

Glass News

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A Roman cameo glass vase has recently come to light; Martine Newby reveals all on page 13. (Bonhams)

Welcome to Issue 27 of *Glass News* where there are a number of changes to the AHG Board for us to report. Many of you will have already heard the sad news that Sarah Jennings, a valuable and much respected AHG board member, died in September. A full obituary can be found on pages 4-5.

There are some other changes to the AHG Board. John Clark, who recently retired from the Museum of London, has handed over his role dealing with subscriptions and membership of the AHG and the printing of *Glass News* to Jim Smedley from the University of Sheffield, who we welcome warmly. We would like to voice our appreciation to John for his invaluable work since subscriptions started in 1996. He continues as a member of the Board.

We also thank Julia Poole, who has stood down from the Board after many years, having joined it in 1991. Until recently she was Keeper of Decorative Art at the Fitzwilliam Museum, Cambridge, which houses the Donald Beves collection of English drinking glasses, one of the best in the UK. She organised an AHG study day 'Glass in Cambridge Museums' in 2005, and co-organised with Aileen Dawson a seminar 'Buying and Selling Glass in Britain in 1600-1950' held in 2008 at the Wallace Collection, London. Her study of glass mentioned in the Bedford papers, 'Glass purchased for the household of John Russell, 4th Duke of Bedford 1732-71', will be published in *The Glass Circle Journal* 11 in early 2010. Julia has always been generous in welcoming scholars and collectors to see and study the glass in the Fitzwilliam Museum, which has been much appreciated by the members of the AHG and other glass societies. We thank her for her many years of service to the AHG and the glass community.

Rachel Tyson is now co-editing *Glass News* with Sarah Paynter. The editors would like to thank this issue's contributors for so much material, and please keep it coming for future issues!

Please look out for details of the **Autumn study day** in the next issue and the website, which will be on 'Glass in Art and Literature', organised by Martine Newby and Sandy Davison.

SUBSCRIPTION REMINDER

Subscriptions will now be taken to coincide with the financial year starting in April. The next subscription is due shortly, to cover the year April 2010 to April 2011.

Subscription renewals (£10, 10€, \$20 US) payable to *The Association for the History of Glass Ltd* should be sent to Mr J.W. Smedley:

The University of Sheffield
Department of Engineering Materials
Sir Robert Hadfield Building
Portobello Street
Sheffield S1 3JD

AHG SPRING STUDY DAY 2010

Glass for vessels, glass for windows: Medieval glass 1066-1550

Tuesday 23 March 10am
The Wallace Collection, London
Hertford House, Manchester Square
London W1U 3BN

Following growth in research and general interest in medieval glass in recent years, this study day will bring together speakers looking at new excavations and surveys of glass sites of the medieval period, techniques of medieval glass production and decoration, and on specific case studies looking at medieval glass in context. The programme will include medieval glass vessels and society, glass in Norfolk, ecclesiastical stained glass, and glazing techniques. Speakers include David Dungworth, Rachel Tyson, Tim Ayres, Claire Daunton, Ian Freestone, Heather Gilderdale and Sarah Brown. The day is being organised by Caroline Jackson and Ian Freestone.

If you would like to attend, please send your full contact details and a cheque for **£30** (non-members), **£20** (AHG members), or **£10** (students – proof required) payable to *The Association for the History of Glass Ltd* to:

Sandra Davison (Hon. Sec.)
68 East Street
Thame
Oxon OX9 3JS
Email: sandbill@gotadsl.co.uk

Receipts may be sent by email or with an SAE. Participants who normally live outside the UK may pay upon arrival at the venue in UK sterling.

THE ASSOCIATION FOR THE HISTORY OF GLASS

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AHG Grants

Grants are available from the Association for the History of Glass, for educational or research activities consistent with the Association's charitable aims. These could include, for example, attendance at a conference to present a lecture or poster, a study visit, fieldwork, or publication of scholarly works. There are no restrictions on who may apply or on the topics of applications, which will be judged on merit. Multiple applications in different years will be considered with individual awards up to £500. See also the AHG website for details (www.historyofglass.org.uk). An application form may be downloaded from the website, or obtained from Sandy Davison, AHG Hon Secretary, 68 East Street, Thame, Oxfordshire OX9 3JS. Email: sandbill@gotadsl.co.uk

Broadfield House Update

Encouraging news for Broadfield House Glass Museum: it will not close in the near future. Dudley Metropolitan Borough Council are considering feasibility studies for its future, and state: 'Our vision is to create an excellent visitor experience that is appropriate to our renowned glass collections, which is one of the finest in the world.'

CONFERENCES AND EXHIBITIONS

Scotland's Glass: 400 Years of Glassmaking

A year of celebration will start with the launch of a new book: *Scotland's Glass: 400 years of Glassmaking* by Shiona Airlie and Brian J R Blench, the first book ever to cover the entire subject. Fully illustrated with colour photographs. Available from www.cortex-design.co.uk for £14.99.

The Directory Booklet: A 20-page booklet is available containing data and information on virtually every glassmaker working in Scotland. It also includes glass-related buildings, sites and museums which often have surprising links with glass. It is free with the book, or can be downloaded from the website below.

The Museum of Edinburgh will be showing throughout 2010 some of the finest glass made in the capital since the 18th century. Visitors will be able to see the wine glass made for Bonnie Prince Charlie in 1745, and samples of the City of Edinburgh's royal wedding present made in the late 19th century for the Duke and Duchess of York. From February onwards a special display of

glass from Lauriston Castle will be on view at the museum. There will be a series of glass lectures through the summer months.

Aberdeen Art Gallery will be showing *Scottish Glass: A Celebration* from 2 March – 31 October 2010, including Jacobite wine glasses, creations from Perth's Vasart and Monart factories and contemporary glass.

Glasgow Museums is mounting an exhibition of some of their finest Scottish glass in Kelvingrove Art Gallery and Museum. This will be an opportunity to see one of the earliest bottles ever made in Glasgow, fine engraved glass, Clutha art nouveau glass, and late 20th-century Scottish art glass. Guided tours will be available of the glass collections at Kelvingrove and the Resource Centre in Nitshill.

Edinburgh College of Art 1-4 October 2010. A conference will include lectures by eminent speakers, an exhibition by current members of the college, and demonstrations of glassmaking.

For further details of these and other events visit the website: www.scotlandsglass400.co.uk.

Society of Glass Technology Annual Meeting 2010

The Society of Glass Technology's Annual meeting will be held on 8-10 September 2010 at Murray Edwards College, Cambridge University. Incorporating New Research Forum on Glass, History and Heritage of Glass, Science and Technology Sessions and Workshops.

See www.societyofglasstechnology.org.uk for further details.

