



Challenges of a very large drawing

Also in this issue

Membership survey – early results

Travelling dressed display figures

The Membership Manager hits the road



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"This memorial showcase for a Grand Altar Tapestry, returned to St Paul's Cathedral after 70 years, was commissioned to mark the centenary of the outbreak of the Great War.

Made by soldiers injured during the war, this poignant piece depicting the Holy Grail was painstakingly crafted by 133 casualties who were encouraged into embroidery to distract them and help them recover."

Designers: Caroe Architecture Ltd
Photography: James Robinson



MARCH 2016 Issue 63



From the Editor

'Big stuff' usually means engineering conservation but when a drawing is over forty five feet long (our cover can only show a minute section) and you've only got two weeks to treat it, it surely qualifies as a big challenge. Thanks to excellent project management the team working on the

Maclise cartoon didn't meet their Waterloo! By contrast, at the Victoria and Albert Museum the development of their costume display mannequins used for touring exhibitions (see In Practice) is a story of gradual evolution over the years.

Similarly, Icon surely has to take the long view and adopt a slow burn approach when it comes to pleading the cause of conservation in the wider world. It is all too tempting to think that if only we could have the ear of the Culture Secretary for half an hour, Government would understand how splendid conservators are and all our troubles would be over. If only things worked that way. Our Chief Executive examines the question of advocacy in her column and what Icon is doing on several fronts. That doesn't, of course, exclude conservators individually using opportunities to act as ambassadors for conservation too.

Lynette Gill



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Cover photo:
Detail of a large cartoon by Daniel
Maclise from 1858/9 depicting the
meeting of the Duke of Wellington
and the Prussian General Marshal
Blücher after the defeat of
Napoleon at Waterloo
Photo: The Waterloo Cartoon
Conservation Project Team

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For the May 2016 issue
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Adverts: 18 April

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professional update

From The Chief Executive



Photo: Matt Wrieford

ADVOCACY

Alison Richmond ACR FIIC on what Icon is doing in this area

When reading the report on our recent membership survey (see Michael Nelles's article in this issue) I began to wonder whether Icon staff and trustees communicate enough to members about what we do in this area. I concluded that we need to work much harder at not only informing members, but also at involving members in what we are doing.

Advocacy is performed through many different means. This rarely takes the form of a direct line to government. More often it is about using the right channels and the opportunities that arise to make our arguments. This leads to more people having a better understanding of professional conservation and the conservation profession. It can also lead to more people thinking that Icon is the authority on conservation issues. In turn, Icon gains influence. It is a drip, drip, drip process, and only further down the line do we see the bigger impacts of our work.

I think we are able to make a much stronger case when we call on the expert opinion of members. Let's take, as illustration, what Icon has been involved in since the beginning of the year.

Icon is actively engaged in the development of new apprenticeships in the heritage sector, *Historic Environment Practitioner Trailblazer Apprenticeships*, led by English Heritage for England and Wales. By participating in this work we will ensure that the qualifications produced will be based on our professional standards and will be relevant to our members. It will also ensure that the apprenticeships are integrated into a coherent career path for conservators, the main objective of our Education & Skills Strategy.

Trailblazers are the outcome of a review by the government which recognised that employers had to take ownership of developing the skills they need. We think that it is critical that our members contribute to the consultation and in January we wrote to request enough time for this to happen before the final proposal goes to the Department of Business Innovation and Skills.

A vast sum – over £400bn – will be spent on forty major national infrastructure projects planned for 2015-33. An as yet unknown percentage of this money will be spent on conservation and heritage science. Historic England is currently estimating the capacity over that period for the skills

needed to deal with the archaeology that emerges from such projects as HS2. Icon was invited to comment on the draft report. With the help of the Heritage Science Group and university course leaders we were able to make strong arguments for Accredited professionals to lead teams, for support for research-based academic qualifications as well as apprenticeships, and for the co-development of research-based university courses with employer partners.

The Department for Culture, Media and Sport has set up a £5m Cultural Protection Fund to provide assistance to countries that have recently experienced conflict with the aim of recording and preserving their cultural heritage. The Heritage Science Group with members who had experience of this kind of work contributed to Icon's response. We drew attention to our accredited members and heritage scientists as a source of expertise in delivering conservation projects in challenging environments, and designing and delivering training courses. We also recommended the involvement of conservators in all projects and in cross-disciplinary teams to ensure sustainability.

Sometimes the opportunity to advocate to the public as well as to government that Icon and the Conservation Register are the sources of professional expertise comes from a member. When the floods occurred over Christmas Helen Lindsay ACR was inspired to look into what guidance on rescuing possessions was available for people to turn to in case of an emergency. A Google search confirmed that there was some but it may not have been vetted by experts, it was not easy to find or particularly easy to absorb in a crisis situation. Helen suggested that we contact the Environment Agency with the offer of guidance that they could upload onto their website. This is where people would look when disaster struck. Helen drafted a text that was then circulated to other ACRs with relevant experience and their feedback was incorporated into the final guidance. The Environment Agency is currently considering our request. In the meantime, you will find the guidance on our website.

Advocating for the professional standards and Accredited Conservators is part of all of our partnership working. Just recently, two years' work with the Victoria and Albert Museum has culminated in the launch of a new Conservation & Collections Care Technicians Diploma. This new qualification is the product of merging the V&A's Technician's diploma and our Conservation Technicians Qualification (CTQ). Icon's advocacy was centred on ensuring that the assessment of the conservation elements of the new diploma met the same standards as our CTQ and was workable in small conservation practices. I am very grateful to members of the Professional Standards and Development Committee who made a significant contribution at every stage of the work.

Sometimes an issue is raised in public that gives Icon the chance to highlight the profession. Making statements about conservation in public is a dangerous game and even more dangerous when referring to the 'R' word! Last month there was a flurry of activity around an article in the Telegraph about the restoration of Leonardo's St John the Baptist in the

Louvre, in which art historians took the view that because all restorations of Leonardos had been disastrous, the painting should never be touched. My letter to the editor pointing out that the approach taken by professional conservators today is one that minimizes risks was published. While this age-old question is familiar to all of us, I sought the opportunity in a further article to make the point that conservation projects also generate huge benefits to the public. Recognising that I am not an expert in the conservation of paintings I asked the opinions of Icon members who are and I am indebted to

them for reading my article and talking through the issues with me. (You can find the original article, the correspondence and my article on our website.)

When it comes to advocacy, we can be so much more effective if we work together. Part of the current strategic planning around raising the public and policy profile of Icon will be looking at improving ways of engaging members in this work.

ICON16 UPDATE

Preparations for Icon's 2016 conference in Birmingham continue to gather speed.

Over three days this June, *Turn & Face the Change* will bring together delegates from across the heritage sector to examine the context of conservation in the 21st century, exploring the latest in international professional practice in a series of plenary and specialist group sessions.

Hopefully by now everyone has had the chance to review the conference programme, published on the Icon website. The Early Bird rate closed in mid-February, and the number of registrations exceeded our expectations. The remaining places are beginning to fill up rapidly, but there is still time!

The venue for the conference is the fully-refurbished Conference Aston in the heart of Birmingham (pictured). The venue provides easy access to all the attractions of Birmingham city centre, including the award-winning ThinkTank Museum (also the venue for our opening reception) and Birmingham Museum and Art Gallery (the location of our conference dinner).

The Icon16 conference venue at Conference Aston



Photo: Conference Aston

A special addition to the programme has been the confirmation of the first of our tour offerings. Delegates arriving on Wednesday before the opening reception will have the chance to attend an exclusive tour of the Coffin Works, Birmingham – the winners of an Icon Award for Conservation in the Community. Delegates will be offered the chance to book one of these tours shortly, first come first served – so keep an eye out for the announcement.

The opening reception will launch the conference in style in the Past Gallery at Thinktank, featuring an array of vintage machines, including steam engines, locomotives and classic automobiles. Likewise, the Conference Dinner in the beautifully renovated Edwardian Tearooms at Birmingham Museum and Art Gallery will be a fantastic opportunity to relax and network with fellow conservators within a unique and historic setting, accompanied by the smooth jazz sounds of our seven-piece conference band, Home Brew.

There's not a moment to lose – book now and join us in Birmingham this June! Visit the Icon website for full details.

RENEWALS SEASON

The next renewal cycle is just around the corner and the new membership card is in production.



Michael Nelles
Membership Manager

This year's card features a detail from an image of a fine bobbin lace border that would probably have adorned table linen, made in Milan between 1665 and 1685. This piece was part of the Blackburne Lace collection, which was acquired by the Bowes Museum, County Durham, in 2007. Over the past year it was conserved and mounted by Icon member Emily Austin, and the collection is now displayed in the Museum's Fashion & Textiles Gallery. Special thanks to Icon member Katy Smith and the team at the Bowes

Museum for allowing us to use the image!

This year's membership card will arrive in a different format from last year's card, which featured a stained glass image by Icon member Michael Sheppard ACR of Inspire Conservation. This year, the card is two-sided, allowing us to feature an unencumbered view of the fine seventeenth-century gent on the reverse. The cards will also be easier to detach – simply bend, peel and fold!

Your renewal packages will be dispatched by post in mid-March, arriving on your doorsteps in a white C5 envelope with the Icon logo in the top left. For those of you who pay by Direct Debit, this will simply contain your membership card and 2016–17 payment schedule.

For those of you who paid by cash or credit card last year, this will contain your renewal notice and invoice – and a Direct Debit mandate form, should you wish to make your life easier by this method. Like last year, if you need to make payment arrangements you will be able to log on to the Icon website to progress this. After your payment has been processed by the office, your receipt and 2016–17 membership card will automatically be dispatched.

There will be a special Iconnect bulletin to advise once renewal packages have been dispatched. Don't be the last on the block – keep an eye on the post for your renewal notice!

Michael Nelles, Membership Manager



The new membership card

The bobbin lace border which provided the image for this year's membership card

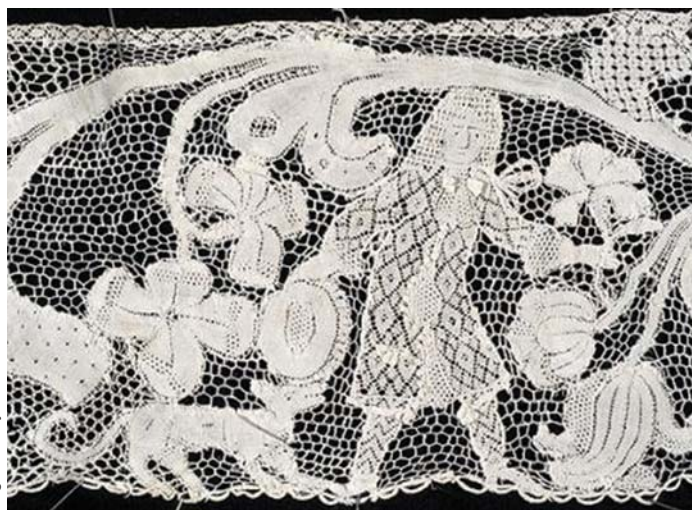


Image courtesy of the Bowes Museum

CHANTRY LIBRARY NEWS

It is great to see that headline once again in Icon News: *Chantry Library News!* The good news, as you have surely read in your Iconnects or on the website, is that the Chantry Library has a new home, although it is not exactly new, as you will see.

Following the decision in 2014 by Icon's Trustees to close the Library, strenuous efforts have been made to find a suitable new owner. And now, step forward the Oxford Conservation Consortium (OCC), which has reached an agreement with Icon to take over the ownership and management of the Library

The Oxford Conservation Consortium is a Charitable Incorporated Organisation whose members and Trustees are fourteen of the colleges of the University of Oxford. OCC provides collection care services within the historic library and archive collections of its members. Happily, the Chantry Library is already located in the same building in Oxford that is occupied by OCC. Hence its 'new' home, physically speaking, is not new at all.

Under the new agreement the Chantry Library will be owned and managed by OCC, and from August 2016 it will be accessible to Icon members and the public by searching the Oxford University Online Catalogue and making an appointment to visit. Further details and contact information will be announced in due course.

OCC has commented that it is pleased to be the new custodian of the Chantry Library and to be able to continue the work of Icon in maintaining this unique collection. For its part, Icon is delighted that the Library is staying in its current home where Icon members can continue to have access to this very special collection.

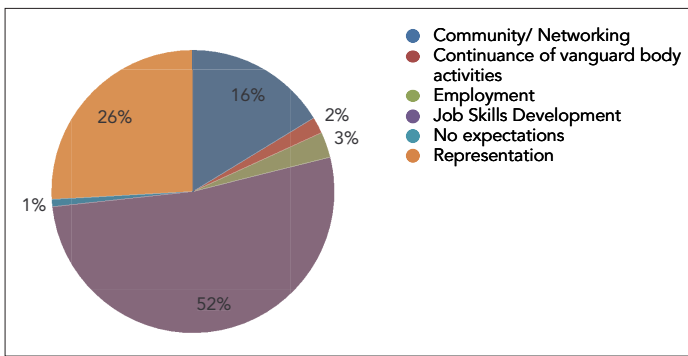
ICON'S MEMBERSHIP SURVEY

Early results

Shortly before Christmas, we conducted our first full membership survey since 2008. The questionnaire was an ambitious one, covering all the areas of Icon's operations with multiple free-text spaces for members to express themselves fully.

The survey was open for two weeks, and 604 members out of a possible 2,362 took the time to complete our detailed questionnaire – a response rate of just over 25%. Of these responses, 84% were completed right through to the end. This resulted in a substantial cache of rich data illuminating the views of the membership on Icon's record of achievement and progress towards future objectives. Importantly, the data also provided quantitative evidence on demographic aspects of our membership that previously could only have been guessed at.

The full spectrum of results will take some time to analyse, but in compiling the draft Report some broader overarching themes emerged, representing strong currents of opinion that are now being digested by Icon's Board of Trustees. The full report will be sent to members in April.



Expectations of those joining Icon

The need for greater advocacy

The most prominent theme to emerge from the survey concerned advocacy. When Icon was created by the merger of five 'vanguard' bodies in 2005, it was a key ambition of the new organisation to be a strong advocate for the profession at the national level – to be a single voice representing the views and ethics of the whole conservation community, and in so doing, to foster a greater national awareness of the benefits of heritage conservation.

