# ExpoTime!

The international magazine for museum professionals

Double issue
Dec 20/Jan 21

84 pages
70 links
2 videos
110 referred museums and institutions

# It is a good conservative idea to store all objects in the depositories in acid-free cardboard boxes, but ...

Is it a good conservation measure to keep all depository objects in acid-free cardboard boxes with protective glassine sheets, shock buffers, with a dust cover and enough space outside for labels? Museum specialists will come up immediately with one contradiction: not all objects really need such depot packaging.

But before imitating such a treatment which makes sense for some museums and some obejects, you should really consider two things: The objects are quite well protected after this measure, but you need about 3-4 times more storage space as before. Not for new acquired objects, just for the packaging of your collection. In addition, one has to say goodbye to the idea of the public depository. The Überseemuseum in Bremen, Germany, for example, has set up such a facility long ago, allowing visitor, against a special fee, to step over to the depository, visit and explore it by using databases with free access to defined information levels.

But most of all, I would like to draw your attention to the fact that a museum that wants to work with a cardboard depot, increases the risk of fire considerably, willingly and unnecessarily especially if objects could be stored safely otherwise and could be stored dustfree by different measures. Such a decision means that fire protection must be increased considerably before such a step is taken.

The best protection against fire is not the sprinkler, but the continuous lowering of oxygen content in the entire depository (museum/library/archive). Every child in the world is probably familiar with the experiment in which one can observe what happens to a candle over which a glass dome is placed. The lowering of oxygen is also good against pests and has just been exemption-approved again for museums in the EU from Brussels for museum pest control. For research in a depository, you can either increase the oxygen temporarily or limit it to clearly defined and accepted short-term stays.

The fire risk can be illustrated properly by an event which took place exactly one year ago: when the depository of the “Museum of Chinese in the America” (MOCA) in Manhattan blow up in flames. Everything here was packed in acid-free cardboard boxes. Parts of the archives were shelved in wooden bookstalls, lots of the objects were made of paper and wood. Lot of objects were mixed media or plastics, and plastics were used as wrapping material and buffers. 80% of the museum objects were destroyed in flames, causing a stinking inferno, soot and fire fighting water entered the depositories in the lower stories with the later danger of mould. The NYPD said the cause of the fire was not “criminal” and the investigation is still ongoing.

My personal view from the distance is that this “cardboard depository” for flammable objects has never been a secure place for such objects. The disaster could have been avoided. Let’s hope that those responsible show the ability to learn from it.

Christian Mueller-Straten
Editor of ExpoTime!

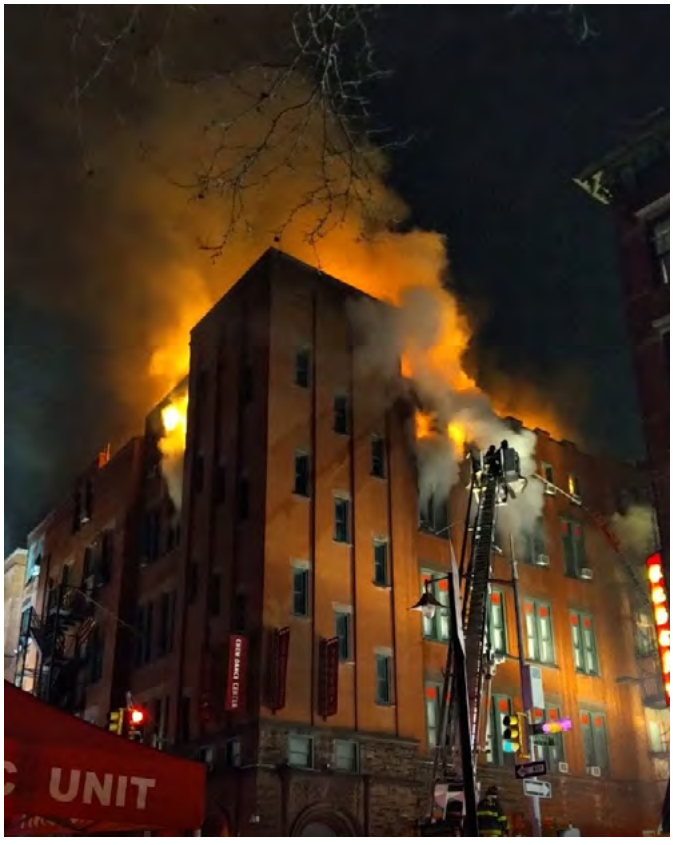



**Photo: Google ARTS AND CULTURE/ Nancy Yao Maasbach**
**For more pictures and videos see: https://artsandculture.google.com/exhibit/trial-by-fire-the-race-to-save-200-years-of-chinese-american-history/lwIC-1BbSBEkJg**

# Contents

## Preparing spectacular visits



## New museums



## New exhibitions



## Conservational projects



## The dark side of art



**The front page shows a cocktail dress by Heinz Oestergaard, Berlin 1954/55. Silk organza, embroidery of sequins and raffia threads, lining: artificial silk taffeta. Heinz Oestergaard is considered to be the most famous and successful German designer of the post-war era. In addition to his high-quality haute couture collections, he was keen to create fashion accessible to a broad section of the population. © Collection Ralf Schmitt** **MORE on pp. 36-40**

**Caecilia Barani and team of the MAK Vienna**

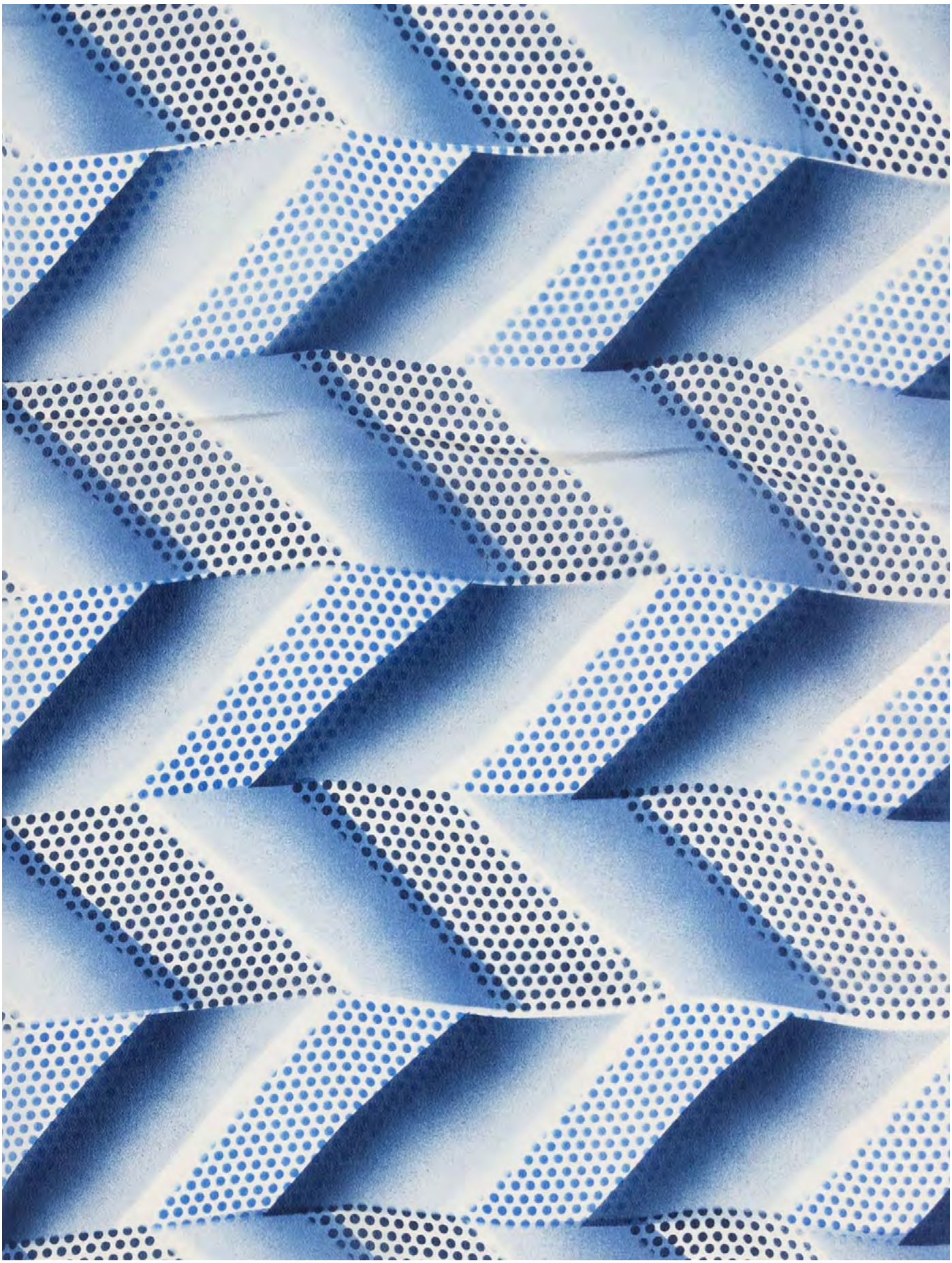
# Woman Artists of the *Wiener Werkstätten*