Hungate Medieval Art Stained Glass Exhibition

Hungate Medieval Art is a new centre for medieval art situated in the 15th-century church of St Peter's Hungate in Norwich.

The Stained Glass exhibition, curated by Claire Daunton (University of East Anglia and Trinity Hall Cambridge) reflects the distinctive Norwich school of medieval glass while looking at the development of stained glass over the period and the people and processes involved in its production. The glass is clearly displayed, and a stained glass conservator's workshop has been built where a craftsman can be seen working on special occasions. It will run until October 2010, when the focus will change

to include other medieval art. In addition, ten impressive downloadable stained glass trail leaflets in colour have been produced to explore glass by the Norwich workshop in churches in the area. These can be found on the website www.hungate.org.uk/Exhibitions.

The centre is open Thursday-Saturday 10am-4pm at St Peter's Hungate Church, Princes Street, Norwich NR3 1AE. Telephone 01603 623254 or email the Centre Manager Dale.Copley@hungate.org.uk.

Association Francaise pour l'Archeologie du Verre (AFAV) Orléans 2010

The 25th annual meeting of the AFAV will be held on 28-29 May 2010 in Orléans in association with the Musée des Beaux-Arts d'Orléans around the exhibition on *Bernard Perrot* (see below).

Registration required by February 2010. For more information see www.afaverre.fr.

Bernard Perrot, verrier italien à Orléans (1668-1738)

13 March-27 June 2010
Musée des Beaux-Arts d'Orléans

This exhibition celebrates the work of Bernard Perrot, arguably the most celebrated French glassmaker before the 20th century. He was born in Altare in Italy, and emigrated to France, where he founded a glasshouse in Orléans in 1668 with the support of the duke of Orléans. He made several significant technical discoveries in glassmaking. The exhibition will include loans from other museums in France, the Corning Museum of Glass, The British Museum and others.

7ICAANE in London

From 12-16 April 2010 the British Museum and UCL will be jointly hosting the International Congress on the Archaeology of the Ancient Near East [7ICAANE]. This will be the first time this congress has been held in the UK. The organisers expect up to 900 attendees. The programme includes papers and posters on the latest research and fieldwork from across the Middle East plus five main themes (Mega-cities and Mega-sites; Ancient and Modern Issues in Cultural Heritage; Colour and Light in Architecture, Art and Material Culture; The Archaeology of Consumption and Disposal; Landscape, Transport and Communication), an Islamic Archaeology session and ten different specialist workshops. The

proceedings will be published. The congress is already overbooked but for further details see the website at www.7icaane.org

International Congress on Archaeological Sciences in the Eastern Mediterranean and the Near East (ICASEMNE)

29 April – 1 May 2010
Paphos, Cyprus

Sessions will cover all aspects of research on natural and material science applications to archaeology and cultural heritage in the Eastern Mediterranean and the Near East. The chronological scope ranges from the earliest prehistory to the medieval and historical periods.

Further details can be found on the website: <http://icasemne.net/> or email archsci2010info@cyi.ac.cy.

Verre et Histoire

Forthcoming meetings

This association in France exists to provide a forum for different disciplines interested in the history of glass to exchange research and ideas, to develop understanding of glass. It organises regular conferences, debates, study days, visits and demonstrations covering all aspects of the history of glass.

27 March 2010 Visit to Conches to see the stained glass at the church of Ste-Foy, and an exhibition of Henri Guérin at the Musée du Verre, organised by Eric Louet and Michel Hérold.

6 June 2010 Study day on *Les familles verrières* in Paris, organised by Michel Philippe.

For further details see the website: www.verre-histoire.org or email contact@verre-histoire.org.

Le Grand Curtius, Liège

Le Grand Curtius museum in Liège has been renovated, resulting in an impressive new home on the bank of the Meuse for its prestigious international collection of 10,000 pieces of glass from Antiquity to the present. Glass exhibitions in the past decade have included 'Venetian glass, its origins, its brilliance' and 'Glass in all its brilliance'. Other collections include Archaeology, Arms, Decorative Arts, Religious and Mosan art.

The museum is open daily from 10am to 6pm, closed on Tuesdays. Further information can be found at www.grandcurtiusliege.be.

Tiffany Treasures: Favrite Glass from Special Collections

1 November 2009-31 October 2010
The Corning Museum of Glass, New York

This exhibition will showcase nearly 60 hand-wrought pieces designed by Tiffany during one of his most fertile periods of artistic ingenuity, made at his glasshouse in Corona, NY, between 1895 and 1920.

OBITUARIES

Sarah Jennings
1947-2009

Many readers will already have heard that AHG board member Sarah Jennings died on the 4th of September 2009. Archaeology and, in particular, glass and medieval ceramics were amongst her great passions and her considerable expertise on these subjects was widely acknowledged and respected. As well as her work for the AHG board, she was also a member and former secretary of the Medieval Research Pottery Group and was a fellow and council member of the Society of Antiquaries of London. Sarah expressed the wish that an amount from her estate be used to fund bursaries for MPRG and AHG to encourage ceramic and glass studies.

Sarah was born in Scotland in 1947 and had two brothers. Her father was a BOAC pilot (British Overseas Airways Corp) and she appears to have inherited his sense of adventure. Independent, determined and intelligent, she had much in common with the pioneering female explorers of previous generations and used to take tea with Agatha Christie. Rumour has it that she was expelled from school after absconding in favour of an excavation at Winchester, and so began a lifelong love of archaeology. As well as the UK, Sarah worked extensively abroad in France (Lezoux), Afghanistan (Khandahar), Iran (Siraf), Ras al-Khaimah (United Arab Emirates), Lebanon (Tyre and Beirut Souks), Libya (Benghazi) and Albania (Butrint).

After working in Winchester (volunteer through to senior finds supervisor 1963-1969), Peterborough (Pottery and finds researcher for the Nene Valley Research Unit 1974-1977), Norwich (Pottery researcher and illustrator for the Norwich Survey 1977-1985), Lincoln (Pottery researcher for the Trust for Lincolnshire Archaeology 1985-1986),

London (Pottery researcher for the Passmore Edwards Museum 1987) and York (Pottery and artefact researcher for York Archaeological Trust 1987-1992) she joined English Heritage in the early 90's. As a Senior Archaeologist, she was a keen advocate of research into ceramics and glass, including the experimental work by the Roman Glassmakers. She was a driving force behind the EH investigations at Whitby Abbey and also derived great enjoyment from training, mentoring and outreach activities. A regular participant in public events, such as Festival of History and National Archaeology Weekend, Sarah had an ability to enthuse others with her commitment to archaeology. During her career, she published widely, including an East Anglian Monograph on *Eighteen centuries of Pottery from Norwich* and the MPRG Occasional Paper *A Guide to the Classification of Medieval Ceramic Forms*. She was justifiably proud of her Berytus volume on *The Vessel Glass from Beirut*.