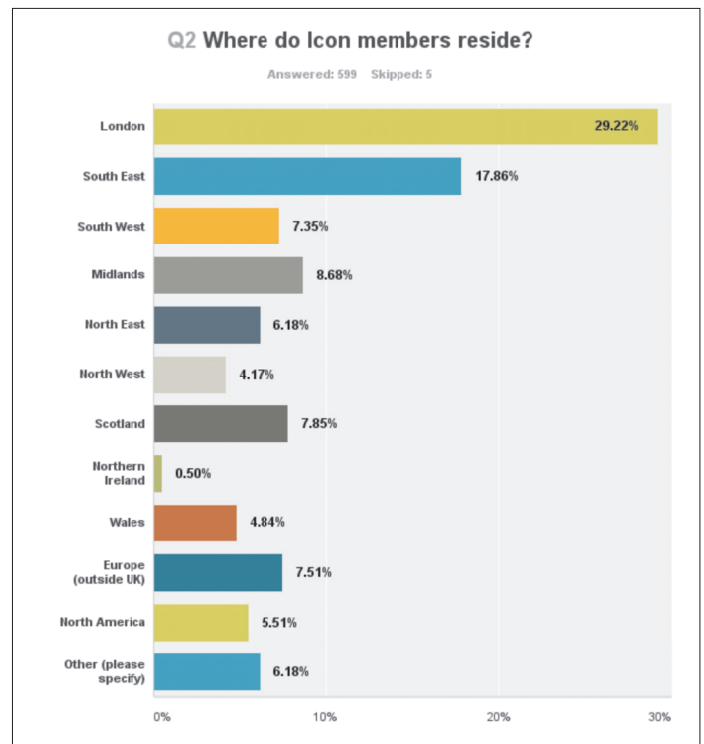
The survey results indicate that this ambition was a key attraction for many when joining Icon. When asked 'What were your expectations' on joining, 26% of respondents cited an expectation that Icon would represent conservators and be a strong advocate for the profession– the second-highest result for this section after job skills development opportunities (52%).

Alongside this, running through the free-text responses throughout the broader survey is a clear perception that Icon needs to do more in this area. Respondents spoke of their ambitions for Icon to lobby more forcefully in local and national political processes, to spend more time reaching out to key stakeholders with our core message, to embark on more joined-up working with organisations across the broader heritage sector, to take more action on low wages and to achieve a higher media profile for heritage conservation itself.

Among some of the responses:

- Conservation still has very little status within public and private collections. It is not regarded with the same respect as that of a curator. The knowledge of materials and techniques that a conservator acquires...is not being harnessed or acknowledged as it should be.
- It's not clear what Icon does to raise the profession's profile... Conservation will always be hit hard when cuts happen and it doesn't appear that the value of what we do is understood outside a minority.
- More advocacy of accredited conservators/companies in the public and private sector and advocacy of conservation sector as whole [is needed], as most clients do not understand the difference between services (and approach) provided by accredited conservators and e.g. local masons.
- Become more visible and make the members feel like you are doing something to help us in the current climate.

The results underscore a need for Icon to do more to advocate for the profession, and to make more noise about the advocacy that is undertaken. This directly coincides with the work of the strategic task and finish groups set up by Icon's Board of Trustees to examine how Icon can best achieve this. Of the three groups launched last year, two will

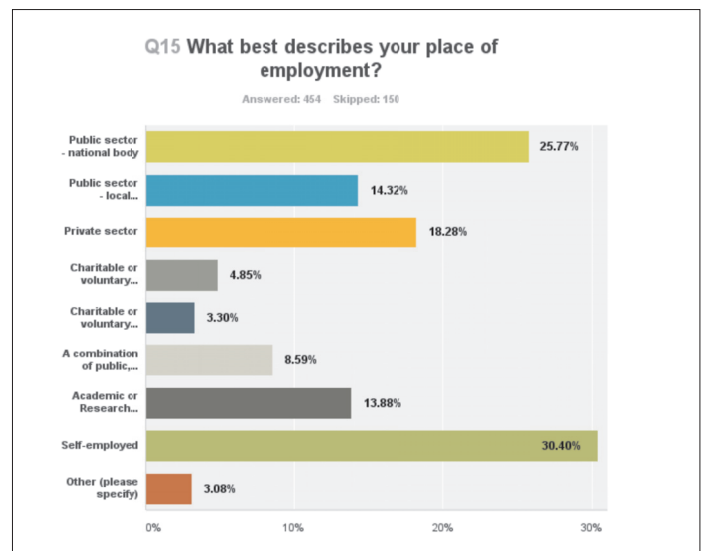


be very interested in the views of members on advocacy – in particular, the group tasked with examining the ways Icon can better-support the professional member and the group investigating how Icon can increase our public and policy profile. The survey data will provide vital evidence – and ideas – for these groups to consider in their deliberations. All groups are set to submit their initial reports to the Board in the next few months.

The need to enhance regionalism

Another prominent theme in the responses concerned regionalism, which was one of the strongest areas in which members felt their expectations had not been met. Respondents commented that too many Icon events were staged in London, and that this disenfranchised the vast ranks of Icon members living outside the capital:

- While there is a lot of good activity in London, there is less further afield. While I realise that there will be a higher concentration of conservators in the London area, I also feel sure that more could be done elsewhere. Could it become



more standard to repeat lectures, workshops etc at a number of venues across the UK?

- It's travelling time as well as money that makes it difficult to get to London. Londoners can usually get faster transport links to the rest of the country than anyone else, and more trains.
- More events/conferences should be held outside of London in central locations to encourage attendance from all areas, including the North of England and Scotland.

The demographic data collected by the survey underscores the geographic diversity of Icon's membership. While there is a significant concentration of members living in the capital – nearly 30% of respondents – this also means that just over 70% of Icon members live elsewhere in the UK, or indeed abroad. However, when examining the home location of those reporting geography as a barrier to events attendance, no distinct pattern emerged; more reported geography as a barrier in the South East than in Europe!

This underscores the need for Icon to do two things: to devise new means of ensuring a more effective geographic spread, perhaps through regional incentives and more cross-specialist networking events, and to reinforce the profile of the existing geographic diversity in the events programme (see 'Travels with the Membership Manager' in this issue). Potential means to bolster Icon's regional offer are presently under study by the task and finish group charged with broadening Icon's membership and support base.

The demography of Icon membership

The survey allowed us to ask fundamental questions about the makeup of our membership, providing data that didn't exist before. So who is the typical Icon member? The results strongly indicate there is no such thing.

Icon's membership is evenly distributed among the different age groups; it rises sharply among young members and falls steeply after retirement. Aside from London and the South East, members reside in similar concentrations across the regions (with the exception of Northern Ireland). There was a tendency for members to work across a variety of specialisms, employed mostly in the public sector at either local or national levels, followed closely by the substantial contingent of members who are self-employed.

These questions illuminate the challenges facing an organisation representing members who work with a diversity of materials, in a variety of roles, in unique working practices and under varied working conditions. The balance Icon must strike in the drive to support the professional member in all the forms those members take is an especially delicate one – but also one Icon takes very seriously. Icon's Board, informed by the strategic task and finish groups, and using this survey data, will be addressing issues raised by the survey in Icon's next strategic plan.

Michael Nelles, Membership Manager

JOURNAL NEWS

Call for submissions

From 2017 the Journal moves to three full colour issues per year and submissions are invited at any time on a range of subjects including but not limited to: case studies in materials analysis, advances in treatments, new understandings of decay, new working practices and tools, developments in display and storage, preventive conservation, issues in collection and archiving, advocacy and ethics and, for example, theoretical perspectives on the narratives of heritage preservation or the future of conservation.

If you would like to discuss a potential article, please contact the Editor, Dr Jonathan Kemp on journal@icon.org.uk. The Journal now accepts submissions all year round through the online system at <http://mc.manuscriptcentral.com/rcon>

Email alerts: you can find out about the latest articles, shorter notices and book reviews published online in the Journal by email and RSS feed. To subscribe please go to <http://bit.ly/JICONalerts> or click on the Alert Me link on the Journal cover image at <http://www.tandfonline.com/toc/rcon20/current>

NEW AIM PUBLICATION

AIM, the Association of Independent Museums, has recently brought out a new publication in their Success Guide series: *Successful Basic Interventive Conservation*. It has been written for AIM by Icon members Ciarán Lavelle and Lizzie Miller of the Birmingham Museums Trust.

Ciarán told Icon News about it: 'This publication was designed to provide a straightforward and approachable guide to basic conservation techniques that can be used to care for museum collections. It is aimed at the many independent museums that enrich the cultural heritage of the UK, which do not have the infrastructure or resources to employ a conservation professional as part of their permanent staff.

Whilst writing the guide we were aware of the importance of highlighting a clear boundary between the level of conservation work that can be safely carried out by unskilled museum staff and that which can be undertaken by conservation professionals. We have therefore made it clear throughout that in situations where work being undertaken is beyond the ability and the training of the staff member, a conservator must be contacted to provide professional advice to ensure the safe treatment of the object.

We hope this guide will help to build upon the existing relationship between independent museums and the conservation profession in a positive way.'

The publication can be downloaded from the AIM website (www.aim-museums.co.uk under publications)

NEW CULTURAL HERITAGE AWARD

and won by an Icon member!

Icon has joined creative sector partners to support a brand new Cultural Heritage Skills Award sponsored by Creative & Cultural Skills (CCS). The Award was presented by our Chief Executive Alison Richmond at the 'Creative & Cultural Skills Awards 2016' which took place at the CCS headquarters in Essex on 2 March 2016. The new Skills Award is given to individuals or organisations which inspire and provide opportunities for young people to enable them to get into the Heritage Sector.

CCS are the Sector Skills Council for Craft, Cultural Heritage, Design, Literature, Music, Performing and Visual Arts. They work to set the National Occupational Standards for the development of vocational qualifications in the sector. Furthermore, they actively promote a wide range of opportunities to support and encourage young people to start a career in the creative and cultural sector, as well as ensuring that education programmes continue to meet the skills demanded by employers.

Each year CCS sponsors Awards that 'shine a light on the mentors and managers in the creative industries who are making a difference by passing on their skills'. Icon has joined a group of partners including the Design Council, Crafts Council, and the National Association of Jewellers to offer awards in craft, design and cultural heritage, music, jewellery, and theatre skills. What are cultural heritage skills? The shortlist gives some idea of the range of skills covered by this award:

- Andrew Miller, Owner, Andrew Miller Architectural Joinery
- Engineering Heritage Skills Initiative (EHSI) Project Team, North of England Civic Trust
- Steve Clare, Director, Holy Well Glass

Alison Richmond writes: 'We couldn't be more delighted that Steve Clare ACR, a longstanding and active member of Icon, is the first to win this new award. It is wonderful that Steve's success highlights conservation in the wider creative and cultural sector.'

Rachel Phillips, an alumna of Holy Well Glass commented on Steve's 'consistent commitment to seeking out and offering employment to both recent graduates and untrained individuals' through many hours of unpaid work to develop and sustain many high quality training initiatives which have helped numerous young professional get into the sector.

Many congratulations to Steve and everyone at Holy Well Glass!

CONSERVATION SURVEY IN YORKSHIRE

York Consortium for Conservation and Craftsmanship and Museum Development Yorkshire published a report in December 2015 *Strategies for Sustainability Survey Report: Conservation and Collections Care in Yorkshire* on the capacity of conservation and care of collections in the region. The report is based on data gathered through two surveys: one aimed at employed and self-employed conservators

working within the Yorkshire and Humber region and the other directed toward the museum professionals responsible for making decisions about collections care and conservation.

A number of key issues emerged with the most urgent being the need for better communication and engagement between conservators and other museum professionals. Other areas covered by the survey include accreditation and the Conservation Register, sources of income and advice, and the role and training of volunteers.

Icon welcomes the publication of this report. While the results provide a clear snapshot of a particular regional situation, the findings may be indicative of other parts of the country. It provides very useful data to complement our recent membership survey results. Icon is currently considering the findings of the report and Icon Chair Siobhan Stevenson attended a follow-up meeting, held in York in February, with conservators who responded to the survey.

I have set up a meeting with Arts Council England to discuss the ramifications of the report with regard to ACE guidance to museums about conservation and care of collections. The findings of the report will also be fed into the forthcoming stakeholder consultation on PACR and the Conservation Register.

Alison Richmond, Chief Executive

NATIONAL HERITAGE SCIENCE FORUM

In December 2015, NHSF welcomed Alastair McCapra as its new Chairman. Icon members will of course know Alastair from his time as Icon's Chief Executive. Whilst CEO of Icon, Alastair contributed to the House of Lords Select Committee inquiry into science and heritage. This background will serve him well in his new role as Chair of NHSF and I'll be featuring the news and activities that he and the Board are planning regularly in Icon News.

Also in December we welcomed Gillian Boal as a new trustee of NHSF and representative of The Wellcome Library, the twentieth organisation to join the Forum. We held our 'Members & Friends' event at UCL on 16 December, at which Alastair spoke on the theme 'Cash for Data' looking at the potential for the commercialisation of data alongside the benefits of open access (the text of his talk is available at <http://www.heritagescienceforum.org.uk/news.php>). And the SEAHA mobile heritage laboratory was available for viewing; on this occasion it was equipped with instruments for scientific imaging, such as equipment for IR reflectography, together with a mock-up painting designed for demonstrating imaging techniques during public engagement events.

The number of pieces of equipment on the NHSF Kit-Catalogue continues to grow. This online database is hosted by NHSF on behalf of the heritage science community to help organisations share equipment and knowledge about equipment. It can be searched at <http://nhsf.kit-catalogue.com/>. As a member of NHSF, Icon members are welcome to add equipment that they would like to share, please contact Caroline Peach at

administrator@heritagescienceforum.org.uk to find out more.

The Forum uses the strength and diversity of expertise of its members to respond to policy issues of concern to them and the wider heritage science community. We have written to the Minister of State for Universities and Science reiterating the value of investment in heritage science capital infrastructure, and have contributed to the consultation on Historic Environment Scotland's draft corporate plan. The goal of these activities is to create an environment in which heritage science flourishes and to continue to raise awareness of the public benefits of heritage science.

As I write, we are currently planning our activity for British Science Week, a ten-day week this month (11–20 March) during which the Forum's blog will focus on the activities of its member organisations as they shine a light on heritage science within their organisations. Follow the blog at: <https://nationalheritagescienceforum.wordpress.com/>

Caroline Peach, National Heritage Science Forum

NEWS FROM THE GROUPS

Book and Paper Group

We are happy to congratulate and welcome our newly elected Committee Member, Nikki Tomkins, who replaces Joanna Thomson-Baum as Student Development Officer. Nikki will be taking up her duties and attending our March meeting. We thank all the applicants, who impressed us with their commitment, and we hope to keep in touch with them and involve them in the Committee in future.

At the time of writing we are advertising for several vacant Committee roles: Chair, Special Projects Officer and CTR Committee Event Organisers for the North and Southwest regions. We hope to have filled these by the time of our next meeting in March. At the last meeting the Committee voted for me to stay on as Interim Chair until my replacement has been elected, so I look forward to welcoming my successor and our other new recruits.

At this moment the Committee, and especially our Special Projects Officers, are very busy putting together our programme for the Icon 2016 Conference, which entails a thousand details to pull together on the day! Our Book and Paper team is doing great, and has joined forces with the Photographic Conservation Group to organise a joint session. It looks as if the conference will be another good one: there is a great line-up of presentations on the latest moves in conservation, which should result in some very lively discussions. We are also looking forward to our AGM in April, where we are delighted to announce that the speaker will be Salvador Muñoz Viñas. We are very grateful to the Clare Hampson Fund for their support for Salvador's lecture.

If you haven't already done so, please check out our page on the new Icon website – there are several documents freely available to members, including some films of lectures available on YouTube. Our Book & Paper Editorial team is working flat out to prepare the postprints of the successful 2015 Book & Paper Conference, *Adapt and Evolve*, which we

hope to make freely available to you on the Book & Paper pages of the site.

In the meantime, enjoy the thought that each day brings us nearer to Spring!

