

SHAKE
IN CONSERVATION

CONSERVATION TALKS
CONSERVATION

BIG RESEARCH
IN TINY SPEECHES

2022
17 FEBRUARY
COMICS ART MUSEUM
BRUSSELS

Book of Abstracts



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Programme

- 09:30 // **Registration & coffee/tea**
- 10:15 // **Welcome**
- 10:25 // **Session 1 - Cleaning**
Going Against the Tideline: Comparing Gel Systems for Removing Water Stains on the Fabric of a Contemporary Painting | *Eveline Vandeputte (UAntwerpen)*
Study of the Removal of Soot Embedded in White Marble | *Perrine Franco (ENSAV La Cambre)*
The Use of Agar Gels for the Cleaning of Water-Gilded Wooden Surfaces | *Sophie Kirkpatrick (ENSAV La Cambre)*
Into Thin Air: Atomic Oxygen Investigation for Eco-Conscious Non-Contact Removal of Carbon-Based Contaminants from Highly Sensitive Surfaces | *Tomas Markevicius (UGhent)*
- 11:10 // **Guest speaker 1 - Resilient Storage: Towards Sustainable Preservation Practices in Belgian Small-Scale Museums** | *Estelle De Bruyn (KIK-IRPA) & Geert Bauwens (KUL)*
- 11:30 // **Session 2 - Towards a Less Invasive Approach**
Deontological Controversies over Conservation Treatments of Archaeological Human Remains | *Inès Ligot (ENSAV La Cambre)*
The Development of a Reversible Method for the Conservation of Wax Seals with Japanese Paper | *Morgane Plateau, Justine Marchal, Lieve Watteeuw (KUL)*
- 12:00 // **Lunch & free visit of the Comics Art Museum**
- 13:30 // **Session 3 - Technical Art History**
Historical Zellige (14th-16th Century CE): An Experimental Study for the Development of Adapted Restoration Materials | *Claire Dehon et al. (ESA Saint-Luc Liège)*
A Study of 19th-century Grisaille Recipes | *Flore Detry (UAntwerpen)*
In the Land of Colours: A Material Technical Research on 'The Oyster Eater', Painted by James Ensor in 1882 | *Annelies Ríos-Casier (UAntwerpen)*
- 14:10 // **Interactive session**
*Poster session**
*Samples presentations***
- 15:10 // **Session 4 - Structural and Visual Compensation**
Gap-Fillings on Wood Panels: Study of Paraloid B72-B44 as a Filler Binder | *Maya Goldberg (ENSAV La Cambre)*
The Visual Challenges of Lustreware Reintegration | *Rosalie Compère (ENSAV La Cambre)*
Cold-Lining by Reactivation of Lascaux® 498HV: Research on Low Polarity and Toxicity Solvent Mixtures | *Clémence Teitgen (ENSAV La Cambre)*

15:45 // **Guest speaker 2** - The Périer-D'leteren Foundation: Sharing Knowledge, Encouraging Research and Investing in the Future | Sara Pallemmaerts (*Fondation Périer-D'leteren*)

16:00 // **Coffee/tea break**

16:30 // **Session 5 - Helping the Decision-Making**
Conservation Research and Decision-Making about a Postmodern Chest of Drawers by Alessandro Mendini | Tirza Mol *et al.* (*UAntwerpen*)
Proposal of an Identification Key for Adhesives Used in Conservation of Ceramics and Glass | Judith Ghistelinck (*ENSAV La Cambre*)

17:00 // **Guest speaker 3** - The International Council of Museums | Alexandre Chevalier (*ICOM-BWB*)

17:10 // **Conclusion**

Posters*

Filling Gaps in Acrylic Emulsion Paint Layers: Research of a Filler Soluble in Nonpolar Solvents | Marine Dandoy (*ENSAV La Cambre*)

The Collaboration Between the Artist and the Conservator: A Case Study of a Pop Art Sculpture Made of Plastics and Lights | Coline Ernould (*ENSAV La Cambre*)

The Efficiency of Multiple Solvent Gels for the Removal of Old Glass Bondings | Pauline Leen (*UAntwerpen*)

ARTPRESSE: The Digitisation of Belgian Illustrated Magazines from the Interbellum | Morgane Ott (*ULiège/KBR*), Sébastien Hermans (*KBR*)

Early 18th century or Not? An Analysis of a Remarkable Marquetry Table | Nele Vanassche (*UAntwerpen*)

Analysis and Cleaning of a Batch of Prehistoric Ceramics from Underwater Excavations at Han-sur-Lesse | Marielle Van Son (*ESA Saint-Luc Liège*), Meriam El Ouahabi (*ULiège*)

Samples presentations**

Eveline Vandeputte; Perrine Franco; Rosalie Compère; Clémence Teitgen; Coline Ernould; Marine Dandoy

Guest Speakers

Resilient Storage: Towards Sustainable Preservation Practices in Belgian Small-Scale Museums

Estelle De Bruyn (1), Geert Bauwens (2)

(1) estelle.debruyn@kikirpa.be; (2) geert.bauwens@kuleuven.be;

Project manager of the KIK-IRPA Emergency Plan & of Resilient Storage, Estelle De Bruyn always looks for translating sustainability in her institution's work. Working in the KIK-IRPA Preventive Conservation Unit since 2018, she gained experience through internships at ICCROM and at the Canadian Conservation Institute. She is driven by the desire to develop concrete initiatives for the Belgian cultural sector.

Geert Bauwens is Postdoctoral Researcher at KU Leuven. He completed a Master's degree of Applied Sciences and Engineering: Architecture, an architecture internship at BOB361 Architects, and a PhD about monitoring the actual energy performance of buildings. Following his PhD, he founded CHARP, an incubation project that offers services and develops software to monitor energy performance and indoor climate of buildings.

Keywords: Museum storage; Environmental [sustainability](#); Preventive conservation; HVAC systems; Tools & methodology.

Cultural institutions' mandate to optimally preserve their collections often encourages them to invest in heating, ventilation and air-conditioning (HVAC) systems to strictly control the indoor climate in their collection storage. These HVAC systems induce high operating costs and energy use (between €10.000 to €55.000 per year for a 900 m² storage area). Today's context calls for a combined strategy, one that reduces an institution's environmental impact and at the same time sustains or even improves preservation conditions.

From 2008 to 2010, international organisations put environmental concerns to the forefront of the heritage field. But although sustainable conservation is actively promoted, it struggles to find its way into practice. Inspired by methods published by the Image Permanence Institute, ICCROM & the Canadian Conservation Institute, Steensen Varming, *Resilient Storage* aims to develop [a hands-on and cost-effective methodology](#) that Belgian small-scale museums can apply to reduce the energy use of their collection storage without compromising collection preservation. This project is financed by the Brussels-Capital Region (urban.brussel), the Flemish Government (Department Jeugd, Cultuur en Media) and the French Community of Belgium.

In partnership with regional cultural organisations (FARO, MSW, Urban.brussels, ICOM national committees), and two test museums in Belgium (Belgian Comic Strip Center & FeliXart Museum), we will investigate the feasibility of this methodology. This paper describes the project ideation and the first steps taken, including practical steps implemented within two test museums (documentation of the HVAC system and collections, monitoring of indoor climate conditions and energy use in order to verify the impact of energy-saving measures).

Our goal is to create a methodology that can be applied at a national level. With over 1,000 museums in Belgium, and high yearly energy costs, the energy savings that can be obtained represent an important opportunity to alleviate the strain on the institutions' budget, and to help reach the ambitious energy saving goals Belgium and the EU have set for themselves.

