Glass News

Number 23 **December 2007**
Published by
THE ASSOCIATION FOR THE HISTORY OF GLASS LIMITED
Reg'd Charity: 275236 ISSN 1362-5195

www.historyofglass.org.uk

IN THIS ISSUE

Introducing the new AHG President: **Caroline Jackson**

I would like to take this opportunity, as new President of the Association for the History of Glass, to write a few words of thanks to Ian Freestone for his contribution both as a Board member and as the Association's President for the last four years. I would also like to use this occasion to outline some of Ian's contributions to the Association and to look back at some of the achievements of the AHG over the last decade.

Ian joined the Board of the AHG more than 12 years ago. At that point the Board was already an active group comprising a number of illustrious members who had interests in the archaeology, art history and science of glasses, which reflected its membership. Ian brought to the Board a wide knowledge from research at the British Museum Scientific Section into not only the analysis of glasses, but also ceramics, metals and related materials from a wide geographical and temporal area. He was also familiar with administration as deputy director of the scientific section, a useful skill for any organisation!

The activities of the AHG and its role in the world of ancient and historical glasses became more visible to its members and to the outside world with the publication of the first '*Glass News*' in spring 1996. This excellent publication contained news not only about the society and its events, but other events relating to glass, publications, summaries of meetings and conferences and published its own articles and notes. It provided a forum to report new work and to ask questions relating to current research. Ian Freestone became a regular contributor, writing on such diverse topics as the use of cobalt pigments in glasses (1996), reviewing scientific research in glass (1996) and early glass production in Egypt (2003), discussing specific research problems such as the Portland Vase (2003), announcing new displays or activities at his then place of employment, the British Museum (2004) and reviewing numerous new publications on glass.

By November 2003, when Ian took over as President of the AHG, the activities of the Board were flourishing. In September 2003 the AHG had already held the 16th Congress of the Association Internationale pour l'Histoire du Verre (AIHV) in

London, which was a very great success. The AHG also held two further meetings that year on Islamic glass and on experimental work relating to archaeological glasses. Since 2003 two meetings have been held each year, with a good response from members. This included the two-day meeting in honour of Jenny Price on Glass of the Roman Empire, which was organised and coordinated by Ian and Justine Bayley. The diversity and range of meetings since then has continued to grow and inspire audiences in such areas as ethnographic studies, glass in architecture, lighting and topics ranging from early Egyptian, through Roman and Medieval to the 20th century, from wide geographic areas and different disciplines. Ian Freestone actively organised a number of these meetings, presented papers at many of them, and often found himself chairing sessions, sometimes at short notice!

Although the Association has always supported research projects through donation, from 2006 regular monies were put aside to provide bursaries to contribute towards educational or research activities consistent with the Association's charitable aims. To date these have helped to support such activities as the retention of the Jack Harden glass archive at Broadfield House, publication grants for the Catalogue of Saxon glass in the British Museum, a research visit to study the early beads in Boston, an experimental reconstruction of a Roman glass furnace by the Roman Glassmakers and grants for research students to present their work at the 2006 AIHV congress in Antwerp. Ian's support for all these projects, especially those involving new researchers, was always enthusiastic.

Thus in coming years we need to make sure *Glass News* is buoyant and has a wide circulation, that future meetings and the website attract a wide-ranging audience and that new dynamic members of the glass community, including those just starting out in the field are encouraged. The newsletter, website and the meetings are such a valuable resource, not only in disseminating new work, but also in the case of the study days, as a forum for new and experienced researchers to meet and discuss exciting ideas. In working alongside an experienced and enthusiastic board, Ian Freestone has proved a very successful and popular President who has contributed to and strengthened all these areas of the Association for the History of Glass. I am sure we will see Ian at future meetings and hope he will join us afterwards for a drink or two.

The diversity of the Board, its members and its meetings is one of the strengths of the AHG. Its evolution is evident from the range of activities and interests seen through the 10 years of the newsletter. Its present successes do not mean that we should stand still and as ever we will be looking to the future. I look forward to taking on the role of president and watching the Association flourish.

Forthcoming AHG study day:
Buying and selling glass in Britain 1600-1950

Tuesday 18th March
The Wallace Collection, Hertford House, Manchester Square, London, W1U 3BN
(Please note that the venue will be **London** and not Cambridge as previously advertised).

Programme

10.00 Arrive and coffee
10.20 Introduction
10.30 Colin Brain, *From Chair to Table: evolution of glass distribution, sales and marketing in 17th century Britain*
11.05 Peter Lole, *Lessons from Glass Sellers' bills 1600-1818*
11.40 Julia Poole, *Glass purchased for the households of the 4th Duke of Bedford (1710 -1771): vendors and prices*
Discussion
12.30-1.30 Lunch (not provided)
1.30 Alex Werner, *The glass industry in London 1750-1850, an overview*
2.10 Anna Moran, *Buying and selling Irish glass in the 19th century*
Discussion
3 -3.15 Tea
3.15 Jill Turnbull, '*The home trade is but a flea bite to us' - selling glass from the Scottish perspective*
3.50 Roger Dodsworth, *The Stourbridge glass trade in the 20th century*
Discussion

Finish 4.45

The cost of the Study Day is £25, or £20 (AHG members), £10 (students). If you wish to book please contact Martine Newby, preferably by e-mail at martine.newby@ntlworld.com, or by post, 1 Barlby Road, London, W10 6AN.

Call for papers:
AHG Spring Study Day 2009

The topic for the 2009 Spring Study Day will be: ***Recent archaeological research into the manufacture of glass - of all periods.***
Intending contributors should contact David Crossley <d.crossley@sheffield.ac.uk>

History never changes – or does it?
Call for contributions to the AHG website

CALL FOR POSTERS, NEWS AND VIEWS
FOR THE AHG WEBSITE
www.historyofglass.org.uk

from the webmaster David Martlew
David.Martlew@gmail.com

The history of glass is a long story of how craftspeople managed to make this fascinating material, shaped and fashioned it, and how in turn glassy materials changed and transformed human society. Our perception of (and appreciation of) the history of glass is always changing, and so must our website if it is to satisfy your needs. The AHG website aims to keep our members and subscribers informed. Together with *Glass News* it gives updates about relevant meetings, exhibitions, events and publications which serve the community interested in this most fascinating field. Do visit the website at www.historyofglass.org.uk for a look.

Before you can say "Why did the Romans have double glazing?" our home page will burst into view on your screen. A few items are there to whet your appetite, but this is but the lid of a treasure chest of information. Clicking on the various titles, images, or highlighted sections of text, will provide you with further details about that item. Alternatively, the headings on the vertical bar on the left hand side of the screen will direct you to more relevant content.

