Glass News

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The Great Glass Slab at Bet She'arim © A. Meek

Welcome to Glass News Issue 34!

This issue is packed with details of forthcoming meetings, reviews of meetings past and new books, and an extended section on queries and current research. Many thanks to everyone who has sent in contributions!

The spring 2013 AHG study day on British Crystal Glass 1660-1700 was a great success. A review can be found on page seven.

The autumn 2013 meeting of the AHG will be held at the Science Museum's Dana Centre on the 15th of November. This meeting will appeal to all with an interest in ancient and historic glass because a very diverse range of glass types will be discussed. Further details can be found on page two.

The spring and autumn 2014 meetings of the AHG are currently being organised. The first of these meetings will focus on the use of glass in jewellery of the Renaissance and later periods. For more information see page two.

We are always on the lookout for information on interesting finds, new research, ideas, queries, new books and reviews, and any other glass-related news or meetings. The editors' details are given on the final page. We look forward to receiving your contributions for issue 35.

FACEBOOK

The Association now has a Facebook page! To keep up-to-date on news and current research on the history of glass visit:
facebook.com/TheAssociationForTheHistoryOfGlass
Click 'Like' and please share.

REMINDER

MEMBERS AND SUBSCRIBERS ONLY. Would you like to enjoy all the wonderful Glass News pictures in colour? If so, please email one of the editors (see back page) and we will also email future issues of Glass News to you as a full colour PDF!

AHG MEETINGS

A Miscellany of Glass
New Discoveries and Hidden Treasures

Friday 15 November 2013
Science Museum's Dana Centre, London, SW7 5HD

Please join us for a day of presentations and discussion, highlighting the diversity of ancient and historic glass and providing guidance on the identification and assessment of glass assemblages.

The morning sessions will include presentations on how to appraise glass assemblages for archaeological assessments, on key reference publications and collections, on how to spot fakes and forgeries, and on useful pointers in the identification of glass of various periods. In the afternoon there will be shorter contributions on individual groups of glass that deserve to become known to a wider audience. Finally, specialists in glass of all periods will be on hand to discuss informally individual vessels and fragments brought along by delegates.

We have already heard from contributors who would like to present the glass on which they have been working, or participate in the general discussion and identification sessions. If others would like to give a short presentation or bring along any glass pieces or photographs then please get in touch with Sally Cottam via email at sally.cottam@kcl.ac.uk

This study day has been designed to appeal to all those with an interest in ancient and historic glass and to highlight the role of the Association for the History of Glass as a network for dialogue on all aspects of the subject.

If you would like to attend, please send your full contact details and a cheque for £20 (members of AHG), £30 (non-members) or £10 (students) payable to the Association for the History of Glass Ltd to: Denise Allen, 8 St Catherine's Road, Southampton SO18 1LJ, UK.

Members wishing to attend the AGM of the Association only, which will be held on the same day, may do so free of charge.

AHG Meetings in 2014

In 2014 we plan to run two one-day meetings. The first will revolve around the use of glass in jewellery of the Renaissance and later periods. It will be held in London in the spring. If you would like to speak at the meeting or have a topic you would particularly like to hear about, please get in touch with the Honorary Secretary, Denise Allen (denise_allen52@hotmail.com). Full details will be included in the January 2014 newsletter and will be put on the AHG website as they become available.

OTHER MEETINGS

YOCOCU 2014

23-25 June 2014
Agsu, Azerbaijan

YOCOCU (YOuth in COnservation of CUltural heritage) was born in 2008 with the aim of realising a network among young professionals and researchers, working in different fields of Cultural Heritage. The next YOCOCU edition will be held from 23 to 25 June 2014 in Agsu, Azerbaijan.

Abstracts can only be submitted online via the conference website; visit: www.yococu.com and click on 'Call for abstract 2014'.

Abstracts must describe in a succinct manner (max. 1 page) the purposes and results of the research so that the quality, originality, and comprehensiveness of the work can be evaluated by the conference chairpersons. Original papers addressing interesting and relevant topics of YOCOCU will be considered for the publication. Accepted papers will be published by *The Periodico di Mineralogia*.

Topics: 1. Metals, 2. Stone, 3. Glass and Ceramics, 4. Pigments and Paintings, 5. Organic materials and Textiles, 6. Cultural and Educational Experiences, 7. Archaeology and Integrated Studies.

For more information, please contact: info@yococu.com

8th Interdisciplinary Conference and Round Table: History of Glass

14-15 November 2013
Alexander Dubček University of Trenčín, Slovakia

This conference has two parts: Part 1: History of Glass 2013, which is traditionally dedicated to various areas of life, science and research connected with the history of glass in Slovakia. The working language is Slovak. This part aims to gather specialists from social, natural and technical sciences, glass specialists from the field, the industry and the broad glass-interested public for an exchange of current fundamental information about historical glass and the history of glass in Slovakia and in international research. Part 2: Glass Beads and Glass

Technologies is international: the working language is English. This part of the conference is thematically oriented on glass beads and the historical technologies of glass production from ancient times until the 13th-century AD.

Preliminary programme
Part 1, 14 November 2013
08.00-09.00 Registration of participants.
09.00-12.00 Welcome speeches, scientific programme – selected lectures on historical glass in Slovakia and the international problems of historical glass research.
14.00-18.00 Scientific programme – round table, posters and artefacts (including posters for Glass Beads and Technologies).
Part 2, 15 November 2013
08.30-12.00 Opening of the international part, scientific programme for Glass Beads and Technologies, lectures.
14.00-18.00 Scientific programme, lectures, the conclusion of the conference.

Please send confirmation of participation together with a summary of your paper (no more than 10 lines) by 30 July 2013 to Dr D. Staššíková-Štukovská:
danica.stassikova@gmail.com

There is no conference fee for active participants. Travel, board and accommodation during the conference are to be paid individually. Registered participants will be informed about their inclusion in the conference programme, and about accompanying events in Trenčín and surroundings. Any information requests can be sent to the organisers at the email address above.

6th International Colloquium, Lost Luster

2-4 October 2013
Abbey Farm Ten Bogaerde, Koksijde, Belgium

Innovative interdisciplinary research on archaeological window glass in North Western Europe (10th-18th-centuries).

The 6th international congress of the Abbey Museum of the Dunes will present findings about:

- Archaeological collections of window glass in North Western Europe.
- Production, exchange and social value of window glass through history.

and focus on the contribution of applied scientific research within an innovative framework of interdisciplinary research.

This congress is the official start of the research project 'Lost Luster' (2013-2015). In this project four partners join forces to study the large collection of window glass of the museum: Abbey Museum of the Dunes, Vrije Universiteit Brussel (Department of Applied Physics and Photonics – B-PhOT), the Royal Institute for Cultural Heritage (KIK/IRPA) and UGent (Henri Pirenne – Institute for Medieval Studies).

For more information, visit:
en.tenduinen.be/activiteitendetail.aspx?id=5666

Society of Glass Technology Annual Conference: Living Glass

11-13 September 2013
Murray Edwards College, University of Cambridge

The 2012 SGT conference will be held at the University of Cambridge. The three threads of Science, Art and Technology will be covered: Science will cover key themes from novel materials and fabrication routes to structure and properties; Technology will include areas such as the environment, fuel usage, modelling and glass applications; and Art and History will make reference to the long traditions of stained glass in the colleges and religious buildings of Cambridge.