Isabelle Egan Interim Group Chair

News from the CTR

New training opportunities and evening lectures are on the agenda for the next few months, with the generous support from Clare Hampson Fund.

Clare Hampson Memorial Lecture 4 April 2016, Art Workers Guild, London. The Lecture will be given by Salvador Muñoz Viñas: 'Paper Conservation: Selective Blindness?' Professor Muñoz Viñas lectures at the Polytechnic University of Valencia (UPV) and is Head of the Paper Conservation Section of the UPV Conservation Research Institute. His research interests are paper conservation techniques and conservation theory. The Book & Paper Group AGM will also take place.

Housing – Box and magnets

Autumn 2016 on a date to be confirmed

This course hosted by Sayaka Fukuda ACR, in her London-based studio, will explore the use of magnets as a means to fasten textile covered boxes and folders. The workshop aims to offer appropriate housing solutions to small conservation studios where budget, equipment and staffing are limited.

Housing – Construction of Drop-Spine Pressure Box –

Autumn 2016 on a date to be confirmed

Bridget Mitchell ACR will host this course in her Norfolk based studio. Participants will construct a cloth covered, drop-spine pressure box designed specifically to house books and manuscripts with parchment textblocks or parchment coverings.

My last announcement is that after two years as Chair of the CTR, I will be stepping down from the role this coming summer. The role will be advertised through Iconnect in due course. It offers opportunities to raise the profile of conservation through the organization of training events, evening lectures, and studio visits. The role requires an efficient communicator who can work remotely and coordinate the efforts of a team of wonderful volunteers. Previous experience in project management would be very useful. I would be delighted to discuss the details of the role with Icon members who might be interested, so please don't hesitate to get in touch!

Françoise Richard ACR

r.conservation@gmail.com

Ceramics and Glass Group

The committee has been busy planning the Group's AGM to be held this year in Brighton, and is delighted to announce that booking is now open.

On arrival in the morning, participants have been invited to visit the Sarah Peek Conservation studio, an established ceramics and glass conservation studio celebrating its twentieth anniversary this year. The visit will be followed by a

light lunch in Preston Park across the road, where the AGM will be held. In the afternoon; participants will meet Stella Beddoe, Keeper Emeritus of Decorative Art at the Royal Pavilion & Museum, who will be giving a tour of the Willett Collection at Brighton's Museum & Art Gallery. The day will be rounded off with the presentation of this year's winner(s) of the Nigel Williams Prize, at Al Duomo's restaurant after dinner.

To join the Group for this exciting day in sunny Brighton on 14 May 2016, please see all the details on the Icon website, or on the Eventbrite site: www.eventbrite.co.uk/e/icon-ceramics-and-glass-group-agm-tickets-20203184268

Rachel Sharples

Ceramics and Glass Group Chair

Metals Group

The Committee has gained two new members recently.

Gates Sofer is delighted to join the Committee. She currently works as a Sculpture Conservator and looks after the displays and exhibitions at Tate Britain. She has recently worked on the Hepworth Exhibition and *Artist & Empire*. Before this, she worked as a Metals Conservator at the Victoria & Albert Museum and trained at UCL's Institute of Archaeology and West Dean College. Working with both traditional and contemporary art, she treats a variety of metals and other materials, and enjoys working with living artists and researching manufacturing techniques. She is thrilled to be able to help organize events and opportunities specialising in metals conservation.

Alex Coode comes originally from a craft and art background in blacksmithing and metalwork. Following the National Heritage Ironwork Group (NHIG) Bursary, Alex has been working solely on conservation and restoration projects as a partner in the Heritage Blacksmith Partnership, which includes guest lecturing at West Dean College and elsewhere. He aims to bring the insights and skills of a maker to inform the conservation of metalwork, as well as help bridge the gap between craft and conservation through holding a seat on both the Icon Metals Group and NHIG committees.

Have you booked your place yet for the Icon 2016 Conference

New Metals Group committee members Alex Coode(l) and Gates Sofer(r)



taking place in Birmingham this June? The Metals Group has some interesting and diverse talks lined up for the Group sessions on day 1; please see the Icon website for the provisional programme. You can also keep up-to-date with the latest Metals Group news by checking our website and following us on Facebook or Twitter.

Paintings Group

The Paintings Group now has an active twitter account: Icon Paintings Group @IconPaintings. Please join up and follow us if you have not done so already.

We are also now offering a discount on last year's Archetype publication 'Current Technical Challenges in the Conservation of Paintings' (eds Angelina Barros D'Sa, Lizzie Bone, Rhiannon Clarricoates & Helen Dowding). This can be bought for the reduced price of £15.00 (+ £2.50 for postage and packaging within the UK) when ordered through the Paintings Group. Please send a cheque made payable to 'Icon Paintings Group' to Francis Downing, 203 Wetherby Road, Harrogate, North Yorkshire HG2 7AE, enclosing your postal address and contact details with your order.

The papers in this volume were presented at the Paintings Group's conference 'Modern Conservation: What's New?' held at The Wallace Collection in London in October 2014. It covered a variety of topics including: consolidants and flake laying; the possible use of sports injury tape as a temporary means of support during structural conservation treatments; rigid inserts to stretchers to reduce vibrations; auxiliary supports for modern paintings; the problem of softening and weeping paints in modern works of art and methods of treatment; wet surface cleaning treatments for contemporary paintings; and ethical considerations when dealing with conceptual artists' wishes.

On Tuesday, 12 April 2016 Kerri Offord, Heritage Collections Officer, Watts Gallery – Artists' Village, will give a talk *Potatoes and Grit: The painting techniques and experiments of George Frederic Watts*. The Victorian artist George Frederic Watts is perhaps best remembered as a portrait artist and for his social realism paintings. Much study has been undertaken into his life and the symbolism of his works. Since joining Watts Gallery – Artists' Village in 2014 Kerri Offord has project managed and curated Watts Studios, an Heritage Lottery Fund supported project to reinstate the studio of G. F. Watts and create a new gallery dedicated to the work of the artist and designer Mary Watts. Watts Studios opened to the public on 26 January, 2016. Kerri Offord is currently working on several avenues of research relating to the techniques and influences of the Wattses and exploring the connection between their working practices.

Venue: In the Robing Room at Freemason's Hall, 60 Great Queen Street, London WC2B 5AZ, close to both Covent Garden and Holborn Tube Stations. Doors open at 6pm. Talk 6.30pm–8pm. Tickets: Icon members: £10, non-members: £15. Students £5 (student card required to be shown on the door). Free wine and cheese are included in the ticket price. Please apply for tickets through Eventbrite. Refunds for those unable to attend can only be issued if you notify us at least two days before the event.

Photographic Materials Group Student bursary for Icon16 Conference 2016

The Group is pleased to announce that they will be providing funding for one student to attend the Icon Conference 2016 *Turn and Face the Change*. The bursary will cover the conference fee of £225 plus subsistence and travel expenses up to the value of £150.

To apply for funding please submit a 200 word essay explaining what your interest is in photographic materials conservation and how you would benefit from attending the conference. You should be currently enrolled on a conservation or related higher education course – please provide the details of your course and place of study, including your expected graduation date on your essay submission.

The successful student will be expected to write a short article for Icon News and/or the PhMG blog about the conference, focussing on the joint Book & Paper and PhMG session.

Further details about the conference can be found on the Icon website: <http://icon.org.uk/about-us/icon-conference-2016>

Please e-mail your essay to Rosalind Bos at rosalindbos@yahoo.fr by 31 March. The successful candidate will be notified by 11 April.

Textile Group

Our Textile Group 25th anniversary event will take place at The Foundling Museum in Bloomsbury on the evening of Monday 11 April. The Textile Group have exclusive use of the Museum from 6–10pm when there will be wine, light refreshments, talks by several past chairs and access to the museum's permanent collection and current exhibition. We will also have a short AGM. At the time of writing the fee for the event is likely to be £25, with a reduction for students, but look out for further information on this.

During the day conservation related activities are also being arranged, such as talks and studio visits. These will be advertised on the website and through Iconnect. We look forward to seeing as many of you as possible to celebrate the Group's twenty five years.

Other events throughout the year will be listed on the website, Iconnects and Facebook.

TRAVELS WITH THE MEMBERSHIP MANAGER

One of the things that struck me soon after I took up my role two years ago was the diversity of Icon events that take place all over the country. Early on I realised that if I was going to meet members and absorb as much as my role would allow, a certain amount of travel would be required. As a historian with a background in local authority museums, I'd always known conservation was there but I'd never previously had a chance to engage with its practical elements, nor to learn about the science behind it – and meet the people doing the



Scotland Group gets ready to start its AGM

job and keeping the heritage alive. Over the last two years I've been able to get out and about and meet many Icon members, attending workshops, lectures and other Group events all over the UK.

While I can't attend everything, as a minimum I try to make it out to every Group AGM. It's usually there that members pose questions about the direction of our organisation and suggest ideas for future practice. Some of these can be readily enacted by the Groups, but in some cases the contributions of members illuminate issues that I can do something about, taking ideas back to the office. Getting to know as many members as I can has also helped me to discern certain trends in the current of thought among members and this provided inspiration for some of the questions I posed in our recent membership survey.

Over the last six months of 2015, the geographic spread of events has indeed been diverse, and I've been to meet members at Icon events in Dundee, Cardiff, Brighton, Glasgow, Worcester and Oxford – to name but a few.

Most recently, this past November I was in Dundee to attend the Scotland Group's 18th Annual Plenderleith Lecture and AGM. This time, Professor Sue Black from the Centre for Anatomy & Human Identification at the University of Dundee gave a morbidly fascinating lecture on the Scheuer Skeletal Collection of child and adolescent skeletons. The AGM saw a varied discussion that touched on the need for Icon to play a more prominent role at major conferences and events staged by sector partners such as the Museums Association. How could Icon best raise our profile in this area? Booking a stall at some of these events can be quite expensive, and I was able to say that it didn't fall upon an individual Icon Group to co-ordinate a presence at an event and meet the entire cost of staging that presence.

The Membership and Professional Development teams aim to attend a variety of events each year; varying our attendance pattern to ensure that we reach the widest spread with our limited budgets. This year we've been roving around the country with the 'Home Ground' project; previously, we have attended the Museums & Heritage Show and Listed Property Show. Obviously if a Group has a lead on a good event, it makes it easier to allocate scarce resources to the best of our



At Fishbourne Roman Palace with the Archaeology Group

advantage; and if Membership and/or Professional Development staff are then able to man a stall with one of Icon's Groups, so much the better.

November was a busy month, and a few weeks prior to my trip to Scotland I was in Cardiff for the Metals Group's AGM and Conference, *Metal in Motion*. The conference heard from many Icon members, including Eric Nordgren, Deborah Cane ACR, Françoise Collanges, Kenneth Cobb and Matthew Read, tackling ethical questions around use of replica parts, early electric systems, and the unique challenges posed by the conservation of large-scale objects such as steam locomotives.

During the AGM, discussion touched upon the need to encourage submissions for Icon publications such as *Icon News* and the *Journal*. It gave me reason to consider how Icon could help reduce the barriers to participation more broadly across the organisation. How can Icon directly encourage participation from members working in a marketplace that dictates 'time is money'? What form might outreach take that would underscore the benefits of active engagement with a professional body to employers in varied practices and organisations? How then can Icon correspondingly address barriers that, for example, freelancers might face in their drive to become involved? I ended up heading back to London with quite a bit to think about.

Mid-September involved another trip north, as I headed to Glasgow to attend the Stained Glass Group AGM and conference. The venue was the strikingly attractive Burrell Centre on the outskirts of the city, home of the famous Burrell Collection. The papers presented at the event also reinforced the innovative drive of the sector – from Leonie Seliger's use of technology to enhance and recover long-lost details from historic stained glass panels; to Marie-Luise Stumpf's international quest to track down and assess the condition of a series of fifteenth-century panels split up at auction in 1893, and thereafter subject to differing conservation treatments; to Oliver Fearon's efforts to unravel layers of literary significance in the symbolic imagery of stained glass shields at Farley Hall.

It is sometimes quite reassuring to see how Group interests directly support current projects on the go, for example our plans to enhance the profile of all ACRs and ensure that the



At the Metals Group AGM

public understand the listings on the Conservation Register. This certainly helps me to feel confident that I am prioritising my time in the right way when I get back to the office. In a similar vein, a key question at the AGM asked how Icon could better support professional conservators and therefore demonstrate real value to members – anticipating the present Task and Finish Group set up by the Board to examine and enhance Icon's activities in this very area. Speaking to members later, it helps my understanding – as someone relatively new to Icon – to hear about past organisational history from a member's perspective, and indeed to hear about the context from which Icon first arose eleven years ago. We've come a long way, but there is still much work to be done.

Before the summer break, June is another high-water mark for Group AGMs, and accordingly around that time I headed to the south coast to attend the Archaeology Group annual conference and AGM at Fishbourne Roman Palace, exploring challenges in archival storage for archaeological collections. With my background in local authority museums, I readily identified with these issues – disparities between the obligation for developers to deposit and the provisions made to support those processing, conserving and curating these deposits.

The Archaeology Group are particularly active political advocates for their specialism, and attend regular Parliamentary sessions where archaeological issues are discussed. The discussion at the AGM reinforced for me the diversity of political forums where an enhanced presence by Icon could facilitate effective political pressure to achieve improved outcomes for the conservation sector in these hard economic times. The report of the Board's task and finish group, exploring ways to enhance Icon's public and policy profile, will be a very welcome addition to our strategic arsenal.

We're steadily heading into another season of AGMs, with events taking place not just in London but all over the UK – with Brighton, Cambridge, Winchester and Birmingham among the stops on the upcoming agenda. Hope to see many of you there!

Michael Nelles, Membership Manager

Moves



Welcome back to the UK to **Cheryl Porter**, who has spent the last eight years working in Egypt, first as Deputy Director of a joint project between the Thesaurus Islamic Foundation and the National Library in Cairo (Dar al-Kutub) for three years and after that as a consultant to the Conservation Department at the Library of Alexandria.

Cheryl is well known to Icon members for her lectures and workshops on medieval pigments and in her capacity as Director of the Montefiascone Project in Italy which celebrates its twenty sixth year this summer. Her next project is to translate all that learning into a book, to be published by Yale University Press, a task she will be working on over the next two years.

New Icon staff



Kia Abdullah joins Icon as our new Digital Content Officer. She writes:

I am delighted to be joining Icon as the new Digital Content Officer. I have worked as a web editor across a number of sites, most recently managing roughguides.com for Penguin Random House. Prior to that, I worked for several years as a freelance writer and editor during which time I contributed to the Guardian, BBC and Channel 4 News, but also had my fair share of mundane commissions (e.g. comparing table décor for bridal magazines!). I am delighted to now join a field of such rich diversity and clear cultural importance. I am deeply impressed by the activities of Icon members across the UK and beyond, and hope to play an important part in sharing stories of this work. I look forward to hearing from Icon members and hope to meet you soon at future events.

Kia works on Tuesdays and Wednesdays and can be contacted on kabdullah@icon.org.uk

Other news

Congratulations to **Steve Clare** ACR of Holy Well Glass for winning the Cultural Heritage Skills Award! You can read more about this new award on page 7.