Sarah set high standards for herself and others and could be a fierce opponent. But she was also a fierce ally, a champion for the underdog and prone to unexpected acts of great generosity, compassion and kindness, which won her many friends amongst all walks of life.

Sarah was at her most creative when fund raising. Her early career was in catering and she was a wonderful cook, which she put to good use making cakes in return for donations to charity. She also demanded a constant stream of wine corks for her infamous corkboards. Her efforts raised thousands of pounds each year, which must have changed many lives for the better, not least those of her pleasantly plump and tipsy colleagues. She enjoyed gardening, jewellery and crafts, books, antiques fairs, the Archers, cats, food, drink and nicotine. She was great fun.

Despite her achievements, Sarah was never arrogant. She was a modest and private person, and even her friends



Sarah Jennings at the Festival of History. (Eng. Heritage)

tended to know only about certain aspects of her life. The tales of all her exploits and achievements would probably fill a book, rather than these brief paragraphs, and it is a source of great regret to many of us that we will never know the full story.

Sarah Paynter

Barbara Morris

1918-2009

Barbara Morris was a founder member of the British National Committee of the AIHV (now the AHG), at the meetings leading up to its formation in 1978. She was deputy keeper of the ceramics department at the Victoria and Albert Museum before retiring in 1978, and a great Art and Crafts scholar. She continued to work after her retirement as a lecturer for Sotheby's art course, and joined the team of experts on the BBC's Antiques Roadshow, as well as continuing her involvement in several societies. Her chief loves were glass and ceramics, and 19th-century embroidery. A full obituary was printed by *The Times* on August 17 2009.

Dan Barag

1935-2009

Dan Barag, Professor at the Hebrew University of Jerusalem was a great scholar of the glass vessels of the Roman and Byzantine periods in Palestine, on which he completed his PhD in 1970. He was also a respected numismatist and field archaeologist. His extensive publications included the 'Catalogue of Western Asiatic Glass in the British Museum' in 1985. He served a term as Vice-President of the AIHV. A full obituary can be seen at www.sal.org.uk/obituaries.

MEETINGS REVIEWS

AIHV 18th Congress, Thessaloniki

September 2009

The 18th congress of AIHV took place in September in Thessaloniki, Greece. The coastal city of Thessaloniki is the capital of the Greek region of Macedonia of Alexander the Great fame, and more of him later. This large, industrial city has a fascinating and tumultuous history reflected in surviving elements of Roman, Byzantine, Ottoman and Jewish culture.

Lectures were divided between the Museum of Byzantine Culture and the Archaeological Museum of Thessaloniki.

Both of these modern museums had beautiful exhibits including very early glass objects, some in perfectly colourless glass. The cavernous lecture Room A accommodated the Roman sessions and lecture Room B provided a more 'intimate' venue for everything else. Rather depressingly for speakers in lecture room B, including myself, this worked well in terms of audience numbers. It was a tribute to the organisers that the conference was very well attended.

There were about 120 presentations and 50 posters, so I've just picked out some personal highlights. The presentations showing glassworkers in action were very enjoyable, such as Lankton's 'Gold-glass beads in Hellenistic Rhodes and contemporary Java' and Liardet's 'An archaeological and ethnographic study of core-formed alabastra'. Wouters presented an enviable collection of Merovingian glassworking waste from Belgium. The investigation of the windows of John Thornton at York Minster by Freestone, Kunicki-Goldfinger, Ayers and Gilderdale-Scott, championed a holistic approach to glass research, tackling conservation, archaeological and art historical issues. Verità's very informative summary was one of a number of good presentations on tesserae. There were also a number of presentations and posters making use of recent discoveries enabling glass from different areas of the Near East and Egypt to be distinguished in order to answer questions on production, trade and authenticity (for example Reade *et al.*, Jackson and Price, Smirniou *et al.*, Reade *et al.*, Nicholson *et al.* and Boulogne). Martine Newby's beautiful poster of a Roman cameo vase (see page 13) unsurprisingly drew a large crowd, leading to perhaps the first case of a presentation being organised due to popular demand.

There were many social activities arranged. Amongst the most memorable was an evening boat trip on a mock galleon. Many learned scholars huddled in the prow in a futile effort to escape the sound system. Whilst we motored around the harbour, watching the sunset against Mount Olympus, I was trying to work out if there were any lifejackets stashed behind the bar.

Saturday's visit was a breathless tour of Vergina, Dion and Pikrolimni. Pikrolimni, the ancient lake of Chalastra, was mentioned by Pliny as a source of natron; the crystalline salt used to make 'natron glass'. This was an interesting, if surreal, stop as there is now a health spa at the lake but most delegates came away with a memento according to taste; skin cream or bags of natron. We rushed on to the ancient capital of the Macedonian Kingdom near Vergina. A perhaps unique museum has been constructed around one of the royal tombs thought to belong to Philip II, father of Alexander. The stunning exhibits and our knowledgeable and very excitable guide made this a wonderful experience. At Dion we saw the

sacred city of the Macedonians at the foothill of Mt. Olympus.

The standard of lectures and posters was generally excellent, with a healthy mixture of students and well-established researchers, small projects and major undertakings, from all over the world.

More details are available on the AIHV website www.aghv.gr/congress/congress.html and the proceedings will be published in due course.

Sarah Paynter

AHG Autumn Study Day: Interpreting Finds from Glasshouse Excavations

November 2009

This study day was organised at LAARC, Mortimer Wheeler House in London, by Colin Brain, Angela Wardle and David Dungworth, and provided opportunities to handle material from glasshouses as well as enjoying presentations about recent excavations of Roman and 17th-century glasshouse sites in London.

John Shepherd led the first session, looking at the considerable number of excavations in the City of London that have produced evidence for Roman glass working. The earliest glass working dated to c. AD 60-70 at Regis House by the Thames waterfront; the latest was a 3rd- or 4th-century dump in the north of the City. Most notable was the vast quantity and range of material found in Basinghall Street in 2005. It was interesting that no crucibles containing glass being made from raw ingredients were found at any of these sites. Instead, there was evidence for tank furnaces where broken glass fragments were reheated before new glass was worked.

The glass waste produced from these sites included many thousands of moils, which John and Angela had studied in great detail and so were able to comment on the varying lengths and the indications of different techniques of detaching themoil. There were blocks of tank metal, large chunks of raw glass, and fragments of cullet that had fused together, as well as various trails and threads from glassblowing, some of which had impurities in them.