The Périer-D'leteren Foundation: Sharing Knowledge, Encouraging Research and Investing in the Future

Sara Pallemmaerts

sara.pallemmaerts@perier-dieteren.org / www.perier-dieteren.org

Scientific collaborator at the Périer-D'leteren Foundation since January 2020

Keywords: Cultural heritage; Conservation-restoration; Art history; Scientific research; Private patronage.

Created in 2017 by Catheline Périer-D'leteren, professor emeritus of art history at the Université libre de Bruxelles, the Périer-D'leteren Foundation supports various initiatives in the areas of Art & Heritage, Science and Society. Its main mission is to encourage and support research and teaching activities in the fields of art history and conservation.

During her long academic and international career, Catheline Périer-D'leteren saw first-hand how public funding for the preservation of cultural heritage and for research in art history and heritage conservation has been drastically reduced in the last few decades. Through its funding programmes and activities, the Foundation aims to compensate in some measure for this reduction in institutional subsidies, to raise public awareness of the value of cultural heritage, and to foster excellence in art history and conservation research, the scientific investigation of artworks and heritage conservation expertise.

The Foundation more specifically wishes to contribute to the study of art from the Southern Netherlands (14th-18th centuries) through the funding of doctoral theses, postdoctoral research, scientific publications and preliminary conservation studies, as well as through the set-up of a documentation centre specialising in early modern European art.

This centre covers a wide range of subjects pertaining to European art, and relating in particular to Flemish painting and tapestry (15th-16th centuries), mural painting, sculpture and [altarpieces](#). It also holds archive funds of renowned art and heritage specialists (Paul Philippot, Catheline Périer-D'leteren, Sophie Schneebalg-Perelman), whose collaborations with international organisations such as ICOM and ICCROM are particularly well documented.

The Foundation's image library consists of an important collection of photographic materials, unique in that it comprises, among others, numerous images of lesser-known artworks and works from private collections, as well as old photographs documenting works of art at different stages of their material history. The 'artist files', containing research notes and other materials, papers and photographs, are another of the documentation centre's important assets.

The Périer-D'leteren Foundation not only awards research, publication and conservation grants, but also closely monitors selected projects in order to counsel laureates in the progress of their work (thesis working meetings with specialists, follow-up of restorations). Completed projects include, for instance, internships at the textile conservation studio of the Royal Institute for Cultural Heritage and the publication of the online journal *CeROArt*. Furthermore, the Foundation actively participates in specific research projects, in partnership with national and international institutes such as the Royal Institute for Cultural Heritage, the Soprintendenza of Milan and the Instituto Moll (Madrid), and organises study days and university seminars with international researchers.

The International Council of Museums (ICOM)

Alexandre Chevalier

presidence@icom-wb.museum / www.icom-wb.museum

Chair ICOM Belgium (2020-2023) & Chair ICOM Belgique Wallonie/Bruxelles

Alexandre Chevalier works at the Royal Belgian Institute of Natural Sciences as researcher in archaeobotany and as coordinator for Heritage Emergency Plans. His main focuses within ICOM are the illicit trafficking of cultural goods, colonial heritage issues and heritage preservation. He's member of the ICOM international committee Disaster Resilient Museums.

The International Council of Museums (ICOM) is an NGO created in Fall 1946, in the wake of other international organisations established in the aftermath of the Second World War to contribute to the restoration of peace and security in the world by promoting international cooperation and respect for human rights, such as the UN and its specialized agency UNESCO, to develop this same cooperation between museums of the world. ICOM makes the protection of material and immaterial cultural heritage in time of war and peacetime a priority. Within this framework, the International Council of Museums:

- Established a Code of Ethics for museum professionals that requires them to set up a proper management, care and safeguarding of the cultural heritage they have in custody.
- Set up a Museum Emergency Program (MEP) to enable the development of common risk management strategies in crisis situations based on best practices;
- Promotes the International Object ID (Object ID) standard, which contains the essential fields of information that must be documented to describe objects, in order to facilitate their identification in case of theft or damage;
- Establishes "Red Lists" of cultural heritage at risk for particularly vulnerable areas of the world, to prevent their illegal trade.

The aims of the ICOM Belgium National Committee are to support and relay the goals of ICOM International and to link Belgian museum professionals with their colleagues all over the world. ICOM Belgium is developing a series of initiatives locally to train museum professionals, nationally to promote Belgian museums and internationally to foster cooperation between professionals. It also defends museums and museum professionals with the authorities of the different Belgian federated entities.

Conservators-restorers are therefore important partners for the ICOM community for they provide their skills and experience to museums in order to preserve and safeguard our common cultural heritage. Being an ICOM member brings a huge international professional network of almost 50'000 members, through 119 National Committees, 32 thematic International Committees, 6 Regional Alliances and 22 Affiliated Organisations. For instance, the international committee for conservation, ICOM-CC, is one of the biggest one: with 21 working groups, ICOM-CC offers conservators, scientists, curators and other professionals the opportunity to collaborate, study and promote the conservation and analysis of culturally and historically significant works.



Session 1: Cleaning

Going Against the Tideline: Comparing Gel Systems for Removing Water Stains on the Fabric of a Contemporary Painting

Eveline Vandeputte

eveline.vandeputte@gmail.com

Eveline Vandeputte is a master student in conservation-restoration at the University of Antwerp, currently interning at the Royal Museum of Fine Arts Antwerp. In 2019 she presented a poster on the material-technical analysis of a painting by a follower of Quinten Metsijs at the student conference in Krakow, Poland. Her thesis is focusing on the material aspects of Paul Delvaux' paintings.

Keywords: Tideline; Contemporary painting; Gel cleaning; NanoRestore; Gellan gum.

During the 1980s, Ghent-based artist Philippe José Tonnard juxtaposed his attraction to ethnic culture and the evolution of the modern world in one of his first pieces as an individual artist: 'The Idealist'. Tonnard expressed his voice through a mixed media painting in which he combined a diversity of materials such as chestnut shells, sunflower seeds and wall paint on several layers of textiles.

Before conservation, 'The Idealist' was displayed in a university classroom that suffered water damage. This caused deterioration to the painting including material loss, **fabric** rips and **tidelines**. As these tidelines pose risks for the object's future, the research focused on their removal. A reduced flexibility of the fabric may cause stress which could lead to additional damage. Furthermore, it decreases the aesthetic experience.

Treatment with solvents proves to be challenging, as they can expand the tidelines further. Therefore, it was decided to clean the fabric with gels. They use capillary action to extract dirt without needing abrasive action and can be loaded with solvents to adjust their efficacy. Gel systems like gellan gum variants and the NanoRestore Gel® (NRG) Test Kit and water as a solvent were chosen for comparison. Since the tidelines' soiling is presumably caused by corroded tacks on the painting's support, a second set of buffered solutions with chelators (EDTA, citric acid) was selected.

Cleaning results showed that the overall cleaning efficacy depends on a balance between solvent action and the gels' retention rate. Adding chelators to the solution in gellan gums demonstrated an increase in cleaning effect. However, despite changing the concentration of the gels (to decrease solvent flow), the tidelines expanded significantly. The mid and high retention NRG's without chelators in the solvent did not expand the tidelines but were not as satisfactory in cleaning.

It is expected that using a chelating solution to increase the cleaning effect, in combination with a high retention NRG, will be successful in removing the water damage from the painting. Further research will include the use of decamethylcyclopentasiloxane as a solvent barrier to examine if the tideline can be contained while removing the dirt.

