Glass News

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Happy New Year to all! Congratulations to Sarah Paynter, co-editor of Glass News, on the birth of son Elliot.

There were some changes to the AHG Board at the

November AGM. A very warm welcome goes to Andrew Shortland, new member of the Board and our new Hon Treasurer, who replaces David Crossley. Also to Sandy Davison, already a Board member, who replaces Justine Bayley as Hon Secretary. Many thanks go to David and Justine who have worked tirelessly and given their time generously as Officers for the benefit of the AHG. They both remain on the Board as ordinary members. However we are very sad to say goodbye to Paddy Baker, who has stood down from the Board. Many thanks go to her for all the valuable work for the AHG over the years. Paddy has been organising the forthcoming AHG Study Day, details of which can be found in page 2. Finally, we welcome St John Simpson to the Board.

In this issue you will find news of forthcoming conferences, as well as reviews: the AHG Study Day at the Wallace Collection; Part 1 of the 17th Congress of the Association internationale pour l'histoire du verre, which took place last September in Antwerp; and the wide-ranging Blaschka Congress in Dublin, which was so successful that a second Congress is being planned for October 2007.

We have some voluntary contributions! Remember that Glass News is for you but it is also about you: tell your colleagues about your glass-related activities. Your contributions do not have to be long, sometimes a couple of paragraphs will be enough to inform, enquire or follow up on research.

Juanita

THE ASSOCIATION FOR THE HISTORY OF GLASS

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AHG Bursaries

In 2006 three bursaries were awarded to students, two of them participants in the 17th AIHV Congress in Antwerp. This year AHG has again earmarked funds to support research related to the history of glass and/or participation in conferences. A total of nearly £1000 is available, though it will probably be split into a number of awards. Applications will be judged on the quality of the work for which support is sought, and anyone may apply.

Full details and an application form may be obtained from the Hon Secretary, Sandy Davison. Email her at sandbill@conservation.fsnet.co.uk or write to 68 East Street, Thame, Oxon OX9 3JS. Applications must be received by 31st March 2007.

Forthcoming:

AHG Spring Study Day

THE GLASS INDUSTRY: CONSTRAINTS AND CONTROLS FROM THE MEDIEVAL WORLD TO THE 20^{TH} CENTURY

Tuesday 6th March 2007

Royal Asiatic Society 14 Stephenson Way, London NW1

The next AHG study day will explore some of the difficulties faced in the production of glass from medieval times to the present day. Some problems were faced every day in the workshop and were of a technical nature while other constraints were imposed from the outside, often taking the form of controls on labour, prices and the production of range.

Provisional programme

- 10.00 Arrive/coffee
- 10.30 Introduction
- 10.40 Venetian Glassmakers & the Venetian Government 1200-1500, David Whitehouse
- 11.15 Glass Sellers Company & the Ravenscroft Connection, Brian Rawles
- 11.45 The Guild System in the Middle East, Paddy Baker
- 12.15 Lunch
 Maurice Marinot film: Acid Etching Glass

- 14.0 Furnaces, the Perennial Problem, Peter Wren Howard
- 14.30 Coloured Glass in the Workshop: problems and headaches, Richard Golding
- 15.00 Tea
- 15.30 The Impact of Glass excise Duty, Alex Werner
- 16.00 The Impact of the Second World War on the West Midlands Crystal Industry, Roger Dodsworth

If you would like to attend, costs are: £25 non-members, £20 for AHG members, £10 students. Please send a stamped, addressed envelope and a cheque payable to *The Association for the History of Glass Ltd.* to David Crossley, 5 Canterbury Crescent, Sheffield S10 3RW.

Participants who live outside the UK may pay upon arrival at the venue in UK sterling, but please inform the organiser of their intention to attend the Study Day.

PLEASE NOTE: This meeting will take place at the Royal Asiatic Society, conveniently located within 3 minutes walking distance west of Euston mainline rail and Underground Station. Other Underground stations nearby are Euston Square and Warren Street. Lunch is not included in the price, but there are plenty of places to buy lunch in the area.

Forthcoming:

The Stained Glass Museum

Annual Lecture and Study Weekend

The Annual Lecture will take place on 26 March 2007 at 5.30 pm in St Ethelburga's Church, Bishopsgate, London. The speaker will be Dr David O'Connor 'Parish, Community and Faith in Medieval York: All Saints, North Street and its Windows'. The presentation will focus on the windows, taking a broad view of the building, the parish, the architecture and its imagery in its widest sense.

Tickets may be obtained in advance £4 from the Museum (see website above), or at the door £5, includes tea at 4.30 pm.

This year's Study Weekend will take place in York, 11-13 May 2007. It will focus on medieval glass of the churches of York and especially of the Minster

where the final stage of re-fixing the St William window c.1415 will just have been completed. There will also be a visit to York Glaziers Trust – the workshop which looks after the Minster's glass – or the stained glass studio of Keith Barley. The conference organiser and guide will be Sarah Brown and there will be other stained glass specialist art historians.

Cost: Resident £250, non-resident £170; Friday afternoon until after lunch on Sunday. Early booking is recommended.

An application form is available from the website: www.stainedglassmuseum.com.

Forthcoming:

Groupe des Méthodes Pluridisciplinaires Contribuant à l'Archéologie XVIth Colloquium: Archéometrie '07

"DIFFUSIONS, MIGRATIONS, EXCHANGES: THE MEDITERRANEAN BASIN INFLUENCE"

18-21 April 2007

Maison Méditerranéenne des Sciences de l'Homme, Aix en Provence, France

The colloquium is jointly organized by the LAMM (Laboratoire d'Archéologie Médiévale Méditerranéenne), the CCJ (Centre Camille Julian - Archéologie Méditerranéenne et Africaine) and the ESEP (Economies, Sociétés et Environements Préhistoriques).

Further information may be obtained from: archeometrie07@mmsh.univ-aix.fr

AHG Study Day Review

'EXPERIMENTAL AND ETHNOGRAPHIC STUDIES RELATING TO ANCIENT GLASS'

On Wednesday 22nd November, The Association for the History of Glass held a study day at the Wallace Collection, London, to discuss experimental and ethnographic studies relating to ancient glass.

