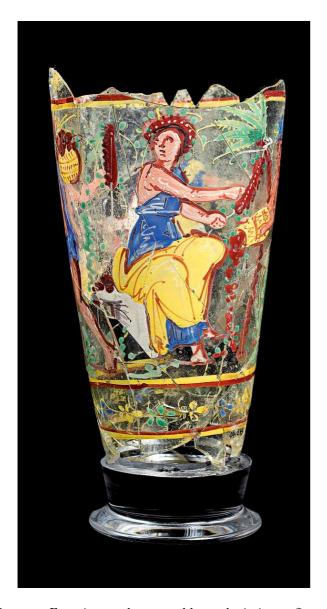
Glass News

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Romano-Egyptian glass goblet depicting figures harvesting dates, found in a palace strong-room at Begram 1st or early 2nd century AD (height: 12.6 cm) National Museum of Afghanistan.

©Thierry Ollivier / Musée Guimet

See pg 3 for details of the new British Museum exhibition: Afghanistan: Crossroads of the Ancient Road

Welcome to Issue 29 of *Glass News* where changes include the addition of Suzanne Higgott and Rachel Tyson to the AHG Board. We thank John Clark for resuming his role dealing with subscriptions and membership of the AHG.

On a sad note, we are very sorry to have to inform you of the sudden death of member Geoff Egan, who frequently attended our study days. Amongst his wide-ranging and incredibly learned research interests, he wrote on the medieval and early post-medieval glass in London during his many years working for Museum of London Archaeology, recently moving to the British Museum as Early- to Post-Medieval Treasure Co-ordinator. We will greatly miss his scholarship and insights and his willingness to share information.

Thank you to Martine Newby for organising the Autumn 2010 Study Day *Glass in Art and Literature*, a review of which can be found on pages 7-8.

Important dates for your diary are 24 March 2011, when the AHG visit to **Nazeing glass works** will take place, and 19-20 May, when a two day conference on **Neighbours and Successors of Rome** will take place in York. **Offers of papers are still welcome**; further details of these events can be found on page 2.

SUBSCRIPTION REMINDER

Subscriptions are due shortly, to cover the year April 2011 to March 2012.

Subscription renewals (£10, 15€, \$20 US) payable to *The Association for the History of Glass Ltd* should be sent to:

John Clark
Association for the History of Glass
c/o Department of Archaeological Collections and
Archive
Museum of London
London Wall
London EC2Y 5HN

AHG CONFERENCE 2011

Neighbours and Successors of Rome: traditions of glass production and use in Europe, the Mediterranean and western Asia in the later first millennium AD (c. AD 400-1000)

19-20 May 2011

Plans are now well-advanced for the AHG conference which will be held in the King's Manor in York.

A number of important researchers have already confirmed that they will contribute, including:

Prof Ian Freestone (Cardiff) on late Antique glass production; Dr Sylvia Fünfschilling (Basel) on Late Antique glass in Ephesus; Yael Gorin Rosen (Haifa/Department of Antiquities, Jerusalem) on glass after the end of the Roman/Byzantine period in the Holy Land; Dr Caroline Jackson (Sheffield) and Dr Harriet Foster (Norwich) on the last Roman glass in Britain; Professor Elizabeth James (Sussex) on Heirs of Rome? Byzantine glass mosaics; Dr Daniel Keller (Basel) on the changes from Byzantine to early Islamic glass in southern Jordan and southern Egypt; Dr Marie-Dominique Nenna (CNRS/Lyon) on the diffusion of HIMT raw glass and related material in the late 4th-5th century; Dr Sarah Paynter (English Heritage, Portsmouth) on aspects of Saxon glass in Yorkshire; Professor Thilo Rehren (UCL London) and Anastasia Cholakova on Glass supply and consumption in Late Antique Dichin, Bulgaria; Dr St John Simpson (British Museum) on the current state of research on Sasanian glass.

Nevertheless, there are still spaces in the programme for more papers and poster presentations, and we will welcome offers of further contributions.

For further details please see the enclosed flyer, or www.historyofglass.org.uk

Bookings can be made through Justine Bayley at: mail@justine-bayley.co.uk

AHG SPRING STUDY DAY 2011

Hot Glass Study Day at Nazeing Glassworks

Thursday 24 March 2011

As the Spring Study Day a visit to Nazeing glassworks and museum in Hertfordshire has been booked.

The owners of Nazeing Glass Works moved from Vauxhall in 1928. The factory now chiefly makes commercial glassware for industry; but has an important historic background. The glass works had been traced back to 1612 in Vauxhall, started by Sir Edward Zouche and taken over in 1618 by Sir Robert Mansell and in 1673 George Villiers 2å Duke of Buckingham

The Hot Glass Study Day includes a welcoming talk, a guided factory tour, two lectures by BBC Antiques Roadshow glass expert Andy McConnell, tea and coffee, buffet lunch and an accompanied visit to museum rooms. There is a factory shop selling a wide mix of Nazeing products and glass from around the world.

Price £39.50 per person.

Members wishing to visit the glassworks are requested to book through the Hon Sec Sandy Davison (email: sandbill@gotadsl.co.uk) and to make their own way to the glass works at:

Nazeing Glass Works Ltd, Nazeing New Road, Broxbourne, Herts EN10 6SU Tel 01992 464485

See www.nazeing-glass.co.uk for map and travel details.

Future AHG and AIHV meetings

The AHG Autumn study day will be on the subject of Glass in Science and Medicine, organised by David Martlew.

The next AIHV congress is planned for September 2012 in Slovenia.

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

CONFERENCES AND EXHIBITIONS

Society of Glass Technology International Conference on the Chemistry of Glasses and Glass-Forming Melts In celebration of the 300th anniversary of the birth of

In celebration of the 300th anniversary of the birth of Mikhail Vasilievich Lomonosov

4-8 September 2011

Lady Margaret Hall, University of Oxford Deadline for abstracts: 31 January Early-bird registration deadline: 1 July

Lomonosov, a fisherman's son from northern Russia, may be considered the father of glass chemistry and sceintific glassmaking, and was particularly interested in glass colour. Topics to be discussed include: chemical aspects of glass structure, ancient glass compositions, chemical analysis of glasses, chemical durability and crizzling, corrosion of glass surfaces, coloured glasses, porous glasses, and many more.