Study of the Removal of Soot Embedded in White Marble

Perrine Franco

franco.perrine@gmail.com

Perrine Franco was born in Brussels in 1997. Her interest in art and history led her to undertake studies of conservation-restoration of works of art at ENSAV La Cambre in 2015, where she specialised in sculpture and more particularly in stone restoration. She graduated in 2020.

Keywords: Cleaning; Soot; Marble.

This Master's thesis was carried out following observations of the problem of embedded soot on a high relief white marble sculpture representing Christ and Saint John the Baptist. This sculpture was kept at Averbode Abbey which burnt almost to the ground in 1942.

The sculpture suffered several alterations, including ingrained soot.

The removal of soot embedded into white marble is a complex process, because of the impact of different fuels present during the fire, along with the humidity level, the temperatures reached, and the time elapsed between the fire and the cleaning.

Cleaning is recommended onto marble, firstly for conservation reasons since soot is acidic and can be corrosive to marble and cause sulfation; and secondly for aesthetic reasons as dark and heterogeneous soiling alter the appearance of the piece.

The goal of this research was to better understand the impact of soot damage, and to find a satisfactory cleaning method.

A series of five cleaning methods were chosen using several information sources to aid the decision-making: a review of the theoretical research that can be found in the literature; a questionnaire that allowed us to gather information from other restorers; pre-tests that were carried out in order to eliminate inefficient methods (e.g. gels, aqueous solutions, scrubbing, etc.).

The methods chosen as a result of this research are:

1. Attapulgate/CMC/paper pulp/EDTA or ammoniated water compress
2. Façonet 20®
3. Ammonium bicarbonate compress (2.5%) + Clean Galena®/Arte Mundit® Type I (1/1)
4. Laser treatment
5. Dry ice.

These tests were evaluated by the naked eye and close up examination to determine the visual effectiveness of the cleaning, as well as the structural integrity of the material.

This research deepens our understanding of a subject still little explored in the literature. It also provides the beginning of a solution to effective cleaning and conservation of marble. The combination of methods such as laser treatment + chemical compresses has given promising results.

Nevertheless, these and many other possibilities still need to be explored and tested in order to produce even better results.

The Use of Agar Gels for the Cleaning of Water-Gilded Wooden Surfaces

Sophie Kirkpatrick

sophiekirkpatrick@hotmail.com

Sophie Kirkpatrick graduated from the ENSAV-La Cambre Conservation Program in 2018. After her studies, she did an internship in the Polychrome Wooden Sculptures Workshop at the Royal Institute for Cultural Heritage (KIK-IRPA), followed by an internship at the Getty Conservation Institute, where she engaged in the 'Cleaning of Wooden Gilded Surfaces' project. She is currently working as a freelance conservator.

Keywords: Cleaning; Water-gilded surfaces; Agar; Gels.

Agar is a rigid polysaccharide gel that has been introduced in conservation cleaning treatments through the intermediary of Richard Wolbers in the early 2000s. Since then, several studies have shown the great potential of this natural product for the cleaning of water-sensitive surfaces. The purpose of this master's thesis research was to assess the efficiency of agar gels for the cleaning of water-gilded wooden surfaces. These surfaces are complex to clean, as they are extremely sensitive to water, while water is often an indispensable tool for the removal of dirt layers. As such, they are often damaged during cleaning campaigns. Therefore, there is an urgent need to develop more controlled methods of cleaning for their preservation.

This research included an experimental study that aimed to identify the appropriate conditions for an agar gel to be effective as a cleaning agent for water-gilded wooden surfaces. Tests were first carried out on [mock-ups](#) reproducing historical recipes and covered with artificial dirt. Agars from Kremer®, CTS®, and Sigma & Aldrich®, were prepared in several concentrations (4%, 6%, 8%), and applied with different methods (rigid, fluid, and destructured). The results were assessed through an observation before and after treatment, with the naked eye (in ultraviolet light and visible light) with a stereoscopic microscope, and through gloss measurements. [Criteria of assessment](#) were the efficiency of removing dirt, the absence of alteration (coloration, stains, microcracks, etc.), and the ease of application. Then, according to the results of the previous phase, an agar gel was used for the cleaning of a gilded frame covered with real dirt.

This research has shown the potential of agar to provide a controlled cleaning of water-gilded wooden surfaces. Indeed, the agar allows to limit the penetration of water into the substrate and to reduce the need of a mechanical action on the surface. However, agar must be used with great caution, especially when the agar is applied fluid. The adherence of the gel is indeed increased by this method, which can be problematic when the gilding presents a bad cohesion.

Into Thin Air: Atomic Oxygen Investigation for Eco-Conscious Non-Contact Removal of Carbon-Based Contaminants from Highly Sensitive Surfaces

Tomas Markevicius

tmarkevicius@fulbrightmail.org

Tomas Markevicius is a paintings conservator and researcher in conservation science. His experiences include working at Munch Museum, National Gallery of Canada, research positions as a Fulbright and Marie Curie fellow. His research project on atomic oxygen, selected by the European Space Agency ESA will be implemented in collaboration with Ghent University and CATS at the National Gallery of Denmark.

Keywords: Green innovation; Sustainability; Non-contact cleaning; Atomic oxygen; Smoke and-fire-damage mitigation.

Among the many threats to the preservation of tangible cultural heritage assets, carbon-based soiling is a significant concern. Air pollution, smoke, hydrocarbons, and vandalism materials, such as lipstick, graffiti paint, all present formidable challenges to conservators. Wildfires or museum fires can cause catastrophic **soot** damage to multiple artworks in a heartbeat, and cleaning is essential for their preservation.

However, traditional cleaning methods require physical contact, solvents and water, which limits their use on many surfaces that cannot tolerate mechanical action and liquids. Conservators, equipped with only traditional methods, increasingly encounter sensitive surfaces, where soiling cannot be removed at all. Moreover, as pollution and unsustainable growth increasingly threaten cultural heritage, conservators continue using unsustainable means, and museums have an enormous carbon footprint.

Sustainability in conservation started gaining momentum, and practitioners are hungry for green approaches, but lack the technologies and resources. A radical vision for a green innovation is at the heart of the development of non-contact technology based on atomic oxygen (AO) to remove diverse carbon-based contaminants from sensitive surfaces to which traditional methods are too **disruptive**.

AO is a natural component in Earth's thermosphere, but is extremely short-lived on the ground. In the past, research was conducted mainly by NASA to investigate AO erosion effects on spacecraft materials. The new research aims to deliver the far-reaching beneficial effects of this "rocket science" material to conservation. AO is fundamentally green material with numerous advantages over traditional methods, such as a highly superficial, selective, non-mechanical and liquid-free cleaning action, without any health or environmental risks, residues and waste.

To achieve a breakthrough, the research will bring together the expertise from plasma physics, conservation science, and will conduct an early-stage investigation of physical and chemical aspects of AO flux to develop a proof-of-concept AO system, study AO interactions with selected materials, and roadmap AO innovation, which will propel AO technology to the bench practice in conservation and to other emerging future applications in medicine, nanotechnology, and other fields, with its full potential yet to be realised.

Session 2: Towards a Less Invasive Approach

Deontological Controversies over Conservation Treatments of Archaeological Human Remains

Inès Ligot

ines.ligot@gmail.com

Inès Ligot is conservator-restorer of polychrome sculptures, graduated from the ENSAV La Cambre, Brussels in 2019. Concerned by deontological and ethical challenges, she has conducted her master's thesis on the preservation issues of ancient human remains.

Keywords: Human remains; Archaeology; Ethics; Deontology.