Morning presentations:

Thilo Rehren - Experiments in Bronze Age Egyptian glassmaking

Yvonne Gerber - The Court Chaluet glass hut and its glass composition

Ian Freestone - Shape, substance and identifying fakes

The morning session, introduced by Caroline Jackson (Sheffield), began with **Thilo Rehren's** (UCL) account of experimental work in late Bronze Age Egyptian glassmaking practices. The work derived from the important discovery of evidence for the primary production of red and other coloured glass ingots at the Late Bronze Age site of Qantir-Piramesses in the eastern Nile Delta. Large amounts of ceramic fragments with glass attached on the inside, glass-related slag and unshaped glass fragments were recovered there during excavations. The majority of ceramic fragments were found to have a thin layer of lime on their inner surface, thought to be a parting layer which prevented the glass from sticking to the vessel walls. One significant find was a crucible filled with the remains of a partially fused charge containing residual quartz grains. Examination of ceramic fragments with the parting layer in cross-section revealed that the internal fabric was either discoloured or that no discolouration was present. Thilo questioned whether the presence or absence of discolouration in the fabrics could indicate if these were crucibles used for glass making (from raw materials) or glass working (re-melting pre-existing glass), and described experimental work developed to test this. Glass batches, with or without the addition of salt to the mix, were melted in ceramic vessels, and after firing, cross sections of the ceramic vessels were examined. The results clearly showed that vessels used for melting batches containing salt developed discolouration in a manner very similar to the archaeological examples from Qantir-Piramesses, while those without showed no discolouration. By combining archaeological evidence and experimental work Thilo was able to make a strong argument for the manufacture of the glass ingots at Qantir-Piramesses in

a two stage process: plant ash and crushed quartz were heated to form a semi-fused glass with the volatile salt component of the plant ash penetrating into the crucible fabric. The parting layer allowed the glass to be easily released from the crucible which could be reused. The semi-fused glass was then crushed and remelted with colourants to produce the coloured glass ingots. This presentation highlighted the value of using experimental work to help us interpret the material remains of past glass production activities.

Yvonne Gerber (Basel) followed with a description of the early 18th century Court-Chaluet glass hut and discussed compositions and raw materials of the glass made there. The glass hut, situated in the Swiss mountains, was in operation seasonally from 1699 to 1714. A range of green, blue and colourless glass objects recovered from excavations include roundels, beakers, bottles, stemmed drinking vessels inspired by Venetian glass, and filigree glass fragments. Compositional analysis of glass finds from the site demonstrated it fell into two clear categories: potassium glass (quartz sand and wood ash), and potash glass (quartz sand, potash and a stabilizer), and that these groups were strongly associated with glass colour. Coloured glasses occurred in the potassium group and colourless and filigree glass in the potash group. Further, composition of production waste corresponded well to vessel composition, providing strong evidence that glass was manufactured at Court-Chaluet from raw materials rather than from cullet recycled from nearby towns. Experiments in manufacturing glass from raw materials collected from the Court-Chaluet region showed that glass with a composition similar to the potassium glass could be manufactured using sand and ash from beech wood collected locally.

The morning session was concluded by Ian Freestone (Cardiff) who discussed the changing perceptions of two objects held at the British Museum; the Hope Goblet and the Bonus Eventus Plaque (Fig. 1). The Hope Goblet was acquired by the British Museum in 1894. Despite showing stylistic inconsistencies, it was grouped with the late 13th century Aldrevandin Group of enamelled glass goblets. By the 1960's doubts were cast on its authenticity and by 1990 it was considered to be a fake, forged in the late 19th century. Ian was asked to conduct some investigations to verify this. Macroscopic examination revealed a number of technological features such as enamel impressions on the inner surface and double pontil marks on the base, which suggests the cup was made using the archaic. dynamic enamelling technique. This method went out of use in the late 18th century. Other evidence also

indicated a date of manufacture earlier than the 19th century. For instance, composition of enamels were typical of the medieval period, while analysis of the body glass (sample taken from pontil) revealed it to be a plant ash glass with a high chlorine concentration. Little glass with high chlorine is found after the 1850's. Taken together, the evidence suggests that while stylistically inconsistent with medieval Venetian or Islamic enamelled glasses, this enigmatic piece can no longer be considered a fake, but was perhaps a 16th century copy of earlier enamelled glass goblets.

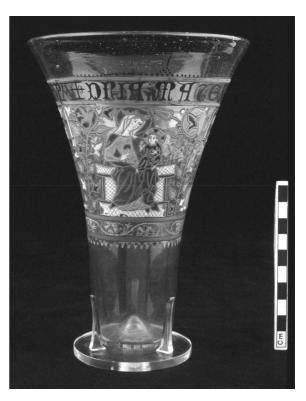


Fig. 1 Hope Goblet

The second object, the Bonus Eventus Plaque, (Fig. 2) came to the British Museum in 1814 as part Charles Townley's collection. It was originally dated to the 1st Century AD and thought to be sculpted lapis lazuli.

In 1883 the plaque was identified as being glass, and was displayed as a genuinely Roman object until as late as 1968. By the late 1960, however, its authenticity was questioned and it was confirmed a fake by 1995. It was interesting to hear that an investigation of composition, microstructure and manufacturing methods revealed the plaque to be more closely associated with the pottery industry than the glass industry. For example, the composition is typical of mid-18th century smalt, rather than a glass for working, opacified by the addition of lead-tin calx, with a microstructure reminiscent of Italian maiolica pottery glazes. Surface features indicate the plaque

was mould cast, possibly in a ceramic mould of a preexisting object, with the fine details of relief finished by engraving. Thus the raw materials used are typical of those found in a potters work shop.