Happy retirement wishes to Dr **Ashok Roy**, who retired as Director of Collections from the National Gallery last month after an extraordinary career as arguably our leading technical art historian, long-time editor of the National Gallery's Technical Bulletin, creator or contributor to the Gallery's renowned Art in the Making exhibitions and so much more.

Welcome to these new members

We'd like to extend a very warm welcome to all those who joined us in December 2015 and January 2016. We hope to see you at an Icon event soon.

Gretchen Allen
Student

Lito Angelaki
Student

Carien Aubel
Student

Luke Batchelor
Associate

Giorgina Bertolino
Associate

Ewelina Bisaga
Student

Stephen Clarke
Associate

Eleanor Cooper
Associate

Andy Curran
Imperial War Museum
Associate

A.Olympia Diamond
Associate

Rebecca Doonan
Supporter

Anna Fenlon
Associate

Archie Fisher
Glasgow Life
Associate

Elizabeth Franklin
Student

Anna Funke
Student

Darren Hammond
Air Force Museum of New Zealand
Associate

William Hatfield
Eura Conservation Holdings
Associate

Michelle Hunter
Student

In memory



We are very sad to announce that **Tim Hayes**, Head of Furniture Conservation at the V&A, died peacefully on 29 November after a short illness. Tim's conservation career started at the Museum of London as an organics conservator, after several years he moved to the Victoria and Albert Museum working on furniture objects between 1994–2001, leading furniture conservation for the new British Galleries.

Tim left the Museum to take up an appointment as the Head at the Heritage Conservation Centre, Singapore, where he led the team that oversaw the conservation of objects for all of the Singapore Museums. Tim broadened his international reputation several years later by relocating to New York City where he undertook conservation of the Damascus Room at the Metropolitan Museum of Art. Following this, drawing on his knowledge of Asian Art, he moved to work at the Palace Museum, Beijing, teaching students Western conservation approaches

which lead to establishing a recognised conservation course by the Chinese Government.

The last phase of Tim's conservation career was sadly cut short after only two months as Head of Furniture Conservation back at the Victoria and Albert Museum. He will be deeply missed by colleagues and friends and our thoughts are with his wife and family at this sad time.

Nigel Bamforth
Senior Furniture Conservator
Victoria and Albert Museum

Anna Javér
Associate

Martha Keith-Barnett
Supporter

Terry Kent
Associate

Dioni Lampiri
Associate

Vera Lopez-Roca Balanza
Associate

Hend Mahgoub
Institute for Sustainable
Heritage
Student

John Mardaljevic
Associate

John McNeil
Tate
Associate

**Panagiotis Nikolaos
Mintiloglitis**
Associate

Laura Mirebeau
National Library of New
Zealand
Associate

Lisa Mitchell
Student

Kaori Motaung
Associate

Margot Murray
Associate

Corley Myles
John Corley Stained Glass
Studio
Associate

Megan Narvey
University College London
Student

National Museum Cardiff
Organisation

Maria Jesus Palacios Sanchez
Associate

Clare Pardy BA ACII FRICS
Complimentary Publications

Mette Peters
Utrecht University
Supporter

Marta Pilarska
Glasgow School of Art
Student

Katharine Richardson
Associate

Jacqueline Rumsey
Rupert Harris Conservation
Associate

David Sampson
Supporter

Maria Sanchez
Associate

Emilia Sharples
Student

Wendy Somerville-Woodiwis
Associate

Ruth-Ellen St Onge
Rare Book School
Supporter

Leonie van de Graaf
Simon Gillespie Ltd
Associate

Stephanie Vasiliou
Student

Charlotte Wainwright
Associate

Matthew Walker
Student

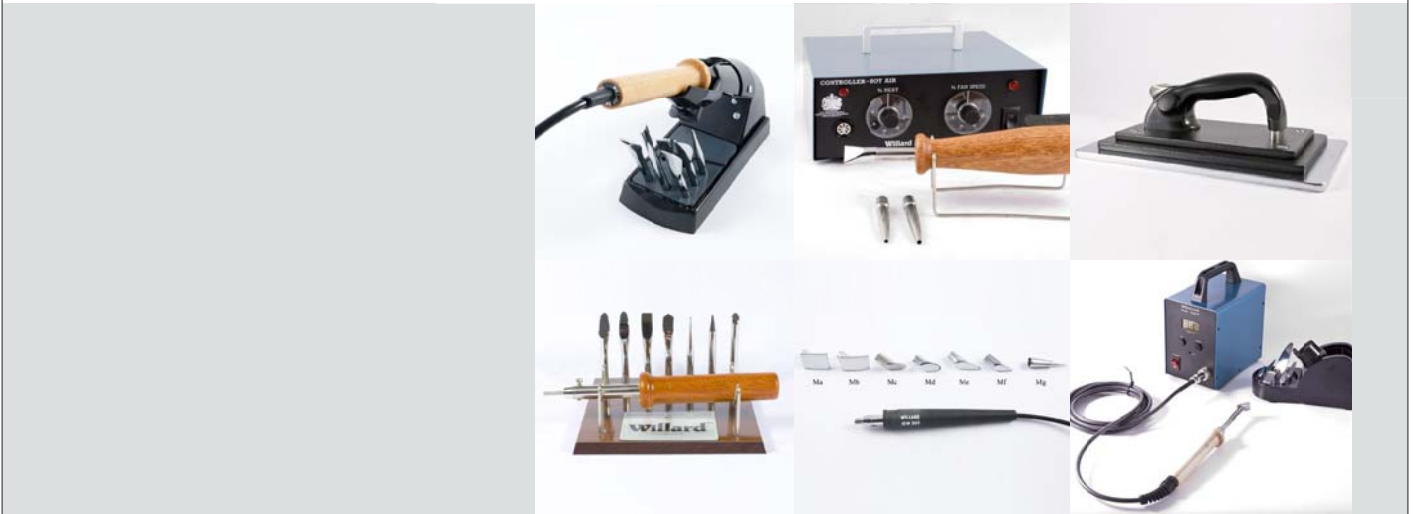
Emma Webb
Associate

Aafke Weller
Student

Dae Young Yoo
Student

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CONSERVATION SHORT COURSES

Conservation of Leather 10% discount to Icon members
18 - 21 April 2016
Course leader: Yvette Fletcher

Preventive Conservation 10% discount to Icon members
26 - 29 September 2016
Course leader: Linda Bullock

Karibari Board Making 10% discount to Icon members
10 - 14 October 2016
Course leader: Ranson Davey



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A battle with time and space

Emma Cox reports on the challenges of treating a huge cartoon drawn by Daniel Maclise RA in 1858/9 depicting the meeting of the victorious Generals Wellington and Blücher after the Battle of Waterloo

In June 2012, a gathering of curators and specialists met in an East London warehouse, where a very large work of art on paper was stored. The cartoon had been packed away unseen since 1972 when it was last displayed in the National Portrait Gallery. An exhibition programme was planned for the work to be displayed at the Royal Armouries in Leeds (June 2015) and later in the year at the Royal Academy (RA). As one of the RA paper conservators I was asked to come along to view the work and give an opinion on its current condition.

As we walked into the viewing area, we were all amazed at the sight that greeted us: ten panels standing on chocks and leaning against the walls with the most amazing, accomplished drawings attached. The sheer scale alone took our breath away with each panel measuring 338 cm high × 141 cm wide. The total width of all ten connected panels measures nearly fourteen metres or over forty five feet.

CONDITION ISSUES

Each panel displayed most of the following condition characteristics:-

- surface dirt and abrasion of media
- undulation of the paper where the primary support was insufficiently pasted or lined to canvas
- damage to the vertical edges, where the paper was originally cut
- paper losses, especially to the outer edge of the cut sheet where its brittle nature is exposed in loose and lifting fragments
- discolouration of the paper giving a brown hue
- varying degrees of mechanical damage over the design (multiple splits and tears)
- badly damaged areas which have been retouched with a tempera paint or similar gesso-like glue and pigment mix

The temporary studio with cartoon panels stacked around the walls





Photo: Catherine Rickman

Our art handlers walking the panels into position

(often over quite large areas) and passages with surface 'blooming' or pastel retouching (giving a greyish matt appearance to the design)

A BRIEF HISTORY

When this remarkable cartoon was originally purchased by the RA after Maclise's death, it was displayed as an entire design on a stretcher with a glazed frame. But with the rehang of the Galleries during the 1920s outside works such as the Maclise cartoon were regarded as a problem: 'we suggest it be offered to some military institution or failing its acceptance by such a body, that the cartoon be rolled up and stored, and the glass sold' (Royal Academy Annual Report 1922).

Between 1928 and 1935, the Cartoon was lent to the Royal Military College at Sandhurst, where it was housed in their Gymnasium. A letter dated 18 August 1937 from F.J. E. Raby at HM Office of Works records what was then done to it:

'The Cartoon was removed from its old stretcher frame by cutting it into ten pieces along its original paper joints. The ten pieces were then pasted on separate panels of "Sundeala" board, which were then each fixed to strong deal frames, which were afterwards varnished. Edges or other places where the paper was broken away were repaired by inlaying new paper and retouching with chalks. A few places in the sky which were badly discoloured have been retouched with tempera colours. The hat worn by Blücher is shown as a cocked hat on the cartoon. It was altered presumably by Maclise by sticking thin paper over the original hat and then

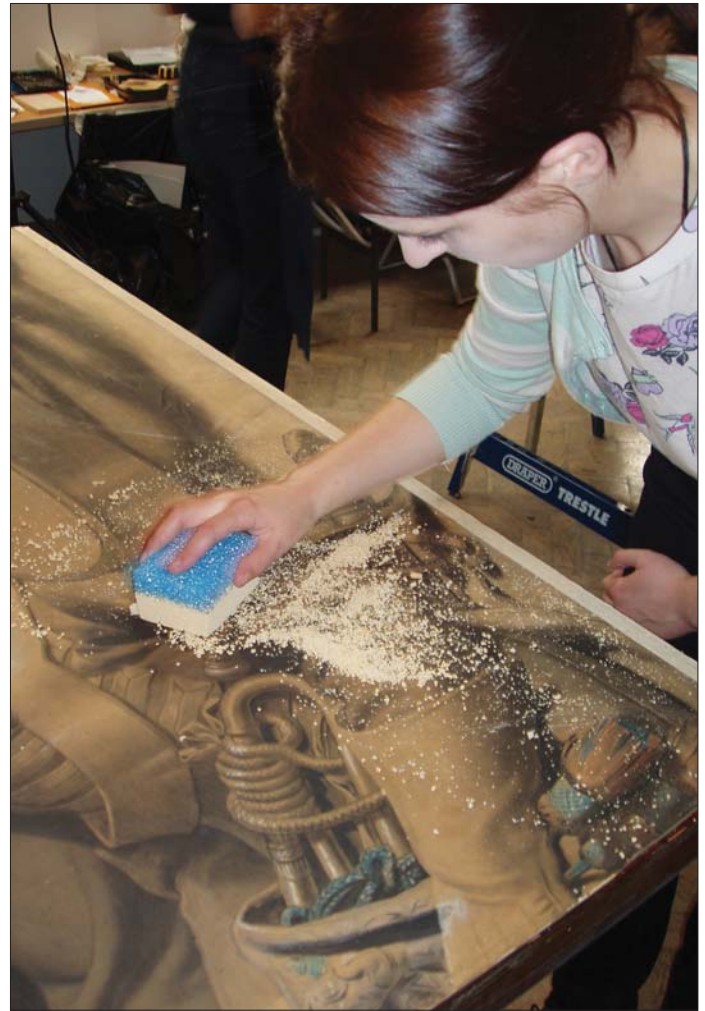


Photo: The Waterloo Cartoon Conservation Project Team

Georgina Whiteley surface cleaning with a Wishab sponge and the granule mix

drawing the present one. This required repasting and retouching.'

For a paper conservator, this 1930s' report is an interesting read, for the principal objective in the 21st century was similar: to try and consolidate the friable edges of the cut paper sheets and any other areas where lifting paper fragments are noted.

PREPARATIONS

A subsequent meeting was held at the warehouse in May 2013 with curatorial staff from the RA, Royal Armouries and Palace of Westminster and additional fellow paper conservators including Catherine Rickman, Alice Powell and myself. This time we viewed three of the panels and discussed the practicalities of conserving them. Everyone agreed with the premise of my original conservation assessment and all we now needed to do was pool our ideas into a workable action plan. Catherine contacted additional personnel and the RA began sourcing a useable space and equipment.

The options open to us were not straightforward. It was not possible to work on the panels at the warehouse so they needed to be transported to the Royal Academy. It was no longer acceptable to pack them face to face as had been done, so individual travel frames needed to be made. The backs were very grubby with surface dirt and we requested that each panel be carefully vacuumed from behind before transportation to the RA.



Art Handler Charlie Clarke taps in nails: there were more than a thousand

Fortunately the Keeper's Room in the Academy Schools was vacant, but only for a very limited time. We were given access to the space for just a fortnight in August, time to set up the room with tables, lights and other equipment and then complete the entire 'hands on' conservation itself in ten working days.

On 11 August 2014 a team of five paper conservators began work: Catherine Rickman ACR, Alice Powell, Tanya Millard, Mari Watanabe and myself, along with two art handlers Charles Clarke and Paul Schneider. Eight strong trestles were set up in two groups of four to support two panels lying horizontally on each. Two panels were always worked on simultaneously. The remaining panels were located around the room with protective boards in front of them.

SURFACE CLEANING

The surface cleaning tests had revealed that it was safe to remove the dirt without lifting any medium. This fact had initially surprised me, but the predominantly used black 'French chalk' with touches of red and blue chalk, were remarkably well fixed to the paper. We think that when the drawing was lined onto the canvas backing, everything became quite wet and the chalk pigment particles sank further into the paper. We did wonder if a fixative or size had been used but there was no direct evidence to support this theory. More investigative tests are needed. Shellac had been applied to the deal frame panels and this was clearly visible around the outer edges when viewed in UV light.

To clean the drawing we used a mixture of non-gritty manufactured draft-clean 'Skum-X' draft cleaning powder, ground art gum eraser and draft cleaning sponge. The commercially produced powder that we had purchased soon ran out and no more supplies were available in the country so we needed to come up with an alternative fast.

Using a couple of coffee grinders (one motor packed up during proceedings), we were able to make our own powder, using a combination of the above ingredients. This was applied to the drawing using a Wishab pad and brushed off using soft goat hair brushes.

STARTING ON THE DAMAGE

By the time we had successfully cleaned the fronts and smoke-sponged over the backs, it became clearer how damaged the surface was and how much work was required to treat all ten panels.

We began repairing the broken, damaged and dented edges of each Sandeala board (a lignin rich, commercially prepared board for notices and hobbyists) and the drawing paper layer. The primary support paper had been originally of good quality, probably an off-white cartridge type of paper. By the 1850s machine made papers were available in continuous rolls and with large widths. We built up any losses in the Sandeala board using either cotton mount board or cellulose powder blended with EVAcon R adhesive (ethylene-vinyl acetate co-polymer emulsion) mixed with pigment.



Detail of nail heads catching the light.