We want to make the website an effective means of sharing information, and the more informative content we can include the better the site will be. Do you have a **poster** that you have presented at conferences in the past? If you would like a worldwide audience for all that hard work, please email (or post) your posters to the webmaster for publication on the web. If you are aware of any **events or publications**, which would be of interest, and the information is not already on the website, get in touch and we'll put it in. Do you have some **views** to exchange? Please let us know (making it clear what part of the content you wish to make public). Tell us how to make the site the best resource for your requirements.

It's your website – please support it!

AHG Bursaries

In 2006 The Association for the History of Glass inaugurated a bursary scheme. Its purpose is to contribute towards educational or research activities consistent with the Association's charitable aims. These aims 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.

The total amount available for bursaries in 2008 is £2000 with individual awards up to £500. If not all of this is awarded in the spring, a further call for applications will be made later in the year; see the AGH website for details (www.historyofglass.org.uk).

Applications for a bursary application form should be made to the AHG Secretary, Sandy Davison, by 17th March 2008.

Sandy Davison
AHG Hon Secretary
68 East Street, Thame, Oxfordshire OX9 3JS
Email: sandbill@gotadsl.co.uk

2009 Colloque:
Verre et Histoire

Verre et Histoire will be holding their next colloquium over several days in either January or March 2009, in Nancy. The title is "Innovations in glass making and their evolution from antiquity to the 21st century". More information can be found on their website: http://www.verre-histoire.org

GLASSAC-08 Congress: **Glass Science in Art and Conservation**

5-7 March 2008
Valencia University, Valencia (Spain)

The aim of the II International Congress GLASSAC-08 congress is to create a focus on the applications of glass science in art and conservation. This event will include all aspects and periods of glass studies, including history, science, contemporary glass and conservation. Topics include:

Bronze Age glass • Hellenistic glass • Islamic glass • Roman glass • Mould-blown glass • Glass decoration and enamel • Medieval stained glass window • Façon-de-Venise glass • Glass in the 18th and 19th century • Contemporary glass • Glass technology production • Raw materials • Dating and provenance of glass • Restoration and conservation of glass • Glass corrosion and weathering • Archaeometry of glass

Coinciding with the GLASSAC Congress, there will be an exhibition of glass work by contemporary Spanish artist Carlos Muñoz de Pablos 'The Language of Glass'. Further information about the meeting, including a registration form, is now available at the conference web site <<www.uv.es/glassac>>. Please note that a reduced early registration fee is available until January 15th.

Conference: **8th International GeoRaman**

2nd–6th June, 2008
Ghent, Belgium

This conference on "Raman Spectroscopy Applied to the Earth Sciences" covers all scientific aspects on the border where Raman spectroscopy and geology meet. Topics include: mineralogy, petrology, inclusions, fossils, gemstones, archaeometry and instrumentation.

For further details, please contact:
Peter Vandenabeele,
Proeftuinstraat 86, 9000 Ghent, Belgium
Email: georaman@UGent.be
Website: http://www.GeoRaman.UGent.be

The International Festival of Glass and the British Glass Biennale

INTERNATIONAL FESTIVAL OF GLASS 2008
18-25 August 2008
Stourbridge

Previous festivals have included workshops and demonstrations with visiting international artists and a packed programme of lectures, entertainment and fascinating glass-related events, plus heritage and local interest activities and tasty food and drink. The International Festival of Glass celebrates both the unique glassmaking heritage of the area and the sparkling emergence of this whole new era of glassmaking. Please see the website for further details: www.ifg.org.uk

The website states that the organisers are "developing the schedule for the 2008 Festival and would love to hear from you if you would like to provide something that might add an extra dimension to what has already become an essential fixture on the glassmaker's calendar. Please get in touch initially by email with your proposal."

BRITISH GLASS BIENNALE 2008

in association with the
Worshipful Company of Glass Sellers

CALL FOR ENTRIES
Entry deadline: 5.00pm 28 March 2008
Awards of £8000, £5000 and £1000

The British Glass Biennale is the foremost exhibition of excellence in contemporary glass by artists, designers and craftspeople currently working in Britain. Taking place every two years at the Ruskin Glass Centre, it is the highlight of the International Festival of Glass. At least 150 major new glass works from British artists are selected. The emphasis is on new work demonstrating excellence in design and technical skill. To download an application form, visit the website at: www.biennale.org.uk
Or contact: British Glass Biennale,
Ruskin Glass Centre, Wollaston Road, Amblecote,
Stourbridge, West Midlands. DY8 4HF
Tel: 01384 399410

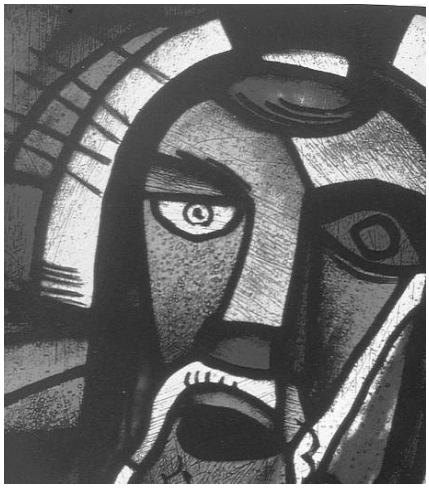
BSMGP Conference:
Aspects of 20th Century Stained Glass

31st July – 1st August 2008
Glaziers' Hall, 9 Montague Close, London SE1 9DD

This major two day non-residential conference is organised by The British Society of Master Glass Painters with The Worshipful Company of Glaziers.

The conference will present an historically considered overview of the far-reaching developments in stained glass which took place throughout the 20th Century, in particular the first three quarters of that century from which we have enough distance to examine with some objectivity. Speakers from the UK, Europe and the USA to include:

- Peter Cormack – Arts and Crafts stained glass in the UK
- Dr Iris Nestler – The influence of Modern Art on the first half of 20th-century glass in Germany
- Julie L Sloan – F L Wright and C.R. Mackintosh
- Martin Harrison – Post-war stained glass in the UK and beyond
- Wilhelm Derix – Modern German stained glass: Schreiter, Schafrath, Poensgen, Klos
- Patrick Reyntiens, OBE – The influence of painting in 20th C Stained Glass
- Alex Beleschenko – Influences and context of his training in the 1970s and his development



There will be an evening lecture on the 31st, included in the conference fee, followed by a Glaziers supper. Conference goers will be notified and invited to book for the supper with the Company.

