

Glass News

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Frontispiece: A large English case bottle perforated by a gunshot, excavated in Buenos Aires (scale in cm). © Patricia Frazzi. See Daniel Schavelzon's grant report on pg 12 for details of further glass finds from the city.

Welcome to *Glass News 37*! This issue is packed with a wide-ranging assortment of glass history, including reports on projects assisted by AHG grants on ancient Egyptian glass working, Roman glass from Aquileia in Italy, early Christian glass gems from Greece, luxury 17th-century glass from Portugal, and 17th- and 18th-century Spanish and English glass excavated in Buenos Aires. There are details of a variety of exhibitions and meetings planned for 2015 and new books. This includes a joint AHG study day on *Glass for Eating, Drinking and Making Merry* in June (see page 2).

Our recent meeting *Things that Travelled* held with the Early Glass Network in London was a great success and well-attended, including participants that travelled from the Mediterranean, northern Europe, the USA, Japan and Australia. Many thanks to Daniela Rosenow, Matt

Phelps, Andrew Meek, Martina Bertini and Ian Freestone for organising such a memorable event. It took place too late for an account to be prepared for this issue of *Glass News*, but a taste of it can be found in the Grant Report from Anastassios Antonaras. A future publication of the papers is planned by the organisers.

The November AGM saw some changes to the Board of Management. We thank Justine Bayley who stands down as President; she was elected in 2011 and has steered the Association through a varied programme of events and publications; she remains on the Board. We welcome Colin Brain as the new President, a long-standing member of the Board who has helped organise events such as *Interpreting Finds from Glasshouse Excavations* in 2009, and *The Evidence for British Crystal Glass* in 2013 (with his wife Sue), and is a frequent contributor to *Glass News*. We say farewell to David Martlew who has stood down after 15 years, and thank him for his dedicated contribution, which included the organisation of *Glass in Science and Medicine* in 2011. We welcome three new members to the Board: Simon Cottle, Chloe Duckworth and Daniela Rosenow.

We are delighted that *Glass of the Roman World*, will shortly be published; see page 14 for details. **Do not miss Oxbow Books' pre-publication offer, valid until July.** AHG members/subscribers are also offered a generous discount on Dominic Ingemark's book *Glass, Alcohol and Power in Roman Iron Age Scotland* (see page 14).

The editors would like to thank this issue's contributors for their material; please keep it coming for future issues! We would welcome long or short pieces about your glass research and discoveries, meeting or exhibition reviews, information about glass-related events or books, and your queries. See the back page for contact details.

Subscriptions for 2015-2016 are due in April, and a form is enclosed to send with your payment to John Clark.

FACEBOOK PAGE

The AHG is on Facebook!
To keep up-to-date on news and current research on the history of glass visit:
[facebook.com/TheAssociationForTheHistoryOfGlass](https://www.facebook.com/TheAssociationForTheHistoryOfGlass)
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AHG SPRING STUDY DAY

Glass for Eating, Drinking and Making Merry

15th June 2015 10.00 – 17.00

The Wallace Collection, London W1U 3BN

This study day on the use of table glass of all periods is being planned in conjunction with the Glass Association (GA) and the Glass Circle (GC). Glass has always been made because people wanted to buy and use it. Without customers who wanted to use glass, there would have been no glass industries. Yet much more work has been done on production than use. Why did people choose glass instead of ceramics or pewter? Was the table glass used in homes, inns and taverns the same, or different? What difference was there between city and country; upstairs and downstairs? Such questions are often asked, but less frequently answered so it is hoped to use this opportunity to study how, why, where and when table glass was used in different eras.

The cost of the day will be £12 (€15) for students, £24 (€30) for members of the AHG, GA, GC or Friends of the Wallace Collection and £34 (€45) for non-members. Lunch is not provided, but is available locally.

If you would like to contribute a paper please write to the Secretary, Denise Allen (see back page), or email ahgstudydays@gmail.com. Since the programme has yet to be finalised, please see the website www.historyofglass.co.uk for the latest information, or write to the Secretary and ask her to send you details when they are available.

THE ASSOCIATION FOR THE HISTORY OF GLASS

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AHG GRANTS

Grants are available from the Association for the History of Glass, for educational or research activities consistent with the Association's charitable aims. These could include, for example, attendance at a conference to present a lecture or poster, a study visit, fieldwork, or publication of scholarly works. There are no restrictions on who may apply or on the topics of applications, which will be judged on merit. Multiple applications in different years will be considered with individual awards up to £500.

Recent recipients of awards include Daniel Schavelzon towards the publishing and exhibiting English and Spanish 17th- and 18th-century glass found in Buenos Aires (pg 12), Anastassios Antonaras, Monica Ganio and Sarah Maltoni towards attending conferences to give papers (pgs 7–10), Matt Phelps towards research on glass production in late Byzantine-Islamic Israel, and Martina Bertini for a study on Iron Age toggle beads in Scotland.

An application form may be downloaded from the website, or can be obtained from the Honorary Secretary, Denise Allen at 8 St Catherine's Road, Southampton SO18 1LJ. Email: denise_allen52@hotmail.com.

CONFERENCES



20th Congress of the International Association for the History of Glass

7th – 11th September 2015

Fribourg – Romont / Switzerland

The 20th Congress of the International Association for the History of Glass will take place in Fribourg and in Romont, Switzerland, from Monday 7th September to Friday 11th September 2015. It will be organised by the Vitrocentre and Vitromusée Romont in cooperation with the University of Fribourg.

Three parallel sessions of lectures are planned, along with poster presentations. The programme leaves time for sightseeing, and participants will also have the opportunity of visiting exhibitions specially organised for the congress, in museums in Fribourg and in Romont. The visit of Wednesday 9th September 2015 to the exhibition in the Vitromusée Romont of Venetian and *façon de Venise* Renaissance glass from Swiss

collections will include a demonstration by Bill Gudenrath from the Corning Museum of Glass (NY, USA). He will show glass blowing techniques used in the creation of some of the pieces on display. Two one-day post-conference tours are proposed.

Registration is available at a reduced 'early' rate before 30 June 2015. For further details see <http://www.aihv2015.ch/> or contact: Congress Office, AIHV 2015, Vitrocentre Romont, Au Château, case postale 225, CH-1680, Romont, Switzerland. Telephone +41 (0)26 652 18 34; email: info@aihv2015.ch.