## At MAK Vienna, 21 April – 3 October 2021

The MAK exhibition WOMEN ARTISTS OF THE *WIENER WERKSTÄTTE* directs visitors' attention to the hitherto underappreciated women designers who significantly broadened the *Wiener Werkstätte*'s creative spectrum. The accomplishments of the male artists of the *Wiener Werkstätte* ("WW", 1903–1932) — principally Josef Hoffmann, Koloman Moser, and Dagobert Peche — enjoy global fame. In contrast, the women artists of the WW have met with only sporadic interest to date. Gudrun Baudisch, Vally Wieselthier, and Mathilde Flögl are well known. But who were Martha Alber, Rose Krenn, and Anny Wirth? Over 600 exhibits provide an insight into the almost unknown and at times radical work of women designers in Vienna between 1900 and 1930, which helped to establish the WW's prominent position between Art Nouveau and Bauhaus.

The impressive exhibition testifies to the women designers' inventiveness and their instrumental involvement in the development of Viennese arts and crafts. Arranged both chronologically and thematically, the MAK show traces the women artists' path from their training to their reception in the 1920ies. The MAK accomplished a pioneering feat while conducting the research for WOM-

**Photography, 1924: Charlotte Billwiller, Mathilde Flögl, Susi Singer, Marianne Leisching und Maria Likarz. © MAK**



**Clara Posnanski: WW swatch „Dornbach", 1928. © MAK/Kristina Wissik**

**Maria Likarz: Necklace, glass beads, approx. 1927**
**© MAK/Katrin Wißkirchen**

EN ARTISTS OF THE *WIENER WERKSTÄTTE*: 181 women artists were identified as employees of the WW, several biographies were updated or rewritten for the catalogue.

Training and the "*Wiener Kunst im Hause*" Association

Work by about half of the women artists is featured in the show. They worked in all areas of arts and crafts and the majority of them had studied at the Vienna School of Arts and Crafts, which admitted female students from the very beginning. They were initially trained in flower and decorative painting, later in the specialist studios for enamelwork and lace drawing — in other words: traditionally "female" fields. The spectrum expanded under the director Felician von Myrbach, who was appointed in 1899. He also engaged the Secession artists Hoffmann and Moser as heads of the architecture and painting schools. In line with the idea of the *Gesamtkunstwerk* they extended their teaching to all aspects of decorative art and included their female students in their collaborations with producers.

Many of the resulting works have been incorporated in the exhibition, including sets by Jutta Sika and Therese Trethan, executed by the porcelain manufactory Josef Böck, and fabric patterns by Else Unger, executed by Joh. Backhausen & Söhne. Unger also designed furniture, Gisela von Falke striking ceramics. Together with Marietta Peyfuss and five fellow students, they founded the association "*Wiener Kunst im Hause*" (Viennese Art for the Home) in 1901, a direct precursor of *Wiener Werkstätte*.

## First Works for the *Wiener Werkstätte*

The MAK exhibition opens with the earliest works by the women artists of the WW, such as designs for postcards sold by the WW from 1907. Their subjects are congratulations, city-scapes, landscapes, children's games, and predominantly fashion. Mela Koehler and Maria Likarz were particularly creative in this regard, and they would have a formative influence the commercial graphic design of the WW until its closure.

In 1910 the WW opened its fabric department, which was followed in 1911 by the fashion department. The extensive fashion designs are documented by the portfolio Mode Wien 1914/5, produced in large part by women artists of the WW, including Lotte Frömel-Fochler and Rose Krenn. In the major fashion exhibition at the Austrian Museum of Art and Industry (today's MAK) in 1915, they attempted to assert themselves in the face of the French competition. This show in the middle of the First World War already featured all the names that commonly come to mind when the women artists of the WW are mentioned: Mathilde Flögl, Hilde Jesser, Fritzi Löw, Reni Schaschl, Felice Rix, and Vally Wieselthier.

## The Artists' Workshop

In 1916 the WW established its own Artists' Workshop, which attracted the attention of the press. "An enameling furnace, a sewing machine, a little *repoussé* table for metalworking, pastepots, *batik* equipment ... a cabinet full of mysterious jars like in a sorcerer's kitchen, between them a gaggle of laughing young girls and very rarely an occasional male: this is what it looks like inside the Artists' Workshop," was the report printed by the *Neues Wiener Journal*, for example. In part due to the war, there were indeed predominantly women working here at first. As a "laboratory of ideas" the Artists' Workshop provided the oppor-tunity for unlimited experimentation, with the results being bought or rejected by

the WW. The production ranged from decorated papers, beadwork, and painted glasses to embroidery, jewelry, and toys to expressive ceramics and sensational fabric designs.

Working on a larger scale was made possible by the decoration of the WW branch at *Kärntner Straße* 32, which was opened for the sale of lace, fabric, and lamps in 1918. The walls and ceilings were painted with natural and scenic motifs inter alia by Hilde Jesser, Reni Schaschl, and Felice Rix; their photographic documentation is on display in the MAK exhibition.

## Between Acclaim and Criticism

The exhibition concludes with the reception of the "female" WW art in the 1920ies. Over the course of the First World War, the economic situation had necessitated women entering the workforce and this gave rise to a new kind of woman: independent and confident. In contemporary literature she is symbolized for example by the short-haired, smoking, and extravagantly dressed "decorative artist." This profession entailed a certain elitism: it did not guarantee a secure income and was therefore the preserve of women of considerable means. Adolf Loos saw in them bored upper-class daughters who "call themselves 'artists' because they can do *batik*." An the graphic artist Julius Klinger ridiculed their work as "*Wiener Weiberkunstgewerbe*" [Vienna broads' art and craft].

This defamation was juxtaposed with their acclaim in major interwar exhibitions, such as the *Deutsche Gewerbeschau* [German Trade Show] in Munich (1922) or the International Exposition of Modern Decorative and Industrial Arts in Paris (1925). Designed by Gudrun Baudisch, Mathilde Flögl, and Vally Wieselthier, the catalogue for the 25th anniversary of the *Wiener Werkstätte* in 1928 again demonstrated their immense graphic and sculptural skills.

**Leopoldine Kolbe: Postcard of the Wiener Werkstätte (No 43), 1907/08. © MAK**

**Catalogue:**

The exhibition is accompanied by the publication WOMEN ARTISTS OF THE WIENER WERKSTÄTTE, edited by Christoph Thun-Hohenstein, Anne-Katrin Rossberg, and Elisabeth Schmuttermeier, with contributions by Megan Brandow-Faller, Elisabeth Kreuzhuber, Anne-Katrin Rossberg, Elisabeth Schmuttermeier, Lara Steinhäußer, and Angelika Völker. German/English, 288 pages with numerous colour illustrations. Vienna; Basel 2020. 44, 95 €. Available at the MAK Design Shop or at: MAKdesignshop.at

Ann Davis, André Desvallées, François Mairesse (ed.):

# What is a Museum?


This book addresses administrators and politicians, museum professionals and museologists likewise. It reflects the historical so-called ICOM „definition“ of museum in a new light and gives an impression how visitors meet with museums.