Full non-residential conference fee – BSMGP Members £140. Join the BSMGP to attend at this rate. Single day, student and non-member rates also available. For further information, please e-mail <C20conference@bsmgp.org.uk>

Meeting:
Holding it all together

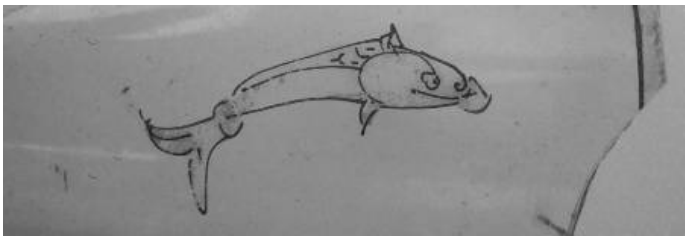
21st and 22nd Feb 2008

The British Museum is holding a two day meeting entitled "Holding it all together; ancient and modern approaches to joining, repair and consolidation", which aims to bring together conservators, scientists and curators with an interest in the methods by which artefacts have been manufactured, repaired (both in antiquity and modern times) and conserved by joining together a series of components, using such techniques as adhering, casting, soldering, luting, etc. The conference will include both oral and poster presentations. It is intended to publish the conference proceedings (subject to referees' reviews).
The broad programme will cover most materials and will include ancient and ethnographic examples of manufacture, repair and re-use of multi-component artefacts, methods for recognising and making potential joins, modern conservation and repair methods and materials, and methods of display, including the ethics of revealing/concealing joins and repairs. Sessions are planned on: ceramics and glass, metal objects, sculpture and stone, painted and finished surfaces, glues, adhesives and conservation materials, wood, paper and textiles, display methods and ethical considerations.

The conference fee will be £150 (£80 students and BM Friends) and includes refreshments, lunches, an evening reception, a private view of the Museum exhibition "The First Emperor: China's Terracotta Army" and a copy of the conference proceedings.

A registration form is available on the website: http://www.thebritishmuseum.ac.uk/research/research_news/conference_call_for_papers.aspx.

Or please write to:
Conference 2008, Department of Conservation, Documentation and Science, The British Museum, Great Russell St, London, UK, WC1B 3DG
Fax: + 44 (0)20 7323 8276

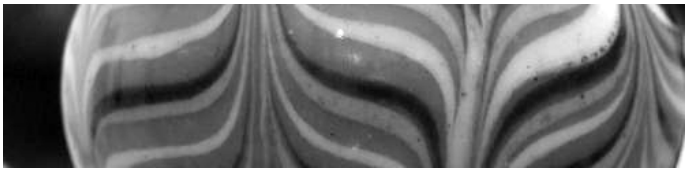


Islamic glass, detail: fish

Exhibition: **German Renaissance Stained Glass**

The National Gallery has a small exhibition 'Art of Light: German Renaissance Stained Glass', until 17 Feb 2008. The exhibition brings together some of the finest examples of German stained glass from this period and puts them next to a selection of National Gallery paintings from the same period and regions of Germany. Also featured are some surviving examples of designs for stained glass and an explanatory section on the making of stained glass, with tools and glass fragments on loan from the Victoria and Albert Museum and the Stained Glass Museum at Ely Cathedral.

For more information visit the website at: http://www.nationalgallery.org.uk/



Detail from Egyptian glass bottle

Musée du Verre
Charleroi, Belgium

The Museum of Glass in Charleroi, Belgium, was re-opened, on its new site, in February 2007. It occupies buildings within the complex of the former coal-mine at Bois du Cazier, south of the city.

The original museum, in the city-centre, was based on the collection of glass gathered by the late Raymond Chambon, whose knowledge of the medieval and post-medieval glass industry of the forests of the present Belgian-French borderlands was, and is, unrivalled. Chambon's field-work was recorded in an archive of surveys and field-books, which have become separated from the glass fragments which he collected. This written material is now in the Corning Museum of Glass, Corning, N.Y.

The new Charleroi museum is housed in a modern building with excellent space for cases. The exhibits are in course of development, but already provide an outstanding overview of glass production in former Flanders and modern Belgium, from the medieval material collected by Chambon through to wares of the 19th and early 20th centuries, when Charleroi was one of the largest centres of glass production in Europe. Glass from elsewhere in Europe places this material in its wider context. There is a large area for temporary exhibitions in the colliery winding and ventilation house, which is itself of interest, containing restored colliery machinery, in use until 1956, the year in which disaster struck the colliery. The mine never re-opened, but has been developed as a cultural resource and as a memorial to lives lost in 1956.

The museum is well worth a visit. Information can be found on www.charleroi-museum.org. [Editor's note: English translations may be found by clicking the small 'EN' on the lower left side on the pages.] This has a link to Google-Map but, even so, care is needed to spot the Bois du Cazier museum signs on the Charleroi outer ring-road (R3). Beware of out-of-date references to the former city-centre museum on the Charleroi tourist website.

David Crossley

The early days of chemical analysis at **The Corning Museum of Glass**

The Corning Museum of Glass has long been a leader in the scientific analysis of early glass and a few years ago published Robert Brill's 2-volume compilation of analyses carried out at the Museum. Ian Freestone asked Dr Brill about how Corning came to carry out this type of work, and how he became involved. Here is his reply:

While I would never wish to undervalue anyone's contributions to glass studies, in my mind, the person who really got everything going in the right direction was W.E.S. Turner. Although his work is often cited, I am not sure it is fully appreciated. In retrospect, although he didn't always get it right (who does?), Turner did anticipate many of the fundamental contributions all the rest of us have made. He was admittedly a controversial figure. Nonetheless, we became really good friends. We corresponded when I first started out in Corning (1960) and met on September 13, 1961 in Sheffield. Turner was generous, considerate, and very encouraging to me.

The first chemical analysis that I could find that was performed for The Corning Museum of Glass was a qualitative spectrographic analysis of a Roman cup. It was run by Harrison Hood, a highly respected scientist who worked with what was then called Corning Glass Works. That analysis was run in 1953 or 1954.

Frederic W. Schuler (formerly a Corning Glass Works scientist) was employed by The CMG from June 1956 until April, 1958. He was hired by Thomas S. Buechner, the first Director of the Museum, possibly at the urging of Ray W. Smith, a private collector from whom we acquired much of our ancient collection. If Ray Smith was the instigator, Tom Buechner was the implementer.

Schuler worked with CGW chemists using a "quantometer" (probably an emission spectrographic instrument) and qualitative XRF. Some of the laboratory work was done by Robert Close. As I recall, Schuler's notebooks don't reveal much beyond raw data and (as far as I know) the results were never published. He appears to have regarded the analyses as inconclusive and not useful, judging from remarks in his notebooks and remarks he later made at a Glass Congress. Schuler worked mainly with fragments of Islamic glasses from Nishapur and its surroundings, but also appears to have run some of the same samples that Ray Smith later passed on to Ed Sayre after Schuler resigned from the Museum. Evidently, Schuler was mainly interested in art glass and in glass design - more on a production level than in a studio environment. However, he did do some experiments in reproducing early casting techniques.