Further details can be found at www.lomonosov2011.sgthome.co.uk

This will be held in conjunction with The Annual Meeting of the Society of Glass Technology on **6-8 September 2011**.

Afghanistan: Crossroads of the Ancient World

(see photo on front page)

British Museum, Room 35 3 March-3 July 2010

The British Museum is soon to be hosting this exhibition of some of the most important contents of the National Museum of Afghanistan in Kabul. These are objects which were long feared lost or destroyed in the decades following the Soviet invasion of that country in 1979 yet were revealed safe in 2004 after hidden safes under the presidential palace in Kabul were cracked open following the fall of the Taliban. They had been hidden here at considerable personal risk by a handful of Afghans and are now on a world tour.

Among the many exhibits are a selection of the glass vessels from Begram, excavated in the 1930s and concealed in antiquity at the heart of a Kushan palace. Begram, then as now, controlled strategic routes across Hindu Kush mountains connecting Afghanistan with what is now Pakistan. The glassware includes painted, coloured, marbled, mosaic and cut glass, mostly produced in Roman Egypt and dating to the late 1st or possibly early 2nd century. They must have been imported via the Red Sea and Indian Ocean, as vividly described for the mid-1st century in the Romano-Egyptian account known as the Periplus of the Erythraean Sea, and then carried up into Afghanistan via the Indus valley. Along with the polychrome decorated Indian ivories and other objects found in these strongrooms, they give a vivid hint at the consumption of imported luxuries at an important gateway to Asia.

Afghanistan: Crossroads of the Ancient World is supported by Bank of America Merrill Lynch; for details of the exhibition and a wide range of related events see www.britishmuseum.org

GLASSAC 11 Glass Science in Art and Conservation

10-12 May 2011 Bronnbach Monastery, near Würzburg, Germany

The third GLASSAC congress is an international meeting that tries to involve the chemical, physical and biological sciences with art, archaeology and history of glass artefacts. The theme is 'Innovative technologies in glass art, design and conservation from the 19th to the 21st

century – the role of the sciences'. It will provide an opportunity to discuss practical problems of intervention facing conservators and it will examine significant developments in the science of glass that can show artists and the conservation community innovative possibilities.

Registration 300€ before 28 February; 350€ afterwards; reductions for students and accompanying persons.

For further details see: www.glassac.eu

Le verre en Lorraine et dans les régions transfrontalières á travers les âges (AFAV)

17-18 November 2011, Metz

The 26th annual meeting of the AFAV will be held at the Musée de la Cour d'Or in Metz on the theme of the archaeology of glass in Lorraine and its bordering regions through the ages, comparing the evidence on both sides of the borders of Belgium, Luxembourg, the Netherlands, Germany, Switzerland and France. It will look at research, recent discoveries, conservation and presentation.

The call for papers closes in April 2011. Further details can be found at: www.afaverre.fr/rencontres

Verre et Histoire

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

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

The Adventure of Glass Correr Museum, Venice

11 December 2010-25 April 2011

An initiative of the Fondazione Musei Civici di Venezia, this exhibition is organised chronologically in four sections: archaeological glass, the fifteenth to eighteenth centuries, the nineteenth, and twentieth century. It has over three hundred objects on display, all from the collections of the Murano Glass Museum. It covers the whole extraordinary 'adventure' of glass in Venice from its arrival in the lagoon during the Classical age with glass from distant lands, to the growing union of glass and design that represents both the present and future of glass production on Murano.

The Corning Museum of Glass, New York

2011 celebrates the museum's 60th anniversary, and will include the following exhibitions:

East Meets West: Cross-Cultural Influences in Glassmaking in the 18th and 19th Centuries

November 18, 2010 - October 30, 2011

When East met West in the courts and trade centres of the 13th century, a fruitful international exchange was born and lasted through several centuries. A new exhibition at The Corning Museum of Glass will explore the resulting cross-cultural influences in technology, scientific experimentation, and decoration among glassmakers in Europe, China, and Japan in the 18th and 19th centuries. Through a range of Museum objects from the early modern period, *East Meets West* will document the European adoption of traditional Asian styles and iconography, and examine the largely overlooked impact of Westerners—missionaries, alchemists, and craftsmen—on the development of new glassmaking techniques and formulas in the East.

The extension of the Silk Road to Italy in the age of Marco Polo (1254-1324) brought Eastern goods to Europe, where such exotica was treasured. Influential tastemakers such as Grand Duke Ferdinando I de' Medici and Elector Christian I of Saxony became enthusiastic collectors of Chinese porcelain, sparking a demand that spread beyond the courts. This growing fascination with porcelain goods inspired imitation, and scientists throughout Europe attempted to replicate the material.

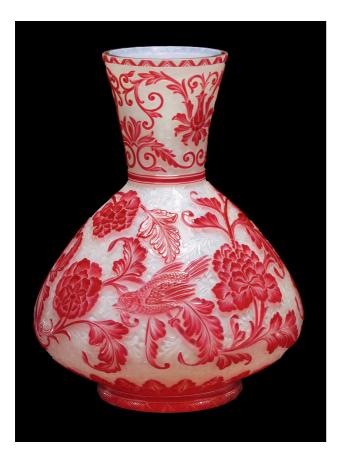
These early experiments were closely linked to glassmaking, based on a longstanding misconception that porcelain was a vitreous, not clay-based, substance. The alchemical knowledge needed to create glass imitating porcelain was transferred from glassmaker to glassmaker across the Continent. Their efforts resulted in the production of a variety of opaque white "milk glass" objects, which found a market alongside imported (and,

eventually, European-made) porcelain, satisfying the fashion for enamelled *chinoiserie*-style objects.

The new milk glass recipes were subsequently brought to Asia by European Christian missionaries, along with other glassmaking formulas and skills that revolutionised the industry in China. One such missionary and scientist, Kilian Stumpf, organised a glassworks in Beijing in the 1680s, extending the influence and innovations of European alchemists to East Asia.

"Until now, scholars have tended to focus primarily on the influence of Eastern decorative styles on Western markets and objects," said curator of European glass Florian Knothe. "With this exhibition, we will showcase an incredible cultural and technological exchange that is, in fact, much more textured and fluid, with channels of influence running in both directions. The role of Western craftsmen and scientists—such as Stumpf—in facilitating advancements in Eastern glass manufacturing cannot be overlooked."