Fig. 2 Bonus Eventus Plaque. (Courtesy of the Trustees of the British Museum)

Afternoon presentations:

Jan Kock - Bead and bangle making in India St John Simpson - Glass blowers in Lebanon Frances Liardet - Being an apprentice in a (Roman) glass workshop

Sarah Paynter - What gets left behind: the working wastes and residues from the Roman Glassmakers' Furnace Project

The afternoon session, introduced by Ian Freestone, began with Jan Kock's (Denmark) ethnographic study of glass workers in India. In a country where there is large-scale use of glass for personal and dress adornment (beads, bangles and mirrors) it was intriguing to see the continued use of traditional manufacturing methods of these items. For example, Jan visited the workshop of two brothers in the North Gujarat region of west India who manufacture leadbacked mirrors. The mirrors are produced by blowing a large glass bubble, which, when taken off the blowing iron, is partially filled with molten lead and rotated to ensure the lead was fixed to the entire inner surface of the bubble, with the excess lead poured out. The bubbles are cracked into mirror fragments and distributed to workshops where they are cut into small pieces for the decoration of cloth. Though simple, this technique is very effective, allowing for mass production, so that the brothers are only needed to

manufacture the mirrors for six months of the year. Jan also visited a workshop specialising in the manufacture of miniature glass beads. It was fascinating to see that the glass workers began the process of bead making with a forty to fifty kilo weight of glass on a three and a half meter long pipe, which required four to five people to support the weight whilst marvering. Metres of fine glass rods were then drawn out from the glass, with workers using a lamp to check the thread hole passed through the entire length of rod. Bundles of rods were chipped over a blade to break off the beads, and the beads then mixed with ash and refired in a bowl to soften the sharp ends. The final step was to thresh the ash and bead mixture to remove the ash.

This was followed by **St John Simpson's** (British Museum) presentation on the tradition of water pipe smoking and production workshops in Lebanon. In the early 17th century the tradition of smoking spread throughout the Middle East. At this time in Persia pipes were adapted to include a water reservoir to cool the smoke, and this form of pipe quickly spread around the Indian Ocean. 19th century European artists recorded smokers with water pipes in detail. Intriguingly, however, archaeological finds of water pipes are rare indicating smoking was rarer than the artwork suggests. Today, smoking is common in Lebanon with water pipes available widely for hire or sale. St John visited a glass workshop which specialized in the manufacture of glass bottles, water pourers and water pipe reservoirs. However, not all water pipe reservoirs are locally made. Examples were found that had been manufactured in Italy in the Lebanon style and imported to Lebanon where the composite pipes are assembled. St John then described the remains of a small pottery workshop run for a short time by an emigrant Syrian. In addition to manufacturing pottery goods, the potter set up a roadside stall selling Syrian and Lebanese glass and ceramic wares. The types of residues left at the site included pottery production debris in addition to glass and ceramic fragments from breakages of goods sold at the stall.

The final two presentations of the afternoon described the different types of information gained from the Roman Furnace Project. The Roman Furnace Project was initiated by Mark Taylor and David Hill who constructed and ran two Roman wood-fired furnaces over a period of several weeks in the spring and summer of 2005 and 2006 in an attempt to discover information about the working conditions of ancient glass makers. **Francis Liardet's** (Cardiff) interest lay in the 'social life of making' objects, or the processes

by which the high level of skill shown by master craftsmen is learned. Using video footage of a 'master' glass blower (Mark Taylor) and an 'apprentice' (herself) at work she demonstrated how differences in prior knowledge and experiences informed the glass blower and impacted on the manufacture of blown objects. The experienced glass blower, working with a clear image of the finished object in the mind and having close at hand a familiar and accepted tool set, completed a series of actions: glass gathering, marvering, blowing, swinging, cutting in, reheating and decorating, with co-ordinated movement and consistent timing. When attempting to manufacture a vessel using an unfamiliar technology it was found that even though the experienced glass blower had a clear image of the finished object in mind, the relationship between movement and image was still developing. Nevertheless, the glass blower, informed by his prior experience, was able to adapt his environment and movements so that with each attempt time of manufacture and co-ordination improved. This was in contrast to the apprentice, who having no clear image of the finished object in mind and working with an unfamiliar tool-set was unable to control the relationship between actions and finished object. Francis was able to demonstrate how the high level of skill shown by master craftsmen is learned through manual tradition of watching and learning and repeating the actions until body is attuned.

Justine Bayley (English Heritage) presented **Sarah Paynter's** (English Heritage) work in her absence on the reactions occurring within the replica Roman glass furnace during its firing. (Fig. 3) She described three



Fig. 3 View of pots in the furnace during firing (Courtesy of J. Bayley).

categories of residues: the furnace and furnace waste, the pots (crucibles) and pot waste, and the glass and glass waste. The furnace, constructed out of a 'daub' mixture comprising clay, sand, grit and chopped hay, developed a potash-rich glaze containing various amounts of soda and crystalline phases on its inner surface during firing. This was attributed predominantly to the volatile components of the fuel ash (seasoned ash and beach) reacting with the furnace wall.

The crucibles used were fired terracotta pots lined with a layer of the same daub mixture used for the furnace construction on their outer surface. Following their use the daub linings had pulled away from the terracotta pots showing the two components had expanded and contracted at different rates during firing. (Fig. 4) The pots' rims developed different



Fig. 4 A pot after firing with glassy rim (front) and deposits formed from reactions with fuel ash (back) (Courtesy of J. Bayley).

deposits according to their positioning in the furnace so that the rim areas closest to the furnace wall had deposits formed by reactions with the fuel ash, while areas closest to the furnace centre had a glassy surface formed by interactions with the ceramic and its glass contents. Glass and glass residues were also analysed and demonstrated a range of compositions. For instance, the glass blobs and spills collected from the firing chamber of the furnace were found to have a composition different from that of the glass manufactured in the furnace, and this was attributed to the various interactions occurring within the furnace during firing. This research has important implications for our understanding of the formation of the wide range of waste materials which are routinely found on archaeological glass production sites.

Harriet White English Heritage

AIHV 17th CONGRESS, ANTWERP - Review, Part 1

ANTWERP, BELGIUM, 4-8 SEPTEMBER 2006

To mark the 50th anniversary of the Belgian glass historian Joseph Philippe's setting up of the Association internationale pour l'histoire du verre (AIHV), the 17th Congress was held in Antwerp, Belgium.

There are currently 31 member countries of the AIHV, comprising approximately 469 individual members. The membership in Britain is affiliated to the British organisation, the Association for the History of Glass. Approximately every three years, a member country hosts an international congress to bring together people interested in a wide range of aspects of glass from its invention to the present day, enabling them to share information on current research and providing an opportunity for a lively exchange of ideas.