I met Schuler only once - and then only very briefly - at the 1962 Glass Congress in Washington where he presented two papers. During the discussion following one of his papers, he stated flat out to the audience that there was ".. nothing more to be learned from the analysis of ancient glasses."

Ray Smith and Ed Sayre apparently connected after Schuler left The CMG. Ed did spectrographic and neutron activation analyses at Brookhaven, working on glass samples provided by Ray. After those initial analyses, Ed didn't do much more with glass. Instead, he specialized in teaching, conservation science, and analytical research on a wide-ranging variety of other archaeological materials, especially ceramics and metals. Ray Smith continued collecting and later became interested in the application of computer technology for reassembling scattered building blocks from the Temple of Akhenaten.

I joined The CMG on Feb. 1, 1960. I had been teaching chemistry at Upsala College (in East Orange, NJ, not Uppsala in Sweden.) Sometime early in 1959, I wrote Teddy Hall, who sent me a copy of vol. 1, no. 1 of Archaeometry. His cordial reply led me to believe there was a living to be made in what he called Archaeometry. I wrote again, asking him if there might be a post-doc available at his laboratory in Oxford. I did not receive his reply. Then in November, 1959, I accepted the job at The Corning Museum of Glass. In December 1959, I finally received Teddy's reply. His letter had been lost in the mailroom of Upsala College for months! Consequently, I never made it to Oxford. (There was no post-doc available anyway). Teddy Hall (and Martin Aitken) and I became good friends in the years that followed.

In 1962 Corning published Earle Caley's book *Analyses of Ancient Glasses 1790 - 1957*. It is a nifty little book, the best - and possibly still the only - treatment of the subject. I remember the book well because I proofread it in 1961 and talked at length with Caley about it. Caley was a capable scientist, a very nice man, and a pioneer in archaeometry - before

anyone called it by that name. He used the term "archaeological chemistry" which, in fact, I still use myself, in part out of my respect for Caley. He and Marie Farnsworth and Fred Matson were of the same generation. All had connections with the American School in Athens and the Agora. Norman Tennent knew Caley from the time he spent at Ohio State University, where Caley taught.

References

Brill R. H. (1999) *Chemical Analyses of Early Glasses*, New York: The Corning Museum of Glass.
Earle R. Caley. (1962) *Analyses of Ancient Glasses 1790 - 1957*, New York: The Corning Museum of Glass.
Sayre E. V. and Smith R. W. (1961) Compositional categories of ancient glass. *Science* **133**, 1824-1826.
Sayre, E.V. (1965) Summary of the Brookhaven program of analysis of ancient glass, *Application of Science in the Examination of Works of Art*, Boston: Museum of Fine Arts, 145-154.

Scottish Stained Glass Symposium

The SSGS (founded in 2003) is an open, independent committee chaired by Prof. John Hume OBE, Chairman of the Church of Scotland's Committee on Church Art and Architecture. Its membership includes stained glass artists, recorders, inventorists, conservators and stained glass historians. SSGS is open to anyone with an interest in stained glass. At present the focus has been mainly on church glass, but we are aware of the huge amount of commercial and domestic stained glass that also needs to be recorded.

In April 2007 SSGS and Scottish Church Heritage Research (SCHR) held a joint conference on *Stained Glass Who Cares?*, which was very well-attended and has done a great deal to raise awareness of this significant, but neglected, aspect of church heritage. There is stained glass in Scottish churches (and other buildings) by artists from Scotland, England, Germany and other countries. SSGS is running a project to record stained glass in threatened churches, jointly with SCHR and NADFAS (see below).

SSGS meets three times a year, to discuss issues about stained glass. One major debate has been on the urgent need for a repository for important glass, which cannot remain *in situ*, as there is no suitable place to store or research this in Scotland. Other issues discussed include the need for training in conservation of stained glass and locating the stained glass. One particularly valuable outcome of the SSGS meetings has been the increased awareness of this medium and improved interest by congregations and churches about the glass in their buildings.

For information contact:
Hon. Secretary: Alison Robertson MA BMus
3, Ross Gardens, Edinburgh EH9 3BS
Scotstainedglass@aol.com

Scottish Church Heritage Research

SCHR is an organisation set up to encourage research on all aspects of churches in Scotland, especially their archaeology. A Gazetteer was developed over a number of years, listing all churches and church sites in Scotland – over 10,000. Improved computer capabilities have made it possible to develop this database as a website, with expanded information and with illustrations. At present we have funding (HLF, Leader+, Church of Scotland, donations) to run a one-year pilot project in Fife, to record all places of worship – all faiths, and including archaeological sites, demolished, listed/scheduled and unlisted buildings. This is run by a Project Manager, Sarah Kettles and two Field Officers, assisted by Project Scotland and other volunteers.
A second project is being run jointly with SSGS and in conjunction with Fife NADFAS, to record *Stained Glass in Threatened Churches in Fife* – and later throughout Scotland. NADFAS members and other volunteers in different parts of Scotland have started recording stained glass, but there is much to be done before the project runs throughout Scotland.

Ten volunteers from Fife NADFAS, including some national members, have been learning about stained glass recording, at first in local churches to provide training, but the first two threatened churches have now been recorded as well. This project is separate from the detailed work of the NADFAS Church Recorders in Scotland, since the reports to be compiled refer only to stained glass windows. We have developed a tabulated form which will accept images and with fields derived from a report form designed in conjunction with NADFAS.

For the present these reports and all the images are stored on the SCHR computer and on CDs. Priority

has to be given to ensuring the project will be simple and clear for general use. Ultimately all the records will be deposited at RCAHMS (Royal Commission on the Ancient & Historical Monuments of Scotland).

For information contact:
Edwina Proudfoot, Tel 01334 473 293
Chairman, Scottish Church Heritage Research, or
Secretary: Derek Hall, Tel 01738 622 393
Registered Office: 12 Wardlaw Gardens, St Andrews, Fife KY16 9DW, Scotland
www.scottishchurchheritage.org.uk

Meeting and study day review: **Byzantine Glass Mosaic Tesserae**

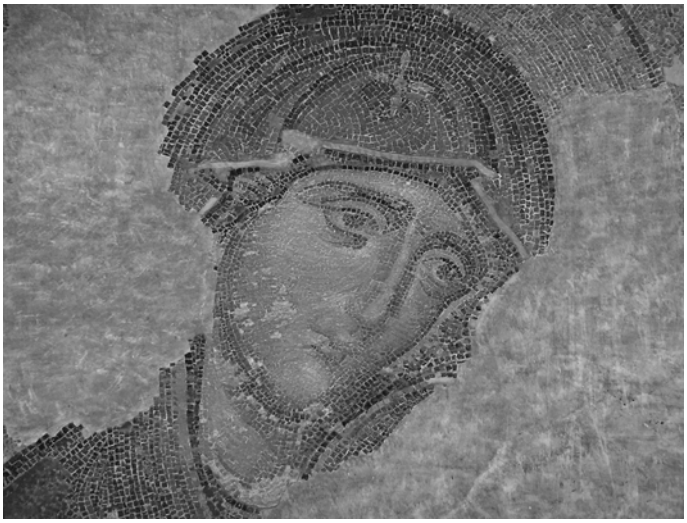
THE COMPOSITION OF BYZANTINE GLASS MOSAIC TESSERAE
Leverhulme Trust International Network Grant