Human Remains preservation has considerably evolved in the field of cultural heritage conservation during the last decades.

Considered as scientific resources enhancing our knowledge about humankind and human evolution, human remains can either hold a cultural and political significance or be simply neglected.

This presentation will explore the challenges of human remains conservation and deontological controversies over conservation treatments. By exploring the evolution of human remains conservation and more widely the symbolic complexities surrounding funeral recovery, it wishes to enhance a process of reflection over (un)ethical practices that any professional may encounter once in the field.

The Development of a Reversible Method for the Conservation of Wax Seals with Japanese Paper

Morgane Plateau (1), Justine Marchal (2), Lieve Watteeuw (3)

(1) morgane.plateau@kuleuven.be (2) justinemarchal17@gmail.com (3) lieve.watteeuw@kuleuven.be

Morgane Plateau is a conservator-restorer of books, graphic documents and parchment. Since completing her master's degree in 2013 at La Cambre, she worked on several large-scale conservation projects for various institutions. She currently works as a conservator-restorer for KU Leuven Bibliotheken and for the Museum Plantin Moretus.

Justine Marchal is conservator-restorer of polychrome and wax sculptures. Since her master's degree in 2011, she did internships at the Vatican Museums and at KIK-IRPA, then worked as an employee at IPARC and is currently freelance. She has worked on many multidisciplinary projects, at the Kanak Foundation (in collaboration with the Centre Pompidou) and on wax sculptures for private clients.

Lieve Watteeuw is conservator-restorer of graphic documents since 1989. She lectures at KU Leuven on codicology, medieval illuminated manuscripts and art-technical research. Her academic focus concentrates on miniatures, book archaeology, art-technical research, analytical and imaging techniques, and long-term conservation/preservation strategies for heritage collections. She is Head of the Book Heritage Lab KU Leuven and coordinates the KU Leuven Charter project.

Keywords: Charters conservation; Wax seal; Parchment; Non-invasive; Collection care.

The KU Leuven Charter Project is a multidisciplinary project of conservation, [digitalisation](#) and valorisation of the charters collection of the Old Leuven University (1425-1797). The collection contains about 425 documents composed of 375 single pages and 68 quires, including papal bulls and various privileges and official administrative documents. The project started in 2018 and involves a team of conservators, archivists and digitisation specialists, the Book Heritage Lab, Expertise Center for Book & Heritage, the KU Leuven University Archive, the Imaging Lab (UBD) and LIBIS.

A medieval charter is a composite object both in terms of its material aspect ([parchment](#), ink, [wax seals](#), textile seal tags, metal seals and boxes...) and its content (text, historical folds, seals...). The goal of the conservation treatment is to allow good conditions for imaging and an optimal preservation in the future with a maximal legibility of all the information contained in the charter, avoiding the loss of historical traces like original folds or wax stains. All the choices of treatments were made in accordance with those goals and international conservation principles like reversibility, visibility and use of stable materials. The wax-seals attached to the parchment were detached, broken, dusted and fragmented. During the conservation of these seals, we tested methods to reattach the fragments to the parchment with an adapted and reversible method for both materials. The choice of a glue was complex because the glues that seemed at first to be ideal for wax were not ideal for parchment and vice-versa. Together with the wax and parchment restorer, we tested different glues usually used in both fields and potentially compatible with both materials. We found that the use of an intermediate layer of Japanese paper (KOZO) with methylcellulose CMC 6% in water gave a strong enough joint without causing stains or deformation of the parchment, while being easily reversible on both wax and parchment. We developed this principle resulting in a less invasive method with sturgeon glue and Japanese paper filling to join fragments with large cracks and lacunas without using the more traditional invasive restoration method of infilling lacunas with wax.



Session 3: Technical Art History

Historical Zellige (14th-16th Century CE): An Experimental Study for the Development of Adapted Restoration Materials

Claire Dehon, El Ouahabi Meriam, El Halim Mouhsin, Fagel Nathalie, Daoudi Lahcen, Rousseau Valérie, Cools Catherine, Verbeeck Muriel

Claire Dehon did a master's degree in ESA Saint-Luc Liège and graduated in June 2020. During her studies in conservation-restoration, she quickly turned to ceramics and glass, a choice perhaps carried by the memories of a potter grandfather. These materials fascinate her as well as the know-how and the technique behind them.

El Ouahabi Meriam, PhD, Professor, ESA Liège and University of Liège.

El Halim Mouhsin, PhD student, University Cadi Ayyad (Marrakech, Morocco).

Fagel Nathalie, PhD, Professor, University of Liège.

Daoudi Lahcen, PhD, Professor, University Cadi Ayyad (Marrakech, Morocco).

Rousseau Valérie, Professor, ESA Liège.

Cools Catherine, Professor, ESA Liège.

Verbeeck Muriel, PhD, Professor, ESA Liège.

Keywords: Archaeological zellige; Wall tiles; X-Ray diffraction; Firing temperatures.

Historical Islamic monuments can lose their impressive appearance due to the alteration of zelliges, typical Moroccan wall tiles. Interventions on the zelliges consist of replacing the altered glazed pieces with new tiles produced artisanally. However, recent tiles weather faster than archaeological zelliges. Archaeological zelliges and recent zelliges do not have the same physicochemical properties, which causes degradation processes at several speeds within a building.

It was therefore necessary to first study the manufacturing techniques of archaeological zellige, in order to better understand the weathering phenomena and develop a more durable material.

This study is implemented in collaboration with the University of Liège, the University Cadi Ayyad (Marrakech, Morocco) and the Ecole Supérieure des Arts Saint-Luc de Liège. Our aim is to identify manufacturing techniques of archaeological zellige from the Badi Palace and the Saadian Tombs, with a focus on firing temperatures. The experimental approach consisted in shaping seven specimens from raw materials, previously determined according to traditional practices, and firing them at temperatures between 600°C and 900°C. These temperature intervals were determined on the base of published results from El Halim et al., 2019. The kilned specimens have been crushed and analysed by X-ray diffraction (XRD). The obtained mineralogical compositions of the specimens at each temperature were compared with those obtained on the archaeological ones, in order to determine firing temperatures of archaeological zelliges.

The XRD results of the fired specimens show the occurrence of calcareous mineral phases, mainly calcite, gehlenite and diopside. The coexistence of calcite with gehlenite and diopside suggests firing temperatures under 800 °C.

The experimental results are in agreement with the mineralogical composition of the archaeological zelliges and confirm the hypothesis that they have been fired at 600°C - 800°C. The present study also supplies an experimental method that allows conservators to produce replicas able to behave in the same way as originals for replacement of degraded tiles and also investigating new restoration products.

A Study of 19th-century Grisaille Recipes

Flore Detry

floredetry@gmail.com

Flore Detry just got her master's degree in Conservation and Restoration at the University of Antwerp, specialising in the conservation and restoration of stained glass. She wrote her master thesis on the degradation of 19th-century grisailles and hopes to continue this research in a PhD.

Keywords: Historical recipes; Recipe database; Grisaille composition; Recipe analysis.

After two centuries of diminished popularity, a true stained-glass revival took place around the turn of the 19th century. This newly found interest resulted in a boom in the production of stained-glass windows and, by extension, in that of publications on stained-glass windows and their production process. The first objective of this research, that was part of a master thesis, was to map as many as possible 19th-century sources that contain glass paint recipes. The second objective was to create a database containing the grisaille recipes, which allows statistical analyses for the purpose of further research on the degradation of 19th-century grisailles.

