News from the Working Group

Christa Hofmann

The ICOM-CC Triennial Conference in Melbourne was very well organised and provided an intense five-day program including lectures, posters, plenum sessions and visits. All papers and abstracts of posters are accessible at the ICOM-CC web site. The plenum focused on environmental guidelines for museums and loans developed in cooperation between ICOM-CC and IIC. Impressive talks reported on rescue work for cultural heritage after the earthquake on the Philippines, the Tsunami in Japan and bushfires in Australia. In the sessions of the Working Group Graphic Documents, eight people presented nine papers, three of them from Australia and New Zealand. Many people from the region and Far East Asia attended the conference. As a Working Group we want to build on these contacts and intensify them. During the conference, the new Directory Board and the new coordinators were elected, for the first time by an electronic voting system.

I would like to introduce myself as the new coordinator of the Working Group Graphic Documents. My name is Christa Hofmann. I am a graduate from the conservation program of the Academy of Fine Arts in Vienna having specialised in paper conservation. During internships in the USA and in France, I received further training in photo conservation. I am currently head of conservation at the Austrian National Library. Last year we hosted the Interim Meeting of the Working Group in Vienna. I hope to meet many of you in person in the next three years.

Marie Vest, Paul Garside and I have submitted the following program for the period 2014-2017 to the Directory Board. Our proposal is currently under review.

- We want to attract more members to the Working Group from all continents representing conservators working in institutions, in private practice, in training and conservation scientists.
- We are planning to communicate with the members by short news and a newsletter (one per year) on the web site and by email.
- We will organise an Interim Meeting in 2016 in Europe.
- We want to develop an excellent program for the Triennial Conference in 2017 that is relevant for our members.
- The Working Group aims to function as an interface between research and application to improve the interaction between conservation practice and research.
- Communication and exchange will cover paper, parchment and book conservation including different media on paper and parchment.
• We will discuss the impact of digitisation on conservation and collection management.
• The Working Group wants to provide a network of mutual support, of information on current developments and of discussion about the future of conservation.

I am very much looking forward to hearing from you, to meeting and to working with you. My goal is to enhance communication between meetings by short news and by use of the forum. I will inform you about news on the web site by email. Please contact me if you have ideas, questions or suggestions for the Working Group.

**Presentation of the printed series for the Triumphal Arch of Maximilian by Dürrer at the Louvre Lens**

Valentine Dubard

Renaissance, the inaugural exhibition at the Louvre-Lens Museum, was the opportunity to present the engraved works of Albrecht Dürrer for the *Triumphal Arch of Maximilian*. The proof of the Louvre is conserved as an album in the Rothschild collection at the prints and drawings Department. It is composed of 36 prints engraved from 192 wooden plates and dates from the first edition (1517-1518). The exceptional size of the *Triumphal Arch of Maximilian*, when assembled measures about 4 meters by 3 meters, and the necessity of its return in an album after the exhibition formed the main challenge of this project. These conditions require a form of light and reversible work, which has driven the choice of the applied method. In order to assemble the 36 prints of Dürer, a lightweight and reversible solution had to be found.

**Restoration**

The prints were first separated from the album and restored. Their conservation condition required little intervention: mostly dust removal and consolidation of tears.

**Preview, pre-assemblage**

The margins of the prints had been cut off before entering the museum’s collections. Although very irregular, the narrow margins allowed us to assemble the prints almost side by side with hardly any overlap. The works were first laid side-by-side, flat, in the conservation studio of the Louvre in order to find the best alignment. This first installation has allowed us to seek the best assemblage of the works and to gauge the offsets of the engraved lines from one page to another. The offsets are minor, due to the printing from the 192 wooden plates; however the horizontal and vertical lines are even more noticeable than the subject of the work itself, a triumphal arch. The preview at the studio also helped us to refine our approach. The first project was to transport the prints in sheets and then assemble them one by one on the back of the display window. However, the imposed constrains, sometimes due to the margin irregularity (from 5mm to 11cm) and the offset lines, led us to pre-assemble certain prints 2 by 2, 3 by 3 or 4 by 4. These prints have been attached to one another (fixed between them) with Japanese paper hinges of 11 and 18g/m². This pre-assemblage allowed the most accurate balance given all of the constraints. Patterns reproducing exactly the shape of each module were cut out of blue paper sheets. The prints were transported by modules of reasonable size. They were maintained between honeycomb cardboard and placed in custom-made boxes.

