorship from Cordoba City Council, as the email from the author got a positive answer in 3 days. The introduction is written by Rafael Varo, a gilt leather maker from the city.

Franklin Pereira has written a long study, "Guadameci: a arte dos couros dourados" (Guadameci: the art of gilt leather), dealing with the trade in Portugal since the 12th century; this book has been having its printing successively postponed since 1998, initially due to lack of money from the National Museums' Heritage, and for the last years due to lack of funding from private publishers.

"De Córdoba para Portugal: el comercio de guadamecíes en el siglo XVI" can be found in paper and electronic formats through the publishers' site: <https://www.chiadoeditorial.es/libreria/de-cordoba-para-portugal>

Editor: Chiado

Year: March 2017

Number of pages: 76 pp.

ISBN: 978-989-51-8472-9



CANADIAN CONSERVATION INSTITUTE (CCI) PUBLICATIONS

The Canadian Conservation Institute published or updated two new resources in English and French on the conservation of leather and related materials recently:

Removing Mould from Leather

by Janet Mason, Canadian Conservation Institute
revised in 2016

<http://canada.pch.gc.ca/eng/1472055630810>

Caring for leather, skin and fur

by Carole Dignard and Janet Mason, Canadian
Conservation Institute - published in 2016

<http://canada.pch.gc.ca/eng/1468243997245/1468244355399>