The congress took place in the splendid 't Elzenveld conference centre, created within a medieval hospital complex in the centre of the old city. It was attended by almost 200 delegates from 22 countries from Australia to Norway. The welcoming and efficient organising committee worked tirelessly to ensure that the every aspect of the congress ran smoothly. Particular thanks are due to Koen Janssens, President of the organising committee, and Luc Van'tdack, the Secretary, for a brilliantly organised congress.

THE OPENING PLENARY SESSION

After Koen Janssens had officially opened the congress, the opening plenary session, comprising papers from three invited speakers, was inaugurated by Marie-Dominique Nenna, who provided an overview of '50 Years of AIHV'. Dr Nenna referred to the distinguished glass historians who have served as President of the organisation since its inception. She highlighted the importance of the AIHV's contribution to the development of the study of a wide range of aspects of the history of glass, in part by providing an international forum for collaboration between people working in different but related fields of glass history.

Ian Freestone, President of the British committee of the AIHV, presented a paper on 'The batch: its recognition and significance' on behalf of himself, Jennifer Price and Caroline Cartwright. The paper outlined the implications of batch analysis, which same melting pot and the same campaign of melting. Freestone concluded that batch analysis can be used as a tool to refine the interpretation of glass assemblages and workshop practice. Batch analysis has the potential to provide information about the size of a set, its date, and the context in which it was produced. It might be possible to work out how much glass was contained in a batch and, with very precise analysis, to identify and reassemble individual pieces produced from a single batch.

Marco Verità presented the final paper of the opening session, written in collaboration with Sandro Zecchin, 'A thousand years of Venetian glass: evolution of the chemical composition from the origins to the 18th century'. The paper considered the documentary milestones and analytical results that provide information on the chemical composition of Venetian glass. The Venetian state archives and recipe books have provided important documentary information. Early references to individual ingredients and glass types were tracked and the results of chemical analysis discussed. In order to gain a fuller picture of the evolution of Venetian glassmaking techniques and recipes more analysis is required. In particular, a database of analysis results for coloured and opaque glass is needed and, in order to distinguish Venetian glass from façon de Venise, many precisely detailed analyses are necessary.

POSTERS

There were approximately 40 posters, their range and scope as broad as those covered by the aural presentations. Two cash prizes were offered for the posters. The quality of the posters was very high. The prize for a poster on ancient glass was judged by Jennifer Price and David Whitehouse. It was won by V. Chatberachvili, N. Kitovani and M.-C. Depassiot for their poster discussing the discovery, description and restoration of two gilded and enamelled opaque white jugs from a tomb in Georgia. The only known comparative example is the Daphne Ewer in the Corning Museum of Glass is (Donald B. Harden et al., Glass of the Caesars, exh. cat., 1987, cat. no. 150). The poster's content was considered to be outstanding. Johan Veeckman and Frans Verhaeghe judged the poster for later glass. The prize in this category was won by T. Medici, M. Fontanals and J. Zaragoza for their poster on 'Glass finds from recent archaeological

excavations at El Catllar, Tarragona, Spain: preliminary report (15th - 18th century)'. This poster presented some of the better preserved glass objects and set them in the context of Catalan and façon-de-Venise productions. The judges considered it to be extremely well assembled.

There were approximately 80 aural presentations arranged into the following categories:

- Pre-Roman and Hellenistic (two sessions):
- Roman (three sessions):
- Post-Roman (one session);
- Archaeometry (two sessions);
- 15th and 16th century (two sessions); 16th and 17th century (one session);
- $18^{th} 21^{st}$ century (one session);
- Stained glass and weathering (one session);
- Glass decoration and enamels (one session).

The timetable and abstracts were set out very clearly in the 'Book of Abstracts'. Two sessions were scheduled to run concurrently. The level of presentation was very good and PowerPoint was used almost universally. Each session opened with a keynote lecture delivered by a distinguished glass scholar, followed by a number of 15-minute contributions allowing comprehensive overviews to be presented.

REVIEW OF CONTRIBUTIONS ON GLASS FROM THE EARLIEST PERIODS TO LATE ROMAN AND **ARCHAEOMETRY**

Professor Ian Freestone and Professor Jennifer Price

This brief review outlines some of the topics and discoveries in the contributions on glass from the earliest periods to late Antiquity. As always we were confronted by a staggering array of material and approaches, both in the oral presentations and the posters and learned of new discoveries, new interpretations, new approaches and new questions.

Interesting and important contributions were made on glass in the second and first millennia BC. Some tackled new questions, such as the evidence for the Myceneans making raw glass (Nikita), and for the Phrygians producing glass vessels and objects in the ninth century BC (Jones), while others reassessed well-known material using new evidence, such as Petrie's work at Amarna (Nicholson), Cypriote coreformed glass (Cosyns), and glass coffins (Stern), or considered larger issues, such as the socio-economic background to glass use in pre-Roman societies (Barag).

Nearly 40 presentations were given on late Hellenistic, Roman and late Roman/late Antique glass dealing with archaeological and collected material from most regions of the ancient world. Some assessed big topics, such as the changes in craft traditions resulting from the introduction of glass blowing (Liardet), or the relative significance of glassworking as a provincial Roman workshop activity (Amrein), or the comparison of glass and pottery tableware assemblages (Poblome et al.), while others examined issues of function and everyday use, or deposition, residuality and survival. often through the study of assemblages which were chronologically constrained by some man-made or natural disaster – the ebb and flow of the edge of the Empire, or earthquake, fire and volcanic eruption. Among the many interesting case-studies, the poster presenting the discovery and conservation of two opaque white jugs with painted and gilded decoration found in a burial in Georgia (Chatberachvili et al.) was exceptional, and was awarded a prize for the best poster on early glass.

A recurring theme was the study of 'black' glass (Cosyns, Cosyns/Fontaine, Van der Linden et al., da Cruz) and an exceptional number of aspects of late Roman/late Antique glass were studied (e.g. Foy, Sagui, Funfschilling, Gorin-Rosen, Lauwers, Mossakowska-Gaubert, Newby).