**Assemblage in situ**

The background of the window was covered with machine made Japanese paper of 29 g/m². Artworks were set up with the help of those blue paper patterns. Plummets were used for the
verification of vertical lines. Horizontal lines were calculated according to the display window. Once the patterns were positioned, they were removed one by one and replaced by the prints, which were fixed with Japanese paper hinges of 11 and 29 g/m². Considering the mounting format, 4 x 3m, these verifications required a good organization and certain flexibility during the intervention. The Maximilian arch has a pyramidal shape. A sheet of handmade paper, coloured beforehand to create harmony with the work, was pasted on the background of the vitrine under the upper part of the arch, in order to compensate the pyramidal cut-out of the work. The chosen paper refers to project of the conservation studio of the department of drawings and prints; it also emphasizes the support of the museum and our interest for traditional papermaking.

**Fig. 1:** Pre-assemblage  
**Fig. 2:** Assemblage in situ  
**Fig. 3:** Assemblage in situ  
**Fig. 4:** Mounted Triumphal Arch

**Collection Care Conference 2013, Evolution or Revolution: the Changing Face of Collection Care**

The conference organised by Collection Care at the British Library offered lectures and discussions on the changes brought about by digitisation and the economic climate in recent years. Lectures that reviewed the development of conservation departments or personal carriers showed that less time is being spent on practical conservation treatments and treatments have become less interventive. Conservators have acquired a more holistic view on collections. A common theme of the conference
was prioritisation. Different models of setting priorities and developing preservation strategies were presented. The British Library model follows the goal “fit for purpose”. Minimal intervention treatments make objects fit for digitisation. Several speakers including the keynote by Bill Thompson stressed the importance of one preservation strategy for analogue and digital objects: one library – one collection. Collection care has to be part of digitisation workflows in order to be part of the solution. The changing face of collection care asks for conservators with excellent management skills that can communicate well with non-conservators and are not afraid to talk about money.

More information on the very well organised conference can be found at the blog of Collection Care of the British Library: http://britishlibrary.typepad.co.uk/collectioncare/

VII. International scientific-practical conference: “Preservation of collections of libraries: scientific, economic and practical aspects”, St. Petersburg 2013

Julia Wikarski

The seventh international conference took place in St. Petersburg from the 21st to 22nd of October 2013. The Russian National Library in St. Petersburg hosts this conference every three years. It was complemented by a national seminar that presented the results of the “National Program of Conservation of Russian Library Stocks”. Most participants of the international conference came from different regions of Russia, but also from Lithuania, Latvia, Ukraine, Germany and Austria. The presentations were divided into three areas: theory and large projects, research and practical conservation work.

The general part involved the digitisation of large collections, issues of preservation and storage, as well as mass preservation, respectively deacidification. Ethical, economic and technical aspects were discussed, particularly in terms of decision-making processes prior to digitisation. In the versatile second part, research projects were presented on topics like materials quality and properties, storage conditions, microbial infestation, the effect of light on paper objects in exhibitions and analysis of special equipment. This included the investigation of devices for freeze-drying, measurement of air quality, effectiveness of disinfectants, resistance of cover materials to microbial attacks and a study analysing dust on objects stored in areas contaminated with biocides. The proper storage and handling of library and archival materials was discussed with practical examples and material analysis as well. In the third part restoration of valuable bibles, as well as the reconstruction of book clasps were shown. In the whole, it was a noticeable trend that the tasks for conservators in the future will be focused more on preservation issues and less on practical restoration.

Talking to Russian conservators gave the impression that preservation of collections in libraries and archives in Russia is generously funded as part of national programs. This funding includes the digitisation of library and archival holdings, as well as their restoration and preservation. However, most of the funds are provided for digitisation and technical equipment and only a relatively small amount is provided for conservation/restoration. Conservators are faced with the problem that their work, which is essential for preparing collections in digitisation processes, is not given the required importance. Under these premises, the working conditions for conservators are made difficult, when trying the best for the collections. Schedules are often created without including the workload of restoration work sufficiently prior to digitisation. Nevertheless, it is the declared goal of the “National Program of Conservation of Russian Library Stocks” to train employees in archives and libraries throughout Russia - from the head of an institution to magazines workers – on preservation of collections.
Diploma thesis projects: Stuttgart and Vienna

