

Glass News

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News from the Association

In the first issue of *Glass News* we explained a little of the history of the Association for the History of Glass (AHG). We can now update you on changes that have recently been made to AHG's articles of association. These changes allow anyone who is interested in the history of glass to become a member of AHG and play a fuller part in the activities of the Association, rather than just subscribe to *Glass News*. We are thus inviting you to convert your newsletter subscription into membership of AHG, at no cost to yourself. All you have to do is fill in the reply slip on the back page, or write to John Clark at the address on the slip with the same information. You will continue to subscribe to *Glass News* and to receive notification of any meetings we are organising, but in addition you will be able to elect members of the Board, which runs AHG, and to offer yourself for election. If you prefer not to become a member, but to remain as a subscriber to the newsletter, this is also possible; indeed, if you do not write to us we will assume this is what you want to do.

Since we launched *Glass News* in 1996, AHG has gone from strength to strength, and we plan to develop our activities further. We want to ensure that we run two meetings each year as well as publishing two issues of *Glass News*. We shall be hosting the 16th Congress of l'Association Internationale pour l'Histoire du Verre in London in September 2003. In order to realise these ambitious plans we would like to have more people actively involved in planning and running our activities. We hope that you will decide to become a member of AHG and help our Association prosper.

The 2003 Congress will be a week-long meeting which will act as a showcase for the active community in glass studies which now exists in this country. We hope the Congress will not only provide a forum for

current research to be presented to an international audience, allowing British work to be seen in a wider context, but will also stimulate a more broadly-based interest in glass studies, which will itself encourage further development.

AHG is both a registered charity and a company limited by guarantee. The latter means that in the unlikely event of liquidation, each member is liable to contribute up to £5 towards any debts. Our current capital is in excess of £10,000 and the Treasurer is careful to ensure our activities do not make losses so there is little chance of this part of our articles of association being invoked.

If you would like more information about AHG, please contact Justine Bayley (Hon Secretary), David Crossley (Hon Treasurer) or Jennifer Price (President).

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with
conference and book news
and sketches by Michael Bayley

New Acquisitions in the Department of Greek and Roman Antiquities, British Museum, 1999-2000

The first three glasses come from a collection formed in Rome (though a number of pieces were acquired elsewhere in Europe and the Mediterranean) by Giorgio Sangiorgi in the late nineteenth and early twentieth centuries. A catalogue of the collection, with the entries written by Sangiorgi himself, was published in 1914, but the collection was always fluctuating, so even at its publication the catalogue did not precisely correspond to the collection. It was evidently exhibited at this time in the Galleria Sangiorgi in the Palazzo Borghese in Rome. A number of pieces were sold in the 1960s and acquired by the Corning Museum of Glass and the Toledo Museum of Glass, but others were sold in 1999, which is when the British Museum acquired its glasses.

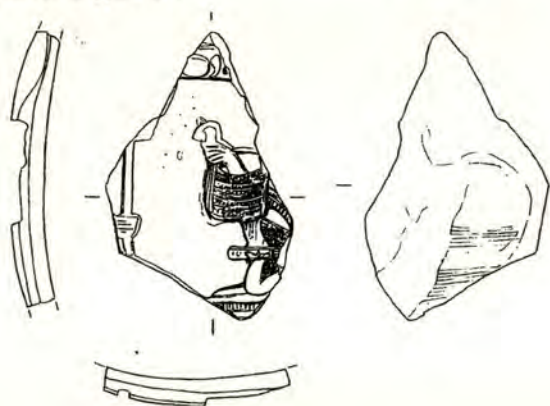


Fig 1 (1:3)

1999.8-3.1 (Fig 1): Blue and white vessel fragment with an incuse design. Black weathering on white glass and partly over the blue glass; some iridescence and pitting. The white glass is sandwiched between blue glass with the design cut through the outer layer of blue to be visible in the white. Somewhat obscure incuse design shown in white; an Egyptian broad collar with one surviving falcon-head terminal being offered to a deity, but only the right hand and wrist of the dedicant are preserved. At the other edