News in
Conservation

The e-paper from the International Institute for Conservation of Historic and Artistic Works

Issue 50, October 2015

Rembrandt mystery finally solved

An Old Man in Military Costume, about 1630 – 1631. Rembrandt Harmensz. van Rijn (Dutch, 1606 - 1669). Oil on panel. 25 7/8 x 20 3/8 in. Right: Tentative colour reconstruction of Rembrandt hidden portrait. The J. Paul Getty Museum, Los Angeles

LOS ANGELES — A new imaging study reveals the most detailed image to date of the painting underneath the J. Paul Getty Museum's *An Old Man in Military Costume* by Rembrandt.

Since the late 1960s, art historians have known that another painting lay underneath the work painted about 1630-1631, a compelling character study of age, and one of the J. Paul Getty Museum's most beloved Dutch paintings. Until now, however, seeing that hidden image in detail has been frustratingly elusive.

.

Continued…

>>

A team of experts from Los Angeles, Antwerp, and Delft recently conducted a collaborative study using two complementary, element-specific imaging techniques. The results of their work have provided the most detailed representation to date of the underlying painting representing a young man wrapped in a cloak. The study has been published in the journal *Applied Physics A*.

X-radiograph of the painting

Karen Trentelman, senior scientist with the Getty Conservation Institute said: "Our ability to image the underlying painting has greatly benefited from recent technological advances; researchers are always limited by the tools available to them, and over the years the study of this painting – and the underlying image – has progressively advanced with the introduction of each new tool. With this latest study, our scans reveal the distribution of specific chemical elements, from which we can infer the pigments used in the first composition, providing us with the most detailed image to date of the underlying painting."

The figure beneath *An Old Man in Military Costume* was first discovered when in 1968 the painting was X-radiographed as part of the Rembrandt Research Project's study of the artist's work. With the knowledge of a different work hidden underneath the main painting, experts kept trying different imaging techniques in order to obtain a better image including neutron activation autoradiography (NAAR) which provided better, but still indistinct, views of the underlying figure.

The main advantage in the team's work was given by the development of a mobile scanner utilising MA-XRF (an X-ray technique) that could be easily transported where it was required, avoiding the need for the artwork to travel.

The new technology was brought to the Getty Centre in Los Angeles and scans were conducted on the painting over a period of about 30 hours.

The instrument, now commercially available, is primarily designed for the study of paintings, but has found applications in many other fields, including archaeology and law enforcement.

The full article - 'Rembrandt's *An Old Man in Military Costume*: the underlying image re-examined' by Karen Trentelman (Getty Conservation Institute), Koen Janssens (Universiteit Antwerpen), Geert van der Snickt (Universiteit Antwerpen), Yvonne Szafran (J. Paul Getty Museum), Anne T. Woollett (J. Paul Getty Museum), Joris Dik (TU Delft) has been published online and can be accessed at:
http://link.springer.com/article/10.1007%2Fs00339-015-9426-3

News in Conservation is published by
The International Institute for Conservation of Historic and Artistic Works
3, Birdcage Walk, London,
SW1H 9JJ, UK
Telephone +44 (0)20 7799 5500
Fax +44 (0)20 7799 4961
www.iiconservation.org
ISSN 1995-2635

Editor
Barbara Borghese
news@iiconservation.org

Advertising
Graham Voce
iic@iiconservation.org

Format | Production Design
Barbara Borghese

Deadlines for next issue
(December 2015)
Editorial: 1 November 2015
Advertising: 15 November 2015

Editorial

Welcome to the October issue of *News in Conservation*. We're celebrating a big number – *NiC* is 50! Not exactly 50 years old but this is the 50th issue since *NiC* was first published in its current form in August 2007.

NiC came about as a natural progression from the *Bulletin*, with an updated format and a more international focus to eventually become one of the first digital e-paper entirely dedicated to the conservation and preservation of the world's artistic heritage.

I'll use this opportunity to thank all past editors and contributors and to remind IIC's members that *NiC* is a platform for sharing opinions, news, information and projects and that contributions are a fantastic way of informally showcasing the amazing work you are doing. So get in touch at news@iiconservation.org

In this issue the team working on the Staffordshire Hoard gives us an update on the work that has been taking place on reconstructing the many objects from the collection.

The second long feature is another update, this time from the conservators at the Vatican Museum in Rome. Their article, including case studies, is published in two parts with Part 2 featuring in the next issue.

Following an email alert that you would have received a few weeks back, *NiC* is now home to *Book Reviews*, with the first digital one from Velson Horie published in this issue. If you have recently read a book on a conservation topic and want to share your opinion we want to hear from you!

Happy 50th *NiC*!

Barbara Borghese
Editor

To clean or not to clean? That's Anish Kapoor's dilemma

Front view of Dirty Corner in the gardens of Versailles. ©Public Domain

PARIS - A controversial sculpture by British artist Anish Kapoor officially titled 'Dirty Corner' has been vandalised for a third time.

The work, on display in the gardens of France's Palace of Versailles, was found with graffiti saying "respect art" scrawled on it. The artist himself had previously described the work as 'very sexual' and the sculpture had become known with the unofficial name of 'Queen's Vagina'.

The work was first vandalised soon after its installation back in June 2015, when it was sprayed with yellow paint; it was subsequently inscribed with anti-Semitic graffiti before this latest episode in September.

At first the artist decided that the work should not be cleaned as he wanted the graffiti to bear witness to hatred and France's culture ministry agreed with his choice.

Prompted by local government opposition to leaving the offensive graffiti on the sculpture, later Kapoor had to backtrack and opt for a partial covering of the graffiti using gold leaf. However, the artist is appealing against the local government decision declaring that: "Culture has been a victim of vandalism and hate and if vandalism and hate stops public experimentation, we all lose. If we stop that, we might as well live in a fascist state."

In an interview with the *Artnet* website (https://news.artnet.com/art-world/anish-kapoor-versailles-sculpture-vagina-305659) Kapoor said the choice to leave bits of the graffiti visible was deliberate. The artist said: "I have to transform it, unravelling, finding an answer to a crime of hate and turn it into something else".

Anish Kapoor's exhibition is open until the end of November 2015. For more information please visit: http://en.chateauversailles.fr/news-/events/exhibitions/kapoor-versailles

News in Brief…

Taking action to preserve cultural heritage sites in Georgia

TBILISI – In a recent announcement, the Government of Georgia has detailed a full programme to preserve the county's most unique heritage properties. The projects are being implemented by the country's Ministry of Culture with financial help by different donor organisations.

The end of 2015 will see the completion of conservation work on 20 sites, setting aside a further 1.4 million Georgian Lari GEL (£365,000) to rehabilitate an additional 13 sites following the first phase of work.

Included in the project there are several castles, medieval towns, churches and towers located in different parts of the country all being deemed of great cultural significance.

©Andrzej Wójtowicz via CC-BY 2.0

Ruins at Mutso, Georgia

The government also announced the recently completed conservation of the medieval Chazhashi village in Ushguli, in the Svaneti region, while also highlighting the recently started four-year preservation programme in Georgia's ancient cave city of Vardzia.

In the coming months, 11 unique architectural sites in Mutso, a medieval castle town in eastern Georgia, will also be part of the programme with some structures earmarked for complete restoration.