For more information see:
www.cambridge2013.sgthome.co.uk

Recent Advances in Glass, Stained Glass and Ceramics Conservation

7-10 October 2013
Amsterdam, The Netherlands

For the first time, the interim meeting of the ICOM-CC Glass and Ceramics Working Group and the Forum of the International Scientific Committee for the Conservation of Stained Glass (Corpus Vitrearum-ICOMOS) will be organised as a joint conference. In this joint conference delegates will have the opportunity to gain from the shared experience of both groups and learn from the interactions and exchanges that are a central part of the conference experience.

Aims of the conference:

- To present relevant case studies in the conservation of glass, stained glass, and ceramics.
- To disseminate research results in the field of cultural heritage.
- To promote the application of new materials and technologies for conservation practice as well as tools for analysis and documentation.
- To identify further research and to provide networking for future activities.

Target audience:

- Conservators working in museums and in private practice.
- Scientists specialising in conservation.
- Students interested in glass, stained glass, and ceramics.
- Architects, engineers, master glaziers, and glass painters dealing with stained glass in situ, curators and administrators in charge of museum collections or cultural heritage sites.

The four-day conference will include thematic sessions on research in progress and case studies related to glass, stained glass, and ceramics. About 25 posters will be displayed. A visit to the *Ateliergebouw* housing the Conservation workshops of the University of Amsterdam and the Rijksmuseum and the Laboratories of the Cultural Heritage Agency, on Tuesday afternoon and several post-conference tours will be offered to allow participants to explore stained glass in situ as well as museum collections in The Netherlands.

For more information visit: www.iconcorpus2013.nu

OBITUARY

David Bryn Whitehouse

15 October 1941-17 February 2013
Archaeologist and museum director

David Whitehouse, who was 71 when he died in Corning, New York State, on 17 February this year, was an internationally renowned glass scholar. He had a wide range of research interests focused in the Roman, Islamic and Medieval periods, and over five decades he published a large number of books, articles and notes on glass and on archaeology in Europe and the Middle East.

After earlier appointments as Director of The British Institute of Afghan Studies in Kabul and Director of The British School at Rome, David joined The Corning Museum of Glass in 1984 as the Chief Curator and between 1992 and 2011 he was the museum's Director and Executive Director. He then became the Senior Scholar. During this period he was a major contributor to studies in ancient glass.

Within Corning, he organised exhibitions, set up the glassmaking school, edited and wrote for the *Journal of Glass Studies* and worked towards the publication of the collections of Roman, Sasanian and Islamic glass. Five of the catalogues have already appeared, *Roman Glass in the Corning Museum of Glass, volumes 1-3* (1997-2003), *Sasanian and Post-Sasanian Glass in the Corning Museum of Glass* (2005), and *Islamic Glass in the Corning Museum of Glass, volume 1* (2010), making the ancient and medieval glass collections in the museum among the most comprehensively published in the world. He also worked in association with researchers in other museums on projects to produce exhibitions and catalogues, such as *Glass of the Caesars* 1987 (with D B Harden and K Painter, British Museum and H Hellenkemper, Römisch-Germanisches Museum, Köln), *Glass of the Sultans* 2001(with S Carboni, Metropolitan Museum of Art, New York) and *Roman Cameo Glass in The British Museum* 2010 (with P Roberts and V Tatton-Brown, British Museum and W Gudenrath, Corning). At the same time he was closely involved with the International Association for the History of Glass, serving as President from 1991 to 1995 and chairing the Organising Committee for the 15th Congress which was held in New York and Corning in October 2001, a month after the destruction of the World Trade Centre. He remained as a member of the Board of AIHV until 2012.

David was a generous communicator, sharing his knowledge and ideas at conferences and in discussion and giving support to the work of younger researchers. He had a particular interest in the potential of modern experimental glassworking for interpreting ancient production techniques, returning to aspects of this subject in several publications, in association with practitioners such as Bill Gudenrath (Corning), Mark Taylor and David Hill (Roman Glassmakers, Andover) and George Scott (Edinburgh). The last time I saw him, at the 19th Congress of AIHV in Piran, Slovenia in September 2012, he was clearly enjoying the opportunity to do research without distractions and was full of plans for future publications. His death so soon afterwards is a great loss both for glass studies and for everyone who knew him.

Jennifer Price

EXHIBTION

Glasstress: White Light/White Heat

27 November 2013-26 January 2014

A selection of glass from the exhibition *Glasstress: White Light/White Heat*, a collateral event at this year's Venice Biennale, will be at the Wallace Collection from 27 November 2013 to 26 January 2014.

The artists involved in *Glasstress* in Venice during this year's Biennale include Fiona Banner, Cornelia Parker, Joana Vasconcelos and Hussein Chalayan. In a collaboration between Venice Projects, the London College of Fashion and the Berengo Studio, artists worked with Murano craftsmen to create work in response to the themes of light and heat (hence the title

White Light/White Heat). This winter, *Glasstress* will be in London for the first time, when selected works from the exhibition will be on show at the Wallace Collection, providing a fascinating counterpoint to the museum's collection of historic Venetian and *façon de Venise* glass.

For more information visit www.glasstress.org

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 can be obtained from the Honorary Secretary, Denise Allen. Email: denise_allen52@hotmail.com

CALL FOR INFORMATION

Venetian enamelled glass from reliably dated contexts

Since 2009, the laboratory of the Centre de Recherche et de Restauration des Musées de France (C2RMF) has been involved in a research programme concerning enamelled and gilded Venetian Renaissance glass in the Musée du Louvre, in collaboration with F. Barbe (curator), R. Barovier (independent Venetian glass specialist) and M. Verità (research scientist specialising in glass at the Laboratorio di Analisi dei Materiali Antichi (LAMA) – Università IUAV, Venice). The purpose of the project is to establish, through chemical analysis of the glass and enamels, the criteria that enable Venetian Renaissance enamelled glass to be distinguished from *façon de Venise* production. The database being developed is the first to be dedicated to this subject.

Indeed, in spite of the interest shown by collectors, museums and specialists for more than a century, questions still remain to be answered about Venetian enamelled glass. Although, since the mid-19th-century, the majority of these glasses have been attributed to Venice, it seems that Venetian production, which met with enormous success in Europe, was quickly imitated in many other glassmaking centres (Tyrol, Austria, Bohemia, Low Countries…) over an extensive period (16th-18th-centuries). This production is known as *façon de Venise*. Furthermore, specialists agree that some examples are in fact copies or fakes made in the 19th-century, as a result of the high prices collectors were paying for Venetian Renaissance glass.

This project has been extended to incorporate a historic and stylistic study of Venetian Renaissance enamelled glass, alongside and in tandem with the physico-chemical studies being carried out by the C2RMF on glasses in various French collections.

The first results of our analysis have established a range of compositional groups: typical Venetian Renaissance recipes (*vitrum blanchum* and *cristallo*) and others that are not specifically Venetian – perhaps contemporary (16th-century), or later, even problematic (17th- 19th-century) (I. Biron and M. Verità, 'Analytical investigation on Renaissance Venetian enamelled glasses from the Louvre collections', *Journal of Archaeological Science*, 39 (2012) 2706-2713).