The Network has been established to bring together scholars interested in the production and composition of glass for Byzantine mosaics. Our first meeting was held over two days in September. Below, we have set out what we see as the five key research issues to be considered during the project:

- What are the colorants in mosaic tesserae? (sources of colorants, patterns and changes of colour use in mosaics – technical or aesthetic?)
- Where does the glass for tesserae come from?
- What does a comparison with window and vessel glass reveal?
- What can be said about the making of mosaics? (making tesserae, gold and silver, volume of production, regional questions, issues of supply; what would a Byzantine mosaicist look for in a glass factory? Why are there no mosaics in Egypt? What is happening in Rome in the middle ages? Is it possible to develop a production model for tesserae?)
- What can be said about re-use and restoration of Byzantine mosaic glass? (both relative to the medieval world, for example are Roman glass and tesserae such glass re-used? What of the spread of tesserae and their use in other areas such as Scandinavian beads, what conservation issues need to be considered?)

Arising from this work, we decided that our core projects would focus on constructing basic research tools. These include a database and bibliography of research and analysis of Byzantine glass mosaic tesserae, a database of sites from which glass mosaics are known or recorded, and a glossary of key terms used by scientists, archaeologists and art historians.

The meeting also included a study day. Speakers and delegates, including Marie-Dominique Nenna, Marco Verità, Ian Freestone, Julian Henderson, Mariangela Vandini and Fatma Marii, discussed their research in the field and raised further research questions. These included whether a 'best practice' document could be devised, and whether it was possible to define a common colour vocabulary for the study of glass and tesserae.



We are grateful to all who attended and contributed with such enthusiasm to the debates, proving that the topic is less esoteric than we had originally feared.

For a fuller report of the meeting, see our website: http://www.sussex.ac.uk/arthistory/1-4-13-4.html

If you have an interest in, or views on, any of these themes, have other research questions, can contribute to the databases of research and analysis or sites or would like to be added to our mailing list, please don't hesitate to get involved. The Network welcomes contributions from all interested parties.

Contact: Liz James <E.James@sussex.ac.uk> or Bente Bjornholt <b.k.bjornholt@sussex.ac.uk>

Review:
SGT Annual Conference

History & Heritage of Glass Seminar
Held at the University of Derby on Wednesday 5th September 2007 as part of the Society of Glass Technology Annual Conference

The Society of Glass Technology has wide ranging objectives set in 1917 by its founder, amongst which is a duty to foster the study of the history and archaeology of glass and explore how glass science studies can contribute. At the SGT Annual Conference, the History and Heritage Seminar was seen in this context, and it succeeded in creating a mixed audience of artists, historians and scientists. The eight papers stimulated interesting questions and subsequent discussions.

Tim Willey of Derby University spoke about *Raw galena as a viable glaze coating for contemporary, non-food-use, studio ceramics.* The starting point was the use of galena as a lead source for glazes in the mediaeval period, and examples of the variety of glaze effects obtained by potters half a millennium ago were shown. By contrast the drab uniformity of contemporary glazes limits creativity. Mediaeval potters used organic binders, which were significant in generating the desirable effects. A wide range of glaze / binder formulations was tested on Stourbridge clay test slips, and an optimum ratio identified. Methods of application were also studied and slides of the resulting interesting glazes were shown. Today's artist can learn from history!

Peter Wren Howard, an independent furnace builder from Stourbridge had as his title *Furnace Philosophy from Rome to Stourbridge.* The laws of physics and chemistry remain unchanged since the Romans made glass in England, so Peter's starting point was the fascinating experiments made by Mark Taylor and David Hill in the reconstruction of Roman glassmaking furnaces. As expert glassmakers, Mark and David operated these replica furnaces for several weeks (see *Glass News* issues 18 and 20). Peter looked at these from the viewpoint of a furnace engineer. His presentation drew parallels with the similar sized furnaces in use for studio glassmaking today.

A History of Glassmaking in Lemington was **John Henderson's** topic. He was technical manager of a small glassworks before becoming an independent glass technology consultant, so has taken a special interest in the decline of industrial glassmaking in the area. Lemington is a part of Newcastle near to the better known Blaydon, where Sir Robert Mansell chose to exercise his Royal Patent regarding the use of coal to fire glassmaking furnaces in 1619. The area had coal together with lime, sand and soda for raw materials - and of course the river provided transportation capability. By the late Victorian period glassmaking was flourishing in the area and John used early photographs to illustrate the various hand-made techniques used in the factory. Lemington glassworks itself celebrated its 200th Anniversary in 1987, but the works finally closed at Christmas 1995. End of an era.

The joint paper by glass technologist **David Martlew** and curator **Jo Hayward** used the case of the nineteenth century flat glass furnace at the World of Glass in St Helens to discuss the *Interpretation and Presentation of Industrial Archaeology.* Clearly the presentation of such relics rests on how well the archaeology is understood: the first part of the process was to apply scientific techniques used in the design and trouble-shooting of today's industrial furnaces to the furnace of 1887. Important information came from the archaeology: documentary sources were sparse and incomplete. Once the site's importance had been recognised, it was built into the design for the heritage centre as an archaeology park, landscaped and prepared so that the visitor could explore the furnace building and its surroundings. A rather ambitious audio visual presentation was used to put across the significance of this furnace and why it was so special when first built. It introduces the visitor to key people whose drive and acumen made a significant technical achievement possible. Thus informed, the visitor could explore the archaeology and understand what he or she was seeing, aided by carefully placed humble text panels and by full size figures showing how the window glass was made. A high proportion of visitors, when interviewed afterwards, declare themselves well pleased with the visit.

Jon and Ruth Cooke, stained glass conservators based in Ilkley, spoke about *Art and Ethics in Stained Glass Restoration.* Restoration of damaged architectural glass presents technical challenges and

ethical dilemmas for the conservator, not least as materials used by the original artist are often no longer commercially available. Moreover, our rich heritage of stained and painted architectural glass of all dates is most commonly found in churches. With falling membership, many church communities find difficulty in meeting rising day to day costs, let alone budget for large capital projects. In these circumstances, when damage occurs a compromise has to be reached between what is practical and affordable; what is technically possible and ethically acceptable. Jonathan presented a number of examples illustrating some of the dilemmas facing the stained glass conservator or restorer. The paper was richly illustrated with slides of stained and painted glass.