Often a layer of brown toned Chinese paper was attached to the surface before placing toned Japanese tissue on top. Water soluble Indian inks and/or combinations of gouache and watercolour were brushed onto strips of tissue and dried, giving variations in tone from pale grey to charcoal and from an ochre-mustard to deep chocolate brown and matt black. The adhesive used was wheat starch paste. Missing sections were traced to shape and cut on a light box with a stylus.

BRINGING IN REINFORCEMENTS

During the second week we were very happy to welcome Georgina Whiteley and Clare Reynolds ACR to the team. The sheer number of repairs required, coupled with the fact that

we needed to be visually consistent across all ten panels, meant that we needed more hands on deck to achieve the required 'finish' in the time allowed.

The old tempera retouched areas were largely situated over badly damaged splits and holes in the drawing and the rather thickly applied paint had deteriorated over time. Methyl cellulose poultices softened the old repairs sufficiently to remove them quite cleanly, revealing that parts of the drawing were completely holed through to the canvas layer underneath. Often the drawn paper layer had entirely gone. The resulting cavity needed to be built up again using layers of the previously toned archival paper or kozo fibred Japanese handmade tissues. The final top layer would be selected to blend in with the general tone of the surrounding

During treatment: a poultice on the Duke of Wellington's thumb.





After treatment. Wellington's handshake with the Prussian Marshal Blücher is at the heart of the scene

design layer (a very nice example can be seen over the Duke of Wellington's thumb).

Meanwhile, some of the lozenge shaped blisters or bubbled undulations within the drawing sheets, for example in the sky region, which were very noticeable in raking light, were encouraged to relax and flatten by the application of a heated spatula at 80°C above a piece of silicon release paper and water-dampened Gore-Tex membrane. Creased and cracked tears with a tendency to delaminate were also worked over with the heated spatula and 2% methyl cellulose in distilled water. This helped with their consolidation.

Over a thousand pin tack nail heads were located across of the panels and these stood out from the design layer. They were also distracting since they reflected light. Charlie fabricated a special nail punch with a small concave head that could be used to accurately tap the nails further into the board. Toned pieces of Japanese tissue were scrunpled into little plug shapes and adhered to the nail head. This technique was very good at mimicking the appearance of the soft, chalky medium and creating a less broken up appearance within the detailed drawing passages.

Some repairs and new patches were softened using watercolours and Stabilo CarbOthello pastel pencils (reversible with a dry latex sponge). No attempt was made to restore missing drawn areas.

SUMMARY

Although the time frame allocated to such a big project was not standard practice, our conservation remit was a fairly standard and relatively straightforward one: to stabilise the physical condition of each panel where possible; to remove the more aesthetically distracting old repairs and address the long-term storage considerations. We do hope that our treatment has gone some way towards achieving those ends,

but more importantly perhaps, that it has enabled the sheer magnificence of Maclise's draughtsmanship to shine through clearly once again, in the bicentenary year of the Battle of Waterloo.

This article was based on a talk given at the Daniel Maclise: The Waterloo Cartoon Study Day, held on 6th November 2015 at the Royal Academy of Arts

Acknowledgments

It was a team effort from beginning to end. Thanks are due to:

- the Royal Academy Collection's team: Annette Wickham, Morgan Feely, Helen Valentine and Nick Savage for their planning, enthusiasm, practical help and encouragement throughout the project
- Charlie Clarke and Paul Schneider for their good humour and frame handling expertise
- my fellow conservators on this rather intense and unique experience: Catherine Rickman, Alice Powell, Tanya Millard, Mari Watanabe, Georgina Whiteley and Clare Reynolds. It was a pleasure working with you

Grateful thanks are also due to the Arts Council for their generous provision of funds to pay for the conservation of the Waterloo Cartoon

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Experiencing crime scene technology training

Matthew Hancock, Conservator at Fort Nelson, describes the issues involved in investing in XRF equipment and training for staff and volunteers

INTRODUCTION

Fort Nelson is one of the Palmerston forts built to defend Portsmouth from a perceived French invasion in the 19th century. It is currently home to the Royal Armouries National Collection of Artillery. A year ago, Fort Nelson staff and volunteers were awarded a grant from the South East Museum Development Programme to learn how to use a portable X-ray fluorescence analyser (XRF) to enable us to collect forensic evidence from the collection of artillery held at Fort Nelson. The particular areas of interest to us are metal identification, chemical analysis and identification of pigments and materials.

A handheld portable unit similar to the Royal Armouries' unit



Photo: Courtesy of Bruker

WHY INVEST IN XRF?

The Royal Armouries invested in this technology to enable us to achieve one of the core aims of our Corporate Plan 2014–2019: research and dissemination by improving our understanding of objects by forensic examination and sharing this information with other heritage organisations in Hampshire, United Kingdom and internationally.

This investment also helps with achieving three other of our core aims for 2014–2019, which are to:

- Conserve and manage the collection
- Enhance the collection
- Display and interpret the collection.

The equipment purchased by The Royal Armouries is a hand-held portable XRF unit that can be moved easily between all three of the Armouries sites to help us deliver these aims and objectives.

INVOLVING VOLUNTEERS AND STAFF

A challenge recognised by Fort Nelson with both the volunteer programme and the non-academic technical staff is how to involve the team members in conservation science in a way that will be interesting and engaging for the participants but that does not involve a long and expensive training in chemistry.

We have a training programme for conservation volunteers, along with staff training programmes and, as well as meeting training needs, they are also intended to include staff and volunteer development. However, with pressure on budgets, this developmental aspect can often be put on hold or postponed, or restricted just to the staff who are essential to a project. In the case of XRF analysis, this would normally be the conservator, as analytical conservation science is part of their job description. Of course, Fort Nelson and the Royal Armouries are not immune from such pressures but the Conservator devised the volunteer training programme to include development as well.

Without this, it was felt that the volunteers' experience would be substantially reduced and the museum would fail to get the full benefits of having volunteers. The same is also true for collections staff: they may not have 'conservation' in their job title but these staff, like the volunteers, work closely with objects. So the importance of developing skills in conservation science cannot be underestimated if we are to maintain standards in our conservation work, and protect historic evidence and our heritage from risk and loss.

The decision to include volunteers and other collections staff



Being studied with XRF: this 17thC bronze Dutch minion drake gun

in the XRF training was not for these reasons alone. In addition to a commitment to staff development at Fort Nelson, the proposed XRF artillery database project would be a large undertaking that would require more personnel than just the Conservator to complete within a reasonable timeframe.

MAKING THE MOST OF THE EQUIPMENT

During the training it became apparent that setting up the equipment correctly was critical to achieve accurate results. And creating meticulous information for use in research papers is fundamental to any heritage forensic project. Accuracy is ensured by calibrating the XRF unit correctly and an example of the importance of this was demonstrated during the training when one of the delegates brought in a sample of metal that was gold plated. The instructor used the settings on the unit to show how, incorrectly calibrated, the unit could give a reading for pure gold instead of gold plate.

Another area essential to success is the interpretation of the results. Understanding the information from the XRF analysis is imperative: an incorrect reading of the results could be the difference between a fake and a genuine work of art. Examples of this were seen in last year's BBC series *Fake or Fortune* where forensic methods including XRF and other types of X-ray have often been used to provide information on the chemical make-up and the date of pigments.

The training provided a useful section on the capabilities of the equipment. This module explained not only what the equipment could do but also its limitations. Although this might seem rather negative, it was an important subject to cover, because misunderstanding the equipment could jeopardise the research. The limitation of the equipment of most interest to Fort Nelson is that XRF is unable to produce

information on the carbon content of materials. Carbon content is relevant when researching iron used in gun manufacture. Fortunately, this was not crucial to any of our XRF projects, as the origins of the iron used in the manufacture of some the guns in the collection is historically documented.

No modern course would be complete without covering the subject of safety. And learning about safety for the XRF unit gave us the chance to use a Geiger counter to measure the x-rays from the unit while taking a reading from a sample of material. This was an interesting experience and provided some light relief. Although a Geiger counter can be purchased for a few hundred pounds, the cheap ones cannot be re-calibrated so you would need a new one every year. Fort Nelson will be using the sensible method of monitoring

During treatment: a poultice on the Duke of Wellington's thumb.





Using the XRF unit on a gun carriage in a conservation project for the Royal Artillery

radiation using the more economical process of dosimeters at a cost of under a hundred pounds a year.

PLANNING: THINGS TO CONSIDER

Planning your project might be largely commonsense but with X-ray technology involved there are some extra things to consider, such as radiation protection, that can be overlooked. Below is an outline of four important considerations.

Types of equipment

Not only are there XRF units for different types of work but there are portable units, desk top units and floor standing units. The key to choosing the right type of equipment for your project is research and budget. XRF units are not cheap but you can hire units or send samples to a third party to be analysed.

Radiation Protection

The next consideration is a training and safety issue. Although your training in the use of the equipment has been completed there is still further training to undertake, as you will need a Radiation Protection Supervisor (RPS) on site. The RPS needs to *'know enough about radiation protection principles and procedures, the requirements of the Regulations and the arrangements in local rules to enable them to supervise the work safely'*¹ Another requirement is a Radiation Protection Advisor, who will have to be an outside consultant: *'that every employer shall consult with a Radiation Protection Advisor'*²

What?/ Why ? / Budget / Staff

The training is complete, you have your RPS on site and your Consultant RPA, you have advised Health and Safety that you

are going to start X-ray work on site and you are ready to go. But before you get to this stage the crucial bit that needs to be done before you invest money in equipment, is to ask the two questions of what and why? Then there is the budget: it costs time and money to have staff or volunteers tied up on forensic projects. The questions have to be asked: what are we going to do and why is it worth the time and investment? Are our projects going to present value for money for our organisation? Value for money might not necessary mean a financial return; it could be raising the museum's profile in research. With the costs involved in XRF it is imperative that any value for money criteria are achieved because questions will be asked if the targets are not met, with the current restrictions on spending in most institutions.

DISSEMINATION OF RESULTS

The project is complete, the reports are written, the job is done... well, not entirely. It is not much help if the results are kept in the museum archive or library and the information collected is not used in any meaningful way. The information might help with decision making on types of treatment, reducing risks when conserving objects. The really useful part of dissemination is to share your results in a paper or publication, as this can help demonstrate value for money, as well as being good professional practice to share research and have it peer reviewed.

FORT NELSON'S FUTURE XRF PROJECT

Fort Nelson is planning to create an XRF database of the polymer coatings currently used on the objects in the collection, which will be used for a major research project in the effectiveness of polymer coatings on historic artillery and the effect when combined with moisture on corrosion products. The database will also cover the chemical make-up of the different metals in the collection. This will be a useful resource when treating objects, as we will have knowledge of the materials on the guns to inform the treatment decisions. In addition, it will help risk management, for example by knowing the amount of lead in the paint work of something you are about to treat.

This database project is currently planned to start in the autumn of 2016. A more immediate XRF project is to take measurements from the bronze surface of the recently acquired Dutch mid-17th century minion drake gun to compare with the bronze surface of other known minion drake guns, for research into Dutch guns of the mid-17th century. Fort Nelson hope to share our findings on the comparison project when complete.

1 Regulation 17: Work with ionising radiation, published by the Health and Safety Executive, 2000. Isbn: 9780717617463 www.hse.gov.uk/pubns/books/1121.htm

2 Regulation 13 *ibid*

around and about

A colossal challenge

One of the highlights of the British Museum's collections is a very large statue of Buddha standing nearly six metres high on his lotus base and on display in the central well of the North stairs. More than fourteen hundred years old, it is made of marble and represents the Buddha Amitābha, the Buddha of Western Paradise.

Because of the problem of its physical accessibility, the statue has not benefitted from full conservation treatment for twenty five years. But all that has now been rectified thanks to funding from the Bank of America Merrill Lynch Art Conservation Project. This generosity has enabled conservators to use in-situ scaffolding to examine the statue's condition and carry out careful cleaning. Improvement to the plinth and lighting conditions have also been made.

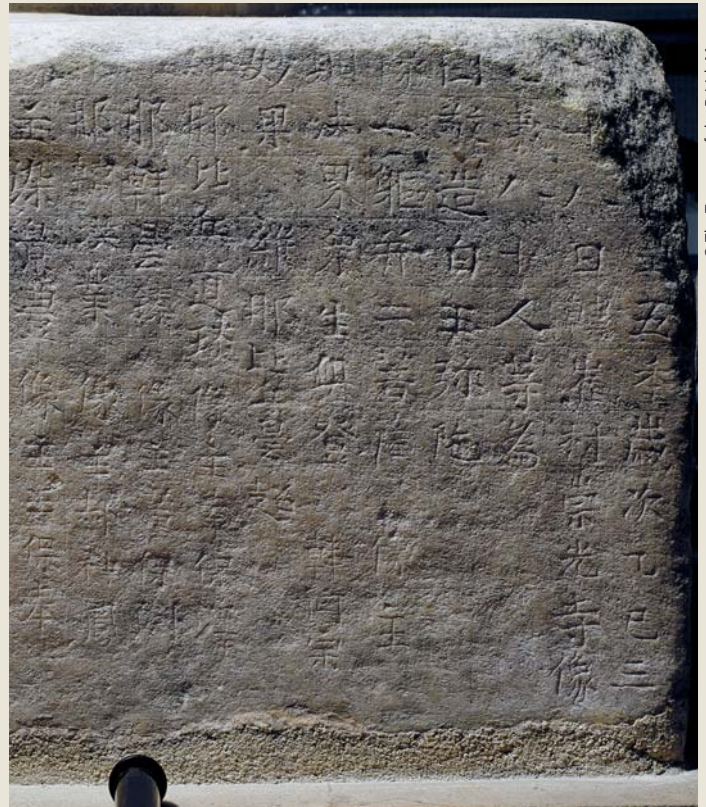
In addition, BM experts have for the first time been able to fully read an inscription on the Buddha's plinth, which identifies its original location in northern China and names eighty members of the Yi-yi, a Buddhist society which was very popular during the northern dynasties, who originally patronised the building of this Buddha. They also built two white marble bodhisattvas, one of which is now in Japan.

The Art Conservation Project funding also allowed the

Working on the British Museum's Amitābha Buddha



© The Trustees of the British Museum



© The Trustees of the British Museum

The Buddha's plinth with its newly deciphered inscription

conservation department to investigate the wood used in the arms of the statue. Using scanning electron microscopy, the team identified the wood in the left arm as that of the jujube tree (*Ziziphus jujuba*). Widely cultivated for more than four thousand years in China, the tree is valued for its edible fruits rich in vitamin C, which are often preserved or candied. Some (older?) Icon members might be familiar with the word jujube as a term for a sweet from their childhood!

A gift for BM conservation

The British Museum is also the beneficiary of a generous gift from the Mark Pigott family that will be dedicated to funding the Pictorial Conservation Studio in the World Conservation and Exhibition Centre (WCEC). The Studio encompasses three vital resources for the Museum: the Conservation Studio, the Organics Wet Room and the Mounting Studio.

The Mark Pigott Pictorial Conservation Studio works mostly on Western art on paper, looking after the Museum's collection of some fifty thousand drawings and over two million prints and also caring for the Museum's photographic collections. The Organics Wet Room is a shared facility bringing together the organics and paper conservation sections and the Mounting Studio allows mounters and conservators to work side-by-side for the first time in the Museum's history.