A number of papers discussed the analysis of glass for isotopes such as those of strontium and neodymium, which promise to be useful tools in the determination of glass provenance (Henderson, Degryse, Brill, et al.) although, as emphasised by Wedepohl, it will be essential to use these in conjunction with other methods, such as elemental analysis. A number of papers addressed very early uses of natron-based glass (Gratuze, Reade) or the unusual occurrence of plant ash glass in the Roman period (Gratuze, Jackson). Others considered the technology of opacifiers (Tite, Lahlil), while the introduction of a portable X-ray spectrometer for the analysis of glass in the field, which can reliably assign glass to groups established by destructive methods (Kato) opens up exciting possibilities for the study of material in regions where export of samples is problematic.

REVIEW OF THE SESSION ON STAINED GLASS AND WEATHERING

Dr. Andrew Shortland

The stained glass section of the conference was chaired by Professor Caen and consisted of five papers dealing with material ranging in date from the 15th to

the 19th centuries. Two papers dealt with glass from the 15th century, and presented an interesting contrast, one dealing with secular glass from Flanders (Caen et al.) and one with a Moses window from the Basilica in Straubing, Germany (De Vis et al.). Both papers dealt elegantly with art-historical questions and analytical/conservation issues for the windows. Of particular interest was the 3-D scanning technique described by De Vis et al., which allowed lost paint layers on the glass to be searched for. Two papers dealt with glass from the 17th century. These papers considered similar glass – the enamelled, painted glass that is common in this period - but presented different, complimentary aspects of the glass. Power et al. discussed art historical and theological aspects of the 17th century pictorial scheme for the Cathedral of Christ Church, Oxford – a scheme now largely destroyed. Van der Schnickt et al. dealt with conservation aspects of the glass, particularly the blue colour, where the enamelled layer suffers from serious flaking. Analysis and modelling of the system was attempted to determine which factors are the cause of the deterioration. The keynote paper was a wideranging look at one of the most important assemblages of stained glass windows in Spain – the Cathedral of León (Carmona et al.). Concentrating mostly on its medieval glasses, the paper showed how chemical analysis can reveal why some glasses are particularly vulnerable to weathering and the creation of corrosion pits and crusts. This 'pathological diagnosis' led on to instructing appropriate restoration and conservation strategies in a way that will stand as a model for similar work.

MEETING OF THE GENERAL ASSEMBLY OF THE AIHV ON 5 SEPTEMBER

Tribute was paid to Joseph Phillipe, some of whose relatives attended the meeting. The Annales of the 17th Congress will be dedicated to his memory.

It was reported that the AIHV archives would be held at Corning.

The AIHV's finances were now healthy after a difficult period in the 1990s. It would now be possible to provide about eight bursaries to the value of 400 euros each for members from low wage countries or students to attend the next Congress.

The AIHV's website is now being administered at Corning Museum of Glass, where Jane Spillman is the person to contact; she would welcome news for the website.

SOCIAL PROGRAMME

The organising committee had arranged a diverse and fascinating series of visits for delegates. These began with a Welcome Reception in the elaborately decorated Town Hall in the historic and delightful Grote Markt. Further highlights were a visit to the Cathedral of Our Lady, where delegates enjoyed a tour of the stained glass before being treated to a remarkable concert of music played on two organs. The optional Congress Dinner was held in the beautiful Marble Hall and Winter Garden of Antwerp Zoo. Visits were also offered to the Antwerp Glass Restoration Studio, the Antwerp Archaeological Service and an exhibition of contemporary Belgian glass.

Delegates who attended the highly successful Congress in Antwerp will be anticipating the 18th Congress with keen expectation! It will be held in Thessaloniki, Greece, in the autumn of 2009. There will be two big exhibitions for delegates to enjoy. The Archaeological Museum will host an exhibition on late Classical and early Hellenistic glass in Mesopotamia, while the Museum of Byzantine Culture will mount an exhibition on Byzantine glass. The Greek organising committee looks forward to welcoming you there!

Suzanne Higgott with contributions from Ian Freestone, Jennifer Price and Andrew Shortland.

Part 2 is to be published in the next issue of Glass News.

Blaschka Congress Review

NATIONAL MUSEUM OF IRELAND, DUBLIN 28-30 SEPTEMBER 2006

Scientifically accurate glass models of obscure sea creatures may sound like bland art, but the famous sculptures crafted by father-and-son team Leopold and Rudolf Blaschka have inspired many fans across the art and science worlds. Working in the late 19th century, the Blaschkas supplied museums, universities, and private collectors with a passion for natural history all over the world. In September 2006, nearly 100 of their modern admirers converged in Dublin for the first ever international scholarly meeting to discuss the life and works of the Blaschkas.

The Dublin Blaschka Congress was hosted by the joint programme linking University College Dublin (UCD) and the National Museum of Ireland (NMI) in Dublin,

Ireland. These two institutions collectively hold the largest known collection of Blaschka animal sculptures.(Fig. 5) These glass models filled gaps in the Museum's display where preserved or pickled animals were not sufficient, and were used as teaching aides for biology students in the then Royal College of Science. Other collections of the animal models were independently acquired by three other Irish universities, making Ireland an unexpected Mecca for the creations of these German glass artisans.

Leopold Blaschka (1822-1895) and his son Rudolf (1857-1939), were descended from 15th century Venetian glass artists. Working from a studio in their home in Dresden, first for the local aristocracy and natural history museum, they built up an international clientele via mail-order catalogues. They worked in isolation, without recruiting apprentices or assistants, but often employed natural history dealers as local distributors: Robert Damon of Weymouth was the sole agent for Britain and Ireland. Blaschka objects are known to survive today in collections throughout Europe and North America, as well as India and New Zealand.

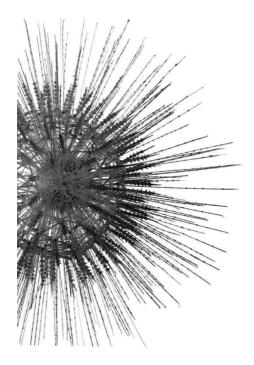


Fig. 5 Blaschka model of a single-celled radiolarian (greatly magnified), ca. 1886. Photograph copyright National Museum of Ireland.

Until the 1880s, the Blaschkas work focussed on marine creatures of all sorts, following the contemporary Victorian fashion for the seaside and exploring rock-pools. This trend was matched by the scientific output of the day, and the Blaschkas were very dependent on illustrated scientific monographs for their designs of animals such as octopuses and anemones. The Blaschkas were regular correspondents of Ernst Haeckel in Germany and visited the new marine station in Naples, Italy. As their repertoire grew, the Blaschkas installed a saltwater aquarium in their studio to keep 'life models' of their animals in captivity. In 1890, Leopold and Rudolf signed an exclusive contract with Harvard University in the United States which would eventually result in over 4,000 models that make up the Ware 'Glass Flowers' collection.