Looking at colour from a different perspective, **John Parker** of Sheffield University spoke to the title *What is happening when we stain glass?* In his paper John reviewed the science behind the staining of glass surfaces using silver or copper salts. When silver stain was developed in the early fourteenth century the understanding of what was happening in terms of atoms and ionic species was far in the future. The paints used for the staining process, the diffusion of silver and copper ions into the glass surface and their chemical reduction within the glass were all discussed. Then John explained the processes involved in the formation of silver or gold colloids within the glass, clouds of tiny particles that are the source of the strong colours observed. Today's science even sheds light on the relationship between particle size and colour, explaining how the same substance can give different colour effects, depending on the technique used by the artist.

Alan Gardner's interest in glass is in the context of architecture, thus his title *Jack of all trades ... some observations from a specifier in the repair of historic buildings on glass and glazing issues* underlines his distinctive viewpoint. As a consultant in "Historic Building and Traditional Materials" Alan sees the glazing as an essential part of the original architect's vision of the structure. Only today does the float process give us window glass that is substantially flat and perfect; post-mediaeval buildings exploited the varied lively reflections from far-from-perfect panes produced by earlier manufacturing processes. Conservation of historic buildings needs to be sensitive to this and seek appropriate glass for use in restoration. The snag is the difficulty in securing today the correct kind of glass and (perhaps more importantly) the right craftsmanship to effect the restoration using the traditional techniques. Where are we to find replacement artisans?

Alun Adams at the Swansea Institute is labouring to create such highly skilled folk - at least in respect of stained glass making and conservation. *Phoenix from the ashes – the Margam Project* was a significant paper presented in a style that involved the audience. Margam Castle, built during the second and third decades of the nineteenth century, had stained glass installed circa. 1834. This glazing was damaged and restored in 1904, and following the closure of the Castle after the Second World War suffered badly from neglect, vandalism and finally fire in the 1970's. The windows were removed to the safe keeping of the Stained Glass Department of Swansea Institute of Higher Education in the late 70's and finally restored and installed in their original location in 2006. Alun took his audience through the issues surrounding the restoration of an heraldic window, touching on problems of securing finance, authorisation to do the work and using Swansea Institute and its students as the restorers. For the community, the clear benefit (picked up by the BBC news teams at the time) was the familiar window destroyed by fire and rising like phoenix from the ashes: the less visible end product is a group of young people who have learned the traditional skills and have experienced applying those skills in the restoration of a real historic building.

All involved in this seminar agreed that it was successful in achieving its objectives. More details are available through the web site of the Society of Glass Technology (at << www.sgt.org >>). Next year the Annual Conference will be in Cambridge, and it is anticipated that there will be a similar History and Heritage Seminar there.

David Martlew

Review:
November AHG Study Day

GLASS IN ARCHITECTURE

This well attended meeting was held on Thursday 22nd November 2007 at the Wallace Collection. The day started with an Introduction by Ian Freestone to the subject.

Jenny Price – Glass in Roman Buildings
This was a comprehensive overview of the way glass was used in Roman buildings covering window glass, mosaics, and insets in walls, the examples quoted were mainly from Italy or England. Window glass

first began to be used sometime in the early years of the 1st century AD, there is no evidence of the use of window glass during the reign of Augustus (up to AD14) but it is found in Pompeii, Ostia and Herculaneum by AD79. Its main use was for keeping heat in and letting light in and window glass became increasingly common in both public and domestic buildings. Window glass was set in iron grills and in removable wooden frames, the latter particularly in bath houses where it was used as a type of double glazing. By AD60 window glass was in use at both Colchester and Verulamium.

Early window glass was cast and the flat dull surface was oiled to improve its transparency. Another form of cast glass current from the 1st to 3rd centuries AD were domed circular panes around 0.5m in diameter. Cast glass was eventually completely replaced by cylinder glass while crown glass, the latest of the three methods of manufacture and more generally associated with post-Roman sites, has been found from a late Roman site at Aquileria.Glass tesserae were used in both wall and floor mosaics and use of these increased over time. Glass wall mosaics have been found in burial vaults in Ravenna and Tarragona. Glass was also used in *opus sectile* panels and as wall decoration.

The great gap between the surviving evidence for glass and what must have been used in ancient times is demonstrated by the work of Janet DeLaine who estimated that the Baths of Caracalla had 3,400 square metres of window glass which would have required 50 tonnes of glass to make, and up to 380 tonnes of glass were used for the mosaics.

John Mitchell – Glass in the early medieval church at San Vincenzo

San Vincenzo was founded around AD700 and by AD800 was a very big establishment. In AD810 there was a fire in the refectory and glass from the windows was found in what had been a garden. This was soda, lime, silica glass mostly made by the cylinder method with only 2% of crown glass. The evidence of at least two workshops suggest that glass was worked at San Vincenzo in very large quantise. Window glass was found in a variety of colours as well as shaped panes including triangular, rectangular and trapezoid shapes. These were probably set in wooden frames in round-headed windows 1.8m tall and 0.8m wide. Carefully shaped pieces with curved grozed edges and a series of cames were found in both public and guests areas in used in the early 9th century. Some of the lead cames had small perforated/pierced lead sheets attached and discussion at the end of the paper suggested these were ventilation grills.

Two categories of windows were seen as contemporary - wooden frames and leaded - but were they possibly used for different purposes? Could leads windows have been used in screens in the church as no other evidence of screens survives? The question was also raised as to whether polychrome glazing was used to illuminate interiors in different ways and it may have had a message, or been used to light up painted walls with different colours.

Liz James – Glass & the Byzantine Church

The interaction of glass, architecture and light was very important in Byzantine churches, they all work together to illuminate interiors as without light buildings and images cannot be seen. There are two main issues - what glass and where was it used, and how glass was used in buildings. Byzantine churches were planned with use of natural light in mind and the sizing and placement of windows was important; this obviously varied in the two basic designs of classic basilicas, either long and thin-looking towards an apsidal end, or with a crossing square and a central space under a dome. Window glass in basilicas was usually colourless, crown discs were found in 9th century Amorium and these had become standard in Middle Byzantine churches. The use of coloured glass was very rare probably because it effectively darkened the interiors of the buildings.

Glass was a very important part of Byzantine mosaics and was a standard element from the earliest times; it results in a bright images because of the light reflecting properties. Mosaics work best on either uneven or curved surfaces like an apse. Each tessera is inserted by hand on a wall mosaic and some were deliberately tilted to reflect light downwards. They were designed to be viewed from a distance and the interaction of the dynamic forces of light and glass were used as a skin to illuminate buildings. It is estimated that there were 400 tonnes of glass in the mosaics of Santa Sofia but we still have little idea of where all this glass comes from.