The first step towards realising these objectives was to start collecting recipes, either from published books or archival documents, such as patents requested by glass painters or paint producers. No geographical scope was defined because very little information could be found on 19th-century glass paint sources and it was therefore unclear what was going to be discovered. Attention was paid not only to the grisaille recipes they contained, but the hierarchy of the different sources was mapped out too.

The second step was to systematically introduce the grisaille recipes into a database and in order to do this, IBM®'s SPSS® program was used. A data set was created, and the written recipes were broken down into variables. Recipes were found for an array of glass paint colours and different glass paint types, but only the black and brown grisaille recipes were inputted, because the data set is to serve as a starting point in subsequent research on the degradation of 19th-century grisailles. The degradation of said paints is a known phenomenon in stained-glass conservation and restoration, and the intention is to produce mock-up grisailles, based on descriptive statistics and statistical analyses that are performed on the data set. These mock-ups would be produced with different parameters and under different circumstances, and then consequently characterised to assess the impact of the different parameters on the quality and degradation of the grisailles.

In the Land of Colours: A Material Technical Research on 'The Oyster Eater', Painted by James Ensor in 1882

Annelies Ríos-Casier

anneliesrios@gmail.com

After a bachelor's degree in Fine Arts, Annelies Rios-Casier (°1994) graduated in 2020 at the University of Antwerp in the conservation and restoration of paintings. She is currently doing an internship as a researcher in the Ensor Research Project of the Royal Museum of Fine Arts in Antwerp (KMSKA), while trying to enrol in a PhD study at the University of Antwerp. The PhD focuses on the materials and techniques and the birth of modernism in the painted oeuvre of Belgian painter James Ensor.

Keywords: Conservation science; Macro-XRF scanning; Material technical research; Infrared photography; X-ray radiography.

The Oyster Eater (collection of the Royal Museum of Fine Arts in Antwerp), painted by Belgian painter James Ensor in 1882, is seen as the transitional work between Ensor's first, dark and realistic, artistic period (1873-1885) and his second, colourful and more symbolic, artistic period (1885-1900). This painting therefore occupies an important position within his oeuvre.

The painting was fully examined in the context of its restoration in 2020 and aimed to find out how it was painted, what materials and techniques Ensor used and what differences can be observed with his other works. This research also focused on whether the working methods and use of materials play a role in the special position that this painting occupies within Ensor's oeuvre.

The research methods used are all non-destructive and a combination of art historical research, visual research and imaging techniques such as Infrared Photography (IRP), Ultraviolet Induced Fluorescent Photography (UIVFP), False Colour Infrared (IRFC), X-Ray Radiography (XRR) and scanning Macro-X-Ray Fluorescence analysis (MA-XRF). By using these techniques, we were able to get an insight into Ensor's painting process and material use on *The Oyster Eater*. The [paint layer](#) build-up was tested by making reconstructions of small areas of the painting.

The research showed that except for the use of chrome yellow, Ensor's material use on this painting largely corresponds with the materials used by him in the paintings of his first and dark period. The paint layer build-up is complex and a wide variety of techniques were used. The way in which he experiments on *The Oyster Eater* has remained unparalleled throughout his oeuvre. It is mainly the technique and the way he used colour that differs from the other paintings of his first period. The use of intense colour, the lighter tones and the use of purer colour areas announces the arrival of his second, lighter and more colourful period and therefore, *The Oyster Eater* heralds a new way of working.

Session 4: Structural and Visual Compensation

Gap-Fillings on Wood Panels: Study of Paraloïd B72-B44 as a Filler Binder

Maya Goldberg

maya-goldberg@hotmail.com

Maya Goldberg spent all her education at the Decroly school in Brussels. In 2015, after 1 year abroad (Oxford, England and Melbourne, Australia), she entered ENSAV La Cambre to begin studies in conservation and restoration. After five years of study during which she specialised in the treatment of easel paintings, she graduated in 2020.

Keywords: Wood panel; Gap-fillings; Paraloïd resins; Solvent's retention.

Painted panels can experience shocks and stresses over time which can cause different types of wood gaps that may require filling. The choice of filling materials (binder / solvent / filler) will have great influence on the stability and conservation of the artwork.

Paraloïd acrylic resins appear to be suitable binders for [gap-fillings](#). However, their behaviour for this specific intervention hasn't been developed in previous studies.

Because of the type of filler and the volatile solvent commonly used, the working time and workability are very limited.

On the other hand, adding a heavier solvent may cause retention in the filler and therefore change the adhesive properties by acting as a plasticiser.

Five tests were conducted to compare the behaviour of Paraloïd resins as binder to others commonly used as gap filling material:

- The first one assesses the workability of those resins.
- The second one focus on their drying behaviour
- The third one measures the solvent retention using thermogravimetric analysis (TGA).
- The fourth one determined the glass transition temperature (T_g) using differential scanning calorimetry (DSC)
- The fifth one ascertains permeability to water steam by wet chamber evaluation.

Those tests demonstrated the low [shrinkage](#) of Paraloïd gap-fillers on drying and their permeability similar to the permeability of wood, which is desired for a gap-filler on wood panel.

The DSC and TGA results showed the influence of the different materials ([binder / solvent / filler](#)) on the filler's T_g and retention.

In conclusion, this study has provided new information on a very promising material: Paraloïd as a filler binder for the workability of gap-fillings on wood panels.

The Visual Challenges of Lustreware Reintegration

Rosalie Compère

compererosalie@gmail.com

Rosalie Compère is a ceramics and glass conservator graduate from ENSAV La Cambre, Brussels in 2016. After an internship at the Rijksmuseum, Amsterdam, which allowed her to perfect her learning of conservation-restoration, she opened a freelance workshop in Brussels where she works for private collectors, antique dealers and museums.

Keywords: Lustreware ceramics; Reintegration; Decision-making; Visual impact; Optics.

Lustreware was invented in the 8th century in Abbasid Mesopotamia and fascinated Middle Eastern ceramists by its coloured iridescence. Despite the cost of the raw materials and the technical precision required, this type of ceramic spread throughout the Islamic world.

How well can [mimetic reintegration](#) be done for lustreware? The greatest challenge of lustreware reintegration is to reproduce the continuous random optical phenomenon present in reflected but not diffused light. Moreover, the iridescence should appear to come from the material itself and not from a surface layer. To achieve this, the retouching needs to follow the reverberation of the light on the original at the right time, with the same intensity and the right shade.

As a first step, this study offers conservators an extensive overview and categorisation of all widely used materials and techniques. It then proceeds to show the results of a comparative experimental analysis of seven categories of materials, some of which are not commonly used for lustreware reintegration. Both the theoretical research and the experimentation come to the same conclusion: mimetic reintegration techniques fail to achieve the outlined goal of visual unity and remain visible and unaesthetic, due to the impossibility to recreate completely satisfactory iridescence.

In a subsequent step, the study presents alternative non-mimetic reintegration techniques. These aim solely to maintain the colour visible in diffuse light without taking into account the iridescent character of the decor. The following techniques are used and combined in 13 case studies: type of application (uniform or pointillist), tones (similar or lighter), imitation of material degradation (alteration and firing defaults), type of varnish (glossy or satin). The observed results were very satisfying. The subtlety of the iridescence suggested by a glossy varnish was finally deemed the best option. The varnish, despite not reproducing a colourful iridescence, acts as an aesthetically appealing unifier.

We conclude that lustreware reintegration comes with [tradeoffs](#). Conservators bear a responsibility when it comes to choosing the most appropriate technique. We present them with a variety of options with and their advantages and disadvantages in the hope that it will aid the [decision-making](#) process.