An extra dimension was added to the day by having Mark Taylor and David Hill, 'the Roman Glassmakers', there with a display of waste products from their experimental glassmaking projects at Quarley in Hampshire. It was a great benefit to have first hand information from a glassblower about how various waste products were created. This was followed by a short video documenting their experimental work building Roman-style furnaces, which a number of AHG members were present at in 2006. It also showed what we had not witnessed: how the

furnace subsequently decayed when left open to the elements, and the physical traces the furnace eventually left in the field. The deterioration of one furnace was hastened by a cat jumping on to the roof, from which the cat came away in a better state than the furnace!

Colin Brain then led a session looking at mid 17th-century glasshouse sites in London. In 1974 Aldgate produced some waste material and vessel fragments thought to date to c. 1650-70, although no furnace structures were found. Colin presented some documentary evidence for a glasshouse nearby at Goodman's Yard, which is likely to be where the Aldgate waste came from. Documentary notes by Christopher Merret and Swedish visitor Gustav Jung in the 17th century provided details of how London glasshouses operated at that time, and one of the glasshouses Jung described may have been that excavated in Aldgate.

After lunch we split into two groups for the handling sessions, looking at either the 17th-century or Roman finds. I joined the 17th-century group, although I would have liked to have seen both. The Aldgate material demonstrated many of the waste products we had heard about that morning: moils, droplets, pulled ends, crucible fragments containing clear glass, rods of opaque white glass etc. The waste material provided additional evidence to the documentary sources.

Sarah Paynter, who joined the Roman group, writes: 'We looked at material from London, much of which features in the new publication by John Shepherd and Angela Wardle (see p. 16). There was a large collection of waste, including cullet, moils and large lumps of glass thought to come from a furnace with an integral tank, which brought home the considerable scale of the project undertaken by John and Angela. The session was particularly informative as 'the Roman Glassmakers' were also there, and their glassworking knowledge added an extra level of interpretation.'

The day was an extremely useful practical study in interpreting glass waste, which could be applied to any period. Despite having attended a similar day a few years ago, the incredible recent finds from London, the subsequent detailed study, and collaboration with the Roman Glassmakers provided a more integrated approach and plenty of new information.

Rachel Tyson

History & Heritage of Glass Seminar

September 2009

Organised as part of the Society of Glass Technology's Annual Conference, this seminar was very much appreciated by the participants, who stayed there in force

until 6pm on a Friday afternoon! Each year, the History & Heritage of Glass Group mounts such a seminar designed to stimulate productive discussion among glass enthusiasts from widely diverse backgrounds. The day's programme provided a rich mix of topics delivered by presenters eminent in fundamental glass science, industrial glassmaking, glass conservation and glass archaeology.

After a long and distinguished career in Pilkington, David Bricknell explored what is arguably the foremost invention in glassmaking during the twentieth century. Under a subtitle *the Mythology Revisited* he revealed some of the gritty reality underpinning Sir Alastair Pilkington's historic Float Glass Process. His definitive book on the subject has recently been published.

Keith Barley addressed the sometimes vexed and always sensitive issues surrounding the protection of significant historic stained glass windows. This fragile art, most often encountered in cathedrals and parish churches throughout the UK, has played a significant role in shaping today's society. Protective glazing raises ethical as well as technical issues, which Keith was able expertly to share with his audience. Ruth Cooke spoke of the dramatic deterioration sometimes encountered in the absence of such protection. When glazing having sensitive glass compositions are faced by adverse environmental conditions the conservator can be faced with irreversible deterioration and irretrievable loss of the original art. Determining the best course of action is in these circumstances a particularly thorny problem.

The ability of glass to resist its environment is strongly influenced by its molecular structure. Adrian Wright had used techniques such as neutron diffraction to study the impact of chemical composition on that structure, and from this perspective he reviewed the many and varied attempts which had been made over the years to define just what we mean by the word "glass". It was an illuminating and thought-provoking paper.

Window glass has over the centuries been made by various processes from glass melted in different locations and from very different raw materials. David Dungworth brought to the seminar the fruits of much careful chemical analysis to give insight into the evolution of window glass compositions during the last five centuries. As well as contributing to conservation studies, this data can also inform our understanding of past glassmaking techniques. Ian Miller has had much experience of excavating the unglamorous remains of past industrial glassmaking, and he gave a fascinating account of 19th-century glass furnaces. Archaeology revealed what documentary studies obscured.

Often the development of glassmaking was influenced by pivotal individuals or families. Peter Pearson charted the

history of one such family of bottle-makers in West Bromwich, a story of progress from farm to factory carrying the true Victorian entrepreneurial spirit through the turbulent years of the twentieth century. António Pires de Matos, on the other hand, studied the notebooks of William Stephens who re-established the Portuguese Royal Glass Manufactory in Marinha Grande just north of Lisbon. Dating from the 1770s these notebooks show a surprisingly modern scientific approach which allowed the successful development of coloured glass recipes.

Conservation of glass artefacts for museum display is often challenged by their fragmentary nature and their inevitable fragility. Dana Norris used two case studies to reveal how the conservator frequently must undo previous attempts at reconstruction and make quite

sensitive judgements about how such three-dimensional jigsaw puzzles should be treated. Conservation of historic architectural glazing likewise demands great technical and personal skills. Sarah Brown brought the day to a close by showcasing the MA course at York University, recently established to provide the multifaceted training needed by tomorrow's stained glass conservators.

The organisers wish to express their appreciation to these speakers, who gave generously of their time and expertise to create a hugely successful day seminar. Further details may be found on the website at:

www.lancaster2009.sgthome.co.uk/pages/Programme/sections/HandH.html

David Martlew

AHG Grant Report: Spatial and Temporal Considerations of Technological Change: Examining Early Islamic Glass

Carolyn M. Swan

Doctoral Candidate at The Joukowsky Institute for Archaeology and the Ancient World,
Brown University, USA

The poster I presented at the 18th Congress of the AIHV had two aims: to give the results of a preliminary chemical analysis of glass from southern Jordan, and to interpret this data in light of current scholarship dealing with reasons for the changes in glassmaking technology that took place circa the 8th-10th centuries CE (AD).

A small group of scratch-decorated blue vessel fragments recovered from 8th-9th century CE contexts at Ayla, in southern Jordan, were chemically analysed using an electron microprobe. The samples proved to be low-magnesium soda-lime-silica glasses made from mineral

natron; it is unlikely that these are Roman or Byzantine glasses found in later archaeological contexts, because their deep blue color and incised decoration mark them as Umayyad or 'Abbasid period products. The glasses were colored by adding as little as 0.01 wt% CoO and 0.02 wt% CuO; a small amount of MnO was also present, which served to counteract the green effect of FeO impurities and increase the optical absorption of the CoO, thus producing the intense blue color.