The village of Dartlo in Georgia's high mountainous region of Tusheti will see the conservation of several historical structures while work has already began at several churches in Georgia's Akhaltsikhe and Mtskheta-Mtianeti region.

Work was underway in the capital Tbilisi, with projects to conserve the church of Anchiskhati, the oldest in the city, and Surbanishani. Other churches in Khashuri also underwent restoration.

Preservation work will also focus on Georgia's iconic ancient towers, in particular Dusheti's towers and the western tower of Khertsvisi Castle.

©Barbara Borghese

Detail of a painting in the villa

Roman Villa discovered in Positano to be restored

POSITANO – A Roman villa located in the resort village of Positano on the Amalfi Coast and dating back to the 1st Century AD will be completely excavated and restored. First discovered in 2004 during restoration work involving the town's main cathedral and its underground crypt, the villa is considered the most important archaeological discovery in the area which is near to Pompeii and Herculaneum.

During the initial phases of excavation, wonderfully preserved frescoes and statues were discovered including works representing marine motifs possibly inspired by the seaside location of the villa. In 2014 work on the site had to be stopped due to lack of funds but a recent cash injection amounting to €2.5m has allowed work, expected to take approximately a year, to be resumed.

The villa is believed to have been built for a rich 'liberto' – a freed slave - called Posides Claudi Caesari although it is not yet clear whether this was a vacation residence or his main home.

>>

Institute of Digital Archaeology will preserve the art ISIS wants to destroy

OXFORD – The UK's Institute of Digital Archaeology, based in Oxford, will be staging what some have described as a high-tech form of resistance to the destruction of heritage sites by Isis.

A team of researchers have been working on a plan to map the artefact-rich areas of Iraq and Syria using up to 10,000 digital mapping cameras. The aim is to record in as much detail as possible the endangered heritage sites, which include temple architecture, monuments, and any surviving statuary before they are irreparably lost to the destructive fury of Isis.

Speaking to the BBC, Roger Michel, the Institute's Director said: "*If we can't protect these things on the ground we can at least preserve a highly detailed record of what's there".*

The project will not be without obvious perils as it will need people to be on the ground in what is today considered one the most dangerous conflict areas on the planet. A case in point is the recent beheading of Syrian antiquities director Dr. Khalid al-Asaad.

The mapping will also be beneficial to the monitoring of looted archaeological treasures.

For more information about the Institute of Digital Archaeology visit: http://digitalarchaeology.org.uk/

Temple of Bel, Palmyra

NYU's First MA/MS Dual Degree Programme announced

NEW YORK - In recognition of the substantial role that science plays in educating and training students of art conservation, the New York University Institute of Fine Arts (IFA) has been accredited by the New York State Board of Education to award students in its conservation programme the degree of Master of Science in Conservation of Historic and Artistic Works.

The new dual degree programme is the first of its kind in the United States, further enhances the 55-year old Conservation Centre's reputation as a leading centre for training some of the world's most influential figures in art conservation. Graduates continue their work at some of the USA's leading art institutions, including the Metropolitan Museum of Art, the Smithsonian Institution, the Museum of Fine Arts in Boston, and the American Museum of Natural History, MIT, Princeton University, the Library of Congress, and the Art Institute of Chicago.

Hannelore Roemich, Chairman and Professor of Conservation Science at the IFA said: "During the past six decades our graduates have become leaders in the field. They are employed across the United States and internationally, in major and mid-sized museums, as well as smaller institutions, and in private practice; the new dual degree is a fitting acknowledgement of the strength of the programme since its inception and will continue to provide the excellent launch for Conservation Centre graduates into the profession".

The MS and MA dual degree will be effective for the autumn 2015 incoming class. To learn more about the programme visit: http: https://www.nyu.edu/gsas/dept/fineart/conservation/

>>

A sample from the database

NCPTT Launches Building Stone Database

WASHINGTON - The National Centre for Preservation Technology and Training (NCPPT) announced the launch of a new stone database website with information about the stones that built America.

The website, named the *National Building Stone Database*, is part of an ongoing effort to document important quarries and the stone they produce.

Kirk Cordell, Executive Director of the NCPTT said: "The database is intended as a tool for the historic preservation community to use in identifying matches for stone used to repair historic buildings and monuments. Many quarries, like those that supplied the brownstone used in landmark buildings in New York City, Boston, and Chicago, have closed. It is increasingly difficult to find suitable matches for repair work."

The database will be a valuable tool for stone and architectural conservators as it will aid in finding matching stone for repair work. Conceived and built by former NCPTT Architectural Conservator Ed FitzGerald, the database currently contains over a hundred types of stone. It remains a work in progress, and researchers will continue to document and add new stones into the future.

The National Park Service is looking to continue to expand the database and physical collection and is accepting donations of stone from quarries and private individuals. Details about donating stone can be found on the website, at:
http://ncptt.nps.gov/buildingstone/submitting-samples

New national heritage body for Scotland granted charitable status

EDINBURGH - Following the merging of Historic Scotland and The Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) into a new public body, Historic Environment Scotland (HES) has received charitable status from the Office of the Scottish Charity Regulator (OSCR).

The new organization will be legally operational from 1 October 2015.

The move brings the new body closer in line with other Scottish cultural bodies including the National Library of Scotland, the National Galleries of Scotland, The National Museum of Scotland and the Royal Botanic Gardens of Edinburgh.

Tapestry at Sterling Castle, Scotland

The functions of HES, as set out in the 2014 Historic Environment Scotland Act, support the advancement of education and the arts, heritage and culture and environmental protection or improvement, and were accepted by OSCR as the charitable purposes of the new body. The existing Historic Scotland Foundation (HSF) – set up in 2001 to accept donations, gifts and legacies for the work of Historic Scotland or any successor body - will remain a separate charity.

For more information visit: http://www.historic-scotland.gov.uk

The assembly of the Staffordshire Hoard objects

by Rachel Altpeter + Chris Fern + Kayleigh Fuller + Pieta Greaves ACR + Lizzie Miller

The Staffordshire Hoard is the largest ever find of gold (c. 5kg) and silver (c. 1.5kg) metalwork from the early Anglo-Saxon period. It was discovered in 2009, near Hammerwich, north of Birmingham in the United Kingdom. NiC has been following the progress of this project (NiC Issue 38 October 2013) and this is an update from the team working on the collection.

The collection comprises many hundreds of objects, mostly relating to war gear, and is composed of approximately 3900 fragments. The objects date from the 6th to 7th centuries A.D. and the majority are fittings which have been stripped from the hilts (i.e. handles) of swords or large fighting knives, but there are also fragments from at least one helmet, and a small but significant collection of Christian objects, including a pectoral cross and a large gold cross possibly from a processional standard.

There is clear evidence that the items were broken or damaged before burial and many of the fragments appear to have been forcedly removed from their original mount. This act of destruction is challenging for conservation since the 3900 fragments are estimated to come from only 500–700 objects. After cleaning, the conservation team are now concentrating on physically re-joining the fragments together, just like a giant jigsaw puzzle, revealing the artefacts in their original form.