Irene Brückle


Marlen Börngen (2014). „Intensif-Station“– the conservation of the installation by Thomas Hirschhorn at the Kunstsammlung Nordrhein-Westfalen. Supervisors: I. Brückle, E. Hummert, A. Pataki-Hundt; external: N. Quabeck. In cooperation with the Kunstsammlung Nordrhein-Westfalen, this project concerned the development of options for the preservation of an artist's installation, featured in several adjoining rooms. The focus lies on 20 collages that are part of the installation. Thomas Hirschhorn collaged cut-out illustrations from magazines as well as digital print-outs from the internet, some of which he copied for enlargement and adhered on white paper sheets. The artist then used red felt tip and ballpoint pens for inscribing text on images and adding red colouring, mostly around the perimeter of the images. The face of each collage is covered in florist plastic foil, which is attached along the paper perimeter with brown packaging tape. According to the artist’s wishes, the works are exhibited under bright lightning in rooms illuminated by daylight fluorescent bulbs. This resulted in the red colouring showing significant fading. Solutions for preserving the collages are explored under the recognition of different opinions from the artist, curator and the conservators. It was also considered how other collections that own similar works on paper by Thomas Hirschhorn have dealt with their preservation. As a first step in the preservation plan for this complex work, the artist reworked the red colouring of the collages in his studio. He used a selection of ballpoint pen and felt-tip pens had been tested for their light fastness beforehand and matched the previous pen strokes appearance. The collages will be at this stage (9/14) digitized for documentation and future record. An assistant of the artist will assist the conservators with the reinstallation of the collages at the Kunstsammlung. UV-filters will be installed over the fluorescent lights in the installation rooms.

Julia Roller (2014). Removal of ionic fixatives (aqueous washing treatment aids) from paper. Supervisors: I. Brückle, A. Pataki-Hundt, external: U. Henniges, A. Potthast. Aqueous washing and deacidification are important treatments in paper conservation. However, not every paper can be treated with water without restriction, since it may contain inks, watercolors or other media that are extremely sensitive to water, may bleed or even be flushed out of the paper. In order to counteract this effect, ionic fixatives – particularly the Bückeburger fixative process (Rewin® EL and Mesitol® NBS) – are frequently used in aqueous treatment of paper objects, especially in mass conservation. Discoloration forming in treated paper has been observed after artificial aging. However, consequences concerning the aging behavior of the paper and its cellulose fibers were not sufficiently investigated yet. The current work seeks to close this gap with four analyses. It was investigated whether there is a relation between the treatment parameter “washing” and the degree of discoloration. Such relation can be confirmed: washing is an important step to reduce the paper discoloration. Second, the aging behavior of cellulose fibers was examined by measuring carbonyl group content and molecular weight. Damage of the cellulose was noted, but its degree was diminished with increasing number of washings; damage was significant for Rewin® EL, not so for Mesitol® NBS. Third, it was tested whether the treatment with ionic fixatives results in load changes of the paper, which can be affirmed. A color indicator method was used to visualize residual fixatives in the paper. Finally, a quantification of ionic fixative residues in the paper also revealed that the extent of washing (number immersion washings) is of great importance in determining the amount of residual fixative residues in the paper. Overall, following a treatment with ionic fixatives, washing in
deionized water baths at least once for 15 min and ideally several times (e.g. 3 x 10 min) is key for the preservation of the treated paper.

Svenja Heidenreich (2013). The "Kleiner Klebeband" of the Fürsten zu Waldburg-Wolfeegg. Concept for the preservation of old master drawings mounted in an album. Supervisors: I. Brückle, E. Hummert; external: G. J. Dietz. In cooperation with the Kupferstichkabinett, Staatliche Museen zu Berlin, this project concerned the development of options for a preservation mounting solution for the collection of 15th- and 16th-century drawings assembled in the 17th century by Maximilian Willibald von Waldburg-Wolfeegg and mounted in the 19th century in an album that does not fulfill current preservation requirements. Solutions for preserving the drawings in a mounted situation that is equivalent to their previous situation in the historic album were explored and model albums were constructed from which the most suitable system chosen by the interdisciplinary team was constructed to scale. It consists of variable designs of thin archival window mats each sewn separately into a book structure from which they can be individually removed by opening the front cover affixed to the book block by hidden earth magnets. The prototype serves in the ongoing project as an aid in making a decision concerning the future preservation and access of the drawings and the album.