Revised edition and English translation by Ann Davis and Lynn Maranda, and Suzanne Nash

CONTENTS



Approx. 70 black & white pictures, 250 pages DIN A5.



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## Discussions from the professional list "MUSEUM-L"

**This time, we quote the discussions on "scanning problems"**

Afternoon all,
I am working with a colleague in trying to find the best solution to our scanning woes. We have some very light pencil hand writing that will not scan well. We, actually she has tried all the scanners in our building up to a 1200dpi setting with high contrast as well as playing with the scanned document in Adobe and in Photoshop to try and darken the text. Is there a solution out there that has worked. Our next step is to photograph it from above using a tripod. I remember years ago putting a yellow filter on mimeographed text to get it to go darker, but this is pencil.
Any help would be appreciated!

Marybeth S. F. Tomka, M.A., PS Cert CM, RPA
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Austin, Texas 78712
https://liberalarts.utexas.edu/tarl

Hi,
You may need to consult with your county's archives if they have scanning services or your state's archives and possibly bring the documents to them for scanning using their equipment.
John Cross
johnjcross1987@GMAIL.COM

Hi,
I have found that scanning something done in light pencil with the scanner set to grayscale as dark as possible, then adjusting the curves in photoshop helps. I don't do the contrast until later on as you are trying to capture something already light in tone.
Alternatively I have done it old school, and used a photocopier set at the darkest settings. You'll wind up with an overall dark image, but the pencil lines will still be there.
Then it can be adjusted in photoshop with adjusting the brightness, contrast, and curves.
Good luck,
Susan E. Cooper, Senior Exhibit Designer/Graphic Artist
CooperS2@Michigan.gov
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702 West Kalamazoo Street
P.O. Box 30740
Lansing, MI 48909-8240
https://texasbeyondhistory.net

## Northern America

► After an extended search, the Museum of Applied Arts (MAK) in Vienna has named **Jia Yi Gu** as the new director of the MAK Center for Art and Architecture in Los Angeles CA. An advocate for experimental approaches to institution-building and trans-disciplinary curatorial practice, Jia Yi Gu joins the MAK Center from her previous role as Executive Director of Materials & Applications, a Los Angeles-based project space for experimental architecture. Jia Yi Gu has organized and co-curated numerous exhibitions, installations, and public programs on contemporary architecture, art, and design, including Scoring, Building at the MAK Center's Mackey Apartments, Privacies Infrastructure with co-curator Aurora Tang, and the mutual aid initiative Heat Aid. She is a PhD candidate in Architectural History at UCLA, and holds a Master of Architecture from UCLA and a Bachelor of Arts in Art History from UCSD. Jia Yi Gu's appointment follows the leadership of Priscilla Lovat Fraser, who has stewarded the MAK Center since the beginning of 2017.

► **Andrew Farke,** Ph.D., has been appointed the next director of the Raymond M. Alf Museum of Paleontology at Claremont CA, only the fourth individual to hold this position since the museum's founding in the late 1930s. Andrew Farke discovered his interest in paleontology while growing up in rural South Dakota, and was able to develop his first research in the field thanks to the long-distance mentorship of many professionals and amateurs. He received a B.Sc. in Geology from the South Dakota School of Mines and Technology in 2003, and completed his Ph.D. in Anatomical Sciences at Stony Brook University in 2008. He joined the staff at the Alf Museum in June 2008, as Augustyn Family Curator, and was appointed Director of Research & Collections in 2015. Farke succeeds **Don Lofgren,** Ph.D., who leaves the position in July 2021 to become director emeritus.

► The Orange County Museum of Art in Newport Beach CA has hired the curator and museum leader **Heidi Zuckerman** as its new CEO and director, OCMA announced Wednesday. She will start her new job February 8. Zuckerman, formerly the CEO and director of the Aspen Art Museum in Colorado, will succeed Todd D. Smith, who left OCMA in August to head the Bechtler Museum of Modern Art in Charlotte, North Carolina. Smith had been director and CEO of OCMA since August 2014. Zuckerman served as CEO and director of the Aspen Art Museum from 2005 to 2019. Prior to that, she was chair of the curatorial department at the Berkeley Art Museum and Pacific Film Archive. She also served as an assistant curator of 20th century art at The Jewish Museum in New York City for five years. Zuckerman holds an honors bachelor's degree in European history from the University of Pennsylvania, a master's degree in art history from CUNY Hunter College, and is a graduate of Harvard Business School Executive Education, Women on Boards.

► The Center for Puppetry Arts in Atlanta GA proudly will welcome **Sarah Dylla** as the new Museum Director. Sarah joins the Center for Puppetry Arts with over 11 years in the field of public humanities creating narratives about how history and the humanities intersect. Most recently, Sarah served as the Curator for the Atlanta History Center's current exhibition about the history and impact of the 1996 Olympic and Paralympic Games, now on view at the Atlanta History Center. Prior to moving to Atlanta, Sarah held positions in the special collections libraries at Rhode Island School of Design and Brown University, the Savannah Music Festival, and Virgin Islands National Park. Sarah holds degrees from the University of Virginia (B.A., Art and Art History) and Brown University (M.A., Public Humanities).

► After a six-month search for a new leader the board of directors of Telfair Museums in Savannah GA decided for **Ben Simons**. Simons' hiring was needed after the last director left and volunteer Bob Faircloth took the helm for 2020. Simons holds a bachelor's degree from Harvard University, a master's in literature from Yale University, and a master's in the history of art from the University of London's Courtauld Institute of Art. He is also a graduate of the Getty Museum Leadership Institute.

Simons has been the executive director of the Academy Art Museum in Easton, Maryland, since 2016. Before that, he worked for the Smithsonian American Art Museum in Washington, D.C., and for more than a decade at the Nantucket Historical Association in Massachusetts.

► **Harold Young** served as the interim executive director at the Tubman Museum for over a year. He has worked at the Tubman in Macon GA since 2015. The Tubman museum named him now as new director – the first African-American executive director after 40 years. Harold first came to the Tubman in 2015 as Director of Special Projects and Community Services. In this role, he was responsible for generating revenue for the Museum through facility rentals and the Museum's largest annual fundraiser – the All That Jazz Concert and Ball. He was also put in charge of the Museum's largest community outreach program – the Annual Pan-African Festival of Georgia. Under his guidance, the Museum exceeded its annual revenue goals for rentals, the All That Jazz Concert has become more profitable, and is now the premiere black-tie event in the community, and the audience for the Pan-African Festival has grown to more than 15,000 people attending each year. Young's experience in marketing and promotions, contract negotiations, special event planning and promotions, and his leadership during this exceptionally difficult time of global pandemic convinced the Board that he was the best choice to lead the Museum into the future.

► New director of the Ocean City (MD) Historical Museum is **Kate Devaney.** The position has been vacant since the former executive director, **Jeffrey Granahan,** left the post at the end of 2019. In addition to the Historical Museum, Devaney will oversee the museum at the Life-Saving Station, as well as the Lifeguard Museum within the Bayside Center.

► **Sarah Meister** has been named executive director of the Aperture Foundation in New York. She has been photography curator at the Museum of Modern Art since 2007, where she has spent her entire career. She succeeds Chris Boot, who is leaving after 10 years to return to his native England. Meister has organized exhibitions of Bill Brandt, Walker Evans and Eugène Atget. Last year she presented the well-received retrospective of Dorothea Lange. She is currently curating an exhibition on the Brazilian modernist photography that was produced by a club of amateurs in São Paulo in the mid-20th cent. It is scheduled to open in May, at which time she will assume her new position.