In addition to those objects in French collections that can be firmly dated, it is essential for the next phase of the project to include analysis of well dated and/or well documented glasses which can serve as references by which to gauge the groups that have been identified through chemical analysis. Recent finds of enamelled glass fragments datable to the Renaissance in archaeological contexts (Italy, France, Hungary, Great Britain, Russia…) provide rare and indisputable evidence about this problematic production.

The C2RMF is currently appealing on a European-wide level for information about such objects or fragments in museum collections or from archaeological excavations; this quest will lead, at the next stage, to requests to analyse some of this material.

We would be very grateful for any information about items relevant to this research project. If you can provide information, please contact Isabelle Biron at the following address: isabelle.biron@culture.gouv.fr

Isabelle Biron
C2RMF

MEETING REVIEWS

International Festival of Glass

24-27 August 2012

The fifth International Festival of Glass was held in Stourbridge from 24 to 27 August 2012. Amongst other

things the festival celebrated 400 years of glassmaking in Stourbridge (see www.ifg.org.uk/glass-festival.html). As in previous years there were far too many events to attempt to attend all of them, but one of the highlights for me was the Dial Glassworks (Plowden and Thompson) tour.

Strictly it should be called the New Dial glasshouse, since it relocated in 1779 to take advantage of the opportunities offered by the new canal (see Graham Fisher's excellent book "Jewels on the Cut"). Although truncated about 80 years ago, it is the last working glass cone in Stourbridge. Learning from the last festival, two tours were scheduled this year instead of one, but our tour was still over-subscribed and had to be split to manage in the building. The glasshouse has clearly seen better days, or perhaps I should say better centuries, but it represents remarkable continuity. If one expected a business such as this to be backward-looking and living on past glories, this tour would come as a complete shock. Current products include: wing-tip lamp glasses for Swedish Airforce Gripen jet fighters (they were found to perform better than the competition, particularly in supersonic rain erosion); night-vision goggle compatible filters for US Marine Corps Harrier jets tested individually for compliance to spectral-transmission standards; and precise sub-micron-diameter glass tubing for advanced brain surgical applications.

All the products seemed to have in common was that they were made of glass and that they required large amounts of skill, knowledge and problem-solving to satisfy the extremely demanding standards required by their customers. The large number of glass recipes needed is evidenced by the different bags of cullet stored in bins for repeat orders. The old works seemed to lend itself to this, with new partitions being erected and old ones torn down and furnaces being moved in and out to meet the next challenge. It is a reminder that glass has always been fundamental to science and engineering and that this is unlikely to change over the next 400 years!

Colin Brain

Study days on Venetian glass

27 February-1 March 2013
Venice, Italy

The technical finesse and inventiveness of Venetian glass from Murano was one of the outstanding achievements of Italian Renaissance art. Demand for Venetian styles, designs and techniques not only fed exports but led to a diaspora of Venetian glassmakers as they set up glasshouses throughout Europe, making glass in the Venetian style (*à la façon de Venise*). We know a great deal about how Venetian-style glass became a highly-sophisticated courtly art in Europe, as princely patrons attracted the best Venetian masters to come and work in their own glasshouses. But many questions remain, especially in the lesser-studied 1600s. How can we distinguish between Venetian and *façon de Venise* glasses made elsewhere and on what basis might we attribute *façon de Venise* glasses to particular centres? What does archaeological evidence have to tell us about the demand for Venetian glass and the way it was imitated elsewhere using different raw materials and methods of making? How did the Murano glasshouses respond to competition from foreign glasshouses in developing new recipes and techniques? How can we interpret Venetian inventory references to glass types? What can scientific analysis tell us about differentiating between glasses made in different centres or distinguishing genuine Renaissance glasses from 19th-century fakes?

On the Ponte dell'Accademia © D. Thornton

These are the kinds of questions addressed in the Study Days on Venetian Glass of around 1600, organised by the Istituto Veneto di Scienze, lettere ed Arti between 27 February and 1 March 2013. These sessions brought together a variety of knowledge and experience from across Europe, the USA and the Russian Federation. Glassmakers, curators, conservators and scientists as well as independent scholars and dealers exchanged information and planned new collaborations and publications.

Rosa Barovier and the delegates discussing glass from the collections of the Museo del Vetro © A. Meek

Rosa Barovier Mentasti and Cristina Tonini set the scene in introducing the various analytical tools available for the study of Venetian glass in this period: inventories of Muranese glassmakers, paintings, and the evidence of surviving glasses. Marco Verità taught two sessions on

raw materials, casting and handling techniques and on technical innovations of the late 1500s and 1600s. Isabelle Biron took us through the analyses she has been doing with Marco Verità on 20 glasses from the Louvre. Reino Liefkes discussed the splendours of Venetian glass to be seen in the VAM, and Suzanne Higgott of the Wallace Collection showed us fascinating hybrid glasses made from two or more parts of different – often authentic – glasses of the 1500s and 1600s. Eva Putzgruber told us about the lampworked treasures made at the Innsbruck court glasshouses under Ferdinand of Tyrol, which are now on view in new displays in the KHM in Vienna. Conservation issues were analysed by Corinna Mattiello, while Käthe Klappenbach told the story of the Venetian chandelier in courtly interiors from the late 1500s onwards. In between the papers on each day there were more informal talks and lively discussions.

We finished in Murano, with demonstrations of the glassblowing techniques thought to have been used in the 1600s, as demonstrated by William Gudenrath of the Studio of the Corning Museum of Glass. Finally we handled unusual glasses from the stores of the Museo del Vetro in Murano.

William Gudenrath demonstrates 17th-century techniques © A. Meek

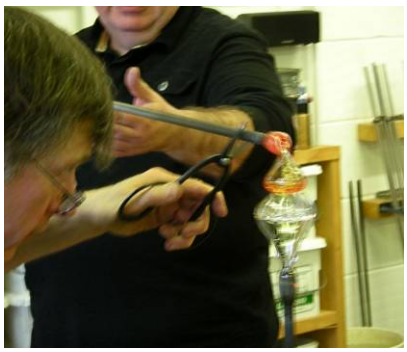
These study days are a part of the important *Glass in Venice Project*, a collaboration between the Musei Civici di Venezia and the Istituto Veneto. Another element of the Project is the creation of a website which will become the main source of information on Venetian glass for a worldwide public. It is to be hoped that the conference papers, or videos of them, will be posted on the website.

Dora Thornton
The British Museum

The Evidence for British Crystal Glass 1660-1700

16 March 2013

The study day: "The Evidence for British Crystal Glass 1660-1700", was held at the Georgian Glassmakers' workshop on Saturday 16 March. Since only eight people attended, there was plenty of opportunity to steer the demonstrations to focus on points of major interest. Mark Taylor started the morning session by introducing the workshop, fixtures and tools and demonstrating some of the properties of glass on which glassmakers rely when producing blown ware. There are some significant differences between reproducing 17th-century glass and that from the 18th-century. One of these is that the glass is generally blown much thinner. The first picture shows Mark and David adding a blown, hollow, stem to the parasion that will eventually make the bowl of the glass. Another difference is in the use of moulding on bowls, stems and feet, so most demonstrations included different kinds of moulding. Three of the glasses produced on the study day, or during practice for it, are shown in the second picture.