Drawing on the long tradition of porcelain making, glassmakers in China blew and enamelled opaque white



Chinese-style cameo vase, possibly made by Thomas Webb and Sons, Amblecote, England, c. 1890.

Photo: Corning Museum of Glass

glass for foreign and local markets. The Museum's scientific analysis by X-ray fluorescence of a few of these objects in its collection has revealed that the composition of some of the white glass used in the East is closely related to the milk glass made by German craftsmen. In *East Meets West*, Knothe suggests that a connection to the community around Stumpf may be the reason for such results

Although the Chinese absorbed Western glassmaking formulas and technology, they did not borrow European forms or decorative techniques. Instead, they carried over approaches from indigenous crafts such as porcelain making and hardstone carving and further enriched their stylistic repertoire by using European glassblowing and cutting methods. The exhibition showcases this dual influence with several examples of cameo glass vessels, in which the Western technique of overlaying opaque glasses of different colours is combined with local carving techniques and iconographic style.

In addition to their taste for *chinoiserie*, Europeans welcomed Japanese designs, which introduced a new range of shapes, forms, and motifs to the West. In parallel, Japanese glasshouses adopted Western practices into their production during the second half of the 19th century. Glasses from the Satsuma Clan Factory, which reflected the decorative influences of Dutch and English cut crystal, became very fashionable table wares. An exquisite set of geometrically cut *Sakazuki* decanters and cups will be displayed in the exhibition.

Technological exchange and stylistic influences continued into the 20th century, with continued global influences in glass design and the emergence of an international scene of glass artists who skilfully employed traditional techniques and newly interpreted historic craft traditions.

Mirror to Discovery: The 200-inch Disk and the Hale Reflecting Telescope at Palomar

January 10-October 2011 Rakow Research Library, Corning Museum of Glass

In 1928, the famed astronomer, George Ellery Hale, had a vision. He wanted to build the world's largest telescope—a research instrument that would allow scientists to view the skies as never before. This exhibition tells the story of the creation of the huge mirror (known by the American public at the time as "The Giant Eye") that made Hale's vision possible.

The creation of the largest single piece of glass ever made was entrusted by Hale in 1929 to Corning Glass Works using their signature Pyrex®, a special glass designed to resist heat expansion. George V. McCauley, a Corning physicist and engineer, set about achieving what engineers at other companies had failed to do: casting a 200-inch mirror blank. The largest mirror at that time, which was installed in the Hooker Telescope at Mount Wilson, CA, measured 100 inches.

In March 1934, Corning poured a 200-inch disk, but part of the mould broke loose during the pouring, ruining the blank. McCauley decided to continue with annealing (a process required to slowly cool the glass) as an experiment. That imperfect disk has become an iconic object in the collection of The Corning Museum of Glass. It has been suspended in the same spot for 60 years, since the Museum opened to the public in 1951.

The second attempt at pouring was successful, and after a year's annealing time, the disk was finished and taken by train to California. The creation of the disk, and its journey across an economically depressed nation, captured the public's attention. Famed radio commentator Lowell Thomas called the pouring of the disk "the greatest item of interest to the civilised world in 25 years, not excluding the World War."

Photographs in the exhibition show the intensive process of the pouring of the disk and include imagery of the special railroad car that carried it across the country. The disk travelled upright on a padded railroad car for more than two weeks. The train travelled only by daylight and at speeds not exceeding 25 miles per hour. It made numerous stops along the way, with much fanfare in each city where it stopped.

The disk remained at Caltech's optical shop in Pasadena, CA, for the painstaking process of polishing and grinding. Progress on the disk slowed as the nation became involved in World War II, but the disk was finally installed in 1948 in the Palomar Observatory, where it remained the world's largest effective telescope until 1993, aiding in the discovery of quasars, and the first known brown dwarf star. The telescope is still in use, although bigger telescopes now exist at places like the Keck Observatory in Hawaii.

Mirror to Discovery includes photographs, memorabilia, and other selected historic materials from the collections of the Library, as well as reproductions of photographs from the California Institute of Technology.

ENQUIRIES

Enquiry about glass engraver George Pitt Armstead/Armistead *c*.1761-1829

Carole Waterman is researching a relative, and would be interested in any information about George Armstead/Armistead. George Armstead was born c.1761 and died 15 December 1829, buried at Bunhill Fields. The 1845 death certificate of his wife Judith (née Goodchild) stated her husband George was a glass cutter. He is referred to as a 'glass engraver and cutter' in New Street Square, London in c.1793. The Baptist Magazine Nov. 1832 includes a memoir of William Aikin (born 1770) which states Mr Aiken was apprenticed at the usual age to Mr George Armstead, a glass engraver.

If anyone has any further relevant information, please send to one of the editors who will forward it to Carole.

OBITUARIES

Ada Polak 1914-2010

The glass historian Dr Ada Polak, in 1973 a founding member of the British National Committee of the AHG, died in London on 25 October 2010, aged 96. She was born Andrea Buch in Kristiania (now Oslo), Norway, on 19 September 1914. Although her interest in the decorative arts was wide-ranging, Dr Polak's greatest enthusiasm and expertise was in the field of glass. She is perhaps best known to glass historians for her groundbreaking survey of the history of glass and glassmaking from the medieval period to the industrial age, Glass: its tradition and its makers (1975). In 1940 she obtained a master's degree at the University of Oslo for her thesis on 'Norwegian Glass 1739-1753'. At the Arts and Crafts Museum in Oslo she worked on an exhibition to celebrate the 200th anniversary of the Norwegian glass industry. Her research provided material for her doctoral dissertation, which resulted in the publication of Old Norwegian Glass, the standard work on this subject, in 1953. Dr Polak was Assistant Curator of the Vestlandske Arts and Crafts Museum in Bergen from 1942 until 1948 and the first chairman of the Association of Applied Arts there between 1945 and 1948, before marrying British lawyer Alfred Polak and moving to London in 1948. From then on, she worked as a freelance art historian, publishing widely on the



Ada Polak Photo courtesy of Ada's family

decorative arts but especially on a broad range of glassrelated subjects. Books include Modern Glass (1962), Norwegian Silver (1972) and Old Porcelain from Porsgrund (1980). Dr Polak was interested in historic trading ties between Norway and Britain (Wolffs and Dorville. A Norwegian-English House of Commerce during the Napoleonic Wars, 1968) and took pride in her role as 'Deputy Curator in Britain' for the Norwegian industrial art museums and the Norwegian Museum of Cultural History. In 1981 she was appointed a Knight of the 1st Class of St Olav for her promotion of Norwegian culture in the UK. Ada Polak was well known in Norway for her weekly column, 'Om Antikviteter' ('About Antiques'), in the magazine Kvinner og Klær (Women and Clothes). She contributed articles and answered readers' questions from 1964 until 1995. A warm and enthusiastic communicator, in 1980 Dr Polak received a Norwegian award for her contribution to popular science.