Cold-Lining by Reactivation of Lascaux® 498HV: Research on Low Polarity and Toxicity Solvent Mixtures

Clémence Teitgen

clemence.teitgen@gmail.com

After a scientific high-school diploma, Clémence Teitgen studied Art and Archaeological History at the University of Strasbourg. After her bachelor and some experiences in Monuments Conservation, she spent a year in Rome in Painting Conservation before starting her studies at ENSAV La Cambre where she obtained her master in 2020. She is currently working as a freelance conservator.

Keywords: Canvas paintings; Cold-lining; Solvent mixtures; Adhesive reactivation; Molecular interaction.

In Paintings Conservation, many treatments require the use of organic solvents. Unfortunately, some are considered “good” just because they “work”, without regarding important aspects such as polarity, retention or toxicity. This research focuses on the use of solvent mixtures to reactivate an adhesive in a cold-lining and aims to find a suitable substitute to the aromatic solvents now in use. Here, the challenge is therefore to get an efficient lining strength using solvents with a lower polarity and a lower toxicity than xylene. The quality of the lining is linked to the quality of the adhesive’s swelling. For this research we chose to use an acrylic dispersion: Lascaux®498HV. First, we studied the necessary theoretical notions from the evolution of the cold-lining to the physicochemical solvent/polymer interactions. Using a unique solvent to substitute the xylene with our criteria was not realistic so we decided to work with binary solvent mixtures. Different polar solvents were tested (ketones, esters and alcohols) and mixed in non-polar solvents: ShellSol®D40 and isooctane. Those solvents were initially tested to determine the degree of affinity with the adhesive and the percentage of the mixtures, which could help to narrow the list of solvents and choose relevant percentages. After, samples of cold-lining could be made to compare the efficiency of the reactivation of the Lascaux®498HV with the binary mixtures chosen to the ones with the xylene. Peeling tests were performed after 2 and 18 weeks. The results allowed us to compare the solvent mixtures by percentages and families, in comparison with the xylene, and in function of the evolution of the peeling force in time. We also analysed the results in light of solvents’ parameters of influence: molecular geometry, polarity, volatility.

Eventually, this research highlights the importance of the molecular affinity more than any other properties and parameters in order to find a substitute to xylene. Besides, the study allowed us not only to find relevant solvent mixtures for this specific application, or to understand the molecular interaction in general, but it could also enlarge the possibilities of using these solvent mixtures for other conservation treatments.

Session 5: Helping the Decision-Making

Conservation Research and Decision-Making about a Postmodern Chest of Drawers by Alessandro Mendini

Tirza Mol (1), Sanneke Stigter, Vincent Cattersel, Kristel De Vis, Paul van Duin, Ludo van Halem

(1) t.mol@rijksmuseum.nl

After completing a master's degree in psychology, Tirza Mol started a more practical study in cabinet making and boatbuilding. After several years she decided to join both practical and academic skills. In 2017 she obtained her master's degree in conservation/restoration at the University of Antwerp. During her studies she interned in the Rijksmuseum and the Kröller-Müller Museum. Tirza is furniture conservator at the Rijksmuseum.

Sanneke Stigter is Assistant Professor in Conservation and Restoration of Cultural Heritage at the University of Amsterdam, specialised in Contemporary Art.

Vincent Cattersel holds a PhD in Conservation-restoration and is Head of the department Conservation-Restoration Wood and Polychrome Sculpture at the University of Antwerp.

Kristel De Vis has been affiliated to Conservation and Heritage Studies (2006) at the Faculty of Design Sciences (UAntwerpen) and has been focused on the education coordinatorship since 2020.

Paul van Duin is Head of Furniture Conservation at Rijksmuseum Amsterdam.

Ludo van Halem is curator of 20th century art at Rijksmuseum Amsterdam.

Keywords: Postmodern furniture; Conservation; Alessandro Mendini; Artist interview; Decision-making.

This paper discusses the research, [decision-making](#) process and the conservation treatment of grease crayon drawings as part of *Nigritella Nigra* (1993), a chest of drawers designed by Alessandro Mendini (Milan, 1931-2019). The Rijksmuseum accepted this unique postmodern piece of furniture from the heir of Frans Haks, the famous director of the Groninger Museum, in 2016.

The top-drawer case of the stack of tapering encased drawers is decorated with colourful abstract grease crayon drawings made by Lucio Giudici, a young man with Down syndrome. The drawings are glued directly onto the plywood and are finished with a transparent varnish. This varnish was peeling off, locally lifting the grease crayon off the paper substrate, resulting in considerable loss of material in the pictorial area. This study discusses the decision-making process prior to a conservation treatment, the treatment itself and the results accomplished, based on aesthetical, historical, and ethical perspectives.

To know more about the material composition of the handmade decoration, py-GC/MS analysis was carried out, indicating the use of grease crayons. FTIR-ATR analysis revealed that the varnish is a nitrocellulose lacquer. To know more about the meaning of the artwork, Alessandro Mendini and his brother Francesco were interviewed in their studio in Milan in 2017. The artist interview has enriched the deliberations significantly, especially as to the importance of the drawings for the object and to the degree of retouching. For the final treatment, the flaking varnish could be successfully consolidated with Acrylkleber 498 HV (Lascaux®) and Medium für Konsolidierung (Lascaux®) where a lower viscosity was required. The losses in the [pictorial layer](#) were completed with Golden Acrylics and Golden Soft Gel (Gloss) to match the right gloss.

Proposal of an Identification Key for Adhesives Used in Conservation of Ceramics and Glass

Judith Ghistelincx

ghistelincx.judith@gmail.com

Judith Ghistelincx is a conservator of ceramics and glass. She obtained her master's degree in 2018 in conservation-restoration at ENSAV La Cambre in Brussels. She is currently head of collections for the Boon Foundation and is a freelance conservator.

Keywords: Adhesives; Identification; Microchemical tests; Ceramics; Glass.

During conservation-restoration treatments, the conservator is often confronted with works that have already been treated. Generally, these previous interventions are not documented and the conservator needs to identify previously used materials to apprehend the object's material history and to orient treatments.

Instrumental methods can be used to precisely identify the chemical nature of these materials. However, they require expensive analytical instruments which are usually only available within scientific research institutions. Microchemical tests, taken from qualitative analytical chemistry, have been made available to conservators as an alternative solution. These methods are extensively used to approach the nature of pigments, charges and binders, found in art objects.

The identification of historical and contemporary adhesives has been scarcely addressed in the scientific literature. Simple physicochemical tests, sometimes coupled to spot tests, have been used. Nonetheless, these methodologies do not systematically include the entire range of available test tools as to produce a broader, general approach allowing to accurately discriminate larger numbers of adhesives.

Consequently, we have developed a methodology that allows to approach the chemical nature of 22 adhesives, classified into 12 families. Our method begins with a multi-parameter evaluation of the adhesive samples. Using these results, potential adhesive families are identified. Accordingly, a series of microchemical tests are selected and executed to further precise the possible chemical nature of the sample.

To elaborate the identification key, we selected a large set of commercial adhesive samples and analysed them by UV-Visible and FTIR spectroscopies to corroborate the chemical nature indicated by their manufacturers. All of them were submitted to the entire range of physicochemical and microchemical tests selected to define their ability to discriminate one adhesive from the other. It appeared that some tests described as highly specific are actually not accurate enough to effectively discriminate one adhesive from another. Fortunately, the step-by-step articulation of the methodological proposal described above allowed to successfully overcome this [drawback](#).