Vanessa Simeoni – Medieval decorative inlays in Westminster Abbey

It had been thought that there were not many examples of decorative inlays before the 13th century. Henry III redecorated the interior of Westminster Abbey after he had seen St Chapelle in 1254 which acted as a strong influence and affected the decoration and both the painting and glass. This included a lot of imitation painting of stone and the installation of the Cosmati pavement in 1268. Most of the glass is

found in this area and around the shrine of Edward the Confessor. Inlays of both opaque and translucent glass tesserae were used on the Tomb of Henry III and the Tomb of the Children and included the following colours – opaque red, turquoise, blue and a paler blue, flashed ruby, and white cloisonné enamels. The Retable (a devotional painting for the High Alter, or a divider of the High Alter from the Chancel), dated to 1260-70, has glass decoration and imitation enamel. Many of the original inlays are now missing, particularly those within easy reach of pilgrims looking for souvenirs.

David Dungworth – Composition of post-medieval window glass

This paper reported recent research into historic window glass with a view to developing a methodology for dating extant windows glass through its chemical composition. Samples have been collected from historic buildings and from the archaeological excavations of glasshouses. The compositions of the samples have been compared against historical evidence for changes in glass technology and indicate that particular glass compositions were popular for distinct historical periods. The first phase covers the whole medieval period up to the latter part of the 16th century, in which potash-rich forest glass was virtually the only glass type used for windows in England. The second phase, which sees the widespread use of high-lime low-alkali glass, starts with the arrival of immigrant glassworkers from 1567 and lasts until the end of the 17th century. The 18th century saw the dominance of mixed alkali glass in the manufacture of windows. Historical sources suggest that the very highest quality window glass of the 18th century would have been manufactured using specialist imported fluxes, such as barilla, but no archaeological evidence for this has yet come to light. A major change in glass manufacture in Britain took place in the 1830s with the widespread adoption of synthetic soda (i.e. sodium carbonate manufacture from ordinary salt using sulphuric acid).

Sandy Davison – Mirrors

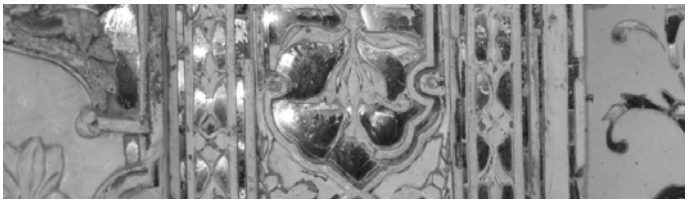
The mid-16th century was the start of the common use of mirrors and until the 20th century a tin-mercury amalgam was used as the coating on the back. There were several questions and comments in the discussion on the Health & Safety aspects of handling and restoring mirrors of this date. In Murano in 1517 a patent was granted for making mirrors and the mirror makers' guild was formed in Venice in 1564. At this time mirrors were made from cylinder glass that was flattened, ground, and polished, and mercury was poured over a sheet of thin tin foil placed on the back surface. In the 1670s a new invention for making flat glass evolved where molten glass was poured onto an iron table and rolled. Bevelled-edge mirrors first occurred between 1690-1710 and in 1773 Ravenshead started making plate glass mirrors. The 19th century saw several further improvements in the ways mirrors were made and they started being held in place by glue blocks and protected by paper and wooden panel backings. Mirrors were used to reflect both natural and candle light and in Castle Coole, Enniskillen, Ireland, they were hung on shutters and doors as a means of introducing light and views of the parkland in rooms.

Dennis Hadley – Glass tiles and *opus sectile* memorials etc.

In the 1860s prefabricated mosaics became popular. Prefabricated mosaics were ordered for Christ's College, Cambridge, and Windsor Castle at the cost of £3 per square foot. Those ordered for the Victorian and Albert Museum in the 1870s were more expensive at £3 to £4 per square foot. A type of opaque stain glaze was developed as an alternative method of colouring the larger fragments.

It wasn't until 1887 that this type of decoration became known as *opus sectile*, using flat, shaped pieces of glass to build up a decorative or figurative panel often of some size and complexity. The individual pieces had to have smooth well-finished edges that fitted closely together as came or leading was not used in this style of panel. The slabs forming the pictures or designs were ¼ inch thick with a thin coloured surface and were fired in a kiln. The individual slabs were then painted with enamels and re-fired at a lower temperature. *Opus sectile* was used for tiles and panels on walls and also by the Arts and Craft movement for floor tiles in the early 20th century. Between 1890 and 1915 the principal *opus sectile* maker Harry Powell was producing between 20 to 30 figurative panels a year, but this style of glass decoration went out of fashion with the slump of the 1920s.

Sarah Jennings and David Dungworth



Mirror mosaic, Amber Fort, India

Book and Article Reviews

Brilliant Things for Akhenaten:
The production of glass, vitreous materials and pottery at Amarna site O45.1

Paul T Nicholson

This book examines the coming of glass to Egypt and its relationship to the production of faience and pottery, particularly at Amarna site O45.1. The text combines excavated evidence with experimental archaeology and laboratory analyses to give a reconstruction of the production of glass and other materials at Amarna, both in terms of technology and social context. The excavations carried out by Flinders Petrie at Amarna (18912) are reassessed in the light of the new work and finds from that time put into a broader perspective.

Excavation Memoirs 80
394 pages, b/w illus, tabs, DVD with colour images
London: The Egypt Exploration Society (2007)

ISBN-13: 978-0-85698-178-4
Hardback.
Price £65.00
Available from Oxbow Books, Oxford (www.oxbowbooks.com)

Historic Glass... from Collections in the North West of England

In 1979 the then Merseyside County Museums held an exhibition with this title. To accompany the exhibition a publication was issued, containing black and white photos of glass from the collections of many North West museums. The Museum is seeking to remainder the last few copies of this publication, which is soft backed and has 128 pages.

Please contact Alyson Pollard on 0151 478 4263 or by email: Alyson.Pollard@liverpoolmuseums.org.uk

Price: £3.99 (this includes 2nd class postage). Cheques should be made payable to **National Museums Liverpool**.

Reflecting Antiquity - Modern Glass Inspired By Ancient Rome

David Whitehouse

This catalogue is the companion to a current exhibition organized by The Corning Museum of Glass and The J. Paul Getty Museum entitled "Reflecting Antiquity", focusing on the influence of ancient Roman styles on glassmakers of the 19th century. The author discusses several styles of ancient glass including: cameo glass, gold glass, cage cups, and mosaic glass. The catalogue includes essays by historians Dunja Zobel-Klein and Michael J. Klein, and glassmakers William Gudenrath, Mark Taylor and David Hill, exploring the manufacture of ancient glass and the history of modern imitations.