Suzanne Higgott

Harold E. Henkes 1918-2010

Prof. Dr. Harold Henkes passed away in September 2010 at the age of 92. He was a member and Board member of the AIHV, and contributed papers at the congresses of 1991 (Vienna), 1995 (Amsterdam) and 1998 (Venice-Milan). He was a respected ophthalmologist in his professional life. In the world of glass studies, he coordinated the documentation of the glass collection of the Museum Boymans-van Beuningen in Rotterdam, and will be remembered by many of us for producing the catalogue *Glas zonder Glans/Glass without Gloss: Utility Glass from Five Centuries Excavated in the Low Countries*, 1300-1800, Rotterdam Papers 9, in 1994.

CONFERENCE REVIEWS

AHG Autumn Study Day: Glass in Literature and Art

21st October 2010

This very enjoyable study day took place at The Wallace Collection in London, organised by Martine Newby, and examined a diverse range of textual and pictorial evidence ranging from ancient Greece to the 19th century.

Marianne Stern travelled from the Netherlands to present her detailed research into the Greek terminology used for glass and glassmaking. In the earliest years of glassmaking no generic term existed for glass; the Greek term 'hualos' was adopted over time. Evidence was discussed from Egyptian papyri from the 1st century BC, to the 8th century AD. Interestingly, the glassmakers names included two women, one of whom made beads and the other, window glass.

Denise Allen led us through Roman references to glass, particularly Pliny the Elder's many musings. These quotes were beautifully illustrated by archaeological examples of the related glass, and a natural obsidian mirror attached to the wall of a house in Pompeii. Tim Leary then discussed a number of Latin texts and riddles referring to glass. A theme of the Roman references was their comments on the optical qualities of glass.

Martine Newby magnificently surveyed the depiction of table vessels and manners in glass from the 1st to the 18th century (and all in 25 minutes!). In Roman frescoes the transparency of the glass appeared to be more important than the accuracy of the form. The plentiful medieval paintings had recurring themes, many showing unused beakers left upturned on the table or over the tops of flasks before use. The large numbers of plain beakers in medieval paintings were supported by archaeological evidence from sites such as those in 14th-century Tarquinia. In the post-medieval period examples were shown of wine glasses being held by the foot, and glasses being rinsed and wiped before refilling; a practice that ended in the 19th century when the new style of dining 'á la russe' placed multiple glasses for different drinks on the table.

Christopher Sheppard was undaunted by the interruption to his paper by a fire alarm and evacuation, and the arrival of three fire engines! He showed a selection of Venetian and *façon de venise* glasses and their parallels in contemporary paintings. As he commented, it would

be difficult to believe in the existence of some of the more elaborate vessels depicted were it not for the existence of their surviving glass parallels. He questioned whether some of the Medici-commissioned glass might be Florentine rather than Venetian, given that there is documentary evidence for glassmaking in Florence. He cautioned against the close dating of styles, as vessels are often seen in paintings many years later than their first attributed date.

Sue and Colin Brain discussed their research into the 17th-century Fellows of the Royal Society including Aubrey, Merret and Pepys, and the Fellows' observations into the world of glassmaking. Pepys evidently found his post-theatre visit to watch glass being made the most entertaining part of the evening! These Fellows give a picture of scientists learning from the skills and knowledge of glassmakers, not vice versa.

The day finished with a fascinating look at the world of 'musical glasses' which receive little coverage today, but were quite familiar in the 18th and 19th centuries when Mozart and Beethoven were amongst those who wrote for them. John Smith showed various examples of the instrument, consisting of a case of differently sized beakers played by running wet fingers around the rims. Benjamin Franklin invented a variation, the glass 'armonica' in 1761, where the graduated glass bowls were mounted horizontally. Other glass musical instruments included keyboards, xylophones and flutes. Glass music continues to be performed and recorded today, for example by Dennis James, a musician living near the Corning Museum of Glass, New York.

Many thanks to Jenny Price and Martine for chairing the sessions of this fascinating and revealing day. The Wallace Collection is always a convenient and most comfortable and well-resourced venue for a study day.

Rachel Tyson

Report on the Stourbridge International Festival of Glass 2010

The 2010 International Festival of Glass was held in the Stourbridge glass quarter from 27th to the 30th August. The festival is normally held every two years and the heritage activities discussed here represent only a fraction of what was going on. With only a short time there we had carefully planned our schedule beforehand. This proved useful, since organising that number of 'glass people' is a challenge for any organising committee. Events centred on the newly-refurbished Ruskin Centre,

but were spread over so many venues that a courtesy bus service was provided to link them.

Eight glass-related heritage walks / talks had been organised - Wordsley Church, Dial Glasshouse, Stourbridge, Amblecote Pubs, Canals, Amblecote, Oldswinford Church and Wollaston - covering some of the main pillars of the glassmaking communities. We only had time to take in two of these (Wordsley Church and Stourbridge). They were both well researched and entertainingly presented, by John Levett and David Hickman respectively and built a picture of the interdependence between the glass industry and church and town communities. At Holy Trinity Church Wordsley the top coat of arms in the east window stained glass was that of the Bishop of Lichfield and I wondered how many of the congregations appreciated the role in encouraging glass making played by an earlier holder of this office. Similarly David pointed out where both the Art School and the Working Men's Institute had been during the Stourbridge walk and I wondered just how much of the high international reputation earned by the Stourbridge glass industry was due to the education provided within those walls, and of the potential damage done by separating education and craft in more recent times.