Finally, the identification key was tested on samples taken from ceramics objects collection of the Royal Museums of Art and History in Brussels, proving that this tool can be successfully employed on naturally aged adhesives.



Posters

Filling Gaps in Acrylic Emulsion Paint Layers: Research of a Filler Soluble in Nonpolar Solvents

Marine Dandoy

marinedandoy@hotmail.fr

Marine Dandoy graduated (master's degree) in 2020 from ENSAV La Cambre in Brussels, in the department of Conservation and restoration. She specialized in paintings on canvas and on wooden panels. Her interests are particularly focused on modern and contemporary paintings but she also has experience in ancient art.

Keywords: Acrylic paintings; Gap-fillings; Régalrez®; Plexigum® PQ611.

In the 1940s the first acrylic paints quickly invaded the artistic sphere through their new properties. However, at that time remained a fundamental lack of knowledge about them among the conservators.

For instance, even if gaps in acrylic paintings are rarer than in old paintings, they nevertheless exist.

The practice of conservators reveals that the putties used for filling gaps in acrylic paints still have a water-soluble adhesive as a binder, or an adhesive soluble in polar organic solvents after drying.

The conservation treatments made for traditional oil-based paints have proved problematic for acrylic emulsions due to the great sensitivity of these synthetic paints to the majority of organic polar solvents.

It is essential today, for the sake of the reversibility of any restoration treatment, to experiment with fillers consisting of a binder removable with non-polar solvents. Using these would avoid any future risk of causing the original pictorial layer to swell and removing surfactants present at the surface of the film.

At the first stage of this research, resins only soluble in aliphatic hydrocarbons were chosen. While the emphasis is on the various binder proposals, chalk was the only filler used in the mixtures.

These fillers were, throughout our study, compared experimentally to two reference mastics: the "craie-colle totin" and Modostuc®. They are known to be most frequently used today by acrylic paint conservators but do not correspond to the concern of reversibility by non-polar organic solvents.

These mixtures were tested in terms of their workability. The preselection that resulted was then scientifically tested to meet the criteria of bending and colorimetric stability during artificial aging under UV.

This study enables us to direct the acrylic paint conservators towards first five proposals for the filling of the gaps of this type of pictorial layer: the mastic with Régalrez® 1094 at 10% and 20% in Shellsol® D40 - the mastic with Régalrez® 1126 at 10% and 20% in Shellsol® D40 - the mastic with Plexigum® PQ611 at 20% in Shellsol® T.

The Collaboration Between the Artist and the Conservator: A Case Study of a Pop Art Sculpture Made of Plastics and Lights

Coline Ernould

coline.ernould@lacambre.be

Coline Ernould is a master's student in conservation and restoration of sculptures at the ENSAV La Cambre in Brussels. In 2017, she completed a three-year study programme in conservation of old paintings at the IFAPME. As she appreciates the limitless possibilities of this field, she now intends to specialise in conservation of contemporary art and plastic materials.

Keywords: Decision-making; Artist involvement; Martine Canneel; Poly(methyl methacrylate); Neons.

This lecture focuses on the participation of artists in the decision-making process of the conservation of contemporary art through a case study.

Ô, Ubi Campi? is a Pop Art sculpture made in 1971 by Belgian artist Martine Canneel. This artwork is mainly made of PMMA (poly(méthyl methacrylate) panels, wood, mirrors, plastic figurines, and different light installations. It has been treated in the department of conservation of the ENSAV La Cambre since October 2019. The purpose is to restore the visual unity of the artwork and the functioning of the lights. *Ô, Ubi Campi?* was accidentally broken in 76 fragments in the 90s. The treatment involves the cleaning of the fragments, the bonding and filling of PMMA panels, and the replacement of some of the lights, including neons, coloured light bulbs and fluorescent tubes.

During the whole process, the collaboration with the artist allowed a better understanding of the different materials and their assembly. Every decision regarding the treatment was discussed with the artist, especially the replacement of damaged elements. The involvement of the artist in art conservation is very advantageous. The scarcity of documentation on the artwork and its materials was tackled by the helpful involvement of the artist for the technical reading of the work of art. However, the human memory is limited and can't be completely trusted, hence the significance of an observational study of the art piece to corroborate the indications given by the artist.

This artwork is quite a complex case due to the large amount of materials, their unknown nature and the aspect of the missing parts, such as lights and figurines. It highlights several interesting issues, not only from a practical and technical point of view, but also from a theoretical and deontological perspective, as it is often the case in conservation of contemporary art.

The Efficiency of Multiple Solvent Gels for the Removal of Old Glass Bondings

Pauline Leen

leenpauline@outlook.be

Pauline Leen is a master's student at the University of Antwerp, where she is studying Conservation and Restoration of stained glass. Last year, she wrote her master's thesis which discussed the use of five different solvent gels for the removal of old glass bondings. This year, Pauline is completing her internship at 'Atelier Mestdagh', a conservation-restoration studio of (stained) glass windows.

Keywords: Removal of bondings; Un-aged Araldite 2020; Solvent gels; Benchmark; Gel-systems; PVA-Borax gel.

The most common method to remove old glass bondings is by soaking cotton compresses in solvent. These compresses are applied on the bonding which causes the adhesive to loosen. Though compresses are used very frequently in the conservation of glass, they hold multiple disadvantages. The excessive amount of solvents and solvent vapours can be harmful to the conservator's health because of their toxicity. Besides, they can also be damaging to fragile glass surfaces and paints since they do not allow treatment of small areas. Because of their toxicity, they're also harmful to the environment.

For all those reasons, this study aimed to look for alternatives to the cotton compresses, like the use of gel-systems.

Gels hold a lot of advantages: they require less solvent and enable waste-minimisation at the source since the use of open solvents (cotton compresses) is wasteful.

The first part of this research focused on the promising results of gel-applications in other conservation disciplines and gives an overview of the evolution in the variety of adhesives used in the conservation of glass, and their characteristics.

In the second part of this research, five different gel types were applied on un-aged, Araldite 2020 samples for a period of 24 hours. Afterwards, they were exposed to eight efficiency experiments which tested physical aspects such as the adhesion of the gel to the surface, the amount of solvent in the gel-system, the outflow of solvent, the amount of extra weight to be applied for the simulated bonding to break. All those aspects were evaluated in a benchmark system.

The analytical results obtained from this evaluation and their interpretation showed that PVA-Borax gel gave the most promising results. Indeed, the amount of solvent within the PVA-Borax gel was significantly lower than in cotton compresses, it did not adhere to the glass surface, the gel was easy to make and the outflow of solvent was kept at a minimal because of the cohesive consistency.

ARTPRESSE: The Digitisation of Belgian Illustrated Magazines from the Interbellum

Morgane Ott (1), Sébastien Hermans

(1)morgane.ott@kbr.be

Morgane Ott is an art historian, currently working for the Digitisation Department of the Royal Library of Belgium (KBR) as a PhD student. She graduated from ULiège in 2017 and holds two master's degrees in archeometry and in museology. As part of the ARTPRESSE project, her focus is on the representation of the Belgian interwar art scene in mass media magazines.

Sébastien Hermans studied history and is currently working for the DIGIT Department of KBR as a technical expert in digitisation. He previously worked for the PHOTOLIT project on the digitisation of photonovels published in magazines from the second half of the 20th century.

Keywords: Digitisation; Magazines; Belgian Art History; Interbellum.