► **Naomi Beckwith,** currently the senior curator of the Museum of Contemporary Art Chicago, will start as the Guggenheim's deputy director and chief curator in June. She has been at the MCA Chicago since 2011. During that time, she organized a number of celebrated shows and worked on exhibitions devoted to Keren Cytter, Leslie Hewitt, William J. O'Brien, the Propeller Group, and Yinka Shonibare, among others. Photo: Nathan Keay © Museum Of Contemporary Art Chicago

► The Newport Art Museum in Newport RI recently announced the appointment of three new members to the Board of Trustees, **Ellen Bowman, Patrick Dolat,** and **Ellie Voorhes.** The Museum has also appointed a new Director of Advancement, **Margaret Sullivan-Carr.**

► As Artforum and the Wall Street Journal reports, Leon Black, chairman of the board of the Museum of Modern Art NY since July 2018, is stepping down from his role as CEO of private equity firm Apollo Global Management. The firm was founded in 1990 by Leon Black himself. His departure from the multibillion-dollar entity follows an independent investigation into his financial ties to disgraced sex offender Jeffrey Epstein, who killed himself in prison in 2019.

The investigation was conducted at Black's behest by law firm Dechert LLP. They found no evidence of wrongdoing but did uncover $158m in payments from Black to Epstein between 2012 and 2017, as well as $30m in loans from Black to Epstein, only $10m of which had been repaid. In the course of the investigation, Epstein was found to have given Black "legitimate advice" in relation to financial matters, including those related to Black's art collection. The advice was said to have led to roughly $2 billion tax savings for Black. (Photo: Patrick T. Fallon/ Bloomberg News)

## Europe

► The Museum of Fine Arts in Leipzig will have a new director in January 2021, the art historian **Stefan Wep-**

**pelmann** (born 1970; photo: Renate Medwed), director of the picture gallery of the *Kunsthistorisches Museum* in Vienna. He succeeds Alfred Weidinger, who left Leipzig prematurely after only two years and took over the management of *Oberösterreichische Landes-Kultur GmbH* (formerly *Oberösterreichisches Landesmuseum*) in April.

► In 2021 the Reiss Engelhorn Museums in Mannheim will have a new General Director. **Alfried Wieczorek** is retiring after almost 30 years in the house, including more than 20 years as its manager. His previous deputy, **Wilfried Rosendahl,** will take his place (photo: Moray).

► The German biologist **Dr. Katrin Vohland** (photo: C. Rittmannsperger) was the first woman to take over the management of the Natural History Museum Vienna. The contract with meteorite researcher Christian Köberl had not been prolongued. After a study of biology in Bielefeld and Bayreuth, she worked for four years in the Tropical Ecology Dept. at the Max Plack Institute for Limnology in Plön, where she researched species formation and biodiversity in the Amazon region, for example. That was also the subject of her dissertation at the University of Kiel in 1999. She continued her scientific path at the Museum für Naturkunde Berlin (MfN), where she researched biodiversity and land use in southern Africa. In 2005 she moved to the Chair of Vegetation Ecology and Nature Conservation at the University of Potsdam. Between 2006 and 2009, Vohland was responsible at the Potsdam Institute for Climate Impact Research (PIK) for the project "Protected Areas in Germany in Climate Change – Risks and Options for Action". Since 2009 she has worked continuously at the MfN and in 2012 took over the management of the research area "Science Communication and Knowledge Research" and the management of the "Science in Society" dept. In the past few years, Vohland was mainly active in the field of "Citizen Science" and with the Green Party which is part of the Austrian Government.

► **Markus Roboch**, previously commercial director at the Jewish Museum Vienna and previously working in the controlling department at the Kunsthistorisches Museum Vienna, succeeds the previous commercial manager of the NHM, **Herbert Kritscher,** who is retiring.

**Dr. Verena Villiger-Steinauer**, director of the Museum of Art and History in Fribourg, Switzerland, has retired. Her successor is **Ivan Mariano** (photo: Museum)

At his own request, **Udo Kittelmann** did not extend his contract, which lasted until October 31, 2020. The acting management of the Nationalgalerie has been taken over by his previous deputy **Joachim Jäger**. Born in 1958, Kittelmann was initially active as an optician, but then switched to museums. The three institutions supervised by Kittelmann are each to receive their own top management in the course of the dissolution of unmanageable accumulations of power at the Prussian Cultural Heritage Foundation.

► Honorary professor, former professor, deputy head of the institute and esteemed colleague at the Academy of Fine Arts Vienna, **Marion von Osten** (1963-2020), died on November 14, 2020. After working at the academy, she was curator and artistic director of the research and exhibition project "bauhaus imaginista" from 2014 (2018-19; from 2016 with **Grant Watson** as co-curator). From 1999 to 2006, she taught as a research assistant and professor for artistic practice at the Institute for Theory of Art and Design (ith ZHDK) in Zurich. 1996-1999 she was a curator at the Shedhalle Zurich, where, in collaboration with colleagues, she realized legendary exhibitions such as Sex & Space (1996-97) and SUPERmarkt: money, market, gender politics (1998). (photo: Wolfgang Stahl)

## Else

**William S. Smith** departs "Art in America" as editor and takes up the role of head of digital and editorial content at Hong Kong's M+ museum.

**Online meetings are highlighted in light blue.**

## February 2021

**February 12, 2021**
**Studiengang Museumsmanagement und -kommunikation of Hochschule für Technik und Wirtschaft (HTW) Berlin**
**Online-Tagung "Lass Land Gewinnn — Rureale Museen zwischen Ablehnung und Wertschätzung"**
MUTEC Tagung
Hochschule für Technik und Wirtschaft (HTW) Berlin
Treskowallee 8
10318 Berlin
mutec@htw-berlin.de

**February 18-19, 2021**
**150 Jahre Conrad Matschoß — Technikgeschichte für die Gegenwart**
**Jahrestagung des VDI Ausschusses Technikgeschichte in Kooperation mit dem Fachgebiet Tecnikgeschichte, TU Berlin, und dem Deutschen Technikmuseum Berlin**
**Online sowie Technische Universität Berlin und Deutsches Technikmuseum Berlin**
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## March 2021

**March 15 - 20, 2021**
**ICOFOM, organized in association with Indigenous heritage and Canadian museums**
**43rd Annual Symposium "The Decolonization of Museology: Museums, Mixing, and the Myths of Origins" to be held in the cities of Montréal, Québec, and Gatineau-Ottawa.**

**31 March 2021**
**UMAC International Committee for University Museums and Collections**
**CfP for the UMAC conference: New Opportunities & New Challenges in Times of COVID-19**
Adressee: Wenjia Qiu qiuwenjia@sjtu.edu.cn
http://umac.icom.museum/activities/conferences/umac-universeum-2021-call-for-proposals/

## April 2021

**INTERCOM, ICOM AZERBAIJAN, ICME**
**Joint Conference. Transforming Collecting Policies in Museums: the Need for Leadership and Societal Responsibility**
**Baku, Azerbaijan, to be held at the Azerbaijan National Carpet Museum (the oldest and biggest carpet museum in the world)**
Follow the news about the conference on websites:
http://icomaz.az/az
http://icme.mini.icom.museum/
http://intercom.mini.icom.museum

## May 2021

**May 1, 2021**
**CIPEG International Committee for Egyptology**
**CfP: CIPEG Journal : Theme: Egypt, Sudan and Abroad**
**The deadline for any contribution related to the virtual annual meeting is 1 May 2021.**
contact : cipeg.journal@gmail.com

**May 2-9, 2021**
**GLASS International Committee for Museums and Collections of Glass**
**ICOM Glass Conference "The End of Glass Production - The Beginning of Museums? Deindustrialization and museums in glass production areas (Southern Germany: Coburg, Kleintettau, Lauscha, Waldsassen, Passau, Frauenau, Munich)**
**Veste Coburg, Germany**

**May 17, 2021**
**ICOMAM International Committee for Museums and Collections of Arms and Military History**
**Annual Conference "The military historical legacy; mirror of the past, reflection for the future"**
**17-21 May 2021**
**Toledo, Spain**