The use of traditional technology (i.e. natron flux) in the early Islamic period indicates that there was some degree



Scratch-decorated dark blue glass from Ayla, Jordan (ca. 8th-9th c. CE) (Swan 2004)

of industrial continuity during a time when significant political, religious, and socio-cultural changes were taking place as the Near East transitioned from a Greco-Roman to an Arab-Persian sphere of influence. However, despite this adherence to tradition, the choice of color, decorative style, and motif of the scratch-decorated vessels illustrate that changes were indeed taking place on other levels—perhaps in terms of aesthetics, taste or preference, the identity of the producers or consumers, or access to raw material sources.

Observations like these may lead to new questions about the nature of glassmaking and industry in the early

Islamic period: how it informed or reflected the socio-cultural situation, how exactly it related to the Byzantine industry, or how it would transform into the late Islamic industry. Exploring and integrating the social realities of the past with the material analyses made in the present, thinking about *why* change occurred (not just where and when), and identifying the various processes that shape and stabilize technology might help us build a better picture of the history and significance of glass and in turn help us to address larger socio-historical questions.

The Turner Museum of Glass, 2000 - 2009

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It is 10 years since I last wrote of the Turner Museum of Glass (TMG) in *Glass News*¹. In that article I gave a brief overview of Professor W.E.S. Turner's contribution to the glassmaking industry of the early 20th century and about the TMG when the glass collection moved from the original buildings on Northumberland Road to its present location in the Sir Robert Hadfield Building in 1991. In the period 1993 to 2000 the TMG slowly settled into its new home where the emphasis was to get the building fit for its educational and research purposes. In this article I will describe acquisitions and the numerous activities since 2000 that have enhanced the TMG's profile within Sheffield University, in the local community, nationally and internationally and reflect its vitality.

Professor W.E.S. Turner is remembered as a very capable scientist and a 'genius' businessman². He has left to us important legacies namely extensive scientific and technical publications, professional glass societies and the TMG. His scientific and technical career and contribution is discussed in detail by Douglas^{3,4} and this continues to be marked by eminent scholars through the prestigious biennial Turner Memorial Lecture. To date there have been 16 lectures in the series, which dates from 1967, with our own Robert Charleston, Roy Newton, Hugh Tait, Ian Freestone, David Whitehouse and Michael Cable making their own unique contributions⁵⁻¹⁰.

Turner's role as a glass collector has been eloquently described by Barnes¹¹. Less well-appreciated is Turner's desire to create a museum to act as a social and educational space where staff and students alike would be surrounded by the aesthetic qualities of one of the materials that they routinely study. It is this ethos that has been followed to lead us to the current museum space which is fit for use in many different activities.

Acquisitions

The acquisition of pieces demonstrating high technical skills, involving multiple fabrication techniques and therefore worthy of a place in the collection has not been easy. The cost of glass artefacts has been prohibitive and it is only through funding from within Sheffield University (UoS) or the National Arts Collection Fund (NACF) that pieces have been purchased. Similarly donations have been received from various benefactors. The funding source or the donor is identified with the description of each piece.

There was a lull in acquisitions during 2004 and 2005 when the Sir Robert Hadfield Building, as with many 1960's vintage buildings, was found to contain asbestos. The main emphasis during this period was to plan for the safe removal and storage of the collection prior to the asbestos removal and the safe return of the collection following completion of the asbestos removal and the remedial works that followed.

A wheel engraved vase by Anna Dickinson was acquired in 2000 supported by NACF funding. The grey beehive shaped vase with mottled patina around the rim has wheel cut concentric circles and vertical ribs.

In 2001 with a Year of the Artist Award (NACF) Keiko Mukaide took a period as 'Artist in Residence' in the TMG where she undertook to design and create a site specific piece. Her work '**Hydrosphere 4: Reflections on bracken.**' was inspired by bracken's important role as a source of alkali in medieval glassmaking¹²⁻¹³ and which is the subject of current collaborative research between the departments of Archaeology and Engineering Materials within The University of Sheffield. This sculpture is meant to reflect the natural form of bracken by showing glass spheres, containing ashes and different coloured glasses, on long stems. The influence of the

artisan in transforming raw materials is the principal theme of the work. The sculpture was unveiled by Professor Larry L. Hench at the reception prior to the September 2001 Turner Memorial Lecture.

2002 saw the acquisition of pieces, using NACF funding, by Tessa Clegg and Galia Amsel. Tessa Clegg's piece named '**Jazz Box**' was made using the time consuming and technically demanding lost wax process to yield a blue and green sculpture described as 'exploring the vessel'. '**Aperture**' by Galia Amsel was manufactured using a variety of kiln forming techniques to control the large volume of glass involved. There is a central insert of opaque orange / red placed in the top of the clear glass lozenge shaped body. '**Delta Vase**' by the Dutch architect and designer Professor Mart Van Schijndel was donated in 2002. This vase design, manufactured from flat glass, won the first prize in the 1984 Arango Design Competition: 'Glass that works'.

In 2007 with UoS funding a wheel engraved piece by Denis Mann called '**Dischord**' was purchased. A rectangular slab of optical plate glass is overlaid with a layer of cobalt blue glass. The image shows two touching hands, one being a man and the other a woman, positioned over a piano keyboard. The notes if played together would be discordant and not completely in harmony. There is humour in that only a piano player would recognise the deliberate dischord.

Most recently in 2009 donations of glass sculptures have been made by Peter Layton and Bruce Marks. Peter is proprietor of 'London Glassblowing' and Bruce is one of the resident glassblowers. Peter's sculpture is the rectangular pebble form in his famous '**Paradiso**' range. This shows exquisite skills in trailed decoration being melted onto and formed into the body of an amber glass body. Bruce describes his work as a '**Horned Vessel**' that symbolises his early years in Africa. It is made of three separate pieces i.e. the central clear glass vessel and the two opaque amber glass with trailed threads, that are assembled during hot working. The outer surfaces of the central clear glass vessel and the horns are shot blasted and acid etched to yield a smooth silky finish. The horns look incredibly lifelike! Given the current financial climate it is very generous of Peter and Bruce to make their special donations.

Museum Activities

During the period 2000 to 2002 the TMG was used by Occupational Health professionals from local hospitals as a space for '*holistic and therapeutic healing*'. Patients recovering from strokes and other serious medical conditions were given the opportunity to sit in the peaceful surrounds of the TMG as part of their recovery programmes. This was widely used but a change in local hospital programmes halted the collaboration.