KBR hosts comprehensive collections of Belgian magazines from the 1920s and 1930s, which are valuable – but underestimated – historical sources about the interwar period. Because of its inherent fragility along with incautious consultation, much of this material is fated to slowly disintegrate and become irreversibly lost if not digitised in a timely manner. With a focus on general illustrated weeklies both Dutch and French-speaking, the purpose of ARTPRESSE lies in the preservation of these magazines by producing a consistent digitised corpus and by disclosing it via one of KBR's main digital platforms: <https://www.belgicaperiodicals.be/>. Obviously, this represents a huge amount of pages to digitise, thus requiring a 'mass digitisation' and a workflow adapted to the mass media specificities.

Conducted by the Digitisation Department, the process can be summarised as follows:

- First a complete inventory is established, which includes the evaluation of the material condition and conservation needs, as well as the registration of the publication dates, name or format changes, presence of supplements or special issues, and possible lacunes or damages;
- Then come the digitisation (using a manual linear book scanner or an automatic robot scanner), and the postproduction which generates TIFF, JPEG and PDF files embedded with metadata and submitted to an Optical Character Recognition (OCR), in order to ensure a full-text access along with the most accurate view possible of the material;
- The digitised corpus is manually browsed and analysed with the help of the full-text research. At the same time, an historical study is realised, with an emphasis on connections between art practices, styles and trends, and on networks of artists, authors and publishers;
- Lastly a catalogue review (since some records need to be completed and linked) and, if necessary, a restoration treatment.

Started in spring 2020, ARTPRESSE managed to digitise more than 150.000 pages from 15 magazines. Spanning research and digitisation, this interdisciplinary project is funded by the BRAIN-be framework program of BELSPO, coordinated by KBR and led in collaboration with KULeuven and ULiège.

For more information, see the website: <https://www.artpresse-researchproject.com/>

Early 18th century or Not? An Analysis of a Remarkable Marquetry Table

Nele Vanassche

Nele.Vanassche@student.uantwerpen.be

Nele Vanassche is a master's student in wood conservation-restoration at the University of Antwerp since 2017. Her interest lies mainly in 17th and 18th century furniture art.

Keywords: Baroque; Marquetry; Painting in wood; Dyestuffs; MA-XRF.

This study presents the preliminary results of the ongoing research into a marquetry table from the collection of the Art & History Museum (KMKG-MRAH, Brussels). The table, located in the storage of the museum, was previously dated from the early 18th century. With its twisted legs, x-form stretcher and intricate marquetry, the table indisputably exhibits baroque features. However, there are several indications that the larger part of the construction is a more recent imitation of baroque furniture. The shape of the stretcher, among other things, only resembles its 18th-century counterparts.

Conversely, evidence does indicate that the table is covered with an actual 18th-century marquetry. The decorative technique used for the marquetry, 'painting in wood', was highly popular in that era. On top of that, the historical characters and floral [still lifes](#) on the tabletop are likely based on 17th and 18th-century prints, and suggest that the craftsman was inspired by contemporaries.

Lastly, MA-XRF scanning revealed the distribution of different metals, which points to the use of [dyestuffs](#). Further research should allow us to determine whether the dyes can be attributed to colouring recipes used in the early 18th century.

Analysis and Cleaning of a Batch of Prehistoric Ceramics from Underwater Excavations at Han-sur-Lesse

Marielle Van Son (1), Meriam El Ouahabi

(1) vanson.marielle@outlook.be

Marielle Van Son graduated her Master degree in conservation and restoration of ceramics (ESA Saint-Luc, Liège) in 2020. During her studies, she worked in Han-sur-Lesse on archaeological furniture from the Bronze Age. In 2019, she obtained the NAS 1 (Nautical Archaeology Society) certificate.

Prof. Dr. Meriam Elouahabi, UR Argile, Géochimie et Environnement sédimentaires (AGEs), Département de Géologie, Quartier Agora, Bâtiment B18, Allée du six Août, 14, Sart-Tilman, Université de Liège.

Keywords: Underwater excavations; Ceramics; Orange colouration; X-ray diffraction; Ultrasonic baths.

The Grottes de Han domain (Han-Sur-Lesse, Belgium) has been the subject of archeological [excavations](#) since 1959. The first subaquatic, in fluvial environment, excavations started in 1963 exposing materials from the Neolithic to the Roman period. Since then, works in Han-sur-Lesse take place annually during summer and are organized by the CRAF (*Centre de Recherche Archéologique Fluviale*). From those explorations, other materials belonging to the contemporary period were also discovered.

After removing the ceramics and other excavated materials from the water, a physical alteration appeared during drying, marked by the appearance of an orange tinted layer. This orange alteration is problematic because it hinders [readability](#) of the objects. It is also crucial to understand the evolution and nature of this alteration to prevent eventual propagation in the future. To do so, X-ray diffraction analysis coupled with microscopic observations were carried out in order to understand the origin of this physical alteration. A suitable cleaning protocol was derived from those analyses.

The results of microscopic and X-ray analyses show that the physical alteration (goethite) has affected ceramics regardless of their mineralogical composition. This implies that the alteration was not due to the composition of the fragments, but to an external source. This clears all ethical aspects that may arise from cleaning, since alteration is not strictly part of the archeological object.

Due to the extremely fragile nature of the analysed objects, any mechanical cleaning is to strongly avoid. Moreover, the alteration has impacted the internal porosity of the material, zones that cannot be accessed by the operator for cleaning. From X-ray diffraction, the composition of the objects was found to contain calcite and quartz, minerals that would suffer from any chemical cleaning (acidic or basic). Therefore, a neutral solution had to be employed to clean ceramics. Since mechanical cleaning was prohibited, the selected cleaning method, for the fragile pre/protohistoric ceramics, consists of several ultrasonic baths with demineralized water. Each object was cleaned individually, and the baths are repeated with clean water until no more orange coloration is present in the cleaning water. This procedure has allowed a surface and in-depth cleaning while minimising as much as possible the risks of mechanical alteration of this type of fragile shards. Further investigations are required to apply this approach to a larger extent for all the ceramic material of Han-sur-Lesse excavations.

Glossary EN-FR-NL

Altarpiece: retable - altaarstuk

Binder / solvent / filler: liant / solvant / charge - bindmiddel / solvent / vulmiddel

Bondings: collages - verlijmingen

Cold-lining: doublage à froid - koude doublering (koude bedoeking)

Criteria of assessment: critères d'évaluation - beoordelingscriteria

Decision-making: prise de décision - besluitvorming

Deontological controversies: controverses déontologiques - deontologische controverse

Digitisation: numérisation - digitalisering

Disruptive: perturbant - verstorend

Drawback: désavantage - nadeel

Dyestuff: colorant - kleurstoffen

Excavation: fouille - opgraving

Fabric : tissu - stof

Fuel: combustible - brandbaar product

Gap-filling: comblement de lacunes - aanvulling

Human remains: restes humains - menselijke resten

Mimetic reintegration: réintégration illusionniste - onzichtbare reïntegratie

Mock-up: simulation - model

Outflow: écoulement - vloeï

Paint layer/Pictorial layer: couche picturale - picturale laag

Parchment: parchemin - perkament

Readability: lisibilité - leesbaarheid

Shrinkage: rétrécissement - krimp

Soot: suie - roet

Stained-glass: vitrail - glas-in-lood

Still life: nature morte - stilleven

Sustainability: durabilité - duurzaamheid

Swelling: gonflement - zwellling

Hands-on and cost effective methodology: méthode pratique et rentable - praktische en kosteneffectieve methode

Tideline: auréole d'humidité - waterkring

Tradeoff: compromis - overeenkomst

Wax seal: sceau en cire - lakzegel

Weathering: alteration due au climat - glascorrosie

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