Broadfield House hosted 'Glorious Glass History', which featured rare glass archive material, including catalogues and recipe books, and a map showing the location of about 100 glassmaking sites in the area. There was also apparently a 'Leaders of Industry' oral history project that has been undertaken by Dudley Archives and Local History Service, but somehow we missed this. There were four heritage lectures as well that we did not get to: Chance Brothers Archives; Dudley's Archives; Jack Lloyd (1879-1975) Master Engraver and Designer; and "Three Unions and a Deportation". In fact the list of heritage events we missed is far longer than those we did get to. There were also: two book launches (Charles Hadjamach, "20th Century British Glass" and Graham Fisher, "Jewels on the Cut"); a talk on 75 Years of the Welsh School of Architectural Glass; blowing (and drinking from) a yard of ale; two confident collecting sessions; Ghanaian bead making and a talk by Gianni Toso on "Craft: A language, idea or fine art?".

Next time we'll need to make sure we are there for the whole four days but I expect even then we will not get to see everything.

Colin Brain

25th Annual Conference of the Association Française pour l'Archéologie du Verre (AFAV), Orleans, May 2010

For British delegates, the AFAV annual meetings are a delightful combination of restorative mini-break and scholarly gathering. The 2010 meeting was held at the Musée des Beaux Arts in Orléans and celebrated the innovative and highly decorative work of Bernard Perrot, his family and associates. The first presentations examined the movement of glassmakers, including members of the Perrot (Perrotto) family, from Altare in Italy to France during the 17th century, and the establishment of glassworks under royal patronage at Orléans by Bernardo Perrotto in 1668. Much of the first morning was devoted to discussion of the contribution of the Perrot glassworks to glass technology, in particular the development of their distinctive transparent red glass.

We were shown the extraordinary variety and luxury of the pieces produced by the Perrot workshops, including glass portrait medallions, exuberant baroque table pieces, colourful mould-blown bottles and the magnificent inlaid tabletop belonging to Louis XIV, portraying the Judgement of Paris. After the day's presentations we had the opportunity to see many of these pieces in the museum, brought together for an exhibition to mark the 300th anniversary of the death of Perrot, though sadly the glass tabletop was too delicate to travel to Orléans.



A Bernard Perrot glass girl leaping over a barrel. Photo: Sally Cottam

The second day of the conference explored glass from other periods with informative papers on Iron Age beads and bracelets, the latest finds from a number of Roman and Medieval sites including a tightly dated 3rd-century A.D. assemblage from Chartres, a group of late Roman vessels from Mâcon and a varied collection of late Medieval from Vannes in Brittany. fragments Presentations by Hubert Cabart are invariably learned and engaging, and this year he treated delegates to a first glimpse of a remarkably well-preserved deposit of 16thcentury glass vessels from the Chateau de Dieulouard (Meurthe-et-Moselle). The 2011 AFAV meeting in nearby Metz will hopefully provide a chance to see more of this important group of glass.

Another fascinating paper from Alain Riols told the story of the bead-makers of the village of Langeac (Haute-Loire) who built a thriving and largely cottage-based industry in the later 19th and early 20th centuries, supplying iridescent beads to adorn the glamorous products of Parisian couture. One of the last presentations of the second day was scheduled to allow Marie-Dominique Nenna time to dash back from the British Museum's conference on Byzantine glass and introduce a skilfully produced and well edited film summarising the excavations of the glass making furnaces of the Wadi Natrun in northern Egypt.

AFAV meet just once a year, but these two-day conferences give everyone an opportunity to find something of interest amongst the variety of subjects covered and to discover what is exciting specialists in less familiar areas of glass research. The 2011 conference is in Metz in November and further details are available on the AFAV website:- www.afaverre.fr (see pg 4).

A well illustrated press document from the Perrot glassworks exhibition is still available at:http://clarc.regioncentre.fr/telechargements/dossier_press e_bernard_perrot.pdf

Sally Cottam

AHG Grant Report: Study on Blaschka Glass

Astrid van Giffen
Assistant conservator, The Corning Museum of Glass, New York
vangiffennar@cmog.org

Thanks in part to the generous funding of the Association for the History of Glass, I was able to attend and present at the 18th Congress of the International Association for the History of Glass (AIHV) in Thessaloniki, Greece in September 2009. I presented the initial findings of my research on the Blaschka glass collection at Harvard which includes the famous Harvard Glass Flowers. The Blaschkas were a father and son glassblowing team active in and around Dresden in the 19th and 20th centuries.

They are best known for the incredibly realistic models of invertebrate animals and plants that they made for universities and natural history museums all over the world. The models are made primarily of glass but other materials such as metal wires, paint, waxes, and resins were used as well. Less well known are the glass eyes, glass jewellery and early plants they made before the making of models dominated their business.

The research, done while I was a conservation fellow at the Straus Center for Conservation of the Harvard Art Museum, focused on gathering chemical compositions for the glasses used by the Blaschkas and comparing the different groups of materials, namely the jewellery, eyes, early plants, invertebrate models and flower models. Compositions of mounted samples were determined with SEM-EDS. Initial results show a large variety in compositions, especially in the coloured glasses.

The dominant clear glass was a soda-lime glass which was found in all of the groups. In addition there were 4 other clear glass compositions. SEM images also showed that some of the pink glasses were unstable. Many had an altered composition layer around the edges with significantly less alkalis than the bulk of the glass.

A continuation of the research, which included the study of the Blaschka invertebrate model collection at National Museums Scotland, was presented at the ICOM-CC glass and ceramics working group interim meeting held in Corning, NY, USA in October 2010. This second presentation focused more on the conservation issues associated with the Blaschka materials, especially their constructions and deterioration and the damage caused by incompatibility of the materials used in the invertebrate and flower models.



The Blacshka Harvard glass flowers. Photo: Astrid van Giffen

AHG Grant Report:

The composition and origin of glass and gold glass tesserae from the Roman villa at Southwick, Sussex

Liz James, Jeff Leigh, Nadine Schibille

In Romano-British Mosaics (BAR, 1984), Neil Cookson listed twenty-three known examples of glass tesserae from Roman Britain. Gold glass tesserae however, are known only from five sites: the Roman-British villa at Southwick (originally 11 but now 7); Capel St Mary in Suffolk (2 but both since lost); the Flaxengate site in Lincoln (2 but both since lost); Union Street Southwark, London (1) and Shadwell, London (1); and a single gold glass tessera at Dunadd in Argyll. Since Romano-British gold glass tesserae are of such rarity, it seemed that a project looking at their composition would be of considerable historical interest.