Glassworking demonstration © C. Brain

There is no way of knowing whether modern techniques used to reproduce historic glass are identical to those used originally. One can only judge the validity of these techniques against the speed and ease of using them and the correspondence between the finished results and the original glasses. Mark and David certainly made the making of these glasses look easy and I doubt if many people would easily be able to tell the difference between the glasses produced on the day and those that originally graced the shelves of the glass-sellers! It is a good thing that these reproductions are all signed! I found the day both very informative and enjoyable and have the impression that this view was shared by all involved.

Glasses produced for the study day © C. Brain

Colin Brain

Note on two 1st-century AD glass vessels from London

Michael Marshall

Museum of London Archaeology
mmarshall@mola.org.uk

Introduction

This note directs readers attention to two interesting Roman glass vessels dating to the 1st-century AD recovered during a watching brief at the junction of Cheapside and Old Jewry in the City of London (Sitecode: JWR11). The work was undertaken by Museum of London Archaeology (MOLA) for the City of London Department of Planning and Transportation[1].

A total of seven sherds of glass were recovered, two yellow-brown and four naturally coloured blue-green. Forms could only be assigned to the sherds comprising the two vessels reported here. The glass was found together with a large assemblage of pottery which provides a relatively tight Late Neronian – Early Flavian date, *c.* 60/1-75 AD, and this is consistent with the dating of the glass. It is also possible that this dumped material is related to a substantial early Flavian stone building, part of which discovered *c.* 15 m to the south during excavations by MOLA on the adjacent site at No 1 Poultry (Hill and Rowsome 2012, 90-93, fig 82, B18/48).

The Vessels

Figure 1: Yellow-brown cup with opaque white rim trail © MOLA/Andy Chopping and Daniel Bashford

Glass cup (Figure 1)

Accession 4, Context 15

Free blown yellow-brown vessel, probably a cup. Upright fire rounded rim with a horizontal opaque white marvered trail and a figure of eight neck fold above a convex body. Rim diameter: 64 mm.

Glass belonging to this tradition of strongly coloured vessels, sometimes with opaque decoration in another colour, dates to the early-mid-1st-century AD and thus tends to be of Claudio-Neronian date in Britain (Cool and Price 1995, 56-60). The overall distribution of these vessels suggests they may have been manufactured within the region encompassing northern Italy, southern France, Switzerland and Austria (ibid., 56).

This form has not previously been recorded from London and both the figure-of-eight neck fold and the white rim trail are quite unusual in Britain. However, these two decorative traits are combined elsewhere on 1st-century blue glass vessels of somewhat different form with inturned rims found at Vindonissa, Switzerland (Berger 1960, 82, no 210) and at Fréjus, France (Cottam and Price 2009, 205, no. 155) .

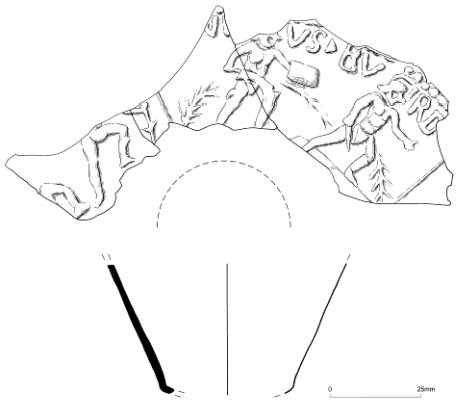


Figure 2: Naturally coloured blue-green mould blown cup with gladiator decoration © MOLA/Daniel Bashford

Glass cup (Figure 2)

Accessions 1-3, Context 15

Mould blown natural blue-green ovoid gladiator cup. Three fragments from the lower part of the body. Rather narrow base. Base diameter: *c*. 40 mm.

The surviving section has a pelleted border across the top and is divided in half by two vertical mould seams. Decoration in each half comprises a pair of gladiators with interposed palm leaves. In the best preserved half the two gladiators are almost complete and the remnants of their names can be read as […]V[…]VS and BVRD[O]. Burdo turns away and raises his hand in a gesture of capitulation. Judging by the visible equipment this is the classic pairing of the *murmillo* vs *thraex* classes of gladiators. Enough remains of the other half to show that the figure on the right is facing away from his opponent and he may be grasping a palm leaf but the names and the class of the gladiators is obscure.

Ovoid cups date to around the third quarter of the 1st-century AD (Price and Cottam 1998, 61-3). They are rare in London with only four of the 39 mould blown cups from the city attributable to this form and this seems to bear out a wider pattern whereby cylindrical cups are more common than the oval examples. The relative proportions vary, however, in different parts of the Empire perhaps reflecting differences in supply (Sennequier et al. 1998, 78-9). This example does not

appear to conform to any of the moulds groups defined by Sennequier et al. (ibid., 24-76) and I would be very interested to hear of other instances of cups from this mould or any other which depicts the gladiator Burdo.

Acknowledgements
Professor Jennifer Price was kind enough to comment on the glass and offered some very useful references. Thanks are also due to Dr Roger Tomlin for his reading of Burdo's name.

I am also grateful to colleagues at MOLA for their work on the project and for permission to provide details and images of the vessels here. The watching brief was carried out by Andy Daykin and the project was managed by Julian Hill and David Divers. Amy Thorp reported on the pottery from the site and her dates are cited above. The illustrations are by Daniel Bashford and the photograph is by Andy Chopping.

Note
1. Summaries of the watching brief are available (Daykin 2012; Maloney 2012, 53) and a more discursive account of the finds from the watching brief and their significance is to be published elsewhere (Marshall and Thorp in prep.).

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AHG Grant Report: Sand and Glass Workshop

26-28 April 2013

Matt Phelps

University College London
matt.phelps@uclmail.net

Primary glassworking waste at Apollonia © M. Phelps

The AHG provided me with a grant to cover the costs of attending the Sand and Glass Workshop organised by Yael Gorin-Rosen (Israeli Antiquities Authority) and Ian Freestone at the University of Haifa over a period of three days. Israel was a primary and vital component of the Roman and post-Roman glass industry and was the ideal location for this gathering. The purpose of the meeting was firstly to give researchers in glass studies a chance to visit the places where glass was produced, the raw materials procured and visit the main export cities. Secondly, the round-table presentations allowed current research into the ancient glass industry to be showcased, new findings reported, new scientific techniques espoused and future developments and goals determined. Finally the meeting was an important element of student training for NARNIA funded students. This conference was a follow-up to a successful glass conference held in Israel in 1998, the result of which helped stimulate the advances in Roman and post Roman glass research in the succeeding years.

Friday 26th saw the start of the meeting in Tel Aviv, however on Thursday, early arrivals were treated to a tour of the Israel Museum in Jerusalem by Natalya Katsnelson, the extremely knowledgeable curator of glass. The glass collection was stunning and extensive, and proved very popular with delegates. The official schedule started with a tour of ancient Apollonia by Prof.

Oren and Ruthy Jackson-Tal. Highlights were the remains of a Late Roman tank furnace. The benefits of seeing production furnaces in real life were quickly apparent in understanding the processes involved; heat damage to the furnace lining could be examined, glass variations due to oxidation seen, and the strong off-shore wind highlighted the benefits of a coastal location. Other notable sites were the Byzantine era port, city walls and crusader fortress, and a Byzantine period winepress next to piles of glass working debris – the site of more primary glass working. Before leaving, food and refreshment were provided, however of more immediate interest were boxes of primary glass working waste and raw glass chunks, these were quickly examined and photographed, and will no doubt feature in future lectures. Apollonia was followed by the very impressive ruins of Caesarea, the main Mediterranean port in the Roman period, and ended at the Dor Museum. The building once housed a 19th-century glass bottle works which had been wonderfully restored and now contains an eclectic mix of objects from Dor's history, Napoleonic and Egyptian era, as well as specifically glass related items such as Roman and Byzantine vessels and raw glass chunks.