The Sixth International Festival of Glass, Stourbridge

25th – 31st May 2015

This year celebrates 400 years of glassmaking in Stourbridge and 50 years of Studio Glass, so there is a full programme of activities planned (see <http://www.ifg.org.uk/>). Of particular interest to AHG members may be the planned exhibition of finds from the recent excavations of Coalbourne Hill and Coalbourne Brook glasshouses. Both of these cones were on the site that is now Ruskin Mill, one of the festival hubs. The finds help chart the site's unbroken glassmaking tradition stretching back over 320 years, including the period when it was the home of the well-known concern of Webb Corbett.

Society of Glass Technology Annual Conference

Glass Reflections, 'Glass in the Year of Light'

Cambridge, 7th – 9th September 2015

Come to the Society of Glass Technology Annual Meeting in Cambridge 2015 where we will celebrate the fundamental interactions of glass with light – from novel glass telecommunication fibres and technologies through windows and artistic applications to the use of high intensity light to probe the very structure of glass. The Society of Glass Technology has been a shining beacon in the study of glass for 99 years – this conference will be your opportunity to meet with a unique community of people all focussed on understanding and producing that most important of materials in our modern life – glass. We look forward to welcoming you in Cambridge.

For more information please write to Society of Glass Technology, 9 Churchill Way, Chapeltown, Sheffield S35 2PY or click the link below: www.glassreflections.sgt.org.

EXHIBITIONS

Ennion: Master of Roman Glass

9th December 2014 – 13th April 2015

The Metropolitan Museum of Art, New York

16th May 2015 – 19th October 2015

Corning Museum of Glass, Corning, New York

and

Ennion and His Legacy: Mould-Blown Glass from Ancient Rome

16th May 2015 – 4th January 2016

Corning Museum of Glass, Corning, New York

Among the earliest glass workshops to design and create mould-blown glass was one in which a man named Ennion worked. Ennion was the first glassmaker to sign his glass objects by incorporating his name into the inscriptions that formed part of the mould's design, and thus he stands among a small group of glassworkers whose names have come down to us from antiquity.

Ennion: Master of Roman Glass, focuses on works made by Ennion. Organised by The Metropolitan Museum of Art, it will be on view first at the Metropolitan Museum, then until October 19 2015 at the Corning Museum of Glass. The show is composed of loans from a number of international institutions and private collections, bringing together many of the known examples of Ennion's wares. Of the 37 complete or fragmentary vessels in the exhibition, 24 are by Ennion, including the Metropolitan Museum's three signed pieces. Examples by other named glassworkers of the period – including one of only two intact works by Ennion's closest rival, Aristeas, as well as examples of beakers signed by Jason, Neikais, and Meges – will also be presented. A selection of unsigned blown glass that illustrates Ennion's profound influence on the nascent Roman glass industry will also be on view. A catalogue suitable for non-specialists will accompany the exhibition. Published by The Metropolitan Museum of Art and distributed by Yale University Press, the catalogue will be available in the Museum's book shops (paperback, \$24.95).

This remarkable group of objects is complemented by *Ennion and His Legacy*, on view at the Corning Museum of Glass from May 16 through to January 4, 2016. *Ennion and His Legacy* is composed of mould-blown master works by other Roman glassmakers that are drawn from the Corning Museum's collection of Roman glass, one of the finest in the world.

Maurice Marinot: A Passion for Glass

20th December 2014 – 7th June 2015
National Museum of Wales, Cardiff

Maurice Marinot (1882–1960) was a pioneer in the development of glass as a studio art form. Born in Troyes, France, Marinot began his career as a painter, studying at the Ecole des Beaux Arts and associated with the Fauvist movement.

In 1911, a visit to the glassworks of the Viard brothers at Bar-sur-Seine was the catalyst for an all-encompassing passion for glass that would endure for twenty-six years. Drawing initially on his skill as a painter, Marinot decorated glass with striking, brightly coloured enamels. Around 1920, he began to create his own highly experimental glass forms that he considered as sculpture. A combination of failing health and the closure of the Viard's works in 1937 caused Marinot to stop making glass and he returned to painting and drawing.



© Dr Pierre Mérat

This free exhibition will bring together forty-four pieces of glass from the collections of the National Museum of Wales, the Victoria and Albert Museum and Leicester Arts and Museums Service, reuniting them for the first time since they left the Marinot family in the 1960s and 1970s.

A free lunchtime lecture, *An introduction to Maurice Marinot*, will be given by Andrew Renton, Head of Applied Art, on January 9th and March 6th at 1.05pm.

REMINDER

Would you like to see the photos in this issue in colour?

We can send a colour PDF version of this issue of *Glass News* on request TO MEMBERS AND SUBSCRIBERS (in addition to your paper copy).

Please email one of the editors (see back page) if you would like a PDF copy.

MEETING REVIEW

GlassAC14

10th – 13th September 2014
Durham and York

The 2014 international conference on Glass Science in Art and Conservation was held at Durham and York from 10th to 13th September 2014. It was in conjunction with the Society of Glass Technology's (SGT) annual meeting 'Living Glass'. There were parallel science and art/historical tracks with delegates being positively encouraged to move between lecture theatres. One result of this was that difficult choices had to be made on which talks to miss. With around eighty presentations in two and a half days of lectures (see <http://www.glassac14.sgt.org/Programme.htm>), the organisers clearly had to strike a balance between the range of topics covered and the time allocated to each. This meant that there many topics about which one would have liked to hear more, but the remedy for this was simple – find the presenter and talk to them!

With so many presentations it is impossible to review anything in detail, so the following are just some personal impressions of the fraction of the conference I attended. This is the first multi-threaded glass conference I have attended where the art/historical theme was the dominant one, with the largest lecture theatre and consistently drawing the largest audiences, even when the University staff wanted to lock up on the Friday evening! It is also the first time for a glass science-thread where the purpose of the analyses consistently dominated over methods and equipment. For example, at least two papers linked their analyses to the available period glassmaking texts and comprehensive studies of the raw materials, whilst another reported a full analysis – experimental replication – analysis cycle. Since many of the glasses concerned were coloured, traditional atomic spectroscopy methods such as XRF were largely taken for granted as being necessary, but not sufficient, with many speakers discussing the challenges of identifying glass molecular structure and co-ordination levels using techniques such as UV/vis/IR, Raman and X-ray absorption. Here having 'experts' on hand to explain in simple terms the finer points of REDOX (reduction/oxidation balance), optical basicity, etc. was a definite bonus. In my experience the multi-faceted conferences organised by the SGT always produce some emergent themes. One of these for me this time was "glass is difficult", but very much in the sense of Piet Hein's 'Grook': "Problems worthy of attack prove their worth by hitting back". Perhaps this is a sign of the extended glass analysis community's coming of age and starting to feel confident enough to confront some of the more challenging glass art/historical problems.