The Department of Engineering Materials has long established relationships with local schools, most notably Handsworth Grange Comprehensive, and in 2003 staff jointly organised the Pan European Education Programme in Sheffield. This involved secondary schools from Sheffield, France, Germany and Denmark coming together to study a scientific theme, which in this case was glass as a scientific and artistic medium. The TMG hosted many of the educational sessions and several entertaining social sessions. The glass collection is also regularly used as a teaching and research aid. Academic departments from institutions including Sheffield University, Sheffield Hallam University and North Nottinghamshire College have used the collection to support their activities in architecture, history and heritage, fine art and advertising. Most recently the Department of History in Sheffield University have used the collection during their study of the 'Politics of drinking'.

In 2006 the TMG jointly organised an exhibition of '**Whisky dispensers and measures**'. This attracted much attention with articles in the Yorkshire Post and The Guardian and also appearing on BBC Radio Sheffield's magazine programme 'Rony's Forum' when the author answered questions about Turner, the museum and the collection. Again, at this time the TMG was visited by a group from the Glass Association led by Judith Vincent and Charles Hajdamach, formerly of Broadfield Glass Museum and a member of AHG. Three presentations were made; by Jim Smedley: 'Professor W.E.S. Turner and the Turner Museum of Glass', by Dr Caroline Jackson (AHG President): 'Roman glassmaking and glasses', and by Brian Brooks: 'Whisky dispensers and measures.' To commemorate the visit the TMG was presented with a drinking glass commemorating Queen Victoria's visit to the new Sheffield Town Hall as part of her Diamond Jubilee celebrations in 1897. The glass needs some further research to prove its provenance.

2007 saw South Yorkshire Police's Rapid Reaction (Firearms) Training Team use the TMG as a venue for simulated VIP protection exercises. The training assessments were carried out under strict real life conditions and it was an eye opener to experience the level of detail that goes into protection planning. A Green Roof, with funding from the European Regional Development Fund, is being created on the space immediately outside and adjacent to the TMG. The project started in 2007 and is expected to be completed in the summer of 2009. It is anticipated that this development will greatly enhance the facilities available to all, encouraging a wider clientele.

The late part of 2008 saw a really exciting development when the Sheffield University Fine Arts Society made the TMG the home for its regular art exhibitions. In January 2009 an exhibition showing works by a local artist

Jacqueline Currell drew much attention and in March 2009 an exhibition featuring Brigitte Hayden's landscapes was equally well received. Other exhibitions are planned for later in the year and planning for 2010 has already commenced. Also during 2008 several important pieces from the collection featured in a Sheffield University exhibition 'The Art of Women'. Paint, textiles, ceramics and glass were the artistic mediums shown.

Conclusion

The Turner Museum of Glass maintains its place as the social heart of the Department of Engineering materials clearly following Turner's guiding principle. Its value to the department is much understated but it will continue to expand its role and contribution by adding more services and acquiring new pieces for the collection.

Visits to the TMG can be arranged by contacting Jim Smedley at the address given above.

Also see www.turnermuseum.group.sheffield.ac.uk

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Lead-Silica Glass in the 11th-Century Pewter Cheapside Hoard

Christopher Witney-Lagen (Institute of Archaeology, UCL)

Dated to the 11th century on stylistic grounds, the Cheapside hoard in the Museum of London provides unique insights into the stylistic range, materials, and cultural affiliations of the early medieval urban pewterer. Found by chance in 1838 in Cheapside, London, the hoard contains a total of forty-four pewter objects featuring several types of brooches, beads, and rings. Analysis of decorative detail shows that several of these brooch types were cast using the same mould, evidence of their mass-production and suggesting that the hoard represents a jeweller's stock. The styles featured in the hoard place it within the Anglo-Scandinavian sphere. Comparanda are known in Scandinavian-influenced York and the recently published Guildhall excavations in London; one disc brooch, museum accession number 3912, the largest of the hoard, has an exact mould match with a pewter example in the National Museum, Dublin (Murdoch 1991).

Among the disc brooches present in the hoard are three types represented by eighteen individual objects that feature central amber or green-coloured hemispherical glass settings most likely designed to imitate more costly stone gems. As part of a complete stylistic and compositional study of the hoard supervised by Andrew

Reynolds at the UCL Institute of Archaeology, these settings were analysed by the author via SEM-EDS and were found to consist of lead-silica glass.



Figure 1: Series 1 (Brooch 3917). (Museum of London)

The first type consists of seven brooches, museum accession numbers 3913-3917 and 3919-3920, evidently cast in the same mould (*Fig. 1*). These feature four concentric rings with a radiating ladder motif set around a central coloured setting. The brooches are each 23.5mm

in diameter and 1-1.5mm deep. The sub-circular settings are 5-6mm in diameter and 3-4mm thick. In most cases they are amber-coloured, but are a deep green on 3919 and 3920. A collar surrounds each setting that obscures, or nearly obscures, the beads in brooches 3919 and 3920.

The second type consists of six brooches, museum accession numbers 3922-3927 (*Fig. 2*). Each contains three concentric beaded rings with a radiating ladder motif around an amber-coloured setting. Most are 19mm in diameter, though 3921 is 18mm across, and are 1mm deep. In general appearance they are quite similar to the first series, but on a smaller scale. As in the first type, the settings are surrounded by a metal collar 8.5mm in diameter that is partly obscured on brooches 3922, 3924, and 3927. The setting on 3927 has been damaged, exhibiting cracks and a missing section. The settings vary in size from 6.5mm in brooch 3923 to 4.5mm on 3926. In both of these series, it seems as though the glass gem was cast with the brooch in a three-piece mould and the excess metal cut away to expose it on the brooch's obverse, rather than set separately afterwards.



Figure 2: Series 2 (Brooch 3925). (Museum of London)

The third series encompasses five composite disc brooches, 3905 and 3908-3911 (*Fig. 3*). These are thus far stylistically unique to the Cheapside hoard. Although warped, they measure approximately 25mm in diameter. These consist of a central setting wrapped in a metal strip, the ends of which have been crimped and slipped together. The settings, varying between 5mm and 2.5mm, are held in place by crimping the top of the strips over them. Although slightly corroded, their original appearance would have been dark green.

Non-destructive analytical techniques ensured that the aesthetic value of these objects was preserved. This limited the analysis to surface measurements; as a result, only qualitative results could be obtained. Analysis was performed with a Philips XL 30 Scanning Electron Microscope (SEM-EDX) using Oxford Instruments INCA software, operating at 20 kV in Back-Scattered

Emission (BSE) mode. In all cases, the glass was shown to consist of lead oxide and silica.