Saturday saw a trip to the Jewish Necropolis of Bet She'arim. We were shown some of the many impressive tombs, however, the site is most famous for the great glass slab held in the Cave of the Museum, an abandoned Byzantine cistern (see page one). First discussed, sampled and analysed by Robert Brill, the slab still has the hole in its centre where a large core of glass was removed in the 1960s excavation. The slab was large, an estimated eight tonnes, an opaque dirty greenish-purplish colour with surface features that could be from outgassing. Many photographs were taken and its formation and surface features debated. The return to the Bay of Haifa included a small stop at Jalame, a secondary production site from the 4th-century, passing by the River Belus, the site of glass making sand made famous by Pliny and eventually to the medieval city of Akko where tours of the medieval city and Crusader compound of the Knights Hospitaller were given.

Sunday's round-table talks were held on the 30th floor of the Eshkol Tower at Haifa University. After the welcoming speech by Prof. Sariel Shalev, Marie-Dominique Nenna opened the first session discussing current work in Egypt, tank furnace excavations in the Wadi Natrun, and the trade in HIMT glass. Whilst Yael Gorin-Rosen gave a synopsis of the considerable glass working finds from Israel; around 100 secondary production sites so far discovered, a number of primary production furnaces, and notably the 17 tank furnaces from Bet Eli'ezer found in 1992. Current excavations continue at the sites of Horbat Biza and Horbat Hanut. Ehud Galili ended the session with a discussion of raw glass cargoes found off the Israeli coast.

Byzantine glass furnace at Apollonia, Israel © M. Phelps

Session 2 dealt with sand. Dorit Sivan and Yeol Roskin's useful paper on the history and geology of the coastal sands of Israel was followed by a fascinating paper on Patrick Degryse's work on provenancing glass using neodymium isotopes. His work showed that sand from Israel and Egypt cannot account for all the glass production seen in the Roman and Post-Roman periods, he also commented on an apparent explosion in glass production locations during the Roman period as seen from neodymium isotope signatures. Dieter Brems continued this theme with reports of a detailed compositional study of 178 coastal sands from Italy, Spain and France. He found only three to be suitable for Roman glass production and another three only suitable with the addition of lime, showing that glass suitable sands are really quite rare.

Caroline Jackson began session 3 with a comprehensive and very valuable evaluation of the main glass compositional groups so far identified in Roman glasses, notably the chronology of the different groups and the prevalence of recycling. Anastasia Cholakova elaborated on this work by discussing her findings from 4-7th-century sites in Bulgaria, identifying a HIT glass group, while Daniela Rosenow talked about Roman and late-Roman glass excavated from Bubastis, Egypt, noting the dominance of Egyptian compositions over Levantine groups.

In session 4 Susanna Greiff's discussed the trade in glass between three different European sites in the 5-7th-centuries as seen from glass compositions, culminating in Ian Freestone's paper noting the shift in production in the late 4th-century to Egypt, the growth of HIMT and the use of trace elements to help identify groups and recycling. The discussion, skilfully chaired by Marie-Dominique Nenna, provided a chance for all present to engage in the talks. Topics ranged from reasons why HIMT production started in Egypt when Israel was the centre of Roman glass making, types of fuel employed and where it was procured, and a call from the archaeologists that archaeomaterials scientists should provide more typological information about their glass samples when publishing.

The conference was a great success, it brought the current researchers and students together to talk about the cutting

edge of glass research and discuss the future direction of the field, highlighting the important questions. It is up to us to ensure that at the next conference in 15 years' time that some of these questions have been answered.

QUERIES AND CURRENT RESEARCH

I am descended from Joseph Stock who I understand with his uncle Thomas Shutt were partners in the British Crown Glass Company, which operated on the site of what later became the Bournville Cadbury site. The business was acquired by Chance Bros after Thomas Shutt's death in 1822 and ultimately folded into Pilkington. After the sale Joseph continued as a glass merchant and other Shutt and Stock family members were also in this business in and around Liverpool, Birmingham and London.

I am interested in finding out anything I can about the British Crown Glass Company and its partners and other family members. Any suggestions as to anyone who may have research in this area would be most appreciated.

Stuart Bright
stuart.bright@bigpond.com

I am interested in the international movements of English glass during the 18th-century, particularly in the form of bottles to the Caribbean. I am thinking of trying some XRF studies in an attempt to source the glass and will be working with Dr Bruce Kaiser of Bruker international in the Caribbean this summer to this end.

I was wondering if you could suggest any material that may help? Anything that may suggest some kind of compositional similarities or historical or typological documents would be brilliant. My aims would, if possible, be to prove that English glass, particularly from Gloucester, was being sent to the West Indies.

I would really appreciate any help you may be able to give me.

Charlotte Goudge
C.Goudge@bristol.ac.uk

Response

I may be able to help a little having been involved in an extended study on English 17th- and 18th-century vessel glass with David Dungworth of English Heritage and also having done some work on the vessel glass from Port Royal in Jamaica.

Some very successful work has been done using scientific analysis to estimate the origins of early glass, but there are a number of challenges to replicating this with post-medieval glass. At best, glass analysis can provide data on the raw materials used and how the finished item was manufactured using these. In early glass there was a tendency to collocate raw material extraction and initial glass melting. The raw glass may then have been worked on site or shipped for subsequent glass working elsewhere. This pattern can give the opportunity of localising the source of the materials and the initial melting. From the 17th-century onwards, initial glass melting and its subsequent working tended to be collocated, but raw materials could travel considerable distances English 18th-century vessel glass, for example, was made using potash from Russia, Sweden, and New England; saltpetre from India; and borax from Nepal. So scientific analysis alone may not provide a good basis for confident attribution of the origins of 18th-century glass.

If I recall correctly, Olive Jones from Canada did her PhD on bottles imported into Canada. I think she published some of this material in the Corning Journal of Glass Studies and if you are not aware of this work come back to me and I will find out the references. There is also a book due out shortly on Modern Methods of Glass Analysis which may provide some useful information. I think David Dungworth has also published something on analysis of bottles from a Bristol glasshouse in Post Medieval Archaeology.

My impression is that bottle making in Gloucestershire was done on a very tight budget, so that what went into the bottle mix was what was cheap at the time, e.g. soap-boilers' waste, blast furnace slag, etc. It may be possible analytically to identify 'signatures' for different kinds of waste in bottles and from documentary sources to identify possible locations for this mix of industries.

Colin Brain

Follow-up

Thank you so much for your reply.

Your comments have reinforced some of the issues I have been encountering. There is a huge quantity of research on early glass, particularly Italian, which is fascinating but does not really relate to my interests.

I have very little background in this scientific field but I would very much like to learn, what has been suggested to me is the possibilities of using pXRF to examine the chemical composition of any vessel shards we pick up. Do you have any opinions on whether this would work?

I am also interested in vessel typologies, I have seen the SHA one and an Ivor Noel Hume one but I was wondering if you had seen any?