The science, art and conservation facets were at their most convergent in the field of stained glass where there were many excellent and varied papers. However the glass art presentations, particularly those from members of the Glass and Ceramics Department at near-by University of Sunderland, covered a much wider scope than this. One theme emerging was the relationship between the ‘artist’ who ‘owns’ the overall conception and the ‘technician’ who implements the glass-based components of this conception. This could easily become a rather divisive topic and unless more is done to train future ‘technicians’ it will also become a sterile one! However, a more productive angle was the question of how we can foster better communication between all those involved in the customer-supplier chains that deliver value in all the fields to do with glass.

It is perhaps a sign of the maturity of glass conservation that there were relatively few overt glass conservation

papers, but this was balanced by a generic concern for conservation which pervaded most glass historical papers. There was however, one point of contention that briefly surfaced - to coat or not to coat – concerning the value of protective coatings in conserving fragile glass surfaces. I suspect that this one has considerable mileage left in it!

A declared objective of the GlassAC series of conferences is to break down barriers between different specialisations. Hearing analysts discuss the finer points of when to gather ferns to produce the best glassmaking ashes and the elemental signatures of different historical sources of cobalt, there can be little doubt that this conference has delivered.

Colin Brain

AHG GRANT REPORTS

The excavation of a glass- and glazing workshop at Tell el-Amarna site M50.14-16, Egypt (Amarna period, c.1347-1332 BC)

Dr Anna K. Hodgkinson
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This report outlines the work undertaken in the Main City South at Tell el-Amarna between October 18th and November 13th 2014, which was partially funded by a generous grant from the Association for the History of Glass. The team of archaeologists consisted of the following members: Dr Anna K. Hodgkinson (field director, formerly University of Liverpool), Susan Kelly, M.A. (formerly University of Liverpool), Ashley Bryant M.A., M.Sc. (formerly University College London) and Kimberley Watt, M.Phil. (formerly University of Cambridge) and our inspector from the Ministry of State for Antiquities, Mohamed Khalil.

The work focussed on the area of a building complex denominated M50.14-16 by C.L. Woolley, who initially excavated these buildings in 1922 on behalf of the Egypt Exploration Fund (Peet and Woolley 1923). The publication describes the ‘remains of a glaze kiln: pit cut in sand 1.00m diam. by 0.50m deep, full of burnt brick, glass and glaze slag, and fragments of the pots used in the kiln for standing the vessels on: the bottoms and sides of these are covered with tricklings of glaze’ (ibid., 19). The area around this feature, marked with an ‘X’ on the originally published site plan, formed the easternmost extent of the excavation, while the westernmost edge encompasses the western boundary



Figure 1: The original plan of the site (after Peet and Woolley 1923). The diagonal lines are the actual gridlines as revised, running N-S. The shaded squares are those excavated in 2014.

wall of the main house, M50.16 and some of the adjacent walls, which do not appear on the original plan and have not been previously excavated.

The building complex, as originally published, encompasses a domestic house, M50.16, a secondary building to the east of this house, M50.15 and the

surrounding courtyard, which describes the overall area of the building complex, M50.14. While the focus of the work lay on M50.14, the courtyard to the south of the main building, house M50.16 was also excavated. This was done in order to establish the connection between the courtyard and the domestic complex, and to understand the spatial relationship between the industries taking place in the courtyard and the inhabitants of the house. House M50.15 was left largely unexcavated and remains to be studied.

We have been able to revise the location of the house within the overall plan of Amarna. As the plan of the house was quickly revealed during excavation it became apparent that the location and orientation of the house were offset according to the 1922 plan, placing the house c.10m further east and re-orientating it east-west.

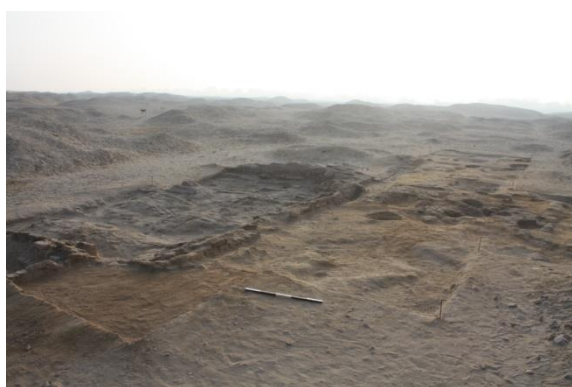


Figure 2: An overview across the site, looking east, showing the interior of the main house and the southern courtyard. © A. Hodgkinson

The modern surface of the southern courtyard of the house was found covered with vitrified material, i.e. molten mud-brick and sandstone. This was interpreted as evidence of high-temperature technologies, in particular glass, since this phenomenon is known from other glass-working kilns in ancient Egypt, most notably from Amarna itself: site O45.1 in the Main City North, which was excavated in the 1990s by Paul Nicholson, contains a series of kilns used for glass-working and faience manufacture, which all display a high level of vitrification (Nicholson 2007). Unfortunately, we did not locate such a structure, neither in the southern central portion of the courtyard, nor in its eastern sections, at aforementioned point 'X'. However, the concentration of dumped vitrified material indicates that firing took place in cave-like structures or small pits that had been destroyed or cleaned out: The pieces of vitrified, sub-angular sandstone fragments were frequently found glued together in a matrix, suggesting that they were heaped into the small kilns around the cylindrical vessels containing the glass, possibly for stabilisation and insulation. Some of the pieces of vitrified mud-brick have a double lining of vitrification, indicating multiple firings. Drops of vitrified material sloping off the brick indicate that a cave-like structure was used for firing.

Approximately 60m of the main house, M50.16, were excavated, the preservation of the walls being poor. In the south-eastern part of the house, which was initially published as a small, open courtyard, a round oven with ceramic lining has been excavated. This oven was most likely used for the preparation of food, indicated by the presence of animal bones together with a concentration of discarded pottery. An adjacent box oven mentioned in the original publication has not been located. A mud-brick casing in the centre of the house indicates the presence of a staircase, leading to an upper storey that partially covered the house.

The southern courtyard yielded much evidence of industrial activity, including glass-working, faience manufacture, chalcedony or agate working, alongside some tools. Overall, the finds are indicative of a bead workshop, although there is evidence of the decorating of glass vessels taking place in this area as well.

Three hundred and twenty-nine fragments of glass have been excavated, most of which are chippings of glass ingots, indicating that the processing of glass took place at this site. In addition to these fragments, we have found 116 glass-rods, bars and strips, together with multiple fragments of cylindrical vessels, used as moulds for glass ingots and for the re-melting of glass. In order to produce beads, glass-rods would have been wound around copper-alloy rods, of which 15 were found.



Figure 3: A selection of glass-, faience- and metal finds from our excavations: Beads, a vessel fragment, copper-alloy rods and tools, amulets and pendants. © A. Hodgkinson

More than 400 faience and glass beads of a variety of types have also been found, and this includes manufacturing errors, where beads have fused together and were thus discarded. Glass beads were found showing trails of glass yet to be polished off. A concentration of unpolished glass beads was found in the south-east outer courtyard and adjacent to a series of small fireplaces, indicating a working area. Two undecorated, cobalt blue glass vessel fragments were

registered, demonstrating that the decoration of such vessels took place at the site. The colour of the glass ranges from dark cobalt blue and turquoise blue/green, the two most common colours for ancient Egyptian glass, over purple, yellow, translucent, almost colourless glass to opaque white glass.

Five faience moulds have been found, representing a variety of amulet shapes, indicating that faience amulet production took place at the site; we found over 100 faience amulets, tiles and other fragments.

A large quantity of red-banded pebbles, known as chalcedony or agate, were discovered within the courtyard. We came across a large amount of debitage from working of this material, i.e. flakes and chips. A carved amulet, one finished and one unfinished chalcedony bead highlight the fact that this material was worked into small beads and pendants at the site.

We can infer from the large numbers of glass and the numerous cylindrical vessels found at the site that the excavated workshop must have processed relatively large quantities of glass. These finds are similar to those discovered during the recent excavations in the early 2000s at the nearby house of Ranefer (Kemp and Stevens 2010), and concur to the hypothesis that this

area of the Main City South at Amarna was somewhat specialised in this activity. Overall, it can be stated that the excavated complex represents a typical Amarna household, encompassing a main, domestic building, some secondary buildings and some outside working areas. The general layout of this complex fits well into the greater picture of Amarna, in particular that of the Main City, where it is believed that areas of small, industrial houses developed amongst the larger, elite houses, to which they reported.

References

Kemp, Barry J and Stevens A, 2010 *Busy Lives at Amarna: Excavations in the Main City (Grid 12 and the House of Ranefer, N49.18)*, Egypt Exploration Society Excavation Memoir **90**, London

Nicholson, Paul T, 2007 *Brilliant Things for Akhenaten: The Production of Glass, Vitreous Materials and Pottery at Amarna Site O45.1*, Egypt Exploration Society Excavation Memoir **80**, London

Peet, Thomas E and Woolley, C I, 1923 *The City of Akhenaten. Part I: excavations of 1921 and 1922 at el-Amarna*, Egypt Exploration Society Memoirs **38**, London

Glass-working or glassmaking? New evidence from the site of 'Fondi ex Cossar' in Aquileia (Italy)

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The present contribution is the first of two papers reporting the scientific results presented at the 40th International Symposium on Archaeometry in 2014 with thanks to the support of an AHG grant.

The city of Aquileia lies in the north east of Italy, at the extreme north of the Adriatic Sea. The city was founded in the 2nd century BC as a Roman colony. During the Roman period and Late Antiquity it hosted one of the main commercial harbours of the western Mediterranean, connected by land and maritime trade routes to the Levant and the Transalpine region. The strategic geographical position of the city, in connection to the Middle East, where glass primary production has been proved, and the relative abundance of glass working wastes and chunks excavated in the past decades, opened the way to questions about the provenance of the glass circulating in Aquileia and the northern Adriatic Italy during Roman and Late Roman times.

The present study, part of a wider PhD project, focuses on the glass finds excavated in the Domus of 'Fondi ex

Cossar', recently dubbed 'Domus of Tito Macro'. The excavation of the domus, conducted by the University of Padova between 2009 and 2014, brought to light a wide range of materials dated from the pre-Roman to the modern ages, demonstrating the complex stratigraphy of the site.

Glass finds are, as expected, very abundant: about 900 glass objects, mainly tableware dated to the 3rd–8th centuries AD. After a detailed archaeological study 78 samples were selected for archaeometric analyses, including the most frequent vessel types (Fig.1) and all the working debris found on the site.

The presence of raw chunks and debris provides a very important opportunity to investigate the composition of the glass that was traded and worked in the area. The majority of the samples are made of transparent glass that is unintentionally coloured in various shades of green and blue; only a few samples are completely colourless, while some others are intentionally coloured in deep blue or yellow-amber.

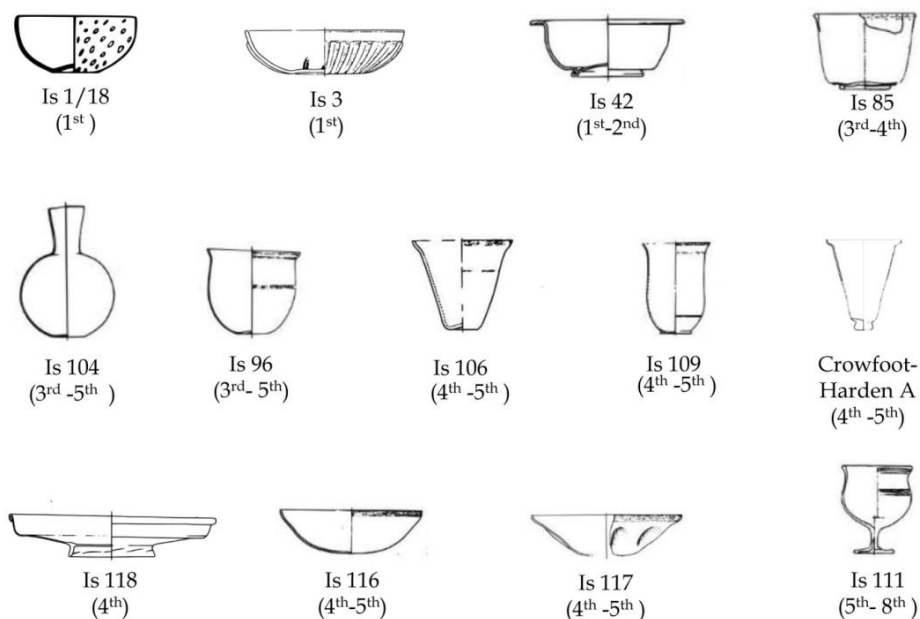


Figure 1: Selected types and relative dating. The abbreviation "Is" indicates archaeological types classified under Isings 1957. Images from: Isings 1957 (Isings 1/18); Mandruzzato and Marcante 2005 (Isings 3, 42, 96, 104, 106, 109, 116, 117, 118); drawings by A. Marcante: Isings 85, 111, Crowfoot-Harden group A.

The chemical analyses, conducted by XRF and EPMA, show that all the samples are silica soda-lime glass, produced with coastal sand rich in mollusc shells and natron as a flux, which is in keeping with Roman and Late Roman traditions.

On the basis of the chemical analysis, the glass can be divided in two main groups, referred respectively to classical Roman and Late Antique compositions, with a predominance of Late Antique composition.

Samples with 'Roman' composition (30 in number) comprise manganese decoloured and antimony decoloured, and the more common blue-green glasses. The majority of samples (48) have Late Antique compositions, and can be related to those reported in the literature as Levantine 1 (Freestone *et al.* 2000), HIMT (Freestone 1994) and Série 3.2 (Foy *et al.* 2003), with a majority of HIMT glasses and a scarcity of Levantine 1. Some compositional peculiarities reported in the Aquileia assemblage can be indicative of the sand of origin: HIMT glass from Aquileia is surprisingly rich in iron, alumina and titania; in addition, some of the Levantine 1 samples are peculiarly rich in potash.

The examination of the glass working indicators provided interesting results: the two raw glass chunks analysed here are composed of blue HIMT and Série 3.2 glass respectively, while no working debris has a Levantine 1 composition.

All of the samples analysed show very low or negligible recycling indicators (mainly Cu, Co, Pb, Zn, Sn). The extent of recycling can be considered very limited in this

assemblage, and the practice of recycling cullet can in some case be inferred from other evidence: some examples of late types are made with glass of Roman composition, the practice of recycling early glass in Late-Antique times, probably with the aim of obtaining colourless (or nearly colourless) objects.

The Levantine 1 composition is less well represented and, when present, limited to vessels; this evidence suggests the possibility that for some reason of taste, i.e. colour, price, technological reason (working ranges and viscosity), market availability or other unknown reasons, HIMT and Série 3.2 were preferred to Levantine 1. Furthermore, the working evidence identified here refers to the Late Antique and not to Early Roman times.

The provenance of the glass finds was investigated with isotopic analysis of strontium and neodymium conducted on a selection of samples, chosen on the basis of their chemical composition favouring the Sb-colourless, HIMT, Levantine 1 and Série 3.2 glass.

Isotopic analyses suggest a Middle-Eastern provenance for all the analysed samples; neodymium in particular indicates a neat distinction between HIMT, of probable Egyptian provenance, and Levantine 1 and Série 3.2, of probable Syro-Palestinian origin. Furthermore the isotopic signature of Série 3.2 glasses is very close to the one of the Sb(antimony)-colourless samples, and distinguished from Levantine 1. On the basis of chemical and geochemical evidence, the exploitation of western Mediterranean sands for the production of any of the analysed samples can be rejected.

Thanks to the results of this study, the role of the city in Late Antiquity is thus more clearly delineated: raw glass was imported from the Middle East and Egypt, and worked locally; a parallel import of vessels is also a reasonable assumption. The assemblage, as often reported in the literature for western sites, is dominated by HIMT, followed by Série 3.2; such compositions were locally worked, as testified by the occurrence of raw chunks of these compositions. No evidence of working was identified for the less well represented Levantine 1 composition. Recycling of glass cullet, was very limited, maybe as a consequence of the huge quantity of fresh glass available on the market.

References

Foy, D, Vichy, M, Thirion-Merle, V, 2003 Caractérisation des verres de la fin de l'Antiquité en Méditerranée occidentale: l'émergence de nouveaux courants commerciaux, in D Foy and M-D Nenna (eds), *Échanges et commerce du verre dans le monde antique*,

Actes du colloque international de l'AFAV, Montagnac: Monique Mergoil, 41–85

Freestone, I C, 1994 Chemical analysis of 'raw' glass fragments, in H R Hurst (ed.), *Excavations at Carthage II, The Circular Harbour, North Side. The Site and Finds Other than Pottery*, British Academy Monographs in Archaeology 4, Oxford University Press, 290

Freestone, I C, Gorin-Rosen Y, Hughes M J, 2000 Primary Glass from Israel and the Production of Glass in Late Antiquity and the Early Islamic Period, in M -D Nenna (ed.), *La route du verre. Ateliers primaires et secondaires du second millénaire av. J-C au Moyen-Âge*, Lyon: Maison de l'Orient Méditerranéen 33, 65–83

Isings, C, 1957 *Roman Glass from Dated Finds*, Groningen/Djakarta

Mandrizzato, L and Marcante, A (eds), 2005 *Vetri Antichi del Museo Archeologico Nazionale di Aquileia. Il Vasellame da Mensa*, Corpus delle Collezioni del Vetro nel Friuli Venezia Giulia, II, Venice

A Special Group of Early Christian Glass 'Gems' from Greece

Anastassios Ch. Antonaras

Museum of Byzantine Culture, Thessaloniki, Greece

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Semiprecious stones are often depicted in Roman and Early Christian artworks, like mosaics, paintings, and textiles. They are presented either as part of the jewelled frame of the depiction, or within it decorating buildings, architectural elements like columns, or other objects e.g. thrones, wreaths, shields, tables, crosses, book bindings etc. They usually appear green, blue and red in colour, mostly oblong and oval in shape. The prototypes of these gems, or rather the glass rendering of them is the theme of the present work.

A group of newly found, over-sized emerald green glass 'gems', hitherto unpublished and otherwise unknown from elsewhere, are under discussion. Oblong (c.7x3x1.8cm, weighing c.26g), square (3x2x1.2cm), triangular (4.3x1.8–0.8x1cm) and discoid examples (2.8x0.8cm weighing 6.1g) have been recorded. The gems were made by firing up glass, thus creating a discoid object which would in turn get the desired final shape by further tooling. The undersurface of the gems is rough, with many bumps and small cavities, probably representing the relief of the surface on which firing took place, or possibly is the result of the uneven change in temperature/cooling off of the mass of glass. In some of the specimens one or more oblong, relatively anomalous ridges are visible along the centre of the undersurface. The upper surface is mildly concave,



Glass gems from glass workshop in Thessaloniki, late 6th century. © Anastassios Antonaras

gradually sloping towards the sides, which are also mildly curved and not totally straight. On most of the gems no tooling marks are visible, although this might simply indicate that the craftsman's handling was subtle enough not to leave any traces on the finished product.

For instance on one of the oblong items, from Pieria, a scar is visible along its long sides, which are particularly straight, compared to the usually only partly flat sides. Furthermore, along the long sides of the triangular find, from Fourka, tooling marks are clearly visible. It seems that the originally discoid gem was squeezed probably by pinchers, the jaws of which left a scar along the sides.

Four oblong examples were discovered in the debris of a late 6th-century glass workshop in Thessaloniki, giving a date and a production site for the entire group (Antonaras 2014a, 111, fig. 12.32). Several more examples have been found in the excavations of four Early Christian sites in northern Greece, all of them destroyed around the 7th century. So it appears, for the time being, that four Early Christian basilicas contained objects decorated with gems of this type. Three of them were situated in Chalkidiki, the peninsula east of Thessaloniki: in Kalithea (Antonaras 2014b, 106–107, fig. 14), Fourka and Ierissos, and one of them in Louloudies in Pieria at the southwest of Thessaloniki at the foothill of Mount Olympus. All sites are situated within the political boundaries of the province of Macedonia, at a distance of between 50 to 130km from the capital Thessaloniki, but all of them on the coast and thus relatively easily accessible by sea, apparently representing its commercial hinterland, and in a way defining the range of the regional trade. Similar finds have been reported in a basilica in Petra, Jordan (Fiema 2007, 617) and a similar, large but dark blue oval gem dated to the Roman period was unearthed in Corinth (Davidson 1952, 226, no. 791, pl. 101).

The new Macedonian finds for the first time now offer clear archaeological evidence of the use of glass gems in rendering the sizable decoration on ecclesiastical objects, otherwise known only through the idealized(?) representations on mosaics, textiles, book illustrations and textual descriptions. It offers a new tool to gain insight into this aspect of art history and perceive these depictions as actual *realia* of Late Antique art.

Acknowledgements

Thanks to Dr M. O’Hea, who will publish the glass finds from Petra, for confirming the resemblance of the Jordanian finds to the Macedonian ones.

References

Antonaras, A, 2014a An Early Christian Glass Workshop at 45, Vasileos Irakleiou Street in the Centre of Thessaloniki, in D Keller, J Price and C Jackson (eds), *Neighbours and Successors of Rome: Traditions of Glass Production and Use in Europe and the Middle East in the Later First Millennium AD*, Oxford, Oxbow Books, 95–113

Antonaras, A, 2014b The Glass Finds from a Provincial Early Christian Balkan Basilica, The Solinos Basilica in Chalkidiki Greece, *Nova Antička Duklja V*, Podgorica, 97–110

Davidson, G R, 1952 *Corinth vol. XII. The Minor Objects*, Princeton, The American School of Classical Studies in Athens

Fiema, Z T, 2007 Storing in the Church: Artefacts in Room I of the Petra Church, in L Lavan, E Swift and T Putzeys (eds), *Objects in Context, Objects in Use, Material Spatiality in Late Antiquity*, Leiden, Brill, 607–624

Marki, E, 2002 Locating Productive and Workshop Activities in the Episcopal Complex at Louloudies, Pieria, in 22nd Symposium of Byzantine and Post-Byzantine Archaeology and Art, Program and abstracts, Athens, May 17, 18 and 19 2002, 65–66 (in Greek)

Papangelos, I and Doukas K, 2011 The Early Christian Basilica of Ierissos, *Kyttaro Ierissou*, politismiko periodiko entypo 6, 14–15 (in Greek)

Not only in museums. Archaeological evidence of luxury glass in Portugal

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The study of some rich 17th-century Portuguese archaeological glass assemblages, in the framework of a PhD dissertation, offered a wide outlook on several categories of glass vessels in use during the 17th century, from tableware to medical instruments, allowing recognition of a range of shapes and models, a few of them peculiar to the country (Ferreira 2004; Medici *et al.* 2009; Ferreira and Medici 2010).

Besides the quantity of glass related to everyday life, some evidence of other types of objects came to light, rarely documented in archaeological contexts, and until now not even recorded in Portugal, suggesting that glass as a luxury item was an important presence in 17th-century Portuguese society. Examples include a fragment of a Venetian enamelled bowl, a mould-blown figurative vase, a gilded flask, and several specimens of *millefiori* glass (Figs 1–3).

Most interesting is the case of the glass found at the Clarissan monastery of Sta. Clara-a-Velha, at Coimbra, a convent of nuns of the Order of St Clare, the 'Poor Clares' or 'Minoresses'. According to the rules, a restricted range of objects and furniture were allowed in convents, with many objects considered inappropriate for the sacred space of the cloister, such as mirrors, jewels, and similar objects. Coloured material, evoking the idea of pleasure, should also be rejected (Evangelisti 2007, 28–9).



Figure 1: Gilded millefiori glass fragment from the monastery of Sta. Clara-a-Velha, 17th century. SCV398 © Teresa Medici

Nevertheless, at the monastery of Sta. Clara-a-Velha not only glass, but other classes of valuable commodities, such as Chinese porcelain, are abundant. Among others, it is worth noting a remarkable assemblage of Venetian-type *millefiori* glass fragments, some of them also gilded (Figs 1–3).

It is evident that in upper-class convents nuns enjoyed all sorts of valuable goods as furnishings in their personal cells. Recent studies have underlined how the convents became strongly involved in the domestic and social spheres of the nuns, due to the influence of their families and acquaintances, providing many of their belongings (Evangelisti 2007, 53–4). Consequently, we can argue that the selection of objects found in the cells – including many items received as gifts from families and friends – reflected the taste not only of the nuns but also of the social groups associated with the convent.

This is also the case for the glass finds related to the monastery of Sta. Clara-a-Velha, which can give us an insight into the luxury glass in use at that time in wealthy Portuguese society.

For instance, the *millefiori* glass seems to correlate to a wide use of small bottles, or vials, possibly used as scent bottles. We know that the use of perfume was common in Portuguese high society of that time, and, in several texts, glass containers are mentioned. It is not surprising that the use of perfume was a widespread custom relating to monastic sites as well, as pointed out by some biographical texts left by the nuns (Belo 1993, 143).



Figure 2: Millefiori glass phial from the monastery of Sta. Clara-a-Velha, 17th century. V68 © Teresa Medici

Some chemical analyses have been carried out on a group of fragments of *millefiori* and speckled glass found at Sta. Clara-a-Velha (Lima *et al.* 2012). Comparing the Portuguese specimens with other known glass compositions, most of the fragments appear to be quite different, mainly because of the high alumina content. Only a few fragments are of genuine Venetian production. The surprising news is that, on two of the analysed fragments, the body and the decoration show dissimilar compositions, only the decoration being comparable with Venetian production. It is therefore possible that some of the studied objects have been locally produced and decorated with imported coloured glass.



Figure 3: Millefiori glass fragment from the monastery of Sta. Clara-a-Velha, 17th century. V108 © M. Munõz

These results lead to the intriguing conclusion that luxury glass was not only imported from Venice, but some local elaboration of Venetian and *façon de Venise* patterns and techniques also took place, in order to satisfy the specific tastes and needs of local customers. Where this production occurred is a question without an answer yet, but we are confident of the results of our investigation. It is evident that – also for modern periods – archaeological data can supply valid information, integrating what we know from documents and museum collections.

References

Belo, F, 1993 *Relação da vida e morte da serva de deos a veneravel madre Elenna Da Crus, por Sórora Maria do Céu*, Lisbon: Filomena Belo and Quimera Editores

Evangelisti, S, 2007 *Nuns. A history of Convent Life 1450 – 1700*, New York and Oxford: Oxford University Press

Ferreira, M A, 2004 Espólio vítreo proveniente da estação arqueológica do Mosteiro de Sta. Clara-a-Velha

de Coimbra: resultados preliminares, *Revista Portuguesa de Arqueologia* 7.2, 541–83

Ferreira, M and Medici, T, 2010 Mould-blown decorative patterns on medieval and post-medieval glass beakers found in Portugal (14th-18th century), in C Fontaine (ed.), *D'Ennion au Val Saint-Lambert. Le verre soufflé-moulé. Actes des 23e Rencontres de l'Association française pour l'Archéologie du Verre*, Brussels: Institut royal du Patrimoine artistique, 401–409

Medici, T, Lopes, F M, Lima, A M, Larsson, M A and Pires de Matos, A, 2009 Glass bottles and jugs from the Monastery of Sta. Clara-a-Velha, Coimbra, Portugal, in *Annales du XVII Congrès de l'Association Internationale pour l'Histoire du Verre (Antwerp 2006)*, Antwerp: Association Internationale pour l'Histoire du Verre, 391–400

Lima, A, Medici, T, Pires de Matos, A and Verità, M, 2012 Chemical analysis of 17th century millefiori glasses excavated in the Monastery of Sta. Clara-a-Velha, Portugal: comparison with Venetian and *façon-de-Venise* production, *Journal of Archaeological Science* 39(5), 1238–48

Large Assemblage of Seventeenth- and Eighteenth-Century British and Spanish Glass from Buenos Aires, Argentina

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Two archaeological excavations made in Buenos Aires, Argentina, between 2007 and 2013, have made it possible for the first time to recover significant groups of European glass fragments (English, Spanish, Dutch and Italian) dating to the seventeenth and **early eighteenth centuries**. The two groups of glass objects were found at two archaeological excavations corresponding to two separate dwellings located just over a hundred feet apart within the same block, at 375 Bolivar Street and 460 Venezuela Street under the direction of the author and Flavia Zorzi, in an area in the centre of the city where excavations have been going on for over twenty years, and where only isolated fragments of glass from those dates had been recorded.

Buenos Aires in the seventeenth and eighteenth centuries was a small town founded by Spanish settlers in 1580, and as such its material culture was scarce and modest, a situation which only changed when it became the seat of a Vice-Royalty in 1776. Until then, Buenos Aires held an isolated and marginal position in the international trade map. This explains why only isolated fragments and a few bottles have previously been found from the two first



Figures 1–2: Fine wine glasses, 17th century, probably English. © Patricia Frazzi

centuries of Buenos Aires' history. Records from that period hardly mention glass objects or, if they do, the references do not allow them to be identified accurately. Glass was a very valuable material in the early days of the town, signalling the social prestige and economic power of its owner, and it is a rare find today.

The town, as part of a Spanish colony in America, was under a system of monopoly of trade in the hands of the Spanish government. But this did not stop smugglers, who account for the appearance in early houses in Buenos Aires of objects manufactured in different countries of the Mediterranean and elsewhere in Europe.



Figure 3: A Buenos Aires lady. European glass was a symbol of wealth, and to contrast the national flag was painted on the bookmark and the fan. Portrait by Fernando García del Molino, c. 1850 or before (Museo Fernández Blanco, Buenos Aires).

The growth of the town into a city in the 1770s is explained by its new status as seat of the Vice-Royalty of the Rio de la Plata as well as by the relaxation of the trade prohibitions, by the growth of a slave market in which slaves were smuggled into Buenos Aires and then sold to Potosí (in present-day Bolivia) and all over South America, and by the wealth generated from the illegal export of silver mined in Potosí. This new wealth caused a change in the daily life of the town, heightened by its new status as seat of the Vice-Royalty, with its attending court and authorities.

The assemblage is made up of a group of large case bottles (see Frontispiece) – mostly dark green although others range from turquoise to clear blue – together with decanters, medicine vials, wine glasses (Figs 1–2), tumblers with ground romantic motifs, flasks and complex Spanish blown glass bottles (Figs 4–5), made of thin and transparent glass, which served a decorative rather than a functional purpose. The restoration of these two groups of glass vessels, under the direction of Patricia Frazzi, has posed a challenge in Latin America as there have not been enough finds to create a body of experts in glass restoration. At present work is also being carried out on several pieces found in previous excavations, but which, because of the lack of comparable material, could not at the time be ascribed to either a period or a place of origin.



Figure 4: Bulbous Spanish glass vessel. © Patricia Frazzi

The glass vessels, at present undergoing restoration and studies with the generous support of a grant from the Association for the History of Glass, have allowed specialists to understand previous finds of whole or fragmentary bottles and to gather information for a future publication of all the discovered glass objects. Thus, Argentina has a collection of glass from the first two centuries of the colony, the second such collection in Latin America, after Mexico.



Figure 5: Large bulbous decanter from Spain during the restoration process. © Patricia Frazzi

NEW DISCOVERIES

Vetro a retorti fragment from Wookey, Somerset

Amongst glass recently excavated at the site of the Bishop and Bath and Wells' palace at Wookey in Somerset by Context One Archaeology, was a fragment of 16th-century *vetro a retorti* Venetian or *façon de Venise* glass. It is an everted rim fragment of conical profile from the drinking bowl of a pedestal goblet or beaker, with a rim diameter of 130-140mm. Other excavated glass included a window fragment painted with a Tudor-style rose, although in a very fragile condition. Further 16th- and 17th-century glass fragments found by the owner of the present house come from a colourless wine glass, and pale green glass beaker, jug, urinal and case bottle. A report has been prepared by Rachel Tyson.



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NEW PUBLICATIONS

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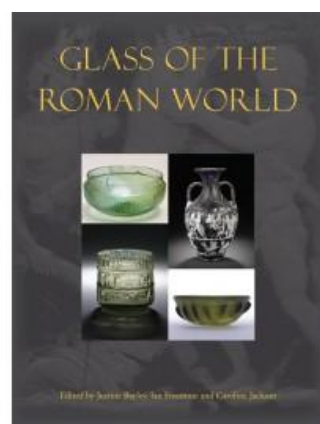
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Glass of the Roman World illustrates the arrival of new cultural systems, mechanisms of trade and an expanded economic base in the early 1st millennium AD which, in combination, allowed the further development of the existing glass industry. Glass became something which encompassed more than simply a novel and highly decorative material. Glass production grew and its consumption increased until it was assimilated into all levels of society, used for display and luxury items but equally for utilitarian containers, windows and even tools.

These 18 papers by renowned international scholars include studies of glass from Europe and the Near East. The authors write on a variety of topics where their work is at the forefront of new approaches to the subject. They both extend and consolidate aspects of our understanding of how glass was produced, traded and used throughout the Empire and the wider world drawing on chronology, typology, patterns of distribution, and other methodologies, including the incorporation of new scientific methods. Though focusing on a single material the papers are firmly based in its archaeological context in the wider economy of the Roman world, and consider glass as part of a complex material culture controlled by the expansion and contraction of the Empire. The volume is presented in honour of Jenny Price, a foremost scholar of Roman glass.

Glass, Alcohol and Power in Roman Iron Age Scotland

Dominic Ingemark

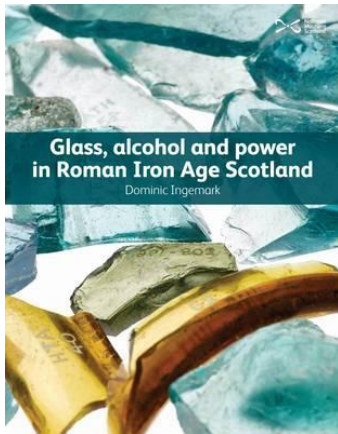
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Glass Making in the Greco-Roman World: Results of the Archglass Project (Studies in Archaeological Sciences 4)

Edited by Patrick Degryse

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Language: English

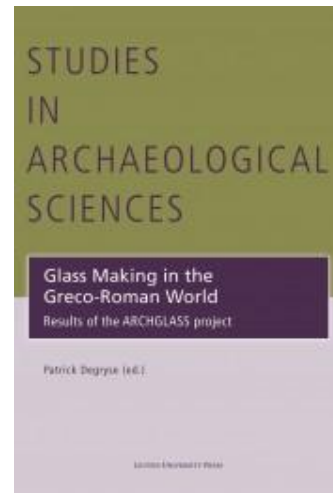
ISBN: 978-9462700079

RRP: £21

Recently published by National Museums Scotland, Dominic Ingemark's book on *Glass, alcohol and power in Roman Iron Age Scotland* catalogues and discusses all the Roman glass from over 70 non-Roman sites north of Hadrian's Wall. This is a key source material for studying the impact of Rome on Iron Age Scotland, but has never been properly studied. These often-overlooked sherds are shown to be parts of sought-after and valuable items, with a clear selection in favour of desirable items such as painted cylindrical cups.

The research sheds fresh light on aspects of Roman-native relations, most importantly the exchange of goods and ideas, and considers the problem of whether these finds represent loot or plunder, or were the outcome of some peaceful enterprise such as trade, exchange or present giving. The evidence points strongly to more peaceful processes, and leads to new insights on the intentions behind such exchanges. The sherds represent a range of vessels which were used for serving and drinking wine in a Roman context, reflecting a knowledge of Roman drinking customs among Iron Age elites. It is argued that these elites maintained their power not just by possession of such objects, but also by their restricted knowledge of these aspects of foreign culture. In short this study deals with glass, alcohol and power.

Members of the AHG can buy *Glass, alcohol and power* at the special price of £25.00 plus £5.00 p/p – when ordered by phoning the publisher on 0131 247 4026 with credit card details or emailing m.wilson@nms.ac.uk. The offer is not available online or in the National Museum of Scotland shop. Quote the code GAAP2014 when ordering to receive the discount. If you are local/visiting and can pick the book up from the publisher (in Chambers Street, Edinburgh) you will pay just £25.00. (Please contact us in advance if you'd like to do this.) Offer ends March 31st 2015.



New insights into the trade and processing of mineral raw materials for glass making - Free ebook at OAPEN Library (www.oapen.org).

This book presents a reconstruction of the Hellenistic-Roman glass industry from the point of view of raw material procurement. Within the ERC funded ARCHGLASS project, the authors of this work developed new geochemical techniques to provenance primary glassmaking. They investigated both production and consumer sites of glass, and identified suitable mineral resources for glassmaking through geological prospecting. Because the source of the raw materials used in the manufacturing of natron glass can be determined, new insights in the trade of this material are revealed. While eastern Mediterranean glass factories were active throughout the Hellenistic to early Islamic period, western Mediterranean and Italian sources also supplied the Mediterranean world with raw glass in early Roman times. By combining archaeological and scientific data, the authors develop new interdisciplinary techniques for an innovative archaeological interpretation of glass trade in the Hellenistic-Roman world, highlighting the development of glass as an economic material.

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BOOK REVIEW

Glass of Volga Bulgaria

(Based on finds from Bilyar excavation)

S.I. Valiulina

Publisher: Kazan University Press, Kazan 2005

Language: Russian

279 pages + 48 colour plates

ISBN 5-98180-255-3

There is a world of glass out there about which many of us know very little, simply because we do not speak the local language. I was fortunate to meet the author of this book, Svetlana Valiulina, in the poster session at the Archaeometry Symposium in Los Angeles in 2014, and even more fortunate that she was accompanied by her granddaughter, who could translate for us. From our short conversation, from the plates and tables of analyses in the book and a fairly substantial 11-page English summary, I now have some limited awareness of the glass from this important region.

Volga Bulgaria was a medieval state in the region of modern European Russia which converted to Islam in the tenth century. Situated on the Volga River, it was an important centre of trade. Bilyar, the source of the finds upon which this book is based, became its capital in the twelfth century, but was sacked by the Mongols in 1236.

The wealth of finds reported here cover the full range of artefact categories that might be expected including tablewares, lamps, window glass, beads, bangles, workshop materials (glass working waste, crucibles, furnace refractories, 'slag') and alchemical vessels (alembics). These are illustrated in colour photographs and line drawings, and the frequency of types of find in different contexts is indicated in a series of tables. The bulk of the glass comprises soda plant ash glass but potash-lime-silica and potash-lead-silica types are also present. There are detailed tables of chemical analysis of glasses (quantitative, by optical emission spectrography), results of petrographic examination of refractories and so on.

This is a key reference to the history of glass in a region with which most of us are unfamiliar. I really do hope that at some point it is translated so that I can read through the main body of the text!

Ian Freestone

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by 1st June 2015

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