Industrialist and philanthropist Mark Pigott KBE, said 'We are pleased to partner with the British Museum and its



Conservator Judith Rayner (foreground) working in the Mark Pigott Pictorial Conservation Studio

outstanding team of specialists to incorporate new technology to enhance the work of the World Conservation and Exhibitions Centre and its cultural legacy for future generations.'

News of conservation success

The medieval parish church of St Martin's in Billborough, Nottingham won the 2015 John Betjeman Award, given by the Society for the Protection of Ancient Buildings. The Award was for the sensitive conservation of two 1946 wall paintings in the chancel by a British war artist Evelyn Gibbs.

Depicting the Annunciation, the top two thirds of the paintings were concealed during the 1972 church extension work and the lower thirds were painted over. The wall paintings were styled in the tradition of fourteenth century Italian murals and are thought to be the last surviving examples of Evelyn's monumental work. The wall paintings were conserved by Tobit Curteis Associates. They did a condition survey in 2010 and commenced work in September 2014. Conservators Saskia and Joy Huning also worked on the project.

St Martin's Project Manager Hilary Wheat led the teams of people who carried out the restoration and conservation of the church, financed by the Heritage Lottery Fund. The work included a new stone floor, underfloor heating, new lighting, chancel refurbishment, redecoration and new exhibits of finds. Four unemployed youngsters were selected to be apprenticed conservation builders, learning new skills on site. The conservation building work was carried out by Philip Turton of Bolsover.

A new east window was also commissioned because the original was destroyed and subsequently bricked up. My involvement was to design, fabricate and install the new east window. It was sympathetically designed to let plenty of light into the east end by utilising mouth blown clear glass with minimal decorative lead work in the tracery. This provided a calm centre for the wall paintings. The upper saddle bar (broader in profile) was left in situ, providing stability for the mullions and support for the masonry above. Window guards were added for protection.

Peart Bradley of Nottingham was the architect. Pauline Lucas, author of 'Evelyn Gibbs, Artist & Traveller' published by Five Leaves Publications in 2001, was also consulted about the wall paintings. Hilary Wheat subsequently produced the leaflet entitled 'Discover Hidden Treasures at St Martin's Church'



Award winning: wall paintings conserved at St Martin's, Billborough, Nottingham, bracketing the new East window

and more information can be sourced from their website: www.stmartinsbilborough.org.uk

Michael Stokes
MDS Stained Glass Ltd

A Roman fresco revealed

Archaeologists from MOLA (Museum of London Archaeology) recently uncovered a beautiful Roman fresco at 21 Lime Street in London. At over 2.5metres wide, the fact that it has survived at all is incredible. It was uncovered six metres below street level and it is one of the earliest surviving frescos from Roman Britain, dating to the late 1st century AD.

It is thanks to the construction of the Forum Basilica in 100 AD that the fresco was sealed in the ground for nearly 2,000 years. The Forum Basilica was the main civic centre for the city and the largest Roman building ever built north of the Alps. In advance of its construction the area was flattened, the painted wall was deliberately toppled and the Forum immediately built over it.

MOLA's conservators remove a section of the 1st century upturned Roman wall plaster





© MOLA

The Roman fresco which is more than 2m wide and 1.5m high, pieced together to show the decorative scheme

There is a nice symmetry to the fact that it was buried during a construction project and has now been brought to light by archaeologists undertaking fieldwork for a new office development. Discovered face down, the fresco was identified from the distinctive markings of the keyed daub onto which the plaster was attached. The fragile remains, surviving to a width of nearly 2.5 metres and a height of over 1.5 metres, were carefully removed from the site by MOLA's archaeological conservators who lifted the fresco in sixteen sections. Each section was supported, undercut and block lifted so that soil encased and protected the plaster. Back in the lab the conservators worked quickly to micro-excavate the soil whilst it was still damp, to expose the millimetre-thin painted surface beneath.

Liz Goodman, Archaeological Conservator for MOLA, said: 'This was a really challenging but rewarding conservation project. We were up against the clock working on this huge and fragile fresco but it was a joy to uncover the decorative plaster that hadn't been seen for nearly 2000 years.'

Micro-excavation and cleaning of the fresco sections underway in MOLA's lab



© MOLA



© MOLA

One of sixteen sections of a decorative fresco dating to the earliest decades of Roman Britain in the 1stC AD

For experts the elaborate fresco reveals something of the fashions and styles of the first wealthy Londoners. It is likely to have decorated a reception room. The fresco was painted in natural earth pigments, except for one area of red on a twisting vine stem which is picked out in cinnabar, an expensive mercuric sulphide pigment that had to be mined in Spain. Although small fragments of Roman wall plaster have been found in London, complete collapsed wall paintings are extremely rare and the 21 Lime Street example is one of the earliest known from Britain. Its design scheme has not previously been seen in Roman Britain; the closest example comes from a Roman villa in Cologne, Germany.

MOLA archaeological conservator Luisa Duarte conserving one of the sixteen sections of beautifully decorated collapsed Roman wall



© MOLA

BOOKS

CONDITION: THE AGEING OF ART

Paul Taylor

Paul Holberton Publishing, London, 2015.
ISBN: 978 1 907372 79 7

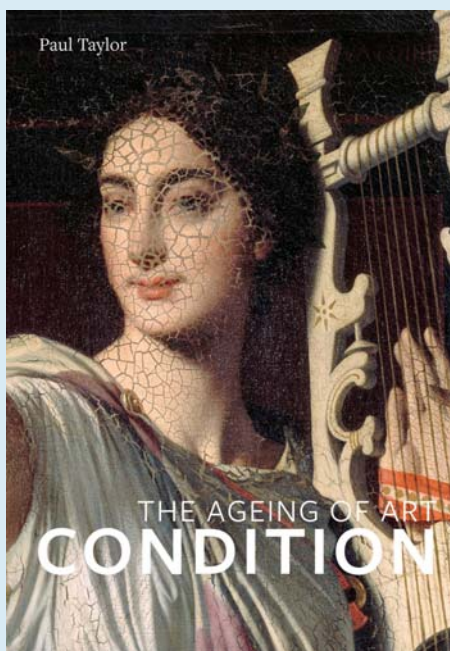
The ageing of art is what conservators study and our understanding of the mechanisms that contribute to the different phenomena of art's ageing has increased markedly over the past few decades and this excellently clear publication covers the subject well. It presents an overview of current knowledge. Mainly paintings are discussed, but tapestries, sculpture and prints also feature. In its six chapters it covers the constituents of paint and the basic methods of investigation, losses, cracking and flaking, changes in the colour of pigments, darkening and the aims, controversies and debates surrounding cleaning.

It is accessibly written, well-illustrated and has a comprehensive bibliography. It does not talk down to its readers. For the conservation student it is an excellent introduction that will, it is hoped, lead on to the study of the source literature. For the art historian it is an intelligent introduction to an area not always looked at – that of art's materiality.

Many of the examples the author discusses are drawn from the collection of the National Gallery, London, and on the work the gallery has done in investigating deterioration mechanisms of art published in its Technical Bulletin. Aside from the author allowing himself to be enmeshed in the debates over the recent cleaning of the Sistine Chapel, this is the sole error, in my view, in an otherwise thoroughly accurate and levelly argued book.

However, it is not written by a conservator, or for a conservation audience. Its author, Paul Taylor, is Curator of the Photographic Collections at the Warburg Institute, University of London, and is the author of *Dutch Flower Painting, 1600–1720* and various articles on seventeenth century Dutch art theory. Hence it is written by an art historian for art historians. Indeed it begins in its introduction by giving examples of how a painting's condition, generally the presence of overpaint, has led art historians astray. Aiming it at a non-conservation audience should not, however, diminish its usefulness and interest to conservators, but serve to widen the audience for the subject.

The materiality of art has been a growing interest, and concern, for both art historians and the art market for some time now. The author gives examples of art historians being hoodwinked by a work's condition, mistaking overpaint for original paint, hence misattributing a work or even a subject. But condition can affect a piece's market price. A torn Monet should sell for less than an



untorn Monet. Thus there is an increasing desire to gain the skills conservators have – the art of looking and understanding art's materiality.

Is this the beginning of the end for the misinformation of many non-conservator written condition reports?

Clare Finn ACR

COURSES

ADHESIVES, COATINGS AND CONSOLIDANTS

London 14–18 December 2015

This five-day course, held at Tate Britain, was tutored by **Velson Horie**, Collection Care and Conservation Consultant (www.horie.co.uk). Fourteen attendees came from a variety of disciplines, conservators from both private practice and institutions, as well as conservation students and scientists. This provided a broad spectrum of learning needs and made for interesting discussions and sharing of expertise.

Velson Horie opened the course by saying that conservators use materials on their objects all the time and asking: why do you use the materials you use? What criteria do you use in making those choices? And is the choice based on evidence or familiarity? The course asked us to evaluate our choice of materials, by examining and questioning the criteria for testing and selecting a certain material for an object. This was effectively taught by evenly splitting the course between theoretical presentations and videos in the morning sessions, and practical experiments in the afternoons.

The morning presentations covered a vast and somewhat overwhelming amount of polymer chemistry. Velson first presented an introduction to polymers in conservation then covered polymer science, vinyl polymers, solvents, cross link resins, adhesion, textile adhesive testing, mechanical testing, carbohydrate polymers, natural resins, degradation processes, physical properties, and miscellaneous polymers.

Thankfully Velson provided handouts on every section covered, so we could easily make notes during the presentations, and the handouts will be a great resource for future reference. The importance of understanding the chemical background of one's materials is clearly important, however, it would have been useful to have visual examples/ case studies of objects where the success and reversibility of treatments were evaluated and discussed.

The afternoon practical sessions were a flashback to chemistry laboratory experiments. Perhaps the title of the course should have read *The Chemistry of Adhesives, Coatings, and Consolidants?* Following Velson's *Practical Session Handbook*, the attendees worked in groups to carry out various experiments which were broken down into five distinct topics:

- 1) Reflection; gloss measurement and filling cracks in glass with RI liquids
- 2) Colour change; transmission spectra, yellowness index and change in reflection.
- 3) Properties of solutions and testing their viscosity.
- 4) Setting properties and sample preparation; film spreading, shrinkage on setting, pH of liquids/solid materials.
- 5) Mechanical properties; tensile properties of polythene and testing the strength of a textile adhesive.

On the final day the groups presented their findings, explaining their methodology, findings and how these experiments could help them in their day to day activities as conservators and scientists. Although the practical sessions were useful, the experiments would have been more time effective if clear guidelines were provided on how to use pieces of equipment such as the spectrophotometer, viscometer, and glossometer. A lot of time was wasted by trying to understand how a particular piece of equipment worked, or by following instructions for a rotating viscometer that was in fact for a different machine.

During the afternoon of the final day, as a group, we were asked to provide a case study requiring a polymer for treatment. Rachael Smith, Drawings Conservator, Royal Collection Trust, shared an interesting case on 'choosing an adhesive to use to support copper pigment induced fracturing of the paper pages in a 15th century manuscript from the Islamic world'. The group discussed and brainstormed the possibilities. How was the conservator going to achieve the desired conservation outcome for the object? What questions did she need to ask first before undertaking any treatment -such as understanding the composition and chemical structure of the object and the chosen polymer? How will the polymer and object interact? As water is known to have the potential to catalyse further copper

pigment deterioration of the paper, is it best to avoid a water based consolidant? How will the repair/s age? Will the object be re-treatable? Also, what are the ethical considerations and historic significance of the work? This exercise really brought out some fruitful discussions and many ideas for Rachael to take away and consider.

Throughout the course Velson emphasised the importance of testing and sampling each material, no matter how familiar they are to you, before using them on an object. This was due to slight changes to chemical recipes and the need to check that the products will do what they say on the tin (which is not always the case.). He also repeatedly stressed the importance of stock rotation- every time a material is purchased for conservation use, date it and label it with the manufacturers' details, and never keep a material beyond its shelf life.

In summary, the course provided an overview of polymer chemistry alongside a well balanced mix of practical sessions. We found the course valuable and informative and it was particularly useful to work with and share ideas with attendees from different specialisms.

Gates Sofer, Sculpture Conservator, Displays and Exhibitions, Tate Britain

Karin Hignett, Sculpture Conservator, Acquisitions, Tate

Katey Twitchett-Young, Assistant Paintings Conservator, Loans and St Ives, Tate

Jumbies, complete with music, stilts and colourful costumes – a brilliant start to Material in Motion!

The conference continued at the Fashion Institute of Technology (FIT) with two days of absorbing presentations from international speakers. Papers on the theme Material in Motion covered a wide variety of topics including the display and mounting of large portable shelters and the conservation of moving objects. New methods and technologies, such as 3D modelling and printing, were also discussed and provided much food for thought. Two UK conservators gave thoroughly interesting papers on mounting costumes for exhibition and storage. **Elizabeth-Anne Haldane** from the Victoria and Albert Museum looked at the display and transportation of Indian textiles and **Charlotte Gamber** from Historic Royal Palaces outlined the suitability of using Fosshape™ for costume storage mounts.

Nearly two hundred delegates attended the conference and it was a brilliant opportunity to meet both emerging and established textile conservators from across the globe. The conference ended with a 10th anniversary celebration held at The Rare Chelsea Rooftop in the Fashion District, with cocktails and views of the city at night!

The next NATCC will be held in Mexico City in 2017.

Stella Gardner Textile Conservator
Textile Conservation Ltd, Bristol



Richard Wolbers' Aqueous Cleaning workshop at the 10th NATCC

EAST ANGLIAN CONSERVATORS FORUM: Hydration Norwich 4 December 2015

I am working at the National Trust Textile Conservation Studio in Norfolk as Assistant Textile Conservator and was delighted to attend the most recent East Anglian Conservators Forum in December. The group met at the Norfolk Record Office Archive Centre, an ideal location to discuss treatment options for moisture sensitive objects, during a day of study centred on the topic of hydration.

CONFERENCES

10TH NORTH AMERICAN TEXTILE CONSERVATION CONFERENCE: Material in Motion

New York City 16–20 November 2015

November marked the ten year anniversary of the North American Textile Conservation Conference (NATCC), which was held in New York City. The week began with a number of workshops and visits, including two day workshops on Aqueous Cleaning Methods for Textiles and Fibre Identification along with tours of The Metropolitan Museum of Art's Department of Textile Conservation and The Costume Institute, Cooper Hewitt Smithsonian Design Museum and the Lenore G. Tawney Foundation.

The welcome reception and keynote address held at the National Museum of the American Indian, New York on the evening of Wednesday 18th was a lively and engaging affair. **Laura Anderson Barbata**, a transdisciplinary artist from Mexico/USA gave an inspiring lecture on her work and recent collaboration with the Brooklyn Jumbies, a volunteer stilt-walking group. The presentation ended with an energetic performance from Laura and the Brooklyn

The Brooklyn Jumbies stilt-walking at the opening ceremony





Photo: Terri Dewhurst

Antoinette Curtis, discussing the treatment process of the Aylsham Court Roll in the conservation section of Norfolk Record Office

Quite seamlessly, the first presentation of the day was entitled 'Hydration of Moisture Sensitive Items' by **Antoinette Curtis**, Paper Conservator at Norfolk Record Office. Antoinette focused in particular on the Aylsham Court Roll dated 1509–46, a parchment roll consisting of one hundred and thirty one parchment rotulets. The roll was severely damaged and the parchment deteriorated with large areas of losses. Discussion of this work, a one and a half year long project (funded by the National Manuscripts Conservation Trust and Aylsham's local community) centred on the use of remoistenable tissue using existing materials Zorbix®, Gossamer (Berlin) Tissue and isinglass. The aim was to hydrate the parchment and at the same time repair fragile areas in order to allow for digitisation.