Response

The use of portable XRF is becoming popular in a number of archaeological applications, but there are a couple of limitations for use on archaeological glass. One

is that unless you use a pXRF with inert gas spray the emitted radiation from the lighter elements is absorbed by the air. For glass this affects the measurement of sodium and magnesium. The other issue is that XRF measures the composition of the surface of the glass, so if any surface alteration has taken place over the years, what one measures is the altered surface, not the original glass. One way to overcome this is to deliberately break the shard and measure on a newly broken edge, but this depends on having a pXRF with a small measurement area. Whether these are major problems for you will depend on what key composition parameters you will be looking for in the shards and what standards you use to calibrate against.

Typologies for glass tend to be specific to applications and I do not recall any generic ones. I have found that I have a copy of Olive Jones et al. *Glass Glossary* please let me know if you would like a copy.

One thing that occurred to me is that I am not sure if you are interested in glass exported to the Caribbean from Gloucester/Bristol area or only glass made in that area and then exported. The reason for the distinction is that I recall looking at Port Books for Bristol and the other local ports and seeing a surprising import trade in glass items particularly from France, some of which may then have been re-exported. It is some time ago since I looked at them, but I seem to remember the Caribbean destination in most cases was given as Nevis. I understand that was usually the first landfall, not the destination for the cargoes.

I work for an archaeological company in Northern Ireland and we are currently in the process of writing up a report on three glass kilns excavated in Belfast. As part of our research we are tracing the glass manufacturers who constructed the kilns and we are having real difficulty tracking down the origins of one 'Benjamin Edwards'. Westropp in his book on Irish Glass refers to him as a 'Bristol glassmaker', however we have trawled through the books and journals on the Bristol glass makers and cannot find a trace of him. I was wondering if there is any chance any of your members have heard of him prior to his arrival in the Irish records? Any help would be greatly appreciated.

Also, if any members would be interested in viewing the catalogue of the excavation site, please get in touch.

Colin Dunlop
Northern Archaeological Consultancy Ltd
info@northarc.co.uk

Responses

I have had a quick check in all the usual places on-line and in print and have turned up little more than you have already found. The only point which emerged was an unattributed suggestion that Edwards would have moved to Ireland in company with other glassmakers. Whilst I can find no evidence to substantiate this, it does seem credible. This opens up two possible ways of finding Edwards. A significant number of glassmakers leaving a glasshouse is likely to coincide with it closing (either before they left, or because they left). One possibility for this might be Chepstow, near Bristol which I think closed around the right date and whilst operating advertised the kind of wares later successfully produced in Belfast. The other approach is to look for evidence of other glassmakers travelling to Ireland from the Bristol area at about the same time as Edwards. Once again I think Chepstow has a candidate, but I am away from home at the moment and so cannot consult the relevant books.

Another possible approach is that Bristol is one of the few glassmaking centres that has some glassmaking apprentice records. It is some while since I looked at abstracts of these and then only in relation to late 17th-century glassmaking, but I think they are held by the Record Office there. However, given the mobility of glassmakers, Edwards may not have been apprenticed at Bristol. I suppose it is credible that the reference to Bristol is because that is where he sailed from, in which case he may have come from places like Stourbridge (although I can find no reference there) or Bridgewater. One even longer shot is that I think Broadfield House Museum in Stourbridge has an index of glassmakers that was compiled several years ago. I have never used it and I don't know anyone who has, but it might be worth a try.

Sorry that I haven't been able to provide any more useful answers, but unfortunately the published record on British 17th- and 18th-century glass history is very patchy. In my experience there are flaws in quite a bit that is published, so much so that one researcher I know is very reluctant to believe anything except a primary source! I cannot think of anyone else to suggest who might know.

Colin Brain

I cannot find any Benjamin Edwards for the dates you quote. There is one, but he is well into the 19th-century. Sadly the surviving burgess and apprentice records for the 18th-century are incomplete. As well as these records I also have the poll books for elections, plus many other documents on my computer. They have also produced nothing.

I have a William Edwards who was described as a glassmaker on 1st April 1754 when Gordon Cole became a free glassmaker because he married Mary, a daughter of William. I know nothing further about William. He could well be a brother or cousin of Benjamin.

I have done a search for Benjamin Edwards in all my records of Bristol glass and glassmakers and have found nothing.

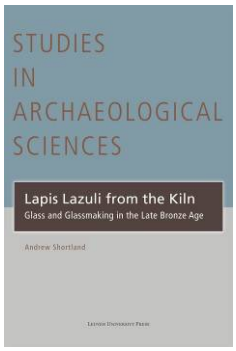
It is possible that the parish records might produce something, assuming he was an Anglican. If he

was a Quaker then Bristol has excellent Quaker records. However, if he was some other faith you would be in trouble. If you could give me some idea of a date range I could tell you the parishes where flint glass was made (Bristol was mainly bottles and window glass).

An ancestry website might just produce something, but I would not bet on it!

Rod Dowling

BOOK REVIEWS



Lapis Lazuli from the Kiln: glass and glassmaking in the Late Bronze Age
Andrew Shortland

Leuven: Leuven University Press, 2012
160 Pages
ISBN: 978-9058676917
£60.50

This much anticipated work from Andrew Shortland is intended to provide an up-to-date introduction to Late Bronze Age glass. As he himself notes in the preface, the text is aimed at the student of archaeology and is largely a summary of the current 'state of play' in the study of this early glass. Shortland, a senior lecturer at Cranfield University, is well placed to write such a book, as he has been one of the major contributors to this state of play in recent years.

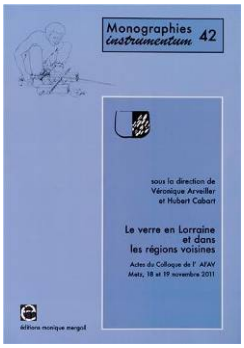
In particular, Shortland's research has focused on the chemical and isotopic analysis of Bronze Age glass from Egypt and the Near East. Due to this specialism the book offers an interesting focus on the compositional, as well as the archaeological and historical evidence for Late Bronze Age glass production. The introduction (chapter 1) provides a general scientific background to glass and glass production, which can be found in a number of other works, but which is crucial to understanding the processes discussed later in the book. Similarly, chapter 2 provides a brief background to Egypt and the Near East in the Late Bronze Age. A chronological path is then followed in chapters 3, 4, and 5, which cover the first appearance of man-made glass, the first regularly produced glass, and the 'Golden Age' of glass, respectively. Chapter 6 provides an analysis of Late Bronze Age glass workshop sites, of which just two (Amarna and Qantir) are currently known from well published archaeological work. Chapter 7, entitled 'Trade and display', provides an overview of the value of glass and its wider distribution from Egypt and the Near East, particularly to the Aegean but also to other parts of Europe. Chapter 8 briefly covers the decline in glassmaking seen at the end of the Late Bronze Age. There are two appendices (analytical techniques and analytical results) and a glossary. As is necessary for any discussion of archaeological glass remains, the volume is well illustrated, with colour figures provided at the end and black and white ones in the text.

Unfortunately, the book suffers in places from poor editing, with some minor typographical errors and other discrepancies not related to academic content. It is also inevitably the case that the current rate of change in this field means that recent findings have already superseded some of the discussions presented (e.g. on the provenance of Aegean glass). This latter point is intended as a caution rather than a criticism, however, as the author makes it clear that the book was not meant to provide a definitive statement on this still dynamic subject.