Catrin Schuster (2013). Sodium borohydride as a post-treatment after hydrogen peroxide bleaching. Supervisors: I. Brückle, A. Pataki-Hundt, E. Hummert; external: U. Henniges. Hydrogen peroxide is a versatile oxidative bleaching agent that is used to diminish local or overall discoloration in paper but poses the risk of damaging already aged cellulose. Sodium borohydride is not as versatile as other bleaching agents but offers the advantage of reducing oxidized functional groups. The project explored the consecutive use of the two bleaching agents where sodium borohydride functioned as reducing agent following the hydrogen peroxide bleaching treatment (3%, pH 9, 30 min) to counteract potential oxidative post-treatment effects that are damaging on the cellulose. The sodium borohydride applications included concentrations of 0.05, 0.2, 1, and 3% carried out by 30 min immersion; the 1% solution was also applied in a 15 min immersion and a 30 min aerosol application. Two naturally aged papers were treated and dynamically aged in sealed stacks exposed to 6-hour temperature cycles (20–80ºC). Samples were analysed for their average molecular weight, carbonyl group content and colour. The effect of blistering (raking light, wrinkle meter) was also determined. The tests showed that an increase in the concentration range 0.05 to 1%, sodium borohydride immersion diminished the molecular weight loss and the increase in carbonyl group content during artificial aging, as well as, to a slight extent, color reversion; increasing the immersion duration from 15 to 30 min also offered these benefits. The aerosol application of sodium borohydride had a distinctly negative effect, and the 3% immersion was less advantageous than those at lower concentrations for the stability of the aged samples. The major limiting factor of sodium borohydride immersion is blistering of the paper through formation of hydrogen gas bubbles, as observed on the short fibered samples. This made 0.2% sodium borohydride the highest concentration recommendable among the tested ones. The project was conducted in cooperation with the Department for Chemistry at the University of Natural Resources and Life Sciences, Vienna.

Mareike Vay (2013). Removal of an adhered book cover pasteboard from the front of a parchment illumination. Supervisors: A. Pataki-Hundt, I. Brückle. The treatment problem focused on the removal of cardboard that was adhered to the surface of an illuminated parchment page. It had been re-used historically as a cover for a book, probably close to its publication date (1586). The parchment arrived already separated from the book cover. Portions of the pasteboard were adhered with starch-based adhesive to the manuscript surface. On the object, three areas of increasing sensitivity to moisture were identified: the plain parchment, the manuscript writing, and the painted areas. The cardboard was removed using 10% methylcellulose MH 30000. It was cast, sliced into small squares and placed on the substrate to soften the adhesive. Poulticing time was between 10 and 30 minutes, and close to the fragile media surfaces, a protective polyester fabric interleaving was used. To avoid cockling
and associated media loss during the treatment, the object was placed in a room where the RH was raised to 60% for treating the illuminated areas, and to 80% for the other areas. The treatment was conducted in segments of two to three days maximum before the object was gradually returned to regular room climate at 50% RH over several hours. The introduction of moisture during treatment was additionally assisted by placing the object on a work surface above a moistened blotter covered with Gore-Tex®. Data loggers inserted into the support below the object and in the room monitored the RH. Humidification also assisted swelling the adhesive. The rate of moistening could be increased by increasing the room humidity, the poulticing duration, the weight on the poultice; and excluding a Hollytex® interleaving layer between poultice and substrate. Flaking paint areas were consolidated prior to the adhesive reduction using a brush application of a 1.5% aqueous solution of sturgeon glue. Remnants of cardboard fibers remain on the object. Parchment fragments were reattached and the page was inlay-mounted using Japanese paper strips. Paint particles irrecoverably loosened were analyzed with REM/EDX and identified as red ochre, vermillion, azurite, copper-based green, lead white, chalk, gypsum, and body spar. The uncovered manuscript text was identified to be most likely a section of a commentary on the 12th-century *Decretum Gratiani*, written between the late 13th to 14th centuries.

Nora Velensek (2013). **Stacked storage system for large works on paper.** Supervisors: I. Brückle, E. Hummert; external: F. Meyer. In cooperation with the Kupferstichkabinett, Staatliche Museen zu Berlin, this project concerned the development of options of enclosures for contemporary works of art on paper measuring between 600x420 mm and 1242x680 mm. These objects required a housing upgrade in the existing drawer flat file storage at the museum. About 1400 objects were analysed for sheet dimensions and aspect ratios, damage patterns and media sensitivities relating to storage and handling. The enclosure system was designed to reduce the risk of mechanical damage and improve the ease of handling in the museum study room and in exhibition preparation. For this purpose, the enclosures were designed compatible with frame dimensions, which were also standardized based on the collection assessment. The objects were statistically grouped by dimensions and analysed in relation to 9 frame formats, measuring between 845x640 mm and 1400x1000 mm and either already pre-established at the museum or suitable as new standard formats. The most common aspect ratio the analysed objects was 1:1.4 followed by 1:1.3. These objects were grouped according to the most visually compatible frame formats. Enclosure systems were tested for handling in a medium-sized format 1130x860 mm. The most suitable one features a shallow corrugated archival cardboard tray. A tray well holds several artworks, each enclosed either in a thin cardboard folder or in a folder featuring a thin corrugated backboard to be inserted in a frame by folding back its front cover. Stacks of these trays form a protective stack that is easily accessed. The stack perimeter forms an isolating barrier that retards moisture transfer into the middle of stack (tested during RH fluctuations cycling between ca. 75% and ca. 50% RH, 3 cycles 48 h each, constant T at 25°C). The final tray was pre-fabricated from a single plotter-cut and folded corrugated board by Klug-Conservation. Published in *Restaurator* 2014, 35 (3-4): 287-314.