**May 17-21, 2021**
**ICOM-CC International Committee for Conservation, Chinese National Organising Committee**
**ICOM-CC 19th Triennial Conference — Online — "Transcending Boundaries: Integrated Approaches to Conservation"**
Beijing

**24 May 2021**
**21th Conservator-Restorers' Professional Meeting, Technical museum of Slovenia in Bistra near Vrhnika.**

## July 2021

**5th-9th July 2021**
**EVA London Conference 2021 "Electronic Visualisation and the Arts"**
For full/latest details of the event see: http://www.eva-london.org/eva-london-2021/
CfP for the Research workshop Deadline: 10th March 2021
Proposal must be submitted via: https://easychair.org/conferences/?conf=evalondon2021

EVA London's Conference themes include the use of new and emerging technologies in the following areas (to be broadly interpreted), and a focus on "AI and the Arts: Artificial Imagination":

- Digital Art
- Data, Scientific and Creative Visualisation
- Digitally Enhanced Reality and Everyware
- 2D and 3D Imaging, Display and Printing
- Mobile Applications
- Museums and Collections
- Music, Performing arts, and Technologies
- Open Source and Technologies
- Preservation of Digital Visual Culture
- Virtual Cultural Heritage
- Ethics in Digital Art
- Digital Art Histories
- Artificial Intelligence

Held on one or two days of the EVA London conference depending on the number of accepted submissions, the Research Workshop is an opportunity for postgraduate students and artists to present their work and share research work in progress in an informal and supportive setting. The EVA London 2021 Research Workshop is planned for the afternoon of Monday 5th July 2021 and perhaps extended to the afternoon of Tuesday 6th July 2021 as well*. *

## September 2021

**September 13 - 17, 2021**
**GLASS International Committee for Museums and Collections of Glass**
**Joint meeting with the 22nd AIHV Congress (Association International pour l'Histoire du Verre) and ICOM GLASS in Lisbon, Portugal**
**Lisbon, Portugal**

## October 2021

**Oct. 19-22, 2021**
**17th International Conference on Digital Preservation iPRES2021**
**National Science Library, Beijing, China**
This is the premier conference series on digital preservation. Since 2004 there have been annual iPRES conferences around the globe for the international digital preservation community to share their recent research, development projects, implementation efforts, and other practical experiences, and to enhance collaborations within the field and across the related domains. Because of the COVID-19 outbreak, the iPRES2020 had to be postponed to iPRES2021. With the support of the whole community, iPRES2021, (http://ipres2021.ac.cn/), will be organized in a hybrid mode. iPRES2021 will be co-hosted by the National Science and Technology Library (NSTL) and the National Science Library of Chinese Academy of Sciences(NSL).
You can refer to the documents at http://ipres2021.ac.cn/dct/page/70005. Please do not hesitate to contact us if you have any question about iPRES2021 at ipres2021@mail.las.ac.cn
https://ipres-conference.org/
Contact:
Stefan Strathmann
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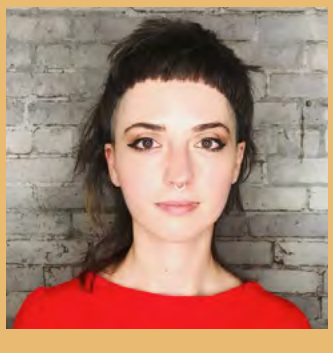


**Terra Huber**

# Conservation Treatment and Digitisation of Posters for the Exhibition "Toulouse-Lautrec and the Stars of Paris"

The Northeast Document Conservation Center (NEDCC) conserved, digitized, and framed nine large Henri de Toulouse-Lautrec posters from the Boston Public Library's collection (BPL) in preparation for their loan for a major exhibition at the Museum of Fine Arts, Boston (MFA Boston) from April to August 2019. The treatment of these heavily damaged ephemeral objects, which are now revered as fine art, was a balance in subtle aesthetic improvement required for exhibition and structural stabilization for long-term preservation.

## Toulouse-Lautrec and the Stars of Paris – The Exhibition

The exhibition of about 200 works by Henri de Toulouse-Lautrec and his contemporaries sought to capture the culture of fin de siècle Paris and its avant-garde celebrities as depicted by the artist most involved with the era's raucous nightlife. Toulouse-Lautrec's unique, expressive approach to mark-making, bright fields of color, and lively compositions were epitomized in the poster designs he created throughout the 1890s, elevating commercial lithographs from graphic design to fine art.

The MFA Boston's show was a collaboration with the Boston Public Library, which loaned over 100 objects from its extensive Toulouse-Lautrec collection for exhibit. While the conservators at the MFA Boston prepared most of the objects for exhibition, nine posters needed more extensive conservation treatment, as well as digitisation and framing. Five of the posters would be on display for the full four months of the exhibition at the MFA Boston,

**NEDCC Conservators Terra Huber and Audrey Jawando inpaint a Toulouse-Lautrec poster.**

while the other four were to be shown one at a time over the four-month period in a case at the BPL Central Library. Funding for the posters' conservation was underwritten by the MFA Boston and the Associates of the Boston Public Library.

## Ephemera, Elevated

The budding advertising industry in the late 19th cent. called for quick and cheap ways to mass produce images for temporary display. These bold poster designs by Toulouse-Lautrec were commissioned by enterprises as diverse as nightclubs, publishers, and a cycling company to seize public attention and garner interest in events and products.

The posters were oversized to command attention, necessitating a large amount of paper. Costs could be cut by selecting inexpensive, low-quality paper that was thin and light enough to be quickly mounted with tacks or adhered to walls with paste. The advertisements were hung in densely populated and well-traveled locations, often outdoors, where they were subject to the damaging effects of the elements and vandalism.

These oversized posters on cheap, thin wood pulp paper were intended as commercial ephemeral objects and treated as such by those who produced and displayed them. However, Toulouse-Lautrec's unconventional compositions and gestural lines combined with his sometimes suggestive subject matter created both sensation and scandal at the time of their display around Paris. Popular in their time, collectors quickly began to gather these posters that would likely have been discarded. Their value as images became much greater than the value of the materials used to create them and these ephemeral objects were elevated to fine art that must be preserved. Early collectors sought to extend the life of the degraded paper by lining the posters with textiles.

## Project Planning Begins with a Condition Assessment

An NEDCC paper conservator spent a day at the Boston Public Library carefully examining the condition of all nine posters and speaking extensively about the goals of treatment and the exhibition with BPL Curators and Preservation staff. The posters were then sent to NEDCC for further examination and testing, while treatment needs and goals continued to be discussed between NEDCC, the BPL, and the MFA Boston.

The nine lithographs were printed on the typical thin, low-quality poster paper of the time, which had become embrittled, discolored, and degraded. Each poster had been lined with a textile at some point in its history and tack holes with rust stains were visible along many of their margins. A surprising variety of textiles had been employed for this purpose, from very loose, open weave textiles to what appeared to be commercially prepared artist's canvas with gesso. As a general rule, the more open the weave, the more tattered the edges of the lining and the paper support, and the worse the overall condition of the poster. The posters had all yellowed and darkened to differing degrees due to oxidation of what is likely the high lignin content of the low-quality paper support. Further probable causes of the paper discoloration include the lining adhesives and the degradation of the lining textiles. For the most part, the more visibly degraded the lining, the more discolored the paper support.

The linings had also caused damage when they were initially adhered to the posters. The lining adhesives introduced moisture to the paper support, causing the thin paper to expand when wet and then contract more than the textile did as it dried. This made some areas pull away from the textile and create wrinkles. As the paper aged and became more acidic, its thinness combined with its increased brittleness rendered it more and more delicate. Many of these posters were rolled, compressing these wrinkles until they tented further and the brittle paper cracked at the peak of each ridge. These raised areas were also vulnerable to abrasion, resulting in paper and media loss.

The edges of these oversized posters were crushed and ragged. Small pieces of paper around the heavily dam-

**Tented wrinkles from lining.**

aged edges detached from the poster but remained adhered to the lining, leaving complex channels of loss between them. Those pieces that remain attached to the open weave textile did so only tenuously and were extremely vulnerable to loss.