In summary, *Lapis Lazuli from the Kiln* is a very useful resource, particularly for the student or for those who are new to the material or to the Late Bronze Age, for whom it provides a good introduction to the huge volume of research on glass production in this period. The glossary, images, analytical data and the overview of the subject provided by the text are useful; the integration of analytical, archaeological, historical and linguistic aspects is well managed; and the book is well written and accessible.

Chloë N. Duckworth
University of Nottingham

Le Verre en Lorraine et dans les Régions Voisines. Actes du Colloque de l'AFAV, Metz, 18 et 19 novembre 2011
Eds Véronique Arveiller and Hubert Cabart



Monographies Instrumentum 42
Montagnac: Editions Monique Mergoil, 2012
ISBN: 978-2355180286
396 pages, 14 colour plates, numerous b/w photographs and other illustrations

Enthusiasm for archaeological glass in France continues to flourish, and this volume provides further testimony of the eagerness of researchers, many who would not describe themselves as glass specialists, to engage in glass studies. The papers collected here are the product of a two-day colloquium on glass from Lorraine and neighbouring areas, and have been published in addition to the regular yearly bulletin of the Association Française pour l'Histoire du Verre.

The 27 contributions (four in English) stretch chronologically from the Bronze Age to the 20th-century. They are divided into five groups; protohistoric, Gallo-Roman, late antique-early Middle Ages, medieval and modern and finally workshops and glass production. Well over half the papers concern glass of the Gallo-Roman to early medieval period. There are contributions from France, Germany, Belgium, Switzerland and the Netherlands, reflecting the international interest in the archaeology of this historically much-disputed territory and the surrounding areas.

Of particular value is the cluster of papers at the heart of the volume, reviewing evidence for one of the most intriguing episodes in glass history, spanning the 4th-7th-centuries AD. These begin with Samuel Lelarge's investigation of the late Roman glass from the cemetery of Nempont-Saint-Firmin (Pas-de-Calais). M. Lelarge writes in engaging and accessible French and presents a useful preliminary report on this large assemblage. The quantity and variety of glass vessels in the cemetery is striking, with 50 vessels coming from around 90 burials – an extraordinarily high proportion compared with the relative scarcity of glass vessels in late Romano-British cemeteries, even such celebrated examples as Lankhills in Winchester. Many burials have more than one vessel. The article is generally well illustrated, though it is unfortunate that one of the most interesting vessels, a bowl with an engraved hunting scene, has no line drawing, though the same rather grainy photograph appears three times. Three particularly useful papers examine the late Roman and Merovingian glass from sites from the adjoining regions of Lorraine and Alsace as well as across the Rhine in the Breisgau area of Germany. The glass from Alsace and Lorraine is from funerary contexts, and the authors highlight the curious absence of 5th-century cemeteries in both regions. Whether this is a result of the lottery of archaeological investigation or an actual reflection of practice is unclear. Despite this lacuna there is interesting evidence for a number of distinct practices across the 4th-7th-centuries both in the choice of vessels and the position in which they are placed relative to the body. East of the Rhine, Christel Bücker's review of the glass of Breisgau takes in a broader range of sites – funerary, military and domestic. Here, the 5th-century is better represented. Fragments from Wyhl, Sponeck, Zähringer Burgberg and elsewhere are discussed, though some of the accompanying illustrations are a little ambitious, full reconstructions often being based on a single, very small fragment.

These four key papers are complemented by further articles on glass from late Roman and early Frankish sites, including Trier, Metz, and Montaigle in Belgium, as well as an in-depth typological study of late Roman and early post-Roman cylindrical flasks and other containers from burials in Mayen.

The collected papers are predominantly concerned with typological and historical themes, and only two papers report on archaeometric projects. The first presents a comprehensive study of later Bronze Age beads in Alsace and Lorraine, noting the compositional similarities with beads from the Frattesina workshops in northern Italy. The second describes the analysis of three Roman window glass fragments by infra-red and Raman spectroscopy at the University of Lyon 1, with the purpose of determining method of manufacture. This seems unconvincing as a way of sorting matt/glossy from blown panes, not on account of the science, but because of the cost and effort involved. A visual examination of the fragments is surely simpler and considerably faster.

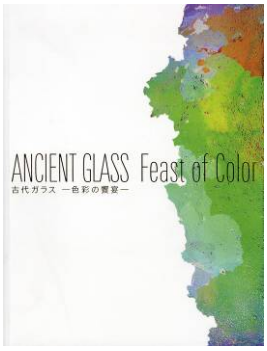
There are many other valuable contributions in this volume and though it is not possible to comment of all of them here, it is worth highlighting particular favourites. Véronique Arveiller-Dulong describes an extraordinary hoard of five skyphoi and two decorated cups, from the Roman camp at Boulogne. The discussion of a fragmentary and unfinished late Roman cage cup from Grenoble provides further convincing evidence in favour of the theory that the outer layers of late Roman cage cups were ground in their entirety from a thick-walled blank, rather than being part-moulded. A paper in English by Davy Herremans describes the findings from an 18th-century nuns' latrine with its collection of fashionable and highly decorated glassware. An article by Denis Henrotay and Catherine Hercot catalogues a particularly rich deposit, again from a latrine, of mould blown and enamelled 16th-century drinking vessels from Arlon in Belgium. Stéphane Palaude's article on medieval and early modern glass production in the "Grande Thiérache" region on the French/Belgian border is a delightful read for fans of glass genealogy. An examination of glass from First World War German rubbish dumps on the western front illustrates the heavy reliance by German troops on industrially produced food supplies, in contrast with the greater availability of fresh food on the French side. This area of research will no doubt receive increased interest as the centenary of the outbreak of the war approaches, though the authors warn of the fragility of the battlefields and their remains, which have been targeted by souvenir hunters and pillagers for a hundred years.

The only criticism of the production of the volume is in the quality of some of the photographs and plates, and on occasion the line drawings and maps. On the other hand, this collection appeared within a year of the conference itself, and the editors should be warmly congratulated on the speed with which they have worked. For anyone with an interest in the late Roman and Merovingian glass in northern France this volume is essential reading, but it

can also be recommended to all glass enthusiasts for its varied, stimulating, and often entertaining contributions.

Sally Cottam
King's College London

Ancient Glass: Feast of Colour



Eds Taniichi Takahashi, Shikaku Ryūji and Azuma Yōko

Japan: Miho Museum, 2013
399 pages, many colour plates
ISBN: 978-4903642123
¥2800 (*c*. £19)

Available from the Miho Museum Shop:
www.miho.or.jp/english/inform/tpshope.htm

This volume is the catalogue of an exhibition held during 2013 at two locations in Japan: the Miho Museum (near Kyoto) and the Okayama Orient Museum. Largely based upon the collections of the two host institutions, plus objects from the Hirayama Silk Road Collection and the loan of a number of important and iconic artefacts from the British Museum, the imaginative and novel arrangement of the material reconciles the beauty of the artefacts and their academic significance with a degree of success which is rarely encountered. At the same time, it manages to report the results of recent research into the technology of the glasses at an accessible level. As far as I can tell, the great majority, if not all, of the material of interest is presented in English as well as Japanese, which makes this a useful reference text for international readers.