Keynote presentations on the first day of the Congress included botanist Dr. Susan Rossi-Wilcox, who is responsible for the Harvard Glass Flowers collection, and Dr. David Whitehouse, Director of the Corning Museum of Glass, Corning, New York Sate. Additional speakers shared new results from investigation into archives both of Blaschka objects and their personal correspondence.

The presentations were organised by themes:

- 'Zoology and Education';
- 'Collections Worldwide';
- 'Construction and Care':
- 'Art and Science'.

Presentations were given by biologists, curators, artists, and historians, adding to an interesting mix of perspectives on the meaning and future potential of Blaschka works.

Particularly, there was lively ongoing debate about exhibition techniques, which continues beyond the scope of the three day meeting. Discussion often focused on the relative merits of displaying Blaschka objects in their historical context of Victorian natural history exhibition, surrounded by preserved specimens, versus application of modern lighting and minimalist aesthetic to highlight the beauty and craftsmanship of each individual model.

The natural progression of entropy and glass decay has prompted new conservation efforts to preserve Blaschka sculptures in Dublin and in many other museums. However, there remain serious deficiencies in understanding the Blaschkas' techniques. They created each piece individually on commission, and continually improved and changed their methods of construction over time. One of the major aims of the Congress was to form new connections between

curators, conservators, artists and biologists, to share insights into the long term preservation and further study of these sculptures held worldwide.

During the course of the Congress, Dr. Rossi-Wilcox and Dr. Whitehouse issued an invitation to the Corning Blaschka Congress, scheduled for 4–7 October 2007 at the Corning Museum of Glass in Ithaca, New York. This second Congress would coincide with a major new temporary exhibition of Blaschka sculptures of the Harvard botanical collection displayed together with material from the Blaschkas' personal archives held by the Corning Museum's library.

The Dublin Blaschka Congress has been hailed as a beginning of new study in the subject of the Blaschkas' art. A forthcoming volume of papers presented at the Congress will be published in the next year. In the meantime, the largest display collection in the world of Blaschka animal models are on permanent display at the Natural History Museum, Merrion St, Dublin 2, Ireland; admission is free.

Julia Sigwart

[Julia Sigwart directs 'Collections-based Biology in Dublin', the joint programme linking University College Dublin and the National Museum of Ireland; she chaired the organising committee of the Dublin Blaschka Congress 2006]

A medieval high-lead glass beaker from Oxford

One might expect the wealthy university town of Oxford to be an obvious place to find medieval glass vessels, typically found on affluent sites. It was not until 2002, however, that the first medieval glass tableware was discovered. Nearly 100 fragments of emerald-green high-lead glass were excavated from a 13th-century deposit at Postmasters' Hall Yard, Merton College by Oxford Archaeology. The fragments suggest the original form to be a beaker decorated with plain applied spiralling trails below a flared rim, with three thicker tooled trails around the base and at intervals up the body. (Fig. 6) The rim diameter is rather irregular, but is estimated to be c. 90 mm; the base diameter is 60-70 mm. XRF analysis by Roger Wilkes of English Heritage confirms that it is highlead glass, averaging c. 54% lead oxide.

This type of high-lead glass, which contains an average of 60-70%, but up to c. 84% lead oxide, was identified and published as a group in conjunction with

an exhibition at the Rheinisches Landesmuseum, Bonn (Baumgartner and Krueger 1988, 161-75). Decorative vessels of yellow, green and opaque red high-lead glass have been found concentrated across northern Europe, dating to the 13th or early 14th centuries.

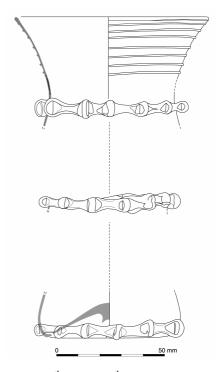


Fig. 6: A 13th-early 14th-century green high-lead glass beaker from Merton College, Oxford.

Drawn by Sarah Lucas, © Oxford Archaeology.

The plain and tooled trailing on the Oxford beaker is typical of high-lead glass, mainly stemmed goblets, beakers and jugs, as well as other medieval glass tablewares. Although no production sites have yet been found, lead isotope analyses show that the lead in many of these vessels originates in Germany and that these vessels were probably made there (Wedepohl *et al.* 1995).

High-lead glass objects were produced in Europe, including Britain, between the 9th and 13th centuries, and vessels were made in various periods in other regions, including Russia between the 11th and 13th centuries. It is not known whether there was any relationship between the earlier production and the later medieval German high-lead glass industry.

Approximately 35 high-lead glass vessels have now been found in England, but the majority are yellow glass, with two opaque red examples. This beaker from Oxford is the first example of an entirely green high-lead glass vessel to be found in England, although the yellow vessels may have green (or blue or yellow) decoration. A green high-lead glass stemmed

goblet is now also known from Gresham Street in London (pers. comm. Geoff Egan). Green examples are more common in Germany and the Low Countries. In 2000 all the high-lead glass vessels then known in England were published (Tyson 2000). Since then a small number of further examples have come to light from Meols near Liverpool and Launceston Castle in Cornwall. The author is always very keen to hear of any other new finds.

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Rachel Tyson rachel@glass-vessels.co.uk

Image published with thanks to Sarah Lucas, Oxford Archaeology; Roger Wilkes, English Heritage; and Geoff Egan.

Rituals Connected with Breaking Glass

During a recent AHG meeting several members fell to discussing the history of the various customs involving the ritual of breaking glass. Some information was subsequently found on the Internet, but we would be interested in any other historical examples. No information was found on why it was customary to down a shot of vodka and then smash the glass.

Why is a bottle of champagne broken over the bow as a new ship is launched?