In 2005-6, Nadine Schibille obtained analytical data from eight of the Southwick gold glass tesserae using ED-XRF. This project aimed to carry out further analyses using a SEM on the Southwick tesserae. These analyses suggested that the Southwick gold glass fall into four self-consistent groups: one of high-magnesia and high-potash glass (suggesting a different origin in terms of chronological attribution and/or location); and three different sets of low-magnesia low-potash natron based glasses. All the glasses contain some manganese, and several contain considerable amounts of antimony. Three of the tesserae contained unusually high levels of lead for glasses supposed to be Roman, and this has

raised some interesting issues about possible provenance and date. It should be noted that the Southwick site was dug seriously on at least three occasions after about 1840 and these excavations destroyed the archaeological contexts. In addition, reports suggest that the villa was recognised as such and investigated by local people since at least 1815. We also measured the thickness of gold leaf in the tesserae as this might offer a means to calculate the quantities of gold used in tesserae. The gold leaf in the Southwick tesserae was taken from at least two different samples.

The project is still in progress as we complete our analyses of gold glass tesserae from other sites and we intend to publish a full report of our findings and conclusions. We would be very grateful for information about glass and gold glass tesserae from Romano-British sites.

Thanks are owed to Ms. J. Greenaway, Curator of Archaeology, Reading Museum, Mr. Mike Helias, University of Brighton, Ms. D. Heyworth, Curator of Archaeology, Lincoln Museum, Ms. C. Macdonald, Curator of Archaeology, Ipswich and Colchester Museum, Dr Sarah Paynter and Mr. Roger Wilkes, English Heritage, Fort Cumberland, Southsea.

Salisbury Cathedral Glasshouse

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This short note outlines evidence for late medieval glassmaking in the close of Salisbury Cathedral. This glasshouse seemed to have started in about 1465. In that year Cathedral fabric accounts show that 230½ loads of timber were purchased for the glasshouse and Thomas Harnelyn was paid to look for suitable sand. Both of these suggest a glasshouse start-up, rather than routine continuing operations. Glassmaking-related references continue periodically until about 1491 and there are at least two references to buying relatively small amounts of soda for the glasshouse (4lb and 12lb). It is not until 1558 that there is clear evidence that glass was being made there again, with sand and soda being purchased, some of the latter from local pewterers. Then, on 15 October 1568 it was agreed between the Bishop and the

Dean and Chapter that the Bishop would acquire the glasshouse in exchange for a large house in the Cathedral Close called "The Wardrobe". This agreement document gives a strong indication of where the glasshouse was and that it consisted of two buildings, which appear to have survived until the 19th century. In 1571 there is mention of firewood being purchased for the use of the glaziers. This is the last definite mention related to glassmaking at the Cathedral that has been found so far. The accounts suggest that only two people were involved in working the glasshouse: a glazier and his assistant.

There are several other strands of information that may be related. In 1573 William Overton was appointed as a canon of Salisbury Cathedral. William Overton is thought to have been connected with glassmaking at Buriton in Hampshire before moving to Salisbury. From 1576 to 1579 there are records of glassmakers at Buckholt near Salisbury (just over the border in Hampshire). In 1579 Overton moved to Staffordshire to become Bishop of Coventry and Lichfield and within three years glassmaking names from Buckholt started to appear in local records there. A published document suggests that Overton owned at least one of those glasshouses.

The firewood for the Salisbury glasshouse is recorded as being brought from a considerable distance (from Rockbourne and Whythorn Hill), so each load would probably have represented a day's return journey for a Whythorn Hill is just south of the Salisbury-Southampton road near Whiteparish and the Ordnance Survey map for the area still refers to one of the woods as "Glaziers copse". Records of the Earl of Pembroke's estate from the 1570's also refer to a coppice by this name in this locality. This suggests that coppied billets provided the firewood for the glasshouse furnace and that the glaziers must have consumed considerably more timber than the 34 loads mentioned in 1464/5 for the name to have endured for over five hundred years. It is not clear if there were any sand deposits of glassmaking quality in the Salisbury area. The wording of the accounts suggests that the sand was in the vicinity of the city. Sand has been dug from the Aldebury area, a couple of miles to the east of the city. This sand is part of the extensive Bagshot beds that include the Alum Bay sands used extensively for glassmaking. Sand for glassmaking was also dug from these beds in the last century from a pit approximately nine miles from Salisbury, relatively close to Glazier's Copse.

It has been suggested in the past that the term 'glasshouse' at Salisbury Cathedral referred simply to a stained glass workshop, but in the light of the information found so far, that appears unlikely. A 'load' probably refers to a quantity of 500 billets, so 230½ loads would have been well in excess of 100,000 billets of firewood quite a lot for simply heating a workshop or firing a small muffle furnace for the staining process. A billet was apparently between 36 and 40 inches long with a circumference of 10 inches. Similarly what appears to have been nine cartloads of sand provided for the opening of the glasshouse does not fit with simply assembling windows. It has also been suggested that the Bishop acquired the glasshouse to close it down to prevent it from being a nuisance to his palace. The fact that it continued working for a number of years after the exchange tends to negate this explanation. Also "The Wardrobe", which still stands, is a very substantial property and a simple stained glass workshop would appear to be a relatively poor exchange. The amounts of sand and alkali noted do not seem to match. This may be because the soda referenced was used as a flux for soldering the glazing lead, rather than for glass melting.

The records seen so far appear to tell only part of the story, but they strongly suggest that the conventional wisdom that English medieval glasshouses were short lived and forest-based is not universally true.

I am most grateful to Suzanne Eward, Salisbury Cathedral Librarian, and Peter Saunders, who recently retired as curator of Salisbury Museum, for their help in finding this information. In order to keep this note brief, detailed reference citations have been omitted, but if you would like to follow these up please contact me at cbrain@interalpha.co.uk.