It was great to sit and listen to Antoinette discuss this project with immense passion (something I later learnt she has always done during her working life) but the project really came to life when later in the day we got the chance to visit the conservation section of the record office where we could see the

Court Roll in all of its 'after treatment' glory. During the visit to the work room Antoinette and her colleague **Yuki Russell** discussed the object in greater detail and gave a demonstration of the treatment process. There was great intrigue (and a touch of envy) from myself and two other textile conservators from the studio over the paper conservator's tools and equipment, all beautifully and lovingly cared for.

Next, back in the presentation room we heard from **Steve Dorling**, product manager of PIL Membranes Ltd, a company based locally in Kings Lynn. He had been invited to talk about an exciting new range of membranes. His presentation was entitled 'Membranes for use in Preservation and Conservation Applications'. During Antoinette's work on the Aylsham Roll the use of Zorbix® as the hydrating layer had come to an end when the product was no longer available. Her search for a similar material led to Porelle® membranes from PIL, in particular their 'Hydra 3D' microporous, polyurethane membrane which has hydrophilic properties. The foam, air

bubble technology creates an open pore structure which can be used to hydrate 2D and 3D objects; it can be cut to shape, used on both sides and can be washed and re-used.

Interestingly the membrane also removes surface soiling from artefacts without abrading the surface, through capillary action.

Steve also talked about other Porelle® membranes which may be of use to the conservator; Porelle® 'Hydra PTFE' (polytetrafluoroethylene) and 'PTFE Air' used for humidifying or de-humidifying objects, and 'Hydra 2D' a hydrophilic membrane laminated to a TPU (hydrophilic thermoplastic polyurethane). This got us thinking about how Porelle® membranes could be used on the textiles we are currently working on at the studio; soon after the forum we hurried to invite Steve to the studio to discuss possibilities.

After lunch we heard from **Edward Hems**, PhD student from the John Innes Centre, Norwich. He discussed his collaboration with the Norfolk Record Office, working with Antoinette and Yuki on 'Decolourising isinglass derived from aqua-farmed sturgeon by sonication' which has been published in vol.38 of *Icon's Journal*. This work aimed to remove part of the lipids in farmed isinglass (the swim bladder of sturgeon fish) which have a yellow hue and therefore are unusable in conservation treatments such as the one described by Antoinette during the morning's presentation. Edward found a highly ingenious and practical method of solving this problem using readily available equipment.

To end the day, which had largely focused on new materials and techniques, **Deborah Phipps** and **Jonathan Clark** of Norfolk Museums Service rounded up proceedings with an interesting conservation materials 'show and tell'. There was Relic Wrap®, more commonly known as plumbers tape, and its use in storing objects; Fosshape®, a heat activated polyester non-woven material used in creating forms for display and storage and Formetal Mesh®, a similar concept to Fosshape® and used for the same purpose, but an aluminium bendable and mouldable mesh which can be reused many times.

Finally **Nick Sellwood**, Senior Conservator at Norfolk Record Office, addressed the group to give thanks to Antoinette Curtis for helping to organise the day but more poignantly he spoke about Antoinette's impending retirement. Her infectious enthusiasm for conservation was obvious, her energy and passion inspired me just having spent one day in her presence. The East Anglian Conservators Forum would like to wish Antoinette a very happy retirement.

Terri Dewhurst Assistant Textile Conservator, National Trust, & Independent Objects Conservator, WHConservation

CONSERVATION AND EXHIBITION PLANNING: material testing for design, display and packing

Washington DC, USA November 2015

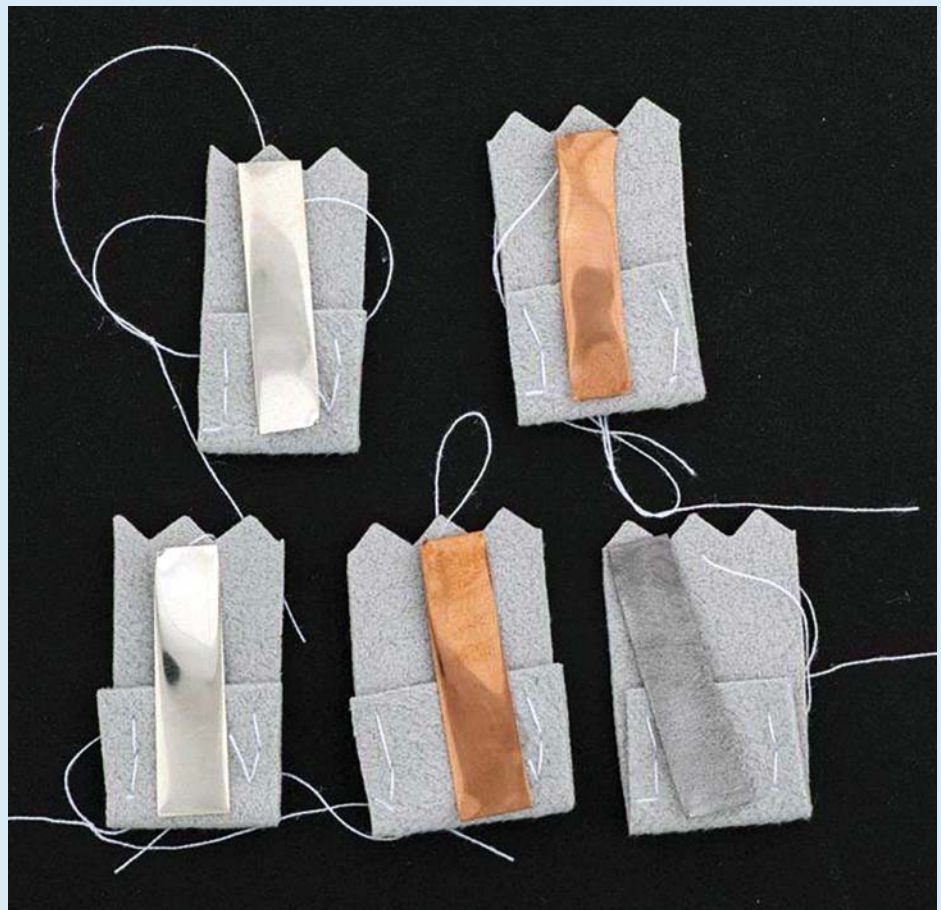
This conference was held over two days at the National Portrait Gallery and Smithsonian American Art Museum, Washington, DC. It was sponsored by the Foundation for the American Institute for Conservation (FAIC) and the Lunder Conservation Center. Over three hundred people attended, including designers, registrars, mountmakers, packers, curators and suppliers as well as conservators. There was a good mix of presentations and lively panel discussions. Abstracts are available on-line. (<http://tinyurl.com/z3u77b9>) This includes links to useful websites such as the Mountmakers Forum.

A keynote speech on the history of materials testing by Dr **David Saunders** was an excellent overview of early observations leading to the methods we use today, the virtues and issues with enclosures and the benefits and limitations of the Oddy test.

In the first paper, **Kaplan and Heald** (National Museum of the American Indian) gave an honest appraisal of testing as 'a source of doubt, frustration and anxiety'. Their fifteen years of testing has resulted in a document used by their in-house designers, fabricators and contractors. As Oddy testing is time consuming, they have other methods of evaluating materials to reduce testing workloads. They also explained that Sintra® (rigid PVC, similar to Forex® in Europe) is now their preferred material for internal case construction to replace wood products.

It was interesting to see the adaptations various institutions have made to the Oddy test procedure. **Torok and Wickens** (Winterthur Museum) described the results of a 2014 survey that revealed nineteen different protocols across thirty two institutions. This can make comparisons between test results difficult and concern was raised that without standardisation of the protocol, it may not be possible to share meaningful data. However, unlike in other parts of the world, sharing test results is difficult in the United States for legal reasons. **Snyder and Springer** described how, in 2012, conservators created a platform to share results on the AIC wiki site (http://www.conservation-wiki.com/wiki/Materials_Testing). It was felt that institutions would feel more comfortable putting results on a neutral and non-commercial database and would encourage more to contribute. Test procedures are included, as well as photos of the metal coupons which allow users to make their own judgements on results.

A systematic way of matching the quality of the case construction to the proposed contents of the case was outlined by **Jennifer Kim** from the Autry National Centre



One method of Oddy testing for contact with fabric

in Los Angeles, with levels of case design from top quality, through to mid-level, and down to the most basic enclosure. It is a good pragmatic approach for a museum exhibiting social history collections recognising that some objects do not require optimum conditions. The emphasis is on creating a shared language of terms so requirements are clear to all involved in project planning.

Paine and Zehren at the Field Museum, Chicago described Exhibit Process and Exhibition Guideline documents used by their teams. It was particularly impressive to see that most of the construction work was done in house using 3D scanning and computer controlled cutting machines. Prototypes and mock-ups are factored into project timetables and they have developed the use of aluminium-clad wood products for

List of prohibited components identifying risks to art and health

NGA Prohibited Components

A = art risk
H = health risk

- Acetic acid **A**
- Acetoxy-cure products **A**
- Alkyd paints **A**
- Asbestos **H**
- Diisocyanates **A, H**
- Dimethyl ether **H**
- Formaldehyde **A, H**
- Formic acid **A**
- Isocyanates, includes polymethylene polyphenyl isocyanate **H**
- Lead based paints **H**
- Mercury **H**
- Methyl ethyl ketone peroxides (MEKP) **A, H**
- Neutralizing amines **A**
- Ozone, ozone-generating processes **A, H**
- Polychlorinated biphenyls **H**
- Polymeric MDI aerosols **H**
- Styrenes **A**
- Vinyl acetates, such as polyvinyl acetate polymers, acetic acid ethenyl ester **A**

the case interiors with careful attention to sealing joints.

Newman and **Hatchfield** (Museum of Fine Arts, Boston) described unusual substances found on objects and surfaces within display cases, including crystals formed on ceramic vessels and case gaskets. These turned out to be caused by a chemical evolving from materials that had passed the Oddy test. This case study was a good illustration of the limitations of the Oddy test and an example of how working with a showcase manufacturer can help to resolve complex problems. They also described preliminary work with NASA which has developed standards for materials outgassing within enclosed environments.

Presentations on the second morning focused on alternatives or adaptations to the Oddy test. **Maines** described using solid-phase micro extraction (SPME) at the National Gallery of Art, Washington DC, while **Breitung** explained a test based on paper sensors developed at the Library of Congress.

Smith and **Samide** at the Indianapolis Museum of Art also described a method using an adaptation of gas chromatography and mass spectrometry. Oddy testing is still used there, but this method allows quick checks of the emission profiles from previously tested products. **Hodgkins** presented a technique of using silver nanofilms to assess storage materials at the National Gallery of Art (Washington), particularly for use with objects sensitive to silver tarnishing such as daguerrotypes. The nanofilms proved to be more responsive to low levels of harmful substances.

Smith also reported, as did several others, that there have been issues with differences between brands of certain products such as Sintra® and how it is essential to ensure that you are receiving the exact product you are expecting and not a generic substitute which may cause problems.

An interesting issue raised by **McGrath** from the Freer/Sackler Galleries of Art was pollutant retention in silica gel and the possible risks associated with reusing it. They assessed samples from a range of US museums and found that most had adsorbed acetic and formic acids and acetaldehyde which could be desorbed and affect objects if not removed correctly when regenerating the gel. Higher temperatures in a ventilated oven was found to be most effective.

The final two papers described the approach to materials testing for major projects at two large museums. **Maines** and **Grzywacz** (National Gallery of Art, Washington) described how a major problem with a sealant used in their galleries prompted staff to evaluate health risks as well as risks to artworks. They now use chemical data management software for all products.

Chang (Harvard Art Museums) described the planning and testing for two recent major gallery refurbishments where over nine hundred materials were tested or reviewed. One important point from the talk was that the time needed for materials testing should not be underestimated.

There were a number of key themes throughout the conference. It was agreed that perfection cannot be achieved and that compromises have to be made. Good methods of recording and communicating data are essential and time allocated to planning the testing regime is well spent. Although a number of new analytical techniques were described, even in larger museums, the Oddy test was still considered to be the main method of screening materials. However it was apparent that standard protocols have been adapted so that comparison of data is not straightforward. There was also concern that materials approved for one situation would then be considered for others. The limitations of the Oddy test have to be accepted, and a pragmatic approach taken to assessing risk in various situations. This is where the experience of the conservation professional is needed for interpretation and application of results, with good communication between all project members being seen as the key to successful exhibition work.

The conference was funded by FAIC and support was provided by a number of suppliers: Artex Fine Art Services, Tru Vue, Gaylord Archival and the Lunder Center. Helen is grateful to Icon/Tru Vue for funding to attend the conference.

Helen Ganiaris, Museum of London, and **Julie Phippard**, British Museum.

TALKS

LIGHT ON MEDIEVAL MANUSCRIPTS: Identification of pigments in medieval manuscripts using Raman Spectroscopy
Icon Book and Paper Group
London January 18th, 2016

On 18 January, the Wellcome Collection hosted a great lecture organised by the Book and Paper Group CTR. The speakers were **Richard Gameson**, Professor of the History of the Book at Durham University; **Andy Beeby**, Professor of Chemistry at Durham University; and **Kate Nicholson**, Lecturer in Applied Sciences at Northumbria University. They spoke about methods of pigment analysis using Raman spectroscopy and multi spectral imaging.

Richard Gameson began with a short and entertaining introduction on pigments used in manuscripts. He spoke about how prior to scientific analysis our main sources of information on the topic were historical

recipe books and illustrations depicting artists at work. He noted that while manuscript illustrations were often passed over as sources of information due to their high level of stylisation, they could nonetheless provide a lot of information on techniques and working conditions. Gameson mentioned how pigment identification enabled researchers to track trade and development of historic pigments from their origins as they spread across different regions.

Kate Nicholson and Andy Beeby spoke on the scientific aspects of pigment identification. They noted that some common methods of pigment analysis are destructive but by using Raman spectroscopy and multi spectral imaging it is possible to analyse a variety of pigments quickly and in a non-destructive manner. Pigment identification with Raman spectroscopy uses a laser to send a small amount of light onto the area being analysed and then to record the changing wavelengths of reflected light. The laser used is of a very low strength to avoid any light damage to the manuscripts. The spectrum that is output from the sample is specific to each type of pigment and corresponds with known samples of the same pigment.

We learnt that certain pigments respond better to the Raman identification than others and that greens in particular are difficult to identify. Because of this, multi-spectral imaging is often used in conjunction with Raman spectroscopy to crosscheck and enhance identification. Multi-spectral imaging uses a camera to image an area of the manuscript through different filters. As each pigment absorbs different wavelengths of light, they appear differently through different filters. This allows for larger areas of illuminated manuscripts to be analysed at one time.