Lina Wällstedt (2013). **Effects of historical aqueous treatments on the visual appearance of intaglio prints.** Supervisors: I. Brückle, E. Hummert. External: O. Masson. Historical intaglio prints often underwent previous treatment. The study provides a survey of treatment manipulations involved in documented 19th and 20th-century restoration recipes. Four aqueous treatments were replicated to study their effect on aged and modern intaglio prints. Samples underwent (1) immersion in a saturated calcium hydroxide solution, (2) repeated exposure to pouring hot water, (3) immersion in a soap solution assisted by surface brushing, (4) immersion in deionized water followed by spray-applied surface sizing with a 1% aqueous gelatin solution. The soap solution-immersed sample was pressed wet between blotters for drying, all other samples were air-dried. In addition, historical prints from the Tübingen University prints and drawings collection were examined and documented for marks resulting either from print production, use, or treatment intervention: two 16th-engravings (2 and 3 impressions, respectively), showing significantly differing wear, some had been lined and
pressed; and two 19th-century etchings. The useful methods of visual inspection included viewing under magnification and raking illumination at a low angle. The alteration of the print surface through the mechanical impact of treatment and handling is differentiated from the production-related factors (the paper, the condition of the printing plate, the printing ink). The most drastic damage was caused by the soap-washed, brushed and press-dried samples. The gelatine resizing increased the darkness of the printing ink in one historical sample. The replication of historical treatments supported the understanding of wear and historical treatment of intaglio prints.

Sigrid Eyb-Green

Diploma thesis at the Paper Conservation Programme at the Academy of Fine Arts in Vienna

Klaus Rubitzko:

Technology, Reconstruction and Conservation of Three Papier-Mâché Sculptures from the Cardboard Manufacture in Ludwigslust

This diploma thesis deals with two busts and one sculpture from the “Ludwigsluster Carton-Fabrique” in Mecklenburg, Germany. The busts date to the second half of the 18th century and were made using papier caché-technique; the sculpture in contrast consists of a papier mâché compound. The work focuses on technological aspects of the three objects and describes the conservation of the bust of Friedrich Wilhelm II of Prussia. Interventions included reduction of materials, which had been added during later restorations, re-shaping and re-attachment of the base with the bust, filling in and retouching of area of losses, and the conception of a new support system for display and storage. Since no specific papier caché recipes from the carton-fabrique exist, the technique was reconstructed based on the technological examination of the busts as well as on other sources and accounts of the manufactory and was then practically implemented.

Mila Moschik

Condition analysis and conservation of the album of Carl Holtei (1798-1880): A study of materials and damages of refined “cartes de visite” (business cards) in the first half of the 19th century, taking into account ground coats, embossing and printing techniques as well as media transitions.

Karl Holtei (1798-1880 Breslau), a widely travelled theatre director and writer, united in one album over 2300 paper-memorabilia which involves a lot of prints, written material and printed documents of everyday life from about 1820 to 1865. A large number of different printing and photo techniques as well as luxury-papers are identified and provide an insight into the versatile paper culture of the Biedermeier period. Based on an inventory and damage assessment, the album and endangered individual objects are restored. The stock of over 800 business cards is taken as a starting point to analyse the technology, application, damages and the importance of primed papers from this period. The focus is on lead white primer and lead discoloration. Specific needs and uses of business cards are addressed which are playing a significant role in the understanding of their manufacturing technology and state of preservation.
Joanna Szkwarkowska

Adhering Leather

Test series and practical application in connection with the conservation treatment of two portraits on leather (Paraguay, middle of the 19th century, Weltmuseum Wien)

This thesis deals with the examination of two painted leather objects from the Weltmuseum (Museum of Ethnology) in Vienna. The focus was the development of a method to fill areas of loss in leather and a new mounting and display system. Tests series with different adhesives were carried out, mainly focussing on adhesive strength, reversibility and possible migration of the adhesive within the original leather. In addition, other criteria such as adhesive application, film formation, flexibility decrease and discoloration of leather were examined. An overview over leather making processes and leather degradation processes completes the thesis.