Fourteenth-Century Glass Distilling Vessels from Oxford

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In 2006 excavations at Peckwater Quadrangle, Christ Church, Oxford, by John Moore Heritage Services, uncovered a stone-lined pit [496] from which 616 fragments of glass were excavated, mostly pale green 'forest glass' distilling vessels. The context was dated to the 14th century, probably before 1350, by the associated pottery. This is significant as it is the earliest datable glass distilling equipment to have been found in Britain. While contemporary documents such as Chaucer's *Canon's Yeoman's Tale* of the 1380s or 90s attest to the use of glass distilling equipment in the 14th century, all previously confirmed archaeological examples have come from 15th-century or later contexts (see Tyson

2000, 168-78). These are often large groups from the dissolution debris of monastic sites, for example St John's Priory, Pontefract and St Leonard's Priory in Stamford. A few earlier fragments *may* come from distilling vessels, such as a fragment of tubing from a 14th-century pit at Ludgershall Castle, but these finds are ambiguous. The Christ Church assemblage is the largest group of distilling vessels found after that from Pontefract.

The basic medieval distilling set consisted of a **cucurbit** which contained the liquid to be distilled, usually with an inturned rim. This vessel was heated from beneath. Over

this sat the **alembic**, which had a domed top where the boiled liquid condensed and ran down into a collecting channel that ran around the inside of the vessel, made by folding the body of the glass. From there the distillate was channelled down the alembic's tubular spout into a smaller **receiver**. Other arrangements of vessels were also used, some shown in medieval depictions such as those in Thomas Norton's' *Ordinall of Alchimy* of *c*.1477 (British Library Add Ms 10302). These vessels can be difficult to diagnose from small fragments, and over 400 fragments from Christ Church could not be ascribed to a particular vessel.

Others from Christ Church, however, are diagnostic of distilling vessels. Characteristic fragments of the alembic included the collecting channel, and broken sections of tubing. Some slightly everted rim fragments were similar to rims known to come from alembics as they survived with the collecting channel still attached. Convex fragments with external pontil marks may have either come from the domed tops of alembics or the convex bases of other vessels such as urinals or cucurbits. Contemporary illustrations sometimes show alembics to have finials on the dome, and a hollow rounded finial or knop found at Christ Church may be one such example. A number of inturned rims probably represent cucurbits of varying diameter. Cucurbits from some other sites have ledges or rings below the rim to support the alembic, but no evidence can be seen of anything similar from Christ Church. Chaucer describes how 'an erthen pot' was 'ycovered with a lampe of glas', and the junction was then sealed with clay ('enlutyng')(The Canon's Yeoman's Tale, lines 760-7).

The widely everted rims from the site are more difficult to classify. There is a noticeable difference between 'thick' and 'thin' rims. The thicker rims are likely to have been from more robust vessels used in conjunction with the distilling vessels, or for other methods of preparing household preparations pharmaceutical or Moorhouse 1993). The thinner widely everted rims resemble those found on urinals, used for the common medieval medical practice of uroscopy, diagnosing health through the examination of the colour and consistency of urine. It was essential to have a clear view of the liquid, so the glass was usually blown very finely with a rounded convex base so the view of the urine was not impeded (Tyson 2000, 149-53). Again, vessels of this form are also specified in recipes for other household preparations (Moorhouse 1993).

Several rims of narrow-necked flasks were found, and their context suggests that these may have been used as the receivers for the distilling set. The receivers could have been ceramic; as Chaucer shows (above), pottery and glass distilling vessels were sometimes used together. The pottery from Christ Church showed no specific

distilling vessels, although some bases had been subjected to intense heat, or had degraded inner surfaces, and these will be published as part of Paul Blinkhorn's pottery report for the site.

All distilling vessels found in England are likely to have been made in English glasshouses, such as those documented in the Surrey/Sussex Weald from the 13th century onwards. Similar vessels were made at least as late as the 17th century.

There are various possibilities as to what these distilling vessels were being used for. Alchemy is documented in Oxford in the 13th century, by figures such as Robert Grosseteste, who was Chancellor of Oxford and Bishop of Lincoln, and Roger Bacon, known as a 'master of experiments' who allegedly had a laboratory on Folly Bridge in Oxford (Holmyard 1957, 115-19). Alchemy was not necessarily a 'get rich quick' scheme, but a more general philosophical exploration, and probably included broad chemical experimentation. Distilling was most commonly used to prepare medicinal remedies such as oil of Benedict and flower oils, and was carried out on a small scale in households as well as by apothecaries and in monastic communities. Monastic houses also prepared pigments for writing and illustrating, and alcoholic liqueurs and aquae-vitae.

Three tableware vessels were also found in the pit at Christ Church: a 14th-century goblet decorated with mould-blown fins attributed to the area between the Rhine and the Meuse; a beaker with mould-blown ribs probably from the same area; and a more unusual almost colourless vessel that appears to come from a bowl with a relatively flat base decorated with concentric opaque red trails, and an inturned rim.

The Christ Church excavations will be published in due course; the archive report will be housed at the Oxfordshire County Museum Resource Centre (Acc. No. 2005.122).

References

Holmyard, E.J., 1957 Alchemy, London

Moorhouse, S A, 1993 Pottery and glass in the medieval monastery, in R Gilchrist and H Mytum (eds), *Advances in monastic archaeology*, BAR **227**, 127-48, Oxford

Tyson, R, 2000 Medieval glass vessels found in England c. AD 1200-1500, CBA Research Report 121, York

NEW PUBLICATIONS

Roman Cameo Glass in the British Museum

Paul Roberts, William Gudenrath, Veronica Tatton-Brown and David Whitehouse

British Museum Press 2010

112pp, c.150 colour drawings, 16 pages of line drawings

ISBN-13: 978-0714122670 ISBN-10: 071412267X

£30



Cameo glass represents the ultimate achievement in Roman luxury glass, and the British Museum has the world's largest and finest collection. This comprises over seventy pieces, including two of only a dozen surviving complete cameo glass vessels: the celebrated Portland Vase, the greatest surviving example of Roman cameo glass, and the Auldjo Jug, each with its complex and intriguing history. The catalogue, begun by Veronica Tatton-Brown and William Gudenrath of the Corning Museum of Glass, has been revisited and enhanced by Paul Roberts of the British Museum and David Whitehouse and William Gudenrath of the Corning Museum of Glass.

This publication presents the collection in its entirety for the first time. Each piece is illustrated in colour and line drawing, with full description and discussion. The book also presents the results of ground-breaking new research. The authors construct a comprehensive context, using archaeological, technological, iconographic and typological evidence to look at the origins of cameo glass and its place in contemporary Roman art and craftsmanship. They also propose a relative and absolute chronology for cameo glass, and suggest possible models for the organisation of the workshop(s) that produced it.