**Tattered poster edges showing extensive loss and fragments detached from the whole.**

The poor condition of most of the posters necessitated extensive yet delicate conservation treatment to prepare them for exhibit and to stabilize them for long-term storage. The linings and size of the posters meant that they were heavy, especially those backed with gessoed canvas. Their weight and their extreme fragility posed a huge challenge for the structural stabilization required to mount and hang them vertically for a four-month exhibition. The treatment and framing goals were to ensure their safety for storage and protect them from further damage caused by handling, as well as increase their accessibility to the public and researchers.

## Library and Museum: Different Missions, Different Goals

Discussions with the lending institution and the borrowing institution revealed some differences in how they envisioned the treatment of the posters should be performed. Although the ultimate goal of both institutions was to provide care that will preserve the posters for the long-term, the contrasting aesthetic approaches of a public library and fine art museum became apparent. As the institutional owner of the posters, the Boston Public Library was interested in retaining as much visual evidence of the posters' history as possible for researchers. This meant maintaining some marks of damage that would not threaten the preservation of the posters. It was decided that the tattered and vulnerable edges would be stabilized to protect the paper from further damage and to curtail the fraying of the lining textiles, but the edges would not be made perfectly straight and square. Only the most distracting paper losses would be filled, so a certain amount of the lining would still be visible from the front on some of the posters. The four posters to be on rotating display at BPL would be float mounted so the entirety of the edges could be viewed. On the other hand, the Museum of Fine Arts, Boston intended to present the posters as fine art objects and were less focused on revealing traces of their history. The five posters to go on display at the MFA Boston would have losses filled using the same principles, but the tattered edges of the posters would be covered by mats. This was also necessary from a conservation point of view, as the over-matting would help to hold and stabilize the heavy posters over the four months of vertical display. Inpainting on all posters was only conducted on the most distracting media losses when standing at a normal viewing distance.

## Conservation Treatment

Once the treatment plan was agreed upon, the condition of both sides of the posters was documented with digital images captured by NEDCC Collections Photographers. Three of the posters also had gallery stamps or provenance cards on their verso, which were also digitized with close-up images before treatment began.

The posters had accumulated dirt and grime from being displayed in public, outdoor spaces. The first step was to lightly remove loose dirt using soft sponges and brushes. Much embedded grime and soiling remains, as the degraded paper surface was very fragile and easily disturbed by abrasive action.

All of the original lining textiles on the verso of the posters were kept due to the extreme fragility, thinness, and existing damage of the posters' paper supports. Although the paper was tenuously adhered to the textile linings in many areas, wholesale mechanical separation of the brittle paper from the linings was impossible. Aqueous treatment was also not an option, as the paper formed dark stains and tidelines even when relatively low lev-

**Applying methyl cellulose under a detached split in the paper.**

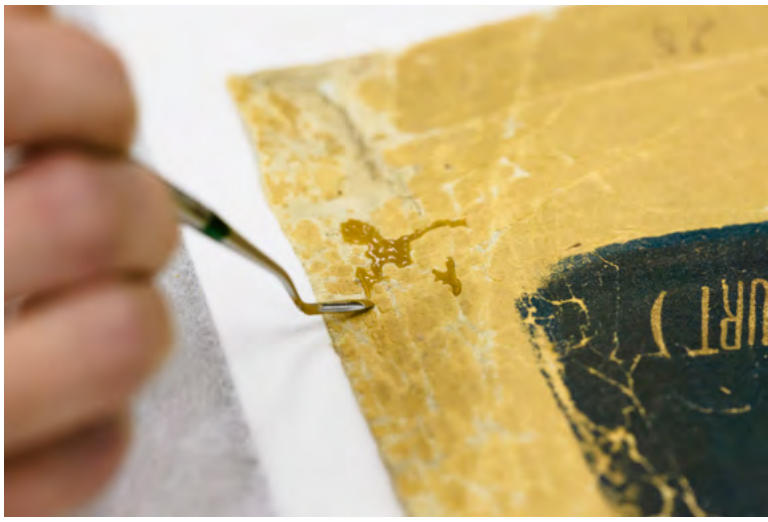
els of moisture were introduced. Even if lining removal could be safely performed, the many small fragments at the edges of the paper would have been lost or damaged and the extensive cracking of the thin paper would increase and destroy the posters. Some of the textile linings had frayed edges, so that overhanging threads were trimmed to reduce the chance of further fraying.

Some of the posters had pressure sensitive tape, hinges, or self-adhesive labels that were removed mechanically or with small amounts of locally applied moisture. The adhesives were reduced mechanically or with organic solvents when possible.

Due to the high risk of creating irretractable stains on the poster, consolidating, mending, and filling had to be accomplished using as little moisture as possible. To reattach the paper support where it had lifted from the lining and to prevent further loss where it had tented and split, methyl cellulose or dry wheat starch paste were applied through the looser weave textiles from the verso or were deposited through the cracks in the paper support. Some splits and tears were strengthened from the verso with Japanese *kozo* tissue and dry wheat starch paste. One smaller poster was supported using a low moisture lining technique with Japanese *kozo* tissue and reactivated wheat starch paste and methyl cellulose. The edge of two of the most heavily damaged posters were reinforced using the same technique with strips of *kozo*.

**Strip lining the edge of a poster with re-moistenable Japanese tissue.**

The crushed areas along the edges of the posters had a tremendous amount of irregularly-shaped loss between small pieces of remaining paper support. In order to visually integrate these losses without introducing excessive moisture or overlapping the original material, a slurry of cellulose powder and methyl cellulose was applied to the gaps with a microspatula. The color of the cellulose powder was first modified to a light brown to match the original paper tone. In several places, a more typical filling method was applied using cast paper and methyl cellulose or dry wheat starch paste, but this was only done where the fills could be adhered behind original material or with an extremely small overlap.



**Applying a cellulose powder and methyl cellulose slurry to edge losses.**

Media loss was present throughout the posters where the paper support had cracked or torn, had been abraded, or was lost. Some losses in image areas had been filled with white or colored paper in the past and a number of these areas included poorly executed inpainting. Fills that were applied to the recto of the poster were removed and inpainting was reduced with a small amount of locally applied moisture. Losses in the printed media were then visually unified with the poster through inpainting. An isolating layer was first applied locally to the loss areas so the inpainting media would not be absorbed into the damaged fibers and become difficult to reverse in the future if needed. As per discussions with the BPL and the MFA Boston, only losses that were distracting from a typical viewing distance of several feet were compensated so as to not obscure traces of the posters' history.

**Removing an oversized colored paper fill.**


**Lifting poster off of humidification packet and onto flattening table.**

Posters that retained undulations from rolled storage or original linings were slowly humidified in a moisture chamber and allow to dry while flattened between felts under acrylic sheets and weights. This process was repeated as necessary until planar distortions were adequately reduced for matting and framing.

## Digitisation

The Toulouse-Lautrec posters conserved at NEDCC were also digitized at preservation quality. In general, the posters were digitized following the vast majority of their conservation treatment but prior to matting and framing.

Two posters, *Eldorado Aristide Bruant* and *Aristide Bruant dans son Cabaret*, were selected by BPL staff for preservation quality imaging before and during treatment as well. The goal behind these additional rounds of digitisation was to create high quality images that could document the nuance of the conservation treatments performed and thus be used in the Library's educational programming. In tandem with each poster displayed at the Central Library, the BPL featured information and images on the conservation process in action to build awareness and support for this important work.

The two posters selected for additional imaging were captured before any treatment started, documenting the full extent of damage suffered by the posters. For the 'during treatment' imaging, the collections photographer worked closely with the conservators to determine the stage of each poster's treatment that would be most illustrative of the impact of the treatment. The conservators chose to have the posters imaged following cleaning, initial flattening, mending, and filling losses but prior to in-painting and the more intensive flattening campaign that came at the end of treatment. Captured at this stage, the images make clear the painstaking work involved in the conservation treatment and some of the aesthetic improvement such treatment yields.