Figure 1 - Fragments of a silver pommel found in fifteen pieces

Historic England, has given £400,000 to help reveal the secrets of the Hoard and increase public understanding of this unique archaeological treasure. The owners of the Hoard, Birmingham and Stoke-on-Trent City Councils, and Birmingham Museums Trust and the Potteries Museum & Art Gallery who care for it on their behalf, have also contributed towards the research. The research is being managed by Barbican Research Associates and builds on previous research by teams around the country, also funded by Historic England. While work continues apace, there is more that needs to be done.

A large majority of the objects are on permanent display across four different sites in Birmingham and Staffordshire (Potteries Museum and Art Gallery in Stoke on Trent, Lichfield Cathedral, Tamworth Castle and Birmingham Museum

>>

and Art Gallery). These exhibitions display the conservation and research work as an integral part of the interpretation of the Hoard.

Conservation

Working in collaboration with the conservation team is Chris Fern, the project's Lead Archaeologist. He is producing the catalogue of the material and undertaking its typological and art-historical study. As part of this he aids the team in the identification of the material, by identifying sets of fragments and by matching join edges.

Grouped fragments are being re-joined where possible in order to better understand the collection. Given the extent of deterioration for some fragments, the break edges are typically assessed under magnification to ensure that joins are true to the original construction. Some of the objects now recognised in the assemblage, are types previously unseen from the period.

The conservators are working through each of the object types systematically. The weapon fittings include pommels from the ends of weapon hilts (swords and fighting knives), as well as hilt-plates from the weapon guards, and other collars and mounts from the grips. The conservation work has been integrated from the beginning of the research programme, with an on-going dialogue between the Lead Archaeologist and Scientists investigating the metal alloys and organics. This collaboration has enabled the work to progress very efficiently and accurately.

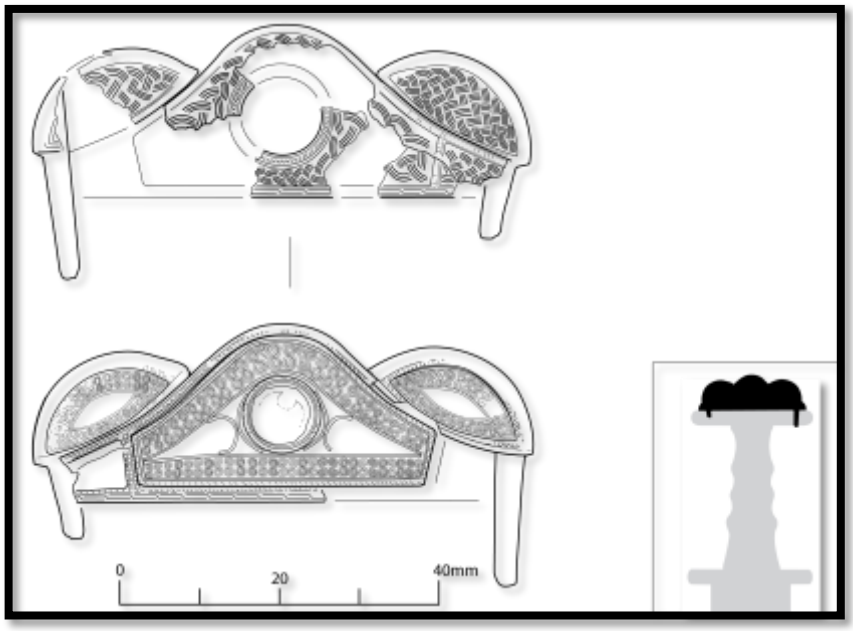


Figure 2 - Archaeological line drawing of the pommel (Photo by C. Fern)

For example, the use of X-Ray Fluorescence has assisted in identifying associations between some silver fragments with similar black *niello* inlay (black silver/copper sulfide), and has also proved helpful to the grouping of the many hundreds of fragments from at least one helmet.

Re-joining fragments is obviously crucial for a fuller understanding of the collection. The pommel illustrated in Figures 1 and 2 is a good example of this. It was rebuilt from 15 fragments and was initially unrecognized due to its fragmented form. Its condition may in part be due to its crude removal prior to its burial in the hoard, though further breakage may have occurred due to the embrittlement of the silver casting whilst in the ground. The archaeological line drawing serves as a further aid to understanding the object's original form.

The pommel is of a form not previously seen in the period. Its two distinctive humps on each shoulder are known as 'sword-rings' (they are in fact skeuomorphs of actual rings seen on earlier pommels). The act of adding rings to sword hilts symbolised the bond of fealty between a warrior and his lord, but the placing of two rings on a pommel has no parallel outside the hoard, and it is unclear currently what it meant. The pommel is important also for its unusual decoration. One side has cast and gilded interlace. The other has three panels in gold with tiny scrolls added in filigree (fine gold wire). The two smaller side panels are eye-shaped and the central larger panel also suggests an eye, especially with its 'pupil' in the form of a quartz stone. It dates to around the mid -7th century.

Using the grouping lists and illustrations, associated fragments were located and brought together to be re-joined in the conservation studio. An important part of the process involved a final examination of the fragments under the microscope in order to confirm joining sections. The fragments were re-joined using 20-40% Paraloid B-72 w/v in Acetone applied with a fine paintbrush. The distorted nature of many of the objects has meant that bespoke supports were required to hold the pieces in position whilst the adhesive cured. Many of the fragments were extremely thin, with the metal sometimes less than 1mm in thickness. In these cases the use of Paraloid B-72 alone was insufficient, and further support was required using small pieces of polyeste webbing material as backing support (Figure 3). These were adhered to the reverse using 20-30% Paraloid B-72 w/v in Acetone.

>>

Figure 3 - The re-joining of the silver pommel from Figures 1 and 2 using Paraloid B-72 and polyester webbing

The newly joined fragments were then re-boxed together in storage boxes with carved Plastazote inserts to provide support and cushioning. All of the contextual information from the original storage boxes was transferred onto the new box, as well as into the treatment report, to ensure there was no loss of information at this stage. Many sets of objects are represented in the collection, and these have been re-housed together to ensure they are kept together for future study.

Figure 4 - Sets of hilt-collars and other objects, pieced together from 70 individual fragments

Display and final considerations

Another reason for joining fragments is to prepare them for display. Some of the objects could be re-joined as described above and then be displayed without further support on Perspex blocks or padded brass mounts. Other objects, however, were not structurally stable enough after reconstruction to be securely displayed this way. An example of this is a silver mount with gilded edges and black niello decoration. It is

>>

Figure 5 - Silver mount in the form of a 'fish' on its Plastazote mount

incomplete but may represent part of a stylised fish or perhaps a dragon-like creature. The silver of the mount is thin, especially where the incised channels for the niello inlay have been cut deep into the metal. Even with backing tissue these repaired joins were not strong enough to support the object's combined weight. It has also been considerably distorted, making it impossible to entirely re-join. To allow the shape and original function of the object to be visible to the visitor, a solution had to be found.

The object was therefore re-joined, into several individual sections and then displayed on a mount cut from Plastazote, which fully supports each portion, following the curve and distortion of the sections.