Figure 3: Series 3 (Brooch 3909). (Museum of London)

Because the lead oxide-silica system has a higher working temperature than the lead-tin pewter alloy used to cast the brooches, above 700 °C versus below 500 °C, it is most likely that the glass gems were manufactured in a separate stage prior to casting the brooches. Stereomicroscopic analysis of exposed areas on the brooches' reverse suggests that they were created by dropping a hemisphere of molten material onto a bed of fine sand; once cool, they would be ready for use. Whether the beads were made by the same workshop that manufactured the pewter objects cannot be determined, as very little archaeological evidence for early medieval pewter manufacturing has been recovered to date, save a handful of antler moulds from London, Southampton, Ipswich, and Hedeby. The shared use of lead between the early medieval pewterers and high-lead glassmakers suggests close industrial and technological links. The pewterers required metallic lead as a hardener for their tin alloys, and lead oxide was the principal ingredient in lead-silica glass. Roasting metallic lead can easily make lead oxide.

Our earliest textual reference for lead-silica glass is found in *De coloribus et artibus Romanorum* by Heraclius, where he gives a 2:1 lead oxide to silica recipe in broad agreement with quantitative analysis of other archaeological examples. Adding brass, he mentions, will create green glass. Although the manuscript dates to the 12th century, parts may date to the 10th. Archaeological examples of amber and green high-lead glass are well known in the 10th and 11th centuries, having been found not only in Britain, but also in the Baltic, Central and Eastern Europe, and the lower Volga and Caucasus (Bayley and Doonan 1999; Bayley 2007 & 2009). This was the age of developed Viking trade networks, as evidenced by the parallels between the Cheapside hoard and the Dublin mould match. Surprisingly, few lead-silica objects are known in Scandinavia, although the material has been found at

Hedeby (Steppuhn 1998). Crucible finds attest to working in Dublin, Gloucester, Lincoln, and York (Bayley 2009); finds from the latter suggest glass manufacturing as well. These indicate that either the finished glass or its manufacturing technology was imported into Britain from the 10th century and continued until the end of the 11th. Quantitative analysis demonstrates that without the addition of additional colorants, lead-silica glass is naturally the amber colour seen on most of the Cheapside material. Green glass may be achieved with less than 1% copper oxide, as evidenced by beads from York (Bayley and Doonan 2000). This is well below the detection limit of the surface analysis employed here, but is the most likely colorant for the green settings present in the hoard.

Typical lead-silica glass finished objects include beads and rings; only in London does the material appear as settings in dress accessories. Its use as imitation gems in relatively mass-produced pewter jewellery signals that it had a non-elite social role, a product produced for urban consumers. Finding lead-silica glass in the Cheapside hoard not only strengthens its 11th-century date, but also provides new evidence of the uses to which the material was put and provides tantalising insights into urban cultural and craft interaction in early medieval London.

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An Early Imperial Roman Cameo Glass Vase

Martine Newby (martine.newby@ntlworld.com)

At the AIHV Congress in Thessaloniki in September I presented this newly identified Roman cameo glass vase (see photo on p.1) to an unsuspecting audience both as a poster presentation and then as a short lecture. It was also the first time I was permitted to talk about the piece although I had first seen photographs of it back in February. I finally got to handle the Vase in late March and although I had seen the photographs nothing quite prepared me for its sheer size and the supreme quality of its decoration. The provenance of the Vase is unknown and has been consigned to the auctioneers Bonhams for study and restoration by the daughter of a late European collector, who was given it in the late 1940s but did not appreciate its significance.

The Vase stands 35.5cm, has a rim diameter of 11.7cm, and weighs 2.85kg. Unfortunately it is broken and has been restored seemingly at least on three occasions, while some of the breaks and chips appear modern as if it has been broken more recently. The only areas with traces of the original limy weathering are the underside of the handles and the interior suggesting that the Vase had a stone-like appearance when first found. It is made in dark blue glass appearing black with an opaque white overlay cut with two friezes. At first glance it appears to be a cross between the Portland Vase and Auldjo Jug in the

British Museum, and might even provide further clues as to the original form and technique of manufacture of the former.



Figure 1: *The punishment of Dirce*. (Bonhams)

The decoration is very dense with no space on the body left undecorated. In the upper frieze there are 25 figures that appear to form two related scenes on each side, all on a continuous ground-line. The first scene almost certainly shows the punishment of Dirce (*Fig. 1*), with the woman on the ground the unfortunate queen, with Amphion on the left and Zethus on the right holding the bull by its horns and mouth. On the other side there is a beautiful seated figure of a muscular naked young Apollo or Orpheus (*Fig. 2*) and further along a Dionysiac procession including a woman, possibly Ariadne, after her wedding and initiation into the Dionysiac mysteries. That these scenes are probably wholly or partly Dionysiac should not come as a surprise as at least seven of the other 15 surviving cameo vessels or panels also have Dionysiac scenes. At this stage it is unclear how these scenes relate to each other or to the battle frieze below which has a further 18 figures, including five on horseback (possibly Amazons) armed with spears or short swords and five dead bodies. I still have a huge task in identifying the scenes and with scholars disputing the iconography of the Portland Vase for the last 400 years, I doubt there will be a consensus among academics for this Vase either.

At the AIHV Congress I suggested that the Vase may have been free-blown because of the large elongated bubbles aligned vertically in the blue glass, the largest of which is 13cm long. These, however, might also be indicative of another method of manufacture currently being investigated by Mark Taylor and David Hill. This will become much clearer when the Vase is dismantled as

part of its restoration and scientific analysis at Cardiff University under the supervision of Prof. Ian Freestone.

A longer article on the Vase will be included in Jenny Price's forthcoming Festschrift, and it is hoped that the Vase itself will be exhibited, together with an accompanying catalogue, at Bonhams later in 2010.



Figure 2: Apollo or Orpheus. (Bonhams)

NEW PUBLICATIONS

Roman and Early Christian Glassworking 1st C. B.C. – 6th C. A.D. Production and Products. Vessels from Thessaloniki and its environs

Anastassios C. Antonaras

I. SIDERIS Publications, Athens 2009

Greek

ISBN 978-960-08-0470-6

42 €

Tel: 0030-210-3833434

Email: contact@isideris.gr

This volume examines in detail, for the first time in Greek scholarship, the production of glass and glass vessels in the eastern Mediterranean from the Hellenistic Age through the Early Christian period, analysing

production techniques and decoration. It establishes the socio-economic framework of glassmaking and glassmakers' social status in the Roman world generally and in Thessaloniki specifically, while identifying probable local products. It presents all the excavation finds from Thessaloniki and its environs between 1912 and 2002. A typological classification is created for these 754 objects, which encompass the overwhelming majority of common excavation finds in the Balkans, as well as for the decorative themes that appear on the more valuable pieces. Comparative material was studied from the entire Mediterranean. A summary of the excavation history of these vessels' find-spots is provided, with details for each excavation, in many cases unpublished and identified through research in the archives of the relevant museums and Ephorates of Antiquities.