Glassmaking in Ireland: From Medieval **Times to the Contemporary**

John M. Hearne (ed.)

Irish Academic Press 2010 English Hardback 272pp ISBN-10: 0716531062

ISBN-13: 978-0716531067

£45

A treasure-trove of fascinating information for the scholar, collector and enthusiast alike. In this, the first comprehensive survey of glassmaking in Ireland, the evolution of the industry from the sixteenth through to the twenty-first century is chronicled, and the impact of technological innovation and human invention examined. Adopting a multidisciplinary approach, the contributors use archaeological, architectural, artistic, historical, economic and pictorial evidence, along with the results of new research, to present an illuminating and fascinating account of glassmaking in Ireland that is accessible to the academic and general reader alike. Among the many topics covered are the origins of Waterford glass and its re-emergence in the 20th century, the invention of lead crystal glass, the origins of studio and contemporary glass in Ireland and how advanced Irish glassmaking was compared to English glassmaking of the period.

Le camp de la flotte d'Agrippa à Fréjus: les fouilles du quartier de Villeneuve (1979-1981)

Christian Goudineau, Daniel Brentchaloff

The early Roman vessel glass, pp 185-275 S. Cottam and J. Price

Editions Errance, 2009 French/English ISBN-10: 2877723984 ISBN-13: 978-2877723985 c.£35 at Amazon

This substantial chapter presents an assemblage of over 4,000 fragments of glass from salvage excavations at the Argentière site in 1975 and rescue excavations at the Aiguières site between 1979 and 1981. The chapter, written in English, contains full catalogues, a detailed commentary and abundant illustrations and colour photographs of this important group of early Imperial glass.

Altino: Glass of the Venetian Lagoon

Rosa Barovier Mentasti, Magherita Tirelli (eds)

Vianello Libri, Treviso 2010 English 167pp, numerous colour illustrations ISBN 978-887-200-3367

Accompanies the recent exhibition 'Altino: vetri di laguna' at the Archaeological Museum, Altino, to celebrate the fiftieth anniversary of the museum. Includes more than 400 glass finds showing continuity from Roman times to the present.

The Beautiful Rooms are Empty: Excavations at Binchester Roman Fort, County Durham 1976-1981 and 1986-1991 Jain Ferris

2010 Durham County Council Two volumes, hardback £35 + £8 p&p

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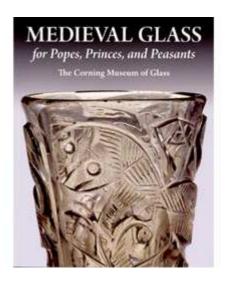
The full excavation report from the important campaign of work carried out at Binchester in the late 1970s and 1980s by Iain Ferris and Rik Jones is now available. This two-volume publication includes full analysis of these excavations as well as substantial wider contextual material about the fort and the history of research there. There is a considerable section devoted to the outstanding assemblage of more than 2000 fragments of Roman glass from Binchester in the second volume, Part 2. The glass was studied and catalogued by Jenny Price and Sally Worrell, with chemical analyses by Sarah Paynter. The discussion of the glass covers 28 A4 pages, including 8 pages of illustrations. The catalogue fills a further 35 pages followed by 5 pages of analytical results.

BOOK REVIEW

Medieval Glass for Popes, Princes and Peasants

David Whitehouse, with contributions by William Gudenrath and Karl Hans Wedepohl

The Corning Museum of Glass 2010 ISBN 978-0872901773 274 pages, paperback \$34.95



This book accompanies the Corning exhibition of the same name that has recently ended. After a surge of exhibitions and publications on medieval glass in the last two decades of the 20th century, much less has been at the forefront of the museum world in the last decade, so this is a most welcome exhibition. It is described as a 'selective introduction', and includes a catalogue of 128 vessels dating between the 5th and 16th centuries, largely of western European production, and with the majority dating between the 12th and 15th centuries.

The introduction includes a very readable summary of the background history to the Middle Ages, and an interesting section on 'Glass in legends and literature'. This is followed by a discussion of the glass types found in each sub-period, with lavish colour illustrations of medieval depictions to demonstrate their uses. Particularly interesting is the section on the late 12th-century Hedwig beakers (one of which appears on the cover) and an outline of the seven current different theories for where these enigmatic vessels were made. The most likely origin is considered to be the Norman court in Sicily (in contrast to the British Museum's choice

of the Levant in the recent BBC/British Museum's History of the World in 100 Objects, no. 57). Karl Hans Wedepohl provides a useful up-to-date summary of the chemical compositions of the different medieval glass types.

William Gudenrath's chapter on medieval glassblowing techniques, based on his experimental work, is one of the most valuable and original parts of the book. He discusses the purpose of the kick, found on nearly all European medieval vessels, and the glassmakers' use of the jacks and the 'soffietta' to shape the vessel. Vessels using only the jacks are shown to leave more noticeable tool marks well below the rim; using a soffietta as well only shows tool marks just below the rim, evidence that I will be looking out for in future examination of medieval vessels.

The selection of vessels for the exhibition concentrates on 12th- to 15th-century glass. Each catalogue entry takes up a page or more, with a written summary and an excellent colour photo. While many of the vessels will be familiar to those having seen previous exhibitions of medieval glass, interesting vessels include No. 111, the late 12th- to early 13th-century eastern Mediterranean blue glass beakers with gilded and enamelled decoration, similar to, but a more unusual form than, the more familiar Byzantine blue glass bottles. No. 51 is a bottle painted with enamel in a similar style to the 'Aldrevandin' beakers thought to have been made in Venice in the late 13th to early 14th century, with an inscription showing that it was used for "oil for the sick".

This is primarily an exhibition catalogue, and the inclusion of only complete or near-complete vessels gives a distorted view of the range of glass in circulation. Thus no examples of 13th- to 14th-century high-lead glass from Germany are shown, one of the three compositional types in this period and striking in their garish appearance, although they are discussed in Wedepohl's discussion of glass types. Germanic-produced beakers dominate by a large margin, while there are few stemmed goblets, and no uroscopy vessels in the catalogue, although again, they are discussed in the introduction. It is however impressive just how many medieval vessels survive intact given the severe corrosion that occurs on excavated glass, and the selection will have made a striking impression on visitors to the museum.

Rachel Tyson

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