As demonstrated, much progress has been made towards unravelling the secrets of the hoard objects. This has been made possible largely due to the close collaboration between conservators, archaeologists and scientists on this project. . We have had incredible support from all those who have already donated, but we still need to raise £100,000 to complete the original aims of the project.
So if you are feeling generous and would like to donate please visit us at:
https://www.justgiving.com/Staffordshire-Hoard

Regular updates from the conservation and research team can be found via our Facebook page and at http://www.staffordshirehoard.org.uk/

Chris Fern is the Lead Archaeologist and **Pieta Greaves** is the Conservation Co-ordinator for the Staffordshire Hoard Project. **Lizzie Miller and Kayleigh Fuller** are both object conservators working on Phase II of the project, and **Rachel Altpeter** is a final year UCL Masters student who has been working on the hoard during her placement with Birmingham Museums Trust.

New experiences with anchoring systems in the restoration of stone artefacts

by Guy Devreux + Stefano Spada

In the issue 37 of News in Conservation (August 2013), the authors presented a similar-titled paper describing experiments in devising systems aimed at increasing the reversibility of joints used in the conservation of marble sculptures while reducing the use of adhesives within such systems. The Vatican Museums Studio for the Restoration of Marble is continuing research in this direction and part 1 of the present article aims at describing, through case studies, possible solutions that are today in an advanced phase of development. Part 2 of the paper will follow in the next issue.

In the cases which we examined, the mechanical component remained as the fundamental constraining element in the join, and was designed to prevent a part from falling if there was mechanical failure of the adhesive applied to the joining surfaces. With this in mind, our first objective was to devise methods which ensured that any material filling the gap between the pin and the original stone did not need to have any adhesive properties. There thus remained the adhesive at the interface of the join, and it is this material which prevents the pieces from separating and supplies in most cases the required tractive force. Similar recent work by other colleagues is also in line with these basic principles: research into really – and not just theoretically - reversible joins, reduction in the use of adhesives with consequent research into the engineering aspects of the problem rather than the more usual concentration on the chemical aspects, and diversity and elasticity used in seeking solutions on a case by case basis, even when dealing with different parts of the same work ("zone system approach").

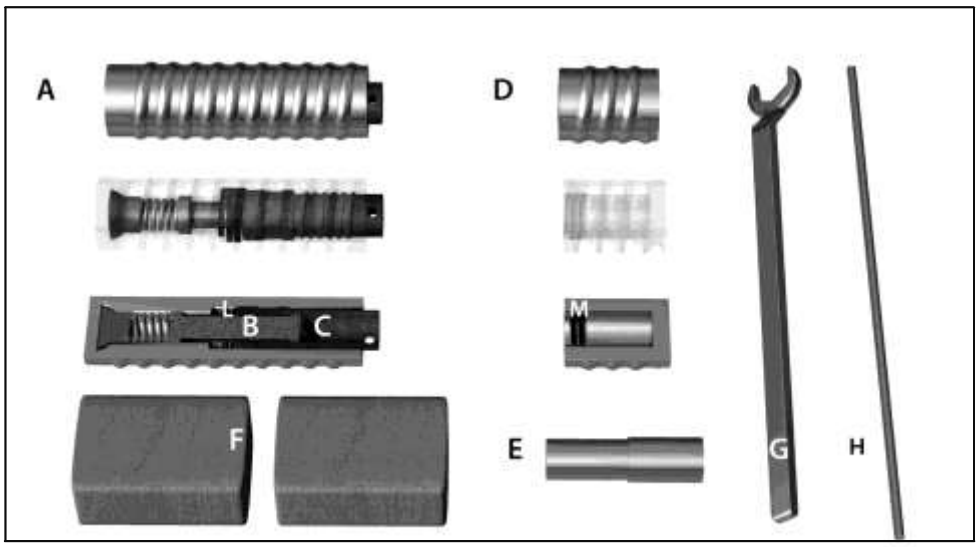
The next step to take, as indicated in our previous discussion, was to provide the mechanical joining element – whether metal, reinforced fibre or a hybrid of the two - with a tractive force which not only would stop the two parts of the join from separating and falling, but would by itself hold them together (thus eliminating the need to use any type of adhesive) The Vatican Museums Studio for the Restoration of Marble is continuing research in this direction, seeking solutions with a range of mechanical characteristics, structures and designs, with varying levels of complexity, which can be employed or modified as a case requires. Although we are far from having a general scheme which puts together in one place the pros and cons of each system so that the best solution can be extracted for each specific case encountered, we are, however, pleased to be able to illustrate here several ideas which are today in an advanced phase of development.

We will firstly look at a series of projects which employ springs as their basic component to provide a tractive force to the mechanical component: a prototype is illustrated in Case 1.

The next series of projects using magnets, will be discussed in the next instalment of this paper.

>>

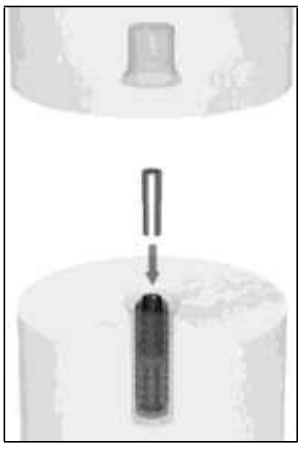
Case Study 1



In this image, “A” is an active cylindrical component of the pin, “B” is the piston held by a spring. “C” is the inserting cup element while “D” is the receiving cylindrical component “E” represents the centring rod, “F” are spacers (simplified), “G” is an open spanner, “H” is the extracting shank and finally “L” and “M” are internal threads of the cylinders.

The dowel pin is made up of two components which are inserted at two different stages of the operation into holes in the two parts to be joined. The first component is made up of an external cylinder (A in Fig. 1) which holds the element which actively anchors the pieces, made up of a piston (B) fitted into a sliding cup element (C) (which is however prevented from sliding out of A by the flared end of the piston B). This piston is held at one end by a spring inside the closed cylinder head, while the cup element is slid towards the outer rim of the cylinder into the “receiving” component (D), which it is then screwed into. Thus the piston is used to temporarily stretch the spring under tension, while the two parts to be joined are held apart by spacers (for example wedges, threaded sleeves, etc.).

When the spacers are removed the two parts are pulled together by the spring. As this system requires up to three separate concentric components in some parts (external cylinder, cup element and piston), and each one needs to be thick enough to withstand significant forces, the total thickness required is at the limits of acceptability even using the minimum thicknesses. For this reason the system described is generally more suitable where the diameter of the holes is not an issue, preferably thus where there are already pre-existent large holes, or when joining very large fragments. The sequence of the procedure is demonstrated in the following set of images:



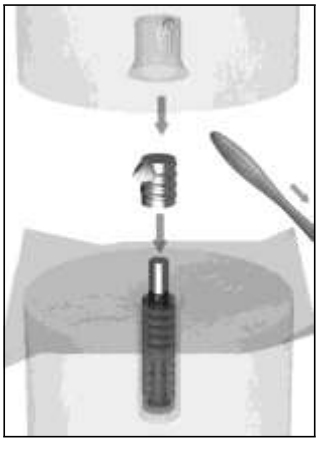


Figure 1a. Inserting the “active” component into the hole in the first piece of marble, using a structural adhesive

Figure 1b. Once the adhesive for the active component has set, the centring rod is inserted. This is a cylinder with a smooth surface used to align the receiving component both with the first (“active”) component and the hole in the second piece of stone. Figure 1c. The second, receiving component is then inserted in the hole in the second piece of stone and held in place with an adhesive. Prior to this, the surface of the join is temporarily protected (for example with cyclododecane and tin leaf) from any oozing of the adhesive, thus preventing the pieces from being accidentally stuck together.