234 pages with 163 colour and 8 b/w photos.
Published by The Corning Museum of Glass, Corning NY (2007)
Available from Corning Museum's website www.cmog.org
Price: $29.95 (USD).
Also available elsewhere e.g. David Giles Ancient Art Books, price £19 http://www.gilesancientart.com

Vessel glass from Beirut (Bey 006, 007 and 045)

Archaeology of the Beirut Souks 2 Berytus vols XLVIII-XLIX (2004-5)

Sarah Jennings

American University of Beirut, Beirut, Lebanon, 2006
ISBN 0067-6105
326 pages
Price $30, plus $10.00 postage, payable by credit card or bank draft.
Available from Berytus, Department of History and Archaeology, College Hall, American University of Beirut, PO Box 11-0236, Riad El-Solh,
Beirut, 1107 2020, Lebanon.
Or contact David Giles Ancient Art Books about availability. Email: ancientartbooks@aol.com
Website: http://www.gilesancientart.com

Excavation on three sites (006, 007 and 045) in the Souks area of Beirut was undertaken by the American University in Beirut (AUB) and the Archaeological Collaboration of Research and Excavation team (ACRE) between 1994 and 1996 in advance of redevelopment of the war-damaged district. The area was occupied from around 500BC to AD 1975, and the excavations found numerous structures and other features including a Hellenistic cemetery, various buildings in the Classical-early Byzantine city, a monumental Roman bath-house, evidence of Fatimid and Crusader occupation and a late Ayyubid or early Mamluk glass workshop. This volume is a study of more than 20,000 fragments of vessel glass from the excavations, dating from the 5th/4th century BC to 15th/16th century AD; the glass objects and architectural elements and the glass workshop will be published in later volumes.

The book has 12 chapters. The first introduces the study of the glass and the classification, recording and dating (dealt with in more detail in Appendices 1-2), and the last presents the conclusions. Chapters 2-10 catalogue, illustrate and discuss the groups of vessels by broad period divisions, producing a typology for the Hellenistic, early, mid- and late Roman, early Byzantine, early and mid-Islamic periods and chapter 11 presents 22 glass groups dating from 1st-13th centuries AD that came from single contexts or single events. There are also three appendices: 1 and 2 (by Paul Reynolds who presents the ceramic phasing supporting this work from 5th century BC to AD 700-50) are mentioned above, and 3 (by Sarah Paynter) gives the results of analysis of two groups of glass from site 006. The glass of each period has been identified, illustrated and examined critically to set it in its local and regional context. This work has demonstrated that the most comprehensive assemblages, belonging to the late Hellenistic/early Roman and late Roman/early Byzantine periods, have survived largely because of comprehensive building and rebuilding projects and an earthquake in AD 551. The text has been well planned and is easy to follow, providing a comprehensive and coherent survey of the range of glass in use in this district of the city over more than a millennium. This shows clearly that virtually all of the vessels in use there at all times were quite ordinary items with everyday functions, which were probably produced fairly close to where they were used. Very few highly decorated or particularly high quality pieces were identified and long-distance imports appear to have been rare.

The discussion is thoughtful and thought provoking, exploring many issues worthy of further research, although I have noted one or two points for comment. The first is general: since it is argued that much of the glass found was produced nearby and evidence for a late Roman glassblowing episode was found, there might have been more discussion about the influence of recycling on the survival of glass fragments at different periods. The others are more specific: the comment on page 122 that cracked off rims involved a ‘single stage of manufacture that would have been quicker than finishing off on a pontil iron’ is difficult to accept as the former involves allowing the vessel to cool completely before finishing the rim as a separate process whereas the latter, a hot process, was completed at the time the vessel was formed. Finally, the almost complete absence of fragments of early Roman decorated mould blown glass, traditionally accepted as being produced at nearby Sidon, is mentioned on several occasions and is a very interesting issue, but the name of the city of Sidon does not, so far as I know, occur on any of the name-panels on early Roman decorated mould-blown vessels, contrary to a suggestion on page 290.

These are, however, very minor points that do not detract from the overall value of the volume. This is groundbreaking, as it makes a most important contribution to the study of the use of glass in Hellenistic, Roman and early Byzantine urban contexts in the Levant, whereas more emphasis has frequently been given to glass from burials in this region. It will be welcomed and widely used, now and by future generations of students of archaeological glass, and the author is to be congratulated on bringing this complex project to fruition.
Jennifer Price

Silver Stained Roundels and Unipartite Panels Before the French Revolution

Flanders, Volume 1: The Province of Antwerp

C J Berserik and J M A Caen

This is the first in a series of volumes describing the silver-stained glass roundels and unipartite panels from the 15th to the 18th centuries to be found in public buildings, museums and private collections in the present five provinces of Flanders (Belgium); as well as documented roundels and unipartite panels whose whereabouts are presently unknown or which have been moved to other locations or collections in the past. The checklist also mentions all known related material, and where possible, photographs of this material have been added. The related material includes direct designs, like drawings or engravings, and drawings and roundels which belong to either the same series or which are copies of these series; the relevant publications are also mentioned.

Hardback, 436 pages, 470 colour and 510 b/w illustrations, 230 x 315 mm (2007)
ISBN 978-1-905375-25-7
Price: € 95
Available from:
Brepols Publishers, Begijnhof 67,
2300 Turnhout, Belgium
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Website: www.brepols.net

The King's Glass

A story of Tudor Power and Secret Art

Carola Hicks

Each year more than 250,000 people visit the Chapel of King's College, Cambridge. This book tells the story of the Chapel's stained glass windows, and of the people who created them - the triumphant culmination of a project completed despite wars, the death of kings and violent religious conflict. Planned by Henry VII and continued by Henry VIII, the windows are dynastic propaganda, simultaneously blatant and subtle, boasting the ancient lineage of an upstart monarchy. Their unfolding scenes honoured the Catholic faith that Henry VIII was challenging in the 1530s, when he made himself head of the church to marry Anne Boleyn. The windows show how Henry commemorated his wives in art, then airbrushed them out when they fell from favour, and how he recruited leading artists to make this England's response to the Sistine Chapel. The great 'King's Glass' also flaunts the skills of its makers, many of them innovative immigrants. It is a tale of guilds and artisans as well as of the court. Exploring the stories behind these luminous treasures, this fascinating book uncovers the power struggles behind the beauty of the past. Read Peter Ackroyd's review in the Times at:
<<http://entertainment.timesonline.co.uk/tol/arts_and_entertainment/books/article2791954.ece>>

ISBN: 0701179929
Hardback, 256 pages, 8 colour plates, 8 b/w
Publisher: Chatto and Windus
Widely available, price: £18.99

Please send your contributions for Glass News No. 24

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