This has more to do with the ancient practice of pouring a libation rather than the breaking of glass. In Britain during the seventeenth century, as a ship began to slide down the ways the presiding official took a ceremonial sip of wine from a valuable standing cup, then poured the rest of the wine onto the deck or over the bows. The cup was usually then thrown overboard and belonged to the lucky retriever. As navies grew larger and launchings more frequent economy dictated that this costly standing cup be caught in a net for use at future launchings. Late in the seventeenth century standing cups were replaced with the practice of breaking a bottle over the bow.

Why is breaking a glass mirror said to bring seven years' bad luck?

There are two theories about this. One is that the gods communicate through mirrors and if a mirror breaks the gods do not want a person to see the bad luck in their future. The other is that mirrors were thought to reflect the soul so that breaking a mirror in effect shatters the soul. The soul is so hurt by this that it demands seven years' bad luck in payment. The Romans were the first makers of glass mirrors and believed that life was renewed every seven years, rather like being reborn so that after seven years the breaking of the mirror was redeemed.

Why are wineglasses traditionally broken at Jewish weddings?

The breaking of the glass at the end of a wedding ceremony serves as a reminder of two very important aspects of a marriage: the bride and groom – and everyone present – should consider the marriage vows as an irrevocable act, just as permanent and final as the breaking of the glass. It is also a warning of the frailty of a marriage. That sometimes a single thoughtless act, breech of trust, or infidelity can damage a marriage in ways that are difficult to undo, just as it would be so difficult to undo the breaking of a glass. The glass is usually a light bulb wrapped in a white towel. The best man places the glass before the groom. With the "Congratulations, you may kiss the bride", the groom smashes the bulb with his foot and kisses the bride.

Sandy Davison

Glass in Serbia

Vujadin Ivanšević of the Institute of Archaeology in Belgrade has undertaken excavations at the site of Caricin Grad (Justiniana Prima) in Serbia where the Byzantine Emperor Justinian was born. A significant number of workshops have been excavated including those for glass making. A church complex dating to the mid 6th century has also yielded numerous glass finds similar to those discovered in the Petra Church complex in Jordan, dated between the 4th and 7th centuries AD. The finds include window glass, lamps, tableware, a range of differently coloured glass tesserae used to decorate the walls and floors of the church and cullet. Fatma Marii at the Institute of Archaeology, London, has been investigating the Petra glass for a PhD project. It seems that churches may have been collecting points for waste glass but the reason for this is unclear.

Sandy Davison

New on-line newsletter *Vidimus*

www.vidimus.org

The Corpus Vitrearum Medii Aevi (CMVA) has just launched a free on-line newsletter, Vidimus (<www.vidimus.org>). The newsletter aims to encourage interest in medieval stained glass and to promote its website (www.cvma.ac.uk), which holds a picture archive of over 13,000 images of British stained glass. Vidimus will appear monthly and subscription is free. Introducing the first issue, the editor, Tim Ayers, says: 'We want to share our enthusiasm for his unique art by bringing readers news and reporting on exhibitions, events, books and websites. Every month will bring one in a series of exclusive feature articles, for which a whole range of subjects is planned, including windows, techniques, artists, patrons, collections, and much more. In each edition there will also be detailed examination of a single panel of glass, our Panel of the Month; this will provide insights into all sorts of stained-glass issues.' November's panel shows the angel in the east window of St Mary's, Shelton (Norfolk).

A *vidimus* ('we have seen') was the approved design for a window in medieval times.

Contact with the newsletter is encouraged via the website, in English, French or German.

Book Reviews

JOHN BAKER'S LATE 17TH-CENTURY GLASSHOUSE AT VAUXHALL

Kieron Tyler and Hugh Willmott

ISBN 1-901992-44-6, paperback

Price: £12.95

Museum of London, London 2005 (MoLAS

Monograph 28)

The Thames-side site at the south-east end of the modern Vauxhall Bridge was excavated by the Museum of London in 1989 in advance of redevelopment. The main features recorded were the mid-17th-century barge-house of three city livery companies and the late-17th-century glass-house operated by John Baker. The glass-house was built between 1663 and 1681, was out of use by 1704 and had been demolished by 1706. The report is well presented, in the customary MoLAS format; the illustrations, many of which are in colour, are particularly well reproduced. The book gives a first impression of being a significant addition to our knowledge of post-medieval glass manufacture.

There are however difficulties over the treatment of the evidence, of which the reader should be warned. The excavation archive formed part of the Museum of London's publication backlog for some years, which presented the authors with difficulties over the completeness of the record. A particular problem is the assessment of the main glass furnace, of whose flue depth no record has been found (pp.34-5). Beyond such basic matters of evidence, it is hard to accept some of the conclusions set out in the report. The most important mis-interpretation is over the functioning of the main furnace. The excavated remains resembled the examples at Kimmeridge (Dorset), Denton (Greater Manchester) and Bolsterstone (Yorkshire), all of which possessed airintake flues built in trenches below siege level. It is stated (p.33) that 'air entered the furnace through the north-western opening, fed the centrally located fire and then exited the furnace through the south-eastern flue.' This is in conflict with 18th and early-19thcentury descriptions of glass furnaces, where it is clear that air was drawn through multiple flues by the carefully-designed configuration of the furnace superstructure, with smoke exiting through gathering holes. The authors' unworkable conclusion appears to have arisen from the interpretation of a feature seen only in the north-west flue as the housing for a shutter to regulate the entry of draught. This is not a feature known from contemporary descriptions, but if its function were as envisaged, one has to ask whether such a shutter might also have been placed at the south-east end of the system. This possibility is not discussed on p.35.

The other problem over structures lies in the interpretation of the secondary furnace. The juxtaposition with the main furnace is shown in plan in fig 23 (p.29), where the secondary furnace appears to be so close to the south side of the melting furnace that

it would be impossible to operate at the south gathering holes of the latter if the furnaces were contemporary. There is no published section to illustrate the stratigraphic and chronological relationship of these furnaces. The function of the secondary furnace is stated to be for fritting rather than for annealing, but without convincing evidence.

The treatment of the residues contains significant misunderstandings and omissions. Gall should have been described as a layer of alkali sulphates forming on, and skimmed from, the top of the pot. Lime improves the durability of glass rather than affecting viscosity. The scientific evidence is hard to understand, in particular the extent to which high-lead glasses were present. It is mentioned that results of ICPS (inductively coupled plasma spectrometry) showed low lead content, which subsequent EDX (energy-dispersive X-ray) analysis showed to be incorrect. This reviewer has learned that much scientific work was done at a late stage, as a result of referees' comments, which, regrettably, has not been incorporated in the published report. It is understood that this work will be published in *Post-Medieval* Archaeology in order to set the record straight.