>>

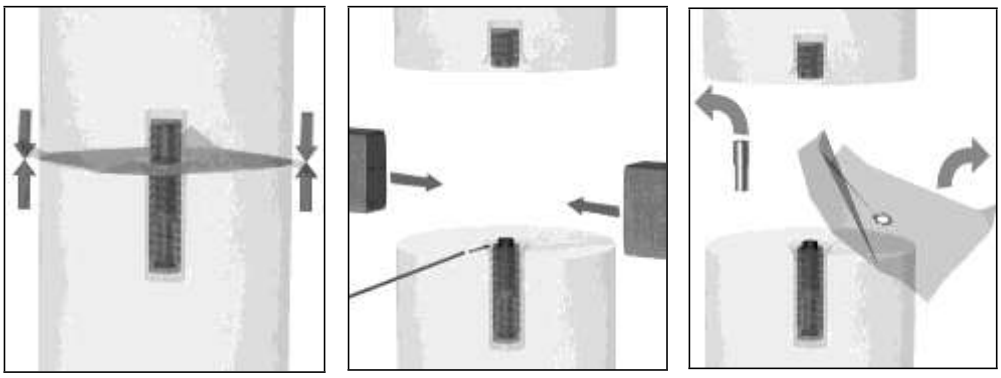


Figure 1d, 1e. The pieces are temporarily joined together to allow the adhesive to set with the cylindrical receiving component in the correct position. The pieces are then separated, the centring rod is removed and the temporary protection of the join surfaces is removed.

At this point, if necessary, the two pieces of marble can be temporarily held in place at a distance from each other by spacers (here by two blocks), so that the following operations are not compromised by accidental movements of the parts. Figure 1f. The inserting cup element is provided with a lip with a hole or some other attachment method which always extends beyond the rim of the cylinder of the active component, even when it is not extended. A suitable tool (such as a pin or shank) is inserted in this part of the cup element and used to draw out the cup element until a part of the element provided with a hexagonal section emerges.

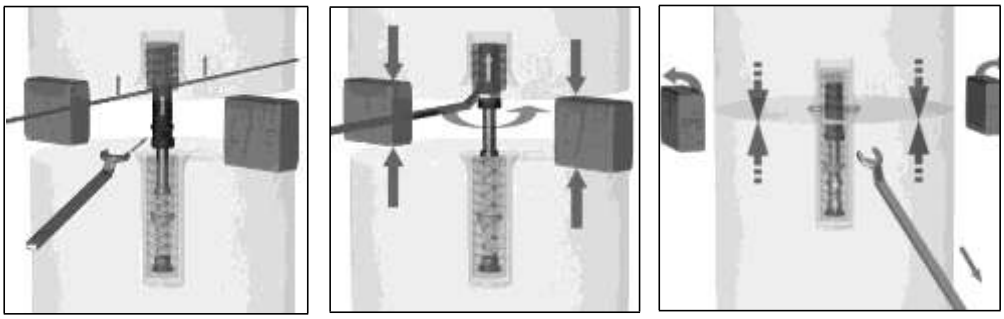


Figure 1G **Figure 1H** **Figure 1I**

Figure 1G. Use an open spanner or similar tool to hold the hexagonal section and pull on the piston to draw it towards the "receiving" component. The tool inserted in the attachment point on the cup element is then removed.
Figure 1H. The spanner is then used to screw the cup element into the receiving component as far as it can go. The spanner is then removed. Figure 1i. The spacing blocks separating the pieces are removed and the spring in the active element contracts, pulling the two pieces of stone tightly together.

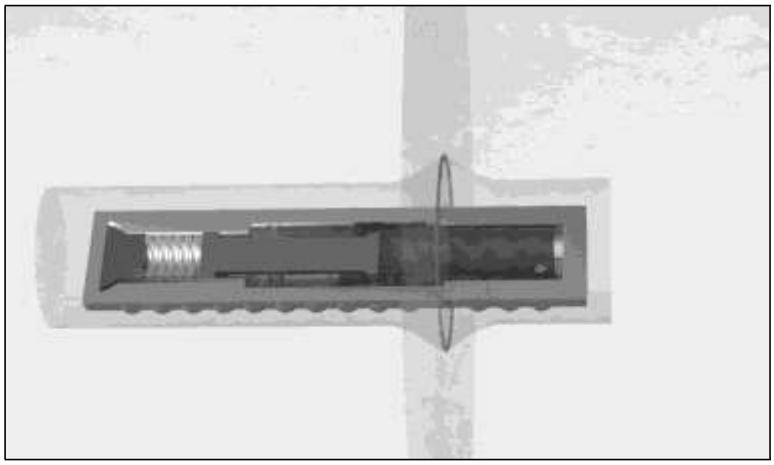


Figure 1L the mechanism closed

In constructing the prototype described above, a number of technical considerations need to be observed. One of these is the method used to fix the piston to the active cylinder housing. The system employed must block the axial movement of one of the two ends of the piston plus cup while leaving the piston free to follow the rotation of the cup with the least friction possible as it is screwed into the receiving component (Fig. 1i). If this were not the case the spring would be put under rotational pressure and risk permanent deformation.

Further, inside each of the two external cylinders there are two short stretches of threading (Fig. 1, L and M), with an opposite twist to that used on the outside of the cylinders. These threads would be used if it were necessary to remove the active and receiving components: threaded extractors would be inserted into the cylinders and used to draw out the cylinders – in the case of the active component (to the left of the illustration in Fig. 1), prior to this, the spring would have to be cut and the piston and cup assembly removed. Finally it must be mentioned that there may be a practical limit in applying this

>>

method, due, in some cases, to the difficulty in inserting and using effectively the spanner and/or tightening tools in what could be a limited or irregular space between the two pieces to be joined. In this case some alternative methods may work: use an octagonal or decagonal rather than hexagonal section for the tightening element, use tools with flexible heads or construct a miniature flexible head ratchet spanner, with gearing up to 6°.

In the next issue of News in Conservation two further case studies will focus on a series of projects using magnets.

Guy Devreux is the Director of the Vatican Museums Studio for the Restoration of Marble and Casts, Vatican Museums, 00120 Vatican City, tel. 0669885295, e-mail lrm.musei@scv.va

Stefano Spada is Restorer at the Vatican Museums Studio for the Restoration of Marble and Casts, Vatican Museums, 00120 Vatican City, tel. 0669885295, e-mail lrm.musei@scv.va

All images used in this article belong to the authors

Reviews

International Trust for Croatian Monuments

Review of the concert in memory of Sir Henry Grant de la Poer Beresford-Peirse -

Dubravka Šeparović Musović, mezzo-soprano

Ivana Lazar, soprano

Piers Lane, piano

by Charlotte Valori

© Gar Powell-Evans

© Gar Powell-Evans

The desecration of monuments is a hot topic today: ISIS and other actors in the Middle East are being regularly, widely and rightly castigated for their destruction of world heritage sites, something for which US troops were already being criticised in the earliest stages of the Iraq War. It's not a new trend: the price of war is as old as war itself. In the turbulent 1990s, it was Croatia and the Balkan states who were seeing their architectural and cultural treasures destroyed, sometimes for political reasons, sometimes through military expediency, and sometimes just as a result of sheer bad luck. Buildings have such strange vulnerability: stone edifices may seem made to last forever, yet ironically their very permanence makes them an instant victim of the bomb, the mortar, or the grenade.