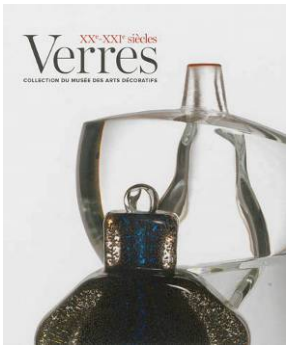
The material covered in the volume ranges from the Late Bronze Age through to the Sasanian period. The inclusion of the enigmatic cobalt blue glass lump from Eridu, here dated to 2050 BC, prompts the claim that 3000 years of glass are presented, but this is the only potentially misleading statement I encountered. In fact, the shaped glass objects range from the 16th-century BC through to about the 7th-century AD and this emphasises the need for a really thorough investigation of the Eridu piece, including trace element and isotopic analyses, to allow us to come closer to understanding its significance.

The relationship between glass and precious stones in the ancient world is given as justification for the grouping of the 200 or so glass objects on the basis of their colour and visual appearance. Wisely, this has been flexibly interpreted so that, while there is are chapters on blue glass, colourless translucent glass and "glass in many colours", there are a series of chapters on decorative techniques, including "Eye Beads and Core Glass", "Sandwich Gold Glass", "Marbled Glass" and "Mosaic glass". Colour photographs illustrating replicas and the way they were made are included in several of these chapters, and I was particularly impressed by the replica of the British Museum's spiral lace bowl, and the sequence of photographs illustrating its manufacture on a core, held horizontally on its side, in the manner of more standard core-formed vessels. This is very convincing as it readily allows heat to be applied and controlled, unlike rotating a vessel on a potter's wheel, which has been suggested elsewhere.

In the back of the book are a series of essays on the history and technology of glass, covering properties, chemical compositions, provenance studies, Sasanian glass and detailed explanations of the replications undertaken. Not only are the glass objects themselves lavishly illustrated with excellent large format colour photographs, but each vessel has a separate catalogue entry at the back with a profile drawing. Furthermore, Professor Izumi Nakai and his group have analysed each object with their powerful non-destructive X-ray fluorescence system, so that the entries indicate the type of glass (natron or plant ash), the colourant and the opacifier. The integration of technical information is very good indeed.

Overall this is an excellent book and I cannot recommend it highly enough to anyone who is interested in ancient glass.

Ian Freestone
University College London



Verre XXe-XXIe siecles, Collection du Musée des Arts Décoratifs, Les Arts Décoratifs

Jean-Luc O1ivié

Paris: Édition Les Arts Décoratifs, 2012
224 pages, 110 illustrations
ISBN: 978-2916914374
Language: French
39.00€

Contemporary glass was first acquired by the Musée des Arts Decoratifs, Paris, at the Exposition Universelle held in Paris in 1878. Thus, the first glass artists to be represented in the collection were Émile Gallé and François-Eugene Rousseau. In the following decades glass in all the current styles, from historicism to Art Nouveau, joined those early acquisitions, along with glass from the Middle Ages onwards. As little of the glass collection is currently exhibited and is accessible

only with difficulty in a store outside central Paris, it is surprising to learn that it consists of over 4500 pieces. During the 20th-century the Museum acquired a fine group of art glass, particularly in the 1920s and 1930s when the art of glass making reached a high point in France. In 1981 the Musée d'Art Moderne transferred a number of important 20th-century works to the Musée des Arts Décoratifs, which became the national collection for art glass when the Centre du Verre was established in the following year. Under the leadership of Jean-Luc Olivié, the author of this catalogue, it has flourished with an online presence and a programme of exhibitions including one in 2003 of Venetian and *façon de Venise* glasses accompanied by a catalogue by Erwin Baumgartner. The present publication comprises a selection of 107 pieces made in the 20th- and 21st-centuries (10 date from 2003 onwards) from France, Britain (represented by *New Texture* by Diana Hobson, *Wrack* by Keith Cummings and *Salt Box* by Tessa Clegg) Germany, Holland, Italy, Switzerland, Czech Republic, USA and Japan. The collection, inevitably, is strongest in work created in France, from Marinot's *Coupe à trois pieds* dating from 1912, which is almost Secessionist in style, to Anne-Lise Riond Sibony's amusing *Dans tous mes états* of 2007. The purest French Art Deco glass is represented by Marius-Ernest Sabino (1878-1961), Jean Luce (1895-1964) and Auguste Heiligenstein (1891-1976) as well as by Franyois Decorchemont (1880-1971), the Daum factory and by a monumental vase by Aristide Colotte (1885-1959), whose association with the Vichy regime is sensitively explored to place this piece in its true context. A mould-made head by Henri Navarre (1885-1971) dating from 1936-7, which is well illustrated with three views, is an intriguing example of sculpture in glass and a design by Henri Matisse for a wheel-engraved vase made by the American firm of Steuben Glass in 1939 documents the artist's encounter with glass 10 years before he created the world-famous stained glass panels for the chapel at Venice. Overshadowed in some respects by developments in America and the Czech Republic, which are represented only minimally in this catalogue, French glass seems to be having a renaissance in the work of Didier Tisseyre (b. 1958) and Xavier Le Normand (b. 1978), the first initially trained as a painter and working on glass in the Czech Republic after receiving a state bursary in 1991, the second spending time at the Pilchuck Summer School established in 1971 by Dale Chihuly in Washington State, USA. Both have created powerful and original expressions of art in glass, to judge from the works illustrated in this catalogue.

That this collection exists at all is thanks to the generosity of numerous commercial galleries and private donors. Their gifts include the wheel-engraved vase designed in 1923 by the Czech Jaroslav Horejc for Lobmeyr of Vienna (given 1928 by Jehan Kappès-Grangé), wheel-engraved vases designed by Tapio Wirkkala from 1948-54 for the Karhula-lttala glasshouse in Finland (from Alexandra de Vazeilles, 2009) and the intriguing *Bodhi* by the Italian artist Laura de Santillana (given by L'Arc en Seine gallery, C. Boutonnet and R. Ortiz, 2007), amongst many others. A large number of makers and glass factories have also donated work, from the Coupe by Simon Gate presented by the Orrefors glassworks, Sweden, in 1926, to a vase moulded with putti entitled *Ronde d'amours et feuillage* given by Lalique in 1930, a superb glass sculpture called *Château fort* by Emile Gilioli dating from 1961 and presented by Baccarat in 1993 as well as gifts from Kosta Boda, Leerdam, Dale Chihuly, Stanislav Libenský, Jaroslav Brychtová, Lino Tagliapietra and, most recently, Barbara Nanning, have immeasurably enhanced the collection. All the work is carefully analysed and the techniques used are clearly explained in each of the catalogue entries, some of which include working drawings, and an introductory essay provides a succinct overview of glass art in the last hundred years. This is a masterly catalogue, with useful scholarly apparatus of bibliography, a list of exhibitions held at the Musée des Arts Décoratifs from 1884-2011 which included glass, as well as a list of museums and foundations all over the world where studio glass can be found. Sadly, only one of those listed is in the United Kingdom. The catalogue is recommended.

Aileen Dawson
The British Museum

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to either of the editors:

Rachel Tyson
rachel@glass-vessels.co.uk

or

Andrew Meek
The British Museum
Great Russell Street
London WC1B 3DG
ameek@thebritishmuseum.ac.uk