The uses of glass vessels are presented, and there is discussion and interpretation of the reasons that permitted, or imposed, the choice of glass for their production. The finds are statistically analysed, and there is a chronological overview examining them century by century on the basis of use and place of production.

Finally, there is an effort to interpret the data from the study in historical terms, and incorporate results into the political-economic evolution of the region's political history.

Relatively unfamiliar glassmaking terms are explained in an extensive Greek-English glossary of glassworking technology and typology terms. The typological-chronological chart with shapes and periods of use for each form and a one-page chart with the shape and the number of each form make it easy to locate each shape and compare it with other finds. The material is fully documented in drawings and photographs, and every object in the catalogue is illustrated. The 602 geographical terms in the work, many unknown, are presented in detail in a geographic index with reference to the country/region to which each belongs today; both ancient and modern site names are identified.

Serçe Limani Vol. II. The Glass of an Eleventh-Century Shipwreck

George F. Bass, Robert H. Brill, Berta Lledo, and Sheila D. Matthews

Texas A&M University Press 2009

ISBN 978-1-60344-064-6

\$120 plus \$55 foreign shipping

Tel: 800-826-8911

www.tamupress.com

For almost a millennium, a modest wooden ship lay underwater off the coast of Serçe Limani, Turkey, filled with evidence of trade and objects of daily life. The ship, now excavated by the Institute of Nautical Archaeology at Texas A&M University, trafficked in both the Byzantine and Islamic worlds of its time. It bore cargo that included three metric tons of glass cullet, including broken Islamic vessels and eighty pieces of intact glassware, along with various artifacts of ship life.

This second volume of the discovery's investigation focuses on the excavation, conservation, and study of the glass found in the wreckage. The extensive catalogue will be a valuable tool for archaeologists and scholars of Islamic glass and Islamic trade.

Frühneuzeitliche Glasproduktion in der Herrschaft Reichenau am Freiwald, Niederösterreich (Early Modern Glass Production at the Manor of Reichenau am Freiwald, Lower Austria)

Kinga Tarcsay

FÖMat A 19, 2009

ISSN 1993-1255

German

55 € from www.bda.at/publikationen/1097/13988

This publication draws together all available sources about glass production in the 16th and 17th centuries in the manor of Reichenau am Freiwald (Lower Austria). The focus is on the results of the archaeological research, which are significantly complemented by the descriptions contained in the *Topographia Windhagiana*. The furnaces can be partly reconstructed; crucibles and annealing pots have been found; chemical analyses have been made of the glass; hollow, flat and solid glass has been excavated. Vessels include colourless glasses *à la façon de venise*, coloured plates, bowls and jugs, and simple everyday forms. Some groups, such as the diamond-point engraved or enamel-painted pieces, can be related to well-known art historical glasses. The importance of Austria's mediating role in the transfer of technological knowledge between Venice and Bohemia is discussed.

Production Technology of Faience and Related Early Vitreous Materials

M. S. Tite and A. J. Shortland *with contributions from* I. Angelini, A. Bouquillon, G. D. Hatton, A. Kaczmarczyk, B. McCarthy, Y. Maniatis, M. Panagiotaki, S. Paynter and P. B. Vandiver

Oxford University School of Archaeology Monograph 72
2008

ISBN-13: 978-1-905905-12-6

ISBN-10: 1-905905-12-2

Hardback £35

Available from www.oxbowbooks.com

The aim of this monograph is to bring together in a single volume the results of many years of research into the production technology of early vitreous materials. The vitreous materials considered are glazed steatite, faience, Egyptian blue and green frits, and glazed pottery and bricks from Egypt, the Near East, the Indus Valley and Europe spanning the period from their beginnings in the 5th millennium BC through to the Roman period. For each group of material, the emphasis is on presenting the available analytical and microstructural data which are then interpreted to provide information on the raw materials and methods of fabrication employed in their production. Where appropriate, the raw materials used in the production of these materials are compared with those used in the production of contemporary glass. By bringing together data for such a wide range of materials, geographical regions and chronological periods, similarities and differences in production technology are identified, and the pattern of technological discovery, adoption, choice and transfer is thus revealed.

Annales du 17e Congrès de l'AIHV

Published September 2009

Contains papers from the following sessions: Pre-Roman and Hellenistic glass; Roman glass; Post-Roman glass; 15th and 16th Century glass; 16th and 17th Century glass; 18th-21st Century glass; Stained glass and weathering; Glass decoration and enamels; Archaeometry.

Further details including a full list of contents can be seen on the AIHV website: www.aihv.org.

BOOK REVIEW

The Glass Workers of Roman London

John Shepherd and Angela Wardle

Museum of London Archaeology 2009

64 pages Many colour ills.

ISBN 978-1-901992-84-7

£6.95 Available from the Museum of London shop

Tel: 020 7814 5600

This book describes over 70kg of Roman glassworking waste that was recovered from 35 Basinghall Street, London in 2005. This Museum of London Archaeology publication is sponsored by the site developer Stanhope.

The book itself is a small, slim, nicely presented and affordable paperback. The chapters are short, easy to digest and relevant and the headings are in the form of questions, making information easy to find. A large part of the book's appeal is the liberal use of pictures of glassworkers in action, demonstrated by the Roman glassworkers Mark Taylor and David Hill. These pictures greatly aid understanding; the images of the experimental bottles being formed were especially useful. The pictures, together with the clear and concise language, make the book an ideal introduction for readers with little prior knowledge of glassworking.

The book is also likely to be valuable for specialists working with archaeological glass, however, largely due to the excellent pictures of the Roman material together with the summarised interpretation of experts John Shepherd and Angela Wardle. The assemblages featured are important to our understanding of Roman glassworking in England but waste material such as this is rarely so well illustrated. This publication will greatly aid other specialists in identifying and interpreting similar material.

Victoria Lucas and Sarah Paynter

WEBSITE UPDATE

www.britishmuseum.org

The British Museum have now catalogued almost 2 million objects from their collections online, many with images. Most images have digital downloads available to order free of charge for non-commercial use through the individual object pages. After registering, you may order up 100 free images a month.

www.cmog.org

The Corning Museum of Glass, New York, has many of its objects catalogued online in its *Glass Collection*. There are other useful parts of the website such as videos of glassmaking techniques in *Glassworking Processes* and sections on Art and History; Science and Technology; Glassmaking Techniques; and Dictionary in *A Resource on Glass*. The Rakow Research Library has started to digitize important books in the collection, and two exhibition catalogues of contemporary glass from 1959 and 1979 are currently available under *Virtual Books*.

Please send your contributions:
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