By contrast, the seeming evanescence of a piece of music - which can survive in a book, be hidden in a pocket, get smuggled through state borders in the lining of a coat, or simply live invisibly in the memory – has its own invincible immortality. In cultural terms, music is the ultimate survival tool.

It therefore felt fitting, as well as beautiful, to draw together a programme of music in memory of Sir Henry Beresford-Peirse, a Yorkshireman who, with his widow Lady Jadranka Beresford-Peirse, founded the International Trust for Croatian Monuments in 1991.

Together, the Beresford-Peirses worked tirelessly for years to preserve, protect and restore Croatia's national heritage, and Lady Beresford-Peirse's efforts remain unstinting today. The Trust has helped in many ways for the last 24 years, restoring churches, cathedrals, museums and monuments across Croatia, but also highlighting the case of

>>


© Gar Powell-Evans

stolen paintings, seeking to repair damaged libraries, and supporting the education of young Croatian conservators and restorers, empowering Croatia's new generation to heal their country. In gratitude, Croatian singers Dubravka Šeparović Musović (of Croatian National Opera and Theatre, Zagreb) and Ivana Lazar (of Zagreb National Opera and Theatre) gave freely of their time and talents to celebrate Sir Henry's work and legacy in a packed concert at Holy Trinity, Sloane Square.

Dubravka Šeparović Musović's full, supple and rich mezzo made the most of Holy Trinity's superb acoustics from the very first, sinuously following the curving melody of Berlioz' "Premiers transports que nul n'oublie" from *Roméo et Juliette*, a sensuous evocation of passionate love.

Moving from love to grief, Prokofiev's haunting "I go across the White Field", a lament from his cantata *Aleksandr Nevsky*, was plangent and mournful in Šeparović Musović's hands. Occasional swoops, leans and smudges in her voice only added to the Russian atmosphere of this intense piece, with its fascinating political provenance (originally commissioned for a Stalinist propaganda film). In Wagner's magical *Wesendonck Lieder*, Šeparović Musović allowed her voice real freedom, which brought huge rewards to her reading overall. Even if some moments were a little wild at times, particularly in *Der Engel*, *Stehe still!* and *Im Treibhaus*, all suffering slightly from lack of control, the lyrical expressiveness of *Schmerzen* and *Träume* amply repaid her risks, filling the Church (and, one felt, surely the whole of Sloane Square) with glorious Wagnerian emotion, languorously rich and imaginatively lush. Later, Šeparović Musović's triumphant and playful *Habanera* encore, complete with a white rose plucked spontaneously from one of the gorgeous flower arrangements, closed the concert with a sense of spirited joy.

Ivana Lazar took longer to adjust her delicate, shimmering soprano to the sumptuous demands of Holy Trinity, and *Frühling*, the first of Strauss' *Four Last Songs,* was rather lost as a result. But soon adapting her voice, Lazar sang *September* with tenderness and growing confidence, while *Beim Schlafengehen* and *Im Abendrot* were each a resounding success, deeply felt and glowingly clear. Lazar's fine phrasing, softness and control continued to impress in two further Strauss lieder after the interval, *Schlagende Herzen* and *Ich wollt'ein Sträusslein binden*, each song elegantly executed. Lazar moved on to sing Dora Pejacsevich's *Vier Lieder*, four subtle and appealing lieder by the noted 19th-century female Croatian composer, each reminiscent of Strauss in their gleaming melodies and nicely contrasting harmonies.

Piers Lane's piano accompaniment sounded superb at all times, interacting with the singers sensitively, and bringing a satisfyingly unique range of colours and textures to each song. Altogether, this was a remarkable and special concert, not least because of the strength of feeling in the room, a tribute to Lady Beresford-Peirse's passion and energy in persuading so many people to come, to remember a much-loved man and to support a much-treasured cause. As we sat in the exquisitely-wrought interior of the Cathedral of the Arts and Crafts Movement, with care and craftsmanship evident at every turn, the work of this Trust felt extremely precious: it's a long time since the dissolution of our own monasteries, but it was sobering to think how all the fabulous beauty around us could easily be destroyed in a few terrible moments – except, of course, the music.

Book *Reviews*

Damage Catalogue for glass objects - by Simone Walker Archetype Publications 2014

Reviewed by Velson Horie

96 pages, text in German, English, French. ca 40 colour photographs - many full page

There has been a welcome increase in the number and quality of tools for describing objects. Words are frequently inadequate to distinguish between visible features. This annotated picture book provides a useful addition to those available. It is primarily addressed to curators and collectors who are frequently directed towards consulting a conservator. The objects and damages illustrated range from the archaeological, through mediaeval and nineteenth century to stained glass. The images are well chosen and reproduced.

Damage is organised into 3 categories: Mechanical, Chemical and Previous restoration. Mechanical covers scratches to losses; Chemical covers soiling through crizzling to metal corrosion; previous restoration covers topics ranging from re-leading to gap fills.

The text is consistently arranged into brief paragraphs: Characteristics, Causes, Handling.
A glossary gives the translation of relevant terms in alphabetical order in each language. An appendix lists the objects, giving dates and an inventory number.

The first damage illustration demonstrates the advantages and difficulties of using photographs which deal with the complexity of a specific instance, in comparison with a diagram which can eliminate the distracting features. The turned rimmed base of a clear goblet is well photographed showing a number of black lines. Although one can make a good guess at which of these is a soiled scratch, this is not indicated, nor is the soiling. Many of the objects illustrated display a number of issues as well as surface features such as reflections that could be confused for damage.

In such a small compass, there are necessarily some compromises. As the focus is on glass, only a few other materials are briefly mentioned. Metal corrosion is described and damaged enamel is illustrated, paint and plaster are not covered.

In summary, this is a good aide memoire that could be used during training of those documenting collections and for subsequent reference.

IIC *News*

Call for Papers – News in Conservation thematic issue

After the success of *NiC*'s first thematic issue in February 2015 (issue 46 February 2015), we have decided to continue with an yearly offering of a special edition of our e-magazine concentrating on issues that we feel deserves an in-depth approach.

Next thematic issue, coming out in April 2016 will be focussing on illicit trafficking of cultural heritage, a theme that unfortunately we are all very familiar with. The choice came almost as a natural continuation of the previous thematic issue as the correlation between the two topics are all too obvious.

NiC is now accepting proposals for articles related to the illicit trafficking of cultural heritage. If you have experience in this field or think you may contribute with an opinion article, a case study or you simply have a story you want to share please write to the editor at news@iiconservation.org

Deadline for abstract submission is **1 January 2016**

IIC Statement on the murder of Khaled Asaad, and destruction of the temple of Baalshamin at Palmyra

IIC, the International Institute for the Conservation of Historic and Artistic Works, condemns unreservedly the murder of Khaled Asaad, head of antiquities at Palmyra.