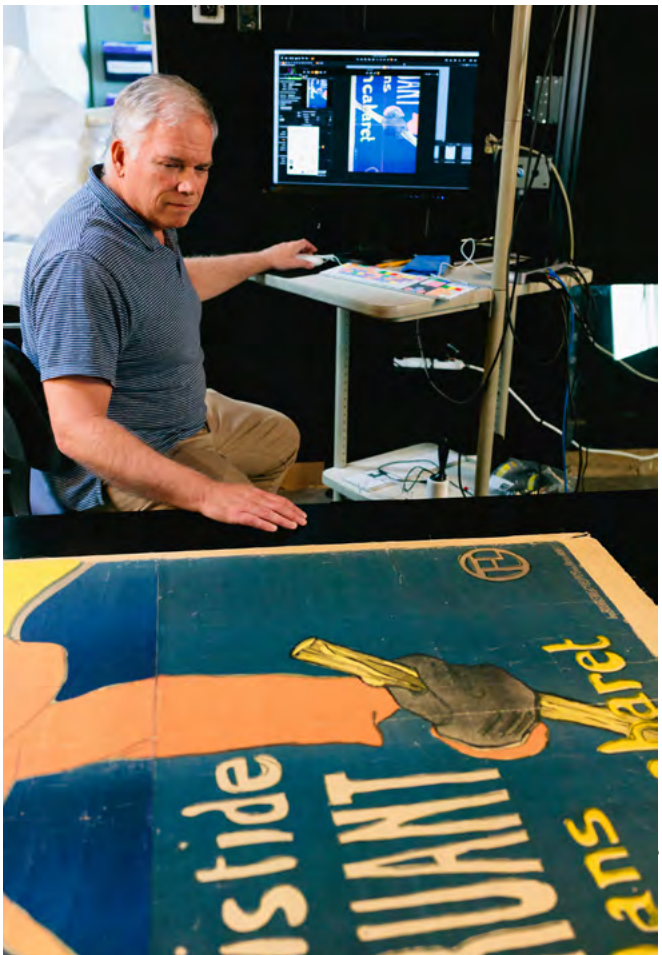
The digitisation process itself took place on NEDCC's X-Y table, which is used for digitizing large format materials. The X-Y table is a 4' x 8' vacuum table on rails, with a medium format digital camera suspended above. When digitising large objects at high resolutions using digital cameras, the camera can only capture a portion of the object at a time. This is where the X-Y table comes in. Because the table is on rails, the posters were placed on the table and then the table was moved along its X and Y axes underneath the stationary camera as overlapping sections of the posters were captured in a series of separate image files. The largest of the Toulouse-Lautrec posters required

**Detail: Eldorado Aristide Bruant poster before and after treatment**

12 separate image files, each more than 11,000 pixels on their long dimension and larger than 600 MB.
After the overlapping image files were captured, they were 'stitched' together in commercial image editing software to create single high-resolution images representing the posters in their entirety. After years of imaging large format materials, the NEDCC collection photographers have learned that stitching image files together often requires some helpful strategies to achieve good results. For example, magazine clippings were placed around the perimeter of posters that had large areas of homogenous visual content. The magazine clippings gave the stitching software unique visual information to match from image segment to image segment, and yielded more accurately stitched images for those otherwise challenging to stitch posters.

But even when the series of files captured from a poster appeared to have assembled together seamlessly, the resulting image had to be inspected at full magnification along all of the seams to ensure there was no mis-registration from one segment to the next. If any mis-registration was identified, this would require either that segment files be stitched together manually, or that the segment files be re-captured with greater overlap from section to section.

The posters presented some unique challenges for digitisation even beyond their large format. Most notable were the planar undulations described above. Even though the posters were humidified and flattened for weeks prior to imaging, some planar distortion simply could not be eliminated. We often encounter objects with such subtle topography, and rarely does that topography impact image quality. However, several of the posters had large swaths of dark color printed on very smooth papers (*Eldorado Aristide Bruant* is an excellent example), and under these circumstances the subtle undulations would receive and reflect more light than adjacent, flatter areas of the poster. In the digital images, this resulted in a mottled appearance not accurate



**NEDCC Collections Photographer David Joyall photographing a poster**


***Aristide Bruant dans son Cabaret*** **poster with seams highlighted in the software, illustrating the relationship of the 9 separate image files required to capture the poster in its entirety.**

to the experience of viewing the actual posters. With some creative lighting, both softening the light and adjusting its angle and position relative to the posters, the photographer was able to minimize the hard reflections generated by the surface topography and thus achieve images much more truly representative of the posters themselves.

## Mounting and Framing

Following digitisation, the posters were ready for mounting and framing. The posters were first attached to a 100% cotton rag backing board with Japanese paper hinges adhered with wheat starch paste on the object, a bead of wheat starch paste and Jade 711 (a synthetic adhesive that improves attachment) mixture at the fold, and Jade 711 on the backing board. For the four posters to be displayed at the BPL, the hinges were not visible and the objects were float mounted within the window opening. For the five posters to be displayed at the MFA Boston, the objects were over-matted and all edges were covered. All posters were placed in custom-made stained wooden frames with wooden strainers and 4.5mm Optium Museum Acrylic for glazing. A Tycore mounting panel was placed behind the backing board to provide additional support and aluminum channel fillets were used to keep the object from coming into contact with the acrylic glazing.

## Conclusion

The treatment approach to these Toulouse-Lautrec posters was focused on structurally stabilizing the fragile materials in order to allow them to be safely exhibited for a number of months and stored in the future. The interventions were as non-invasive as possible, using materials and methods that do not alter or obscure the original material of the object and can be reversed by future conservators if further treatment must be performed.

The posters have been preserved while also making them available for the public. Their frames will help protect them from further damage caused by handling these large and fragile posters.

Thanks to BPL Preservation Manager Jessica Bitely for her help with the story.

Photos: Courtesy of NEDCC / Tim Gurczak

**Conservation Treatment Consumables:**

Methyl cellulose, toasted cellulose powder, wheat starch paste, Japanese *kozo* paper, watercolor paints

**Boston Public Library**

Established in 1848, the Boston Public Library is a pioneer of public library service in America. It was the first large free municipal library in the United States, the first public library to lend books, the first to have a branch library, and the first to have a children's room. Boston Public Library today features the Central Library in Copley Square, twenty-five branches, and extensive special collections of rare books, manuscripts, maps, photographs, prints, digital content, and online services. To learn more, visit bpl.org

Visit the complete Henri de Toulouse-Lautrec (1864-1901) Prints and Drawings collection at the BPL.

**Museum of Fine Arts Boston:**

MFA is one of the most comprehensive art museums in the world; the collection encompasses nearly 500,000 works of art, and welcomes more than one million visitors each year to experience art from ancient Egyptian to contemporary, special exhibitions, and innovative educational programs. To learn more, visit mfa.org

**NEDCC Project Team:**

The treating conservators on this project were Terra Huber, Suzanne Gramly, Audrey Jawando, Amanda Maloney, Natalia Paskova. Senior Collections Photographer David Joyall provided digital imaging. Jonathan Goodrich, NEDCC registrar, made sure they were safely packed and shipped. Director of Imaging Services Terrance D'Ambrosio provided the description of the digitisation process.

Paul-Bernhard-Eipper

# The conservation of torn canvasses, part II

Direct link to part I: https://www.museumaktuell.de/home/eTime/ExpoTime-2020-0810/index.html#p=61

## Commercial products

Many PVAC dispersions are tailored to their later use during production. These easy-to-acquire finished products (wood glue, etc.) are popular with restorers. However, they should not be used because they contain a large number of additives which are completely unsuitable for conservation purposes. These are: protective colloids, surface-active substances, film-forming aids, buffers, plasticizers, solvents, dyes, antioxidants, fillers, microbiocides, defoaming agents, antistatic agents and enhancers.