Historically, both of these technologies were difficult to access for conservators as the large machinery was too laborious to move. One of the main advances the presenters made was to create a portable and easily transportable set-up for Raman spectroscopy and multi-spectral imaging. A two-person team can set the equipment up in twenty minutes. The speakers concluded with the opportunity for the audience to ask questions and to come up and have a closer look or play with their analysis equipment.

Thank you to the three presenters for this talk, it was a great introduction to two methods of pigment identification available to conservators.

Tiffany Eng Collection Care Assistant
Parliamentary Archives

STANDING UP TO TRAVEL

Sam Gatley and Lara Flecker, Senior Textile Display Specialists at the Victoria and Albert Museum, chart the V&A's progress in adapting full figure mannequins for dressed tour

The V&A has been travelling multiple dressed ensembles on their display figures since *Art Deco 1914–1939* went out on tour over ten years ago. This exhibition featured approximately twenty four couture ensembles of the 1930s and toured seven venues internationally. It became one of the most highly visited shows in the Museum's history of temporary exhibitions.

Most of the figures used in *Art Deco* were simple dress torsos on a solid central pole with a balanced centre of gravity. These figures were headless and armless and although some pieces were delicate, they were sufficiently robust to trial this method of transporting dress for a large touring exhibition. A group of six tight fitting bias cut dresses were selected for dressed vertical travel. The decision to adopt this approach was initially taken in order to reduce the handling of garments at multiple venues as well as to save on the time and cost involved with dressing and undressing figures.

Fig 2 An example of a spigot fixing



Fig 1 Mounted bias cut dresses packed inside individual wooden crates

As is now established practice for dressed torsos, each of the six *Art Deco* ensembles had its own wooden crate to which the flat metal base of the dress stand was secured at the bottom (Fig 1). A baton with a cut-out for the neck held the torso upright inside the crate and was screwed into position from the outside. This allowed the torso to be securely fixed inside the crate without any pressure on the garments and various layers of silk padding helped to control any movement of the pieces. (Flecker, Haldane, Ashbridge 2005)

Temporary exhibitions with a large amount of costume or fashion have continued to be a popular draw for audiences and V&A dress exhibitions are much in demand internationally. The V&A textile conservation studio has needed to be increasingly creative in the production of mounts and soft packing in order to safely crate and transport more ambitiously displayed ensembles.

Increasing curatorial and designer requests for full figure mannequins with heads, arms and legs have necessitated further development in the packing and crating. With limbs that easily detach and exaggerated poses that are often unstable, full figure mannequins are less straightforward to transport. In addition the spigot fixings (Fig 2) that hold these mannequins upright were identified as too weak to withstand the rigours of travel.

In 2005, a high water mark was reached with the packing and crating of a costume featured in the exhibition *'Surreal Things'*. The ensemble, which was a fragile head to toe knitted leotard, needed full bespoke padded protection. The figure was packed horizontally to bypass the use of the spigot stand and in order to keep the mannequin from moving and limbs detaching inside the leotard, a complex system of



© Victoria and Albert Museum

Fig 3 Packing a dressed mannequin from 'Surreal Things' horizontally

supports were fixed inside the crate (Fig 3). (Haldane, Flecker, Ashbridge, Monaghan 2007)

Although successful, the amount of work required to produce this sophisticated packing was not sustainable, particularly for shows that included large numbers of mounted costumes. We began to look at the possibility of requesting certain adaptations to mannequins at the point of purchase that would allow us to transport dressed ensembles on full figures more easily and safely.

The first specific travel adaptation was carried out in collaboration with H&H Sculptors whilst producing mannequins for the *Wedding Dress* exhibition. The arm fixing was changed from the classic key, lock down style to a large bolt and wing nut (Figs 4a & b). This alteration prevented arms from 'jumping' out of position in transit without being braced inside the crate. This type of bolt fixing required a removable head in order to secure the wing nuts. This was later recognised as a desirable feature because a headless

Fig 4a Classic key lock arm fixing



© Victoria and Albert Museum

Fig 4b Bolt and wing nut arm fixing



© Victoria and Albert Museum



Fig 5 A David Bowie mannequin with extended internal metal work, packed vertically in a protective Tyvek bag

upright mannequin could comply with air freight height restrictions when crated.

The V&A continued to travel full figure mannequins lying down due to the weakness of the spigot fixing. However by 2010 the exhibition programme included two major costume shows, *Hollywood Costume* and *David Bowie Is...* Both of these ambitious exhibitions included huge numbers of mannequins scheduled for long international tours and the need for change became increasingly important.

Working with Proportion London Ltd, the weakness of the spigot fixing was discussed by V&A technicians, conservators and costume mounters. We reached the conclusion that the fragility was caused by the short length of the internal ankle rod into which the metal spigot fits. The obvious solution was to extend the internal rod up the leg and into the waist, therefore lessening the weakness in the ankle and distributing the stress. Mannequins for these two exhibitions were therefore made with this extended internal metal work and have successfully travelled around the world in a vertical position (Fig 5). This in turn reduced the amount of soft packing required, cutting costs and handling at each new venue.

As the difficulties of transporting full figure mannequins have been resolved, their use has become a popular choice amongst V&A curators, particularly for fashion and performance exhibitions. However, mannequins come with additional snags. Their contemporary sizing can be problematic as they are frequently found to be too large for both catwalk and historical garments.

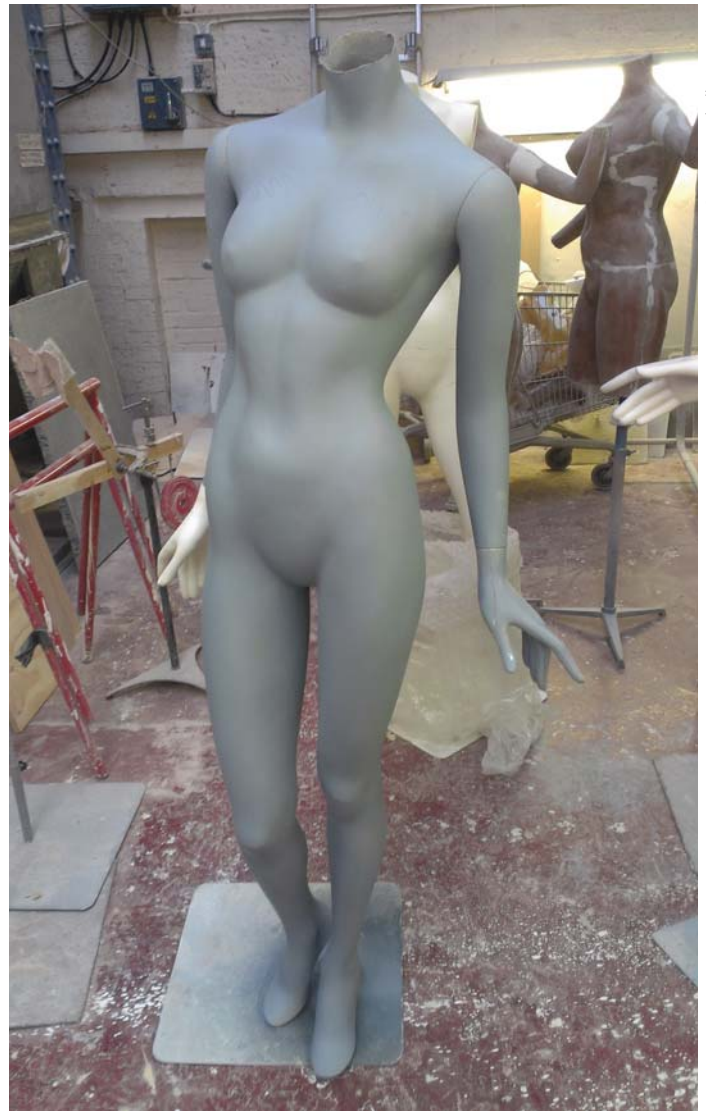


Fig 6 The one piece petite Fluid mannequin made by Proportion London

The most significant adaptations that Proportion have made for us is to reduce the overall circumference dimensions of some ranges of full figure mannequins. For example, the Fluid mannequin is now available in a Petite size which helps us tour a larger quantity of ensembles more safely because the fit is better and fastening secure. The V&A team have also requested that the petite Fluid is available in a single body piece (Fig 6). This one piece figure (with removable arms) means that we no longer need to secure the body to prevent the torso twisting away from the legs during transit. This was a labour intensive but crucial step that has now been partially eradicated.

All of these small but significant adaptations have been possible due to the innovative approach of the exhibition teams and the good working relationships with our mannequin suppliers, particularly Proportion London Ltd. We look forward to the future challenges coming our way!

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the emerging conservator

PAPER, PIGMENTS AND PEARLS

During her internship in Dublin's Chester Beatty Library Puneeta Sharma worked on the conservation of a collection of Indian miniature paintings

OVERVIEW

The Chester Beatty Library (CBL) in Dublin, Ireland, houses one of the world's finest collections of Islamic manuscript material, including Qur'ans, books of poetry and miniature paintings belonging to Sir Alfred Chester Beatty (1875–1968). As the Paper Conservation Intern at the CBL between 2014 and 2015, it was a privilege to work on part of this collection during my time there.

The focus of my work was on a collection of ninety nine single folios of Indian miniature paintings dating from the Mughal era, from the late 16th to the mid-19th century (CBL In 11A). Following a request from a reader, an initial condition assessment was carried out and the decision was taken to conserve the entire collection, most of which had not been treated since they were acquired.

COMPOSITION

The folios would have originally been housed in bound albums, however, when sold at auction, they were detached from their original bindings and sold as individual items; therefore, it is difficult to determine the original groupings of the folios. The folios in the collection are often double-sided with images and calligraphy inset into highly decorative borders. They are striking in their appearance because of the brilliance of the pigments used and the detailed nature of the paintings illustrating portraits of Mughal emperors, courtly scenes, daily life and natural history subjects¹.

Typically the Indian miniature artists' palette includes organic pigments such as indigo, saffron and madder, and inorganics such as gold, lapis lazuli and lead white. The brushes used by the painter were traditionally made from the hair of squirrels, goats, or the inside of a calf's ear, however the finest brushes were made from the hair cut from the throat of white kittens, two months old².

Each folio is a composite object formed of many layers of thin, Islamic paper adhered together. Islamic paper was usually made from flax and hemp and it was often surface sized with rice or wheat starch paste and then burnished using an agate stone, to create a smooth surface to draw and paint on³. Artists preferred the highly burnished quality of the paper, however the smoothness of the sheet is sometimes problematic for certain pigments, as there is little fibrous surface for the paint to attach to⁴.

ASSESSMENT

The In 11A collection had been stored in a series of Solander boxes, with marbled paper and leather spines. These were very heavy and could only house a small number of mounted objects. Approximately half of the folios in the collection were



Detail of calligraphy from CBL In 11A.72, verso. Highly decorative border with fairies and demons, c.1780

adhered to acidic mounts whilst others were mounted between glass plates. The first step in conserving the collection was to carefully remove each folio from its historic mount or enclosure.

Each folio was examined using a high definition digital microscope, which transmits magnified images of the object



Detaching a folio from an acidic mount with a scalpel (above) and removing a folio from a glass mount (below)



onto a screen allowing for detailed image analysis. Upon examination, it was apparent that the majority of the folios were in good condition; nonetheless, because of the natural aging process, a number of unavoidable types of damage had occurred. The flaking of pigments and delamination of the support were the commonest.

CONSOLIDATING PIGMENTS

Consolidation was an important treatment choice for this collection, as a large number of the folios contained pigments that were flaking or powdering. Bermocoll (EHEC), an ethyl hydroxyethyl cellulose-based adhesive, was chosen to stabilise the pigments. Bermocoll has been used on miniature paintings on paper at the Victoria and Albert Museum where testing and research proved the suitability of this consolidant for these collections⁵. It was applied as a 1% solution for brush consolidation of flaking pigments, and as a 0.5% solution with a nebuliser in the case of powdering pigments.

DEALING WITH HINGES

Old hinges made of gummed paper tape were removed from the verso of the folios using a 4% methyl cellulose poultice and localised application of water. A spatula was eased underneath the tape to begin lifting it away from the object and once a small area of tape had been lifted, a piece of blotter and a weight were placed over the top to absorb any excess moisture. In some cases, it was decided to delaminate the layer of tape and introduce moisture on a thinner layer, which helps the moisture to reach the adhesive layer in a shorter period of time. This prevents any risk of loss to the fibres or media, which could transfer onto the tape if not removed properly.

AREAS OF LOSS

Repairs were carried out using thin strips of remoistenable tissue, which were carefully positioned directly over areas of weakness or loss and activated with a small amount of methyl cellulose in water (1%). This ensures a stronger bond between

Removing the previous hinges from the folios



Pigment loss due to abrasion from CBL In 11A.73, verso, *Ganesa and his vehicle*, c.1800–1810

the repair and the object and leaves a slight sheen that matches the burnished surface appearance of the support, whereas water alone can leave the repair looking slightly too matte.

Folio CBL In 11A.61, *Woman carrying a cup and flask*, c.1700–1733, had a large area of loss on the lower left-hand corner. The shape of the loss was traced onto a piece of Melinex™ and then cut out using a water pen. The fibrous edges were adhered to the edge of the missing area on the folio for the initial layer and then built up to match the thickness of the support. In total four layers of paper were used to build up the corner; three layers of Usimino paper were used to give body, and a final top layer of Gampi gave the sheen and texture to blend in with the surface of the object; the paper was also toned using acrylic paints to create a sympathetic repair.

PESTS AND PEARLS

Some folios had suffered from severe pest damage, resulting in areas of weakness along the edges of the borders. In the case of CBL In 11A.69, *Women on a rock slide* c.1760, small repairs of Usimino Japanese paper were inserted into the areas of weakness between the layers of paper in order to support the damaged edges.

Whilst working on this folio, I discovered that real pearls had been used for the jewellery on every single woman in the





Detail from CBL In 11A.69, recto, *Women on a rock slide*, c.1760: seed pearls adhered to the paper support under magnification

painting. Usually pearls are painted with blobs of white paint and pin-pricked upwards to give a three dimensional effect, however in this case real seed pearls had been used and possibly real rubies and emeralds too, further demonstrating the painstaking care and attention that went into producing these works of art. The pearls were in excellent condition and only one pearl was slightly detached from the support. This was stabilised using a 1% solution of isinglass applied with a fine brush.

THE FINAL STAGE

Following conservation treatment, the entire collection has been remounted in two standard mount sizes to ensure consistency across the collection. Each folio was hinged into a custom window mount using T-hinges on the left-hand side to allow the verso to be accessed if needed.

Mounting a folio in a window mount, hinged to the left-hand side



CONCLUSION

Working on this collection has been a huge learning experience, which has allowed me to develop my skills and knowledge of pigmented works of art and Islamic paper. The challenges faced within the collection have allowed me to consider the most suitable treatment options for the folios in order to further preserve them. I must express my deepest thanks to the conservators at the Chester Beatty Library, including Jessica Baldwin, Kristine Rose Beers and Julia Poirier for their continued support, kindness and patience during my time there.

To learn more about the work being carried out at the Chester Beatty Library visit the conservation blog at <https://chesterbeattyconservation.wordpress.com>

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