David Crossley 5 Canterbury Crescent Sheffield S10 3RW d.crossley@sheffield.ac.uk

EUROPEAN GLASS FURNISHINGS FOR EASTERN PALACES

Jane Schadel Spillman

144 pp, 153 illustrations

Price: US \$24.95

The Corning Museum of Glass, 2006

ISBN: 0-87290-163-7

Available from:

GlassMarket at The Corning Museum of Glass

Web: hhtp://glassmarket.cmog.org/

This book, written as a suplement to the Corning Museum of Glass' major 2006 exhibition, traces the development of glass furnishings in the nineteenth century, especially pieces created for Eastern rulers.

Glassmakers were able to produce pieces of lead crystal glass that were strong enough to withstand the pressure of the cutting tools and to be load bearing. This enabled them to manufacture massive chandeliers, candelabra, fountains and furniture shown initially at industrial expositions. The first two chapters trace the development of glass furniture and chronicle the Eastern Connection; the other five are devoted to the firms who produced the glass furniture: F. & C. Osler, Jonas Defries & Sons, Coalbourne Hill Glassworks, Baccarat and Elias Palme. In addition to detailed descriptions and commentaries for each showcased object, in-depth footnotes, index and extensive bibliography, the book is lavishly illustrated with colour photographs and illustrations for the designs.

Sandy Davison

Publications

ANCIENT GLASS in the Royal Museum of Scotland

C. S. Lightfoot

This publication provides a catalogue of the Royal Museum's extensive collection of vessels, objects and fragments which has been assembled over the past 150 years and is based largely on European pieces. The book contains an introductory essay on the history of ancient glassmaking and includes a chronological catalogue which follows the major technical developments in the manufacture of glass in the ancient world. It also clarifies the distinctions between luxury glass and that which was used in everyday life.

The author is associate Curator in the Department of Greek and Roman Art at the Metropolitan Museum of Art, New York.

Hardback, 240 pp, 40 colour and 160 b&w

illustrations

Price: £35.00, plus £3.50 postage National Museums of Scotland, 2006

ISBN 1-901663-28-0

SCIENCE FOR HISTORIC INDUSTRIES

Guidelines for the investigation of 17th- to 19th-century industries

Written and compiled by
David Dungworth and Sarah Paynter
with other contributors

This is the latest in the series of guidelines published by English Heritage Archaeological Science teams: 'These guidelines are intended to aid archaeologists working on sites of historic industries. They provide examples of recent archaeological investigations, which illustrate current practice and show how methodologies from several different disciplines are being combined to enrich our understanding of the industrial past. They also demonstrate the additional information that can be obtained by applying scientific techniques. [...] Some of the issues explored are particularly relevant to urban sites, but the principles have wider application. These guidelines describe some of the techniques that are commonly used and include examples of the ways in which they have been, or could be, applied to the archaeological remains of historic industries.'

The section on Scientific Analysis includes two glassrelated case studies: Percival, Vickers glassworks, Manchester (Ian Miller), and Silkstone glassworks, Yorkshire (David Dungworth and Tom Cromwell). The Summary of Selected Industries includes a section on glass. There is a useful section on 'Where to get information and help, and nearly four pages of useful references.

35 pages, 32 colour and b&w illustrations English Heritage, November 2006 Product Code 51262

For further information and copies of the Guidelines contact, quoting the Product Code:
English Heritage
Customer Services Department
PO Box 569
Swindon SN2 2YP

CORPUS DES SIGNATURES ET MARQUES SUR VERRES ANTIQUES

Volumes 1 and 2

With introductions by D. Foy and M.-D.Nenna

These two volumes published by the Association Française pour l'Archéologie du Verre present a compilation of nearly 2800 marks, most with drawings

The first volume deals with 956 objects in France whose origin is certain and 92 objects in France but of uncertain or foreign origin. All 19 essays in this volume, bibliography, and concordance tables are written in French. This volume contains a photograph section.

The second volume deals with objects from many European countries, also Turkey, Cyprus, the Black Sea, Egypt, Near East and North Africa, as well as part of the collections from the Metropolitan Museum of Art, New York. The tools used to make the marks are listed. This volume contains ten essays in English, two in German and twelve in French.

These two volumes offer a precise image of the geographical distribution of the marks, the proportion of ones in relation to others. The variety of these marks and the objects in which they are found provide valuable information about manufacture, usage, trade, etc. The books are mainly a study tool for the history of exchanges, but the documentation presented may be used in many other ways.

Price: Corpus 1: 45.00 €; Corpus 2: 50.00 €, plus postage (variable depending on postal zone)

Available from:

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E-mail: vandy78@club-internet.fr

STAINED & ART GLASS

Dr Judith Neiswander and Caroline Swash

This book takes a detailed look at the history of glass design and making. It combines architectural, hot and engraved glass from around the world. The book fearures the work of over 300 artists throughout the centuries.

Hardback, 300 pages, 450 colour illustrations, Intelligent Layman Publishers Ltd., London, 2006

Price: £35

ISBN: 094779865X

Available from: info@ilpublishers.com

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Research, projects, reviews, publications, queries?

Please send your contributions for Glass News No. 22

by **8 June 2007**

to:

Juanita Navarro
Ceramics and Glass Conservation
Victoria and Albert Museum
South Kensington
London SW7 2RL
j.navarro@vam.ac.uk

or

Sarah Paynter
Fort Cumberland
Fort Cumberland Road
Eastney
Portsmouth PO4 9LD
sarah.paynter@english-heritage.org.uk

50 DISTINGUISHED CONTEMPORARY ARTISTS IN GLASS

The contents of this book were to have formed the final section of *Stained & Art Glass* (featured above). The publishers decided the material should be published as a book. It features the work of 50 contemporary glass artists, from North America, Europe, Asia and Australia, with biographies and colour illustrations of at least five examples of each artist's best work.

Hardback, over 250 colour illustrations, Intelligent Layman Publishers Ltd., London, 2006

Price: £30

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