The exact composition of dispersions is kept secret by the manufacturer. However, it can be assumed that the commercially available wood glues are made from homopolymer types. Instead of an expensive copolymer, a plasticizer is added to these. The additives are added to the products in order to obtain an ideal finished product for specific requirements and not in order to produce a product that meets conservation requirements. When the water evaporates, the individual components add up. The specialist literature warns against non-volatile buffers which are added to the PVAC dispersion. They can damage the surrounding material at increased relative humidity. [1] Another study shows that most additives reduce the stability of PVAC. [2]

A basic requirement for the use of PVAC is to use only slightly modified types of PVAC from the basic product suppliers in order to introduce as few components as possible into the structure of the painting that are unpredictable with aging. This is not guaranteed when using finished products.

Selection and use of certain varieties for restoration Hoechst and Wacker offer a variety of grades that are geared towards specific requirements. Hoechst products are traded under the name Mowilith, Wacker products under the name Vinnapas. [3] Only these types of PVAC will be discussed below.

They are relatively pure products to which high polymer compounds (PVAL), cellulose derivatives (H.E.C., M.H.E.C., C.M.C.) or surface-active substances [4] are added by the producers as protective colloids / emulsifiers. [5]

Of the pure varieties that Wacker and Hoechst offer, suitable ones for conservation requirements on the textile supporter were determined and subjected to various tests. [6]

They are: Wacker H 60 approx. 60% (homopolymer PVAC, medium hardness) and EP 11 approx. 50% (the hardest copolymer PVAC from Wacker). In the meantime [7], the names of the Wacker Vinnapas products have changed: Vinac H 60, Airflex EP 11. They correspond to the Mowilith types D 60 approx. 60% (homopolymer PVAC; with 88 mol.% Degree of saponification partially saponified PVAL as protective colloid) and DM 105 approx 55% (copolymer of vinyl acetate and ethylene, pH 3-4).

Mowilith DM 257 approx. 50% (the hardest homopolymeric PVAC dispersion from Hoechst) and Mowilith DHS (homopolymeric PVAC dispersion, which has the lowest cold flow and passes the creep test according to BS 3544 [wood glue test]) are suitable for mixtures. The limited shelf life of the mixtures is at least one year and must be observed. The unmodified raw materials Mowilith DC and Mowilith DM 5 have a good 10 years, whereas the Wacker products Vinnapas H 60 and EP 11 can easily be stored for 30 years. The validity of these statements, which were presented in 1993, [8] was proven by another study in 2000. [9]

## Mixtures of different types

Since the homopolymeric PVAC dispersions are too hard and brittle, but the copolymers are too soft, but are still regarded as ideal, i.e. the use of these types alone does not seem possible, the production of mixtures must be taken into account. [10]

Mixtures of dispersions can be produced with the desired hardness and elasticity, depending on the requirements of the object. While Mowilith DM 1 has sufficient tensile strength for a canvas painting of approx. 60 cm x 40 cm that is not too tight, a mixture of homopolymer and copolymer dispersion would be advisable for a larger or more tightly stretched painting. Mixtures with different proportions - e.g. 3/4 Vinnapas H 60, 1/4 Vinnapas EP 11; 1 part Mowilith D, 1 part Mowilith DM 105 [11] or 1 part Mowilth DHS, 2 parts Mowilith DM 105. Mixtures of different Wacker and Hoechst products are possible. Additions of homopolymer PVAC to copolymer PVAC increase the resistance to high tensions, but also make the films less flexible and more brittle. By modification, more suitable adhesives can be produced, for mending tears of individual cracks in individual regions of torn paintings, than would be the case if a single dispersion would be used for all tear shapes and sizes at any part of the painting.

## Dilution

For mending of tears, PVAC dispersions are too highly viscous mostly and therefore must be diluted with distilled or deionized or another kind of suitable (buffered) water. This is only possible up to a certain ratio, as the dispersion then separates. Diluted dispersions are only stable over a certain period of time because they separate.

## Neutralisation

Many dispersions have a pH value that is too low. They have to be buffered and can only be used for some days because of the segregation that occurs. Neutralisation can be done instead of dillution or after dillution, which works easier. The pH values can best be raised with ammonia [12] and lowered with formic acid or sulfuric acid. The neutralisation limits the usability of the liquid dispersion to a maximum of six months and shortens the longevity of the dried film. The acid number (AN) [13] must be observed here. It is used to determine the content of free organic acids in fats, oils and solvents as well as plasticisers. [14] It is determined in accordance with DIN 53402 and indicates the amount of 0.1 mol / l aqueous potassium hydroxide (KOH) in milligrams that is required to neutralize one gram of substance. [15] Unless otherwise stated, it refers to the solvent-free product. [16] It determines the reactivity of the dispersion and the resulting film with saponifying substances such as strong bases and thus ultimately the durability of the dispersion or the film. It should be very low. [17]

## PVAC in the tear bonding

Tear bonding differs from tear welding in that there is no targeted use of heat, for example with a soldering needle. The tear bonding is mostly used in textile restoration but also for smooth cuts in canvases. As described, the adhesive materials also used for the tear mending are used. The adhesive application is the same here. Additions of homopolymeric PVAC to make the films harder, if necessary, are possible, but should not be used in larger quantities (> 1: 1) because of their low elasticity. It is essential to create test rows to determine the specific correct adhesive in each case. The tear bonding is inferior to the tear mending in terms of tensile strength, as it represents a thread connection butt joint. Nevertheless, there are considerations – from the point of view of reversibility – to reduce the adhesive force of the PVAC. In principle, the interface should be secured by means of thread bridges, which are placed alternately under opposing tension. 20 years after the investigations, the need for thread bridges was confirmed again. [18] A finally applied rear protection, which acts here as light and climate protection, is mandatory. [19] Since 1992 I have only used Wacker Vinnapas H 60 and Vinnapas EP 11, or Hoechst Mowilith D and Mowilith DM 105, in various mixing ratios in my work. [20]

## Outlook

Laser technology is currently enjoying great interest in research in the field of conservation of cultural property. For the near future, research results are to be expected for an even gentler tear mending process than is guaranteed by the temperature-controlled needles used up to now using laser technology working with low temperatures.

**Acknowledgements**

Many thanks for the support to several colleagues of Hoechst, Frankfurt and Wacker, Burghausen.

**Notes**

1 Witte et al 1984, p. 32
2 Technical Report, CCI, 2000
3 Kunstharze Hoechst, Product Information, Frankfurt, 1992; Wacker, Vinyl Acetate Polymers, Technical Information. Munich 1991
4 Anionic or nonionic emulsifiers which influence the hydrophilicity / hydrophobicity of the dispersion film.
5 e.g. Mowilith DM 105 is adjusted to be nonionic to weakly anionic.
6 Messages from Hoechst, Frankfurt, and Wacker, Burghausen; experiments by the author
7 in the year 2000
8 Eipper 1993, p. 72-78
9 Eipper 1997, 95-99; Technical Report, CCI, 2000
10 Eipper 1993, p. 66
11 This mixture is used in a painting by Domenico Tiepolo ("Emperor Justinian as legislator", Inv. No. Wü Res G 123). Schwabe; Seidel 1996, p. 326
12 Hoechst Mowilith 1970, p. 115
13 Also in German SZ = *Säurezahl* (saponification number). Nägele 1989, p. 39
14 *Roempps Chemie Lexikon* 1995
15 The similarly defined neutralisation number (NZ) not only records the organic acid, but also the total acid content and is used for better determination in mineral fats and oils.
16 Hoechst Kunstharze 1982, p. 7
17 Nägele 1989, p. 39. Mowilith Ct 5 has a SZ up to 45, Mowilith solid or in solvents has a SZ up to 3
18 Flock 2013
19 Eipper 2015, p. 277–289
20 Eipper 1992, p. 1–191; Eipper 1993, p. 53–81; Eipper 1997, p. 27-38, Eipper 1997, p. 20-28; Eipper 2003, p. 4100-4105; Eipper 1993, 2008, p. 31–34; Eipper 2008, p. 21–27

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