Mr Asaad was head of antiquities at the ancient ruins of Palmyra, a UNESCO World Heritage Site, for more than fifty years. He was involved in the early excavation and conservation-restoration work at the site and carried on this work for four decades until his retirement in 2003. He worked with UNESCO and the European Commission on Palmyra-related projects. His most important discovery was that of the city's major road networks and a number of tombs around the ruins. A scholar of Aramaic, Mr Asaad wrote more than 20 books on Palmyra and the Silk Road and his work was fundamental for an understanding of this city, an important trading hub in Antiquity between the Far Eastern and Mediterranean countries.

IIC and the international conservation community strongly condemn this senseless act of violence. The loss of Mr Asaad is a loss for us all, a symbol of the desecration of the cultural heritage of Syria and of the world.

The destruction of the temple of Baalshamin, now confirmed, is a further tragic act of desecration of our shared world heritage.

News in Conservation February 2015 issue contains a number of articles on the related conflict in Syria in particular and the effects the conflict is having on cultural issues in these troubled areas, describing local issues and experiences first hand.

>>

IIC International Training Centre for conservation launched in Beijing

© Mikkel Scharff

BEIJING - A year to the day after the 2014 IIC Hong Kong Congress, the IIC International Training Centre for conservation (IIC-ITCC) was successfully launched on Sunday 22 September in Beijing.

The inaugural programme, jointly organised by IIC and the Palace Museum of China (PM), was focused preventive conservation and linked issues.

The programme is being led by a teaching team of 9 distinguished speakers from IIC and the Palace Museum. Sarah Staniforth, President of IIC, Dr Jixiang Shan, Director of the Palace Museum and Mrs Carrie Lam, Chief Secretary for Administration of Hong Kong Government, together officiated at the opening ceremony and unveiled a commemorative plaque for the training centre.

Following the opening ceremony Dr Shan gave an inspiring overview of the museum's history, its collections and its outlook, and then inaugurated a week-long course comprising of lectures and case studies as well as visits to the conservation studios, storage facilities and other exhibitions at the Palace Museum.

A full report on this exciting programme will be available on IIC's website soon.

IIC welcomes Dilys Johns as a new Fellow

Dilys Johns is Senior Research Fellow at the University Of Auckland. After completing a thesis 'Waterlogged Wood Conservation – an investigation of radiation induced polymerisation of monomers' Dilys secured a Government scholarship to study conservation in Rome and Canada.

Returning in 1987 Dilys established a unique, national facility for conservation at the University of Auckland. Since then the laboratory has completed thousands of conservation projects for at-risk artefacts in New Zealand and the Pacific, including 11 waterlogged canoes conserved in satellite facilities. Dilys is an Assistant Co-ordinator of the International Council of Museums Committee for Conservation of Wet Organic Archaeological Materials and a founding member of New Zealand Conservators of Cultural Material- Pu Manaaki Kahurangi.

Dilys' research and teaching focuses on *in situ* wetland archaeological site sustainability, conservation of at risk materials and the importance of cultural orientation to materials conservation. Recent publications include articles with Oxford University Press and the Proceedings of National Academy of Sciences (USA).

>>

Coming soon in *Studies in Conservation*

The final issue of *Studies in Conservation* for 2015 (Vol. 60, No. 6) for this year highlights a selection of the wide variety of current research in conservation science that gets submitted to the journal. A good range of geographic regions are represented both in the objects studied and in the author affiliations, befitting the flagship journal of the International Institute for Conservation. First, Emmanuel Abraham in France and Kaori Fukunaga in Japan explore the use of terahertz radiation for examining both two-dimensional and three-dimensional objects. In one of the case studies they review, application of this technique to a painted Japanese screen clarified the internal construction details, showing the original fabrication techniques of the artist and highlighting the presence of later restoration changes. Then, Ingalill Nyström of the University of Gothenburg, Sweden, applies a suite of analytical techniques to 70 signed painted wall-hangings produced in southern Sweden from 1700 to 1870. Art historical implications are discussed; and, as some toxic and light-sensitive materials were found, recommendations are made regarding preventive conservation and handling of deteriorated wall-hangings.

Two papers focus on textiles, although in very different ways. Yang Zhou and colleagues from Hangzhou, China, report on their experiments to detect proteinaceous binders in ancient Chinese textiles by enzyme-linked immunosorbent assay (ELISA). More generally, they discuss how the results provide deeper insights into the interactions between antibodies and immunoreactive antigens in deteriorated samples recovered from archaeological contexts. Margaret J. Smith and colleagues from the University of Glasgow in the UK note that the conservation of historic tapestries is a highly complex task which usually must be undertaken with incomplete knowledge about original properties of the object. They use the opportunity of access to contemporary tapestries being produced by the West Dean Tapestry Studio for Stirling Castle to create a baseline dataset of initial properties and mechanical strengths of the materials used, to aid in future conservation efforts that will undoubtedly be needed.

Architectural conservation science is represented in a paper by two Chinese authors, Qian Zhou and Weiming Yan from Beijing University of Technology, China. Historic buildings in China are often made of wood whose beams and columns are connected by tenon-and-mortise joints. During earthquakes, the tenon may be pulled out of the mortise, weakening the connection between beam and column and possibly leading to instability of the entire structure. The authors propose and test several methods for strengthening tenon-and-mortise joints, using wooden frame models based on an ancient building in the Forbidden City. Given the number of earthquakes threatening China's built heritage, this work is important for architectural conservation in that country, and results should also be applicable in other countries where similar historic construction methods are found.

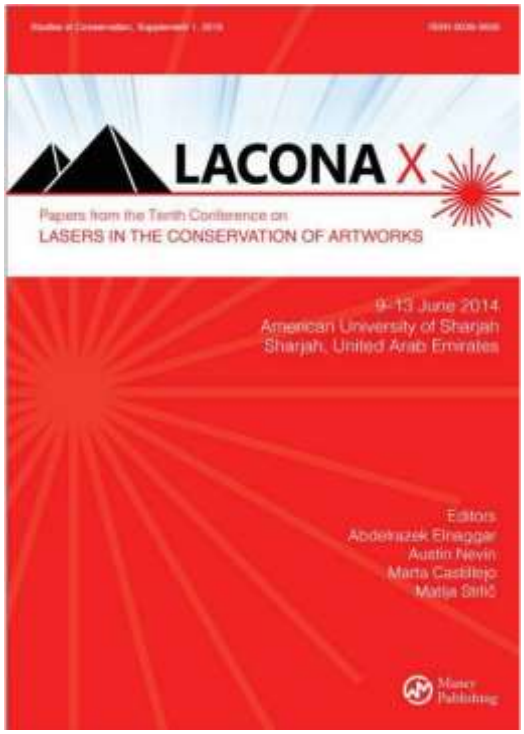
In the final paper of this issue, Sonia O'Connor and colleagues (representing the University of Bradford and University of York in the UK, and the Museum Conservation Institute, Smithsonian Institution, USA) focus on archaeological keratinous materials such as horn, hoof, baleen, and tortoiseshell, all very difficult to identify due to combined effects of original working, past use, and diagenetic changes. After first reviewing the chemistry and deterioration of keratin and earlier approaches to identification, the authors demonstrate how identification can be achieved by combining visual observation under low-power microscopic magnification with an understanding of the structure and characteristic deterioration of each material. Excellent photomicrographs will surely help those of us who try to reproduce their methods.

Taken together, these six papers provide a snapshot of some of the creative and exciting research being done today in conservation science in different parts of the world. They also illustrate that there is room in our field for many different interests, many research questions, and work on many different types of cultural heritage materials. Hence there is also room in *Studies in Conservation* for this variety of global interests and approaches, and I am hopeful that our readers around the world will continue to find papers relevant to their own research and treatment problems published within our journal.

Chandra L. Reedy
Editor-in-Chief, *Studies in Conservation*

>>

LACONA X proceedings available online



IIC is pleased to announce the publication of the Proceedings of the LACONA X conference which was held in Sharjah, Egypt, in June 2014 and organized by the Faculty of Archaeology of Fayoum University, Athar-ICCROM, Bibliotheca Alexandrina, the American University of Sharjah and the Arab Institute for Conservation of Historic and Artistic Works, working in partnership.

The publication is freely available online in open access format in a dedicated Supplement to *Studies in Conservation* (Supplement 1 for 2015), the journal of the International Institute for Conservation of Artistic and Historic Works (IIC):
Please see the link here: http://www.maneyonline.com/toc/sic/60/S1

The organisers are indebted to all who contributed their manuscripts and these underwent the same peer review process as any other volume of *Studies in Conservation.* The work presented here is key to the continued development of, as well as the adoption of, laser-based methods in conservation and it is our hope that this Special Issue will thus be useful for conservators, heritage scientists and academic scientists.

We would like to thank our sponsors and the many authors whose work is published in the volume, Joyce Townsend IIC Director of Publications, Laura Bradford from Maney Publishing and Jeremy Toynbee of Editorial Services for their diligent work.

Ge-conservación now available online

Ge-conservación is a publication of the IIC Spanish Group (GEIIC) which aims to contribute to scientific development, dissemination and exchange of knowledge in the conservation and restoration of cultural heritage.

The journal aspires to be a critical tool and will give priority to interdisciplinary approaches and reasoned criteria and methodologies.
It is open to all persons whose articles are in keeping with the publication's objectives and characteristics.

Issue 7 2015 is now available online at:
http://ge-iic.com/ojs/index.php/revista

For more information about the activities of the IIC Spanish Group visit their website at: http://ge-iic.com/

Do you want to share your latest news and activities? Get in touch at news@iiconservation.org

What's on + *NiC*'s List

A comprehensive list of events taking place around the world, in and around the field of conservation. Write to news@iiconservation.org if you wish to add your event

Call for papers

"Analytical Methodologies and Research Partnerships at the Interface of Chemistry and Art/Archaeology"
13-17 March, 2016
Deadline for abstracts: 15 October 2015
For more info visit:
http://www.acs.org/content/acs/en/meetings.html

"Materiality: the understanding of objects in the cultural heritage disciplines"
26-27 November, 2015
Berlin, Germany
Call for Posters deadline: 30 October 2015
For more info click here

4th Historic Mortars Conference - HMC 2016
10-12 October, 2016
Santorini, Greece
Deadline for abstracts: Friday, 30 October, 2015
For more info visit: www.HMC2016.com

"Metal Soaps in Art" Conference
14-15 March, 2016
Rijksmuseum, Amsterdam, The Netherlands
Deadline for submission of abstracts: 1 November 2015
For more info click here

"Preservation or just an obsession" 2nd International Meeting for Conservation and Documentation of Ecclesiastical Artefacts
8-9 July 2016
Halki Theological School, Turkey
Deadline for paper/posters proposals: 8 December, 2015
For further info visit:
http://imcdea20165.webnode.gr/

ICOM-CC Experts meeting on enamel on metal - Call for Papers
19-20 May 2016
National Museum, Poland
Deadline for submission of abstracts: 2 November 2015
Visit:
https://www.iiconservation.org/node/5924

Conferences/Seminars

The eighth Nordic Conservation PhD Student Colloquium
19-20 November 2015
Metropolia University of Applied Sciences, Helsinki, Finland
Deadline for Abstracts of Presentations: 2 November 2015

Media in Transition: Conservation of time-based media works of art and related practices
18- 20 November 2015
London, United Kingdom
For further details contact:
media_in_transition@tate.org.uk

The Scheuer Skeletal Collection: a unique resource for archaeology, osteology and forensic anthropology
26 November 2015
Dundee, Scotland
To book this event click here

Probing Hierarchically Complex Historical Materials and Their Modes of Characterization and Alteration
31 July – 5 August, 2016
Newry, Maine, USA
For more information visit:
https://www.grc.org/programs.aspx?id=15101

AIC and CAC-ACCR 2016 Annual Meeting : Emergency! Preparing for Disasters and Confronting the Unexpected in Conservation
13 - 17 May, 2016
Montreal, QC, Canada
For more information click here

Islamic Heritage Architecture 2016
17-19 May, 2016
Valencia, Spain
For more information visit:
https://www.iiconservation.org/node/5937

4TH APTCCARN Meeting: Embracing Cultural Materials Conservation in the Tropics
25-27 November, 2015
Taiwan Conservation Centre, Cheng Shiu University
Kaohsiung, Taiwan
For more information visit: http://2015aptccarn.csu.edu.tw

Exotic Surfaces: Chinese Export Lacquer Symposium
October 29, 2015
Winterthur Museum, Garden & Library
Winterthur, USA
For more information click here

Living on the Edge: Managing Change through Innovation
22 - 23 October 2015
Galveston, Texas, USA
For more information click here

'Picasso in Two Minds: The Revelations of X-radiography'
3 November, 2015
The Robing Room at Freemasons Hall, London, UK
For more information visit:
https://www.iiconservation.org/node/5951

2016 International Course on First Aid to Cultural Heritage in Times of Crisis
23 May to Friday 24 June, 2016
Washington DC, USA
Deadline for application: Monday, 9 November, 2015
For more info visit:
https://www.iiconservation.org/node/5955

Courses/Workshops

Masterclass in Project Management in Conservation and Collections Care
2 November, 2015
The British Library, London, UK

Workshop on *kintsugi* repair of ceramics
7, 11 and 14 November 2015
Pitt Rivers Museum, Oxford, UK
To book please go to:
http://www.prm.ox.ac.uk/specialevents.html

Laser Cleaning workshop
19 November 2015
Brooklyn Museum, New York, USA
For further information:
http://www.conservationlasers.com

IAP Course - Ship Models: Care, Conservation, Display
17-19 November, 2015
National Maritime Museum, London, UK
For further details click here

Course on Adhesives, Coatings and Consolidants
14-18 December, 2015
Tate Britain, London, UK
For more info see:
https://www.iiconservation.org/node/5961

Hanji: Korean traditional paper making
8-11 December, 2015
South Korea
For more information see:
https://www.iiconservation.org/node/5964

Master Class - Museum Lighting: Options Beyond White LED
11-12 February, 2016
MacMillan Education Centre, Washington DC, USA
For further details click here

For more information about conferences and courses see the IIC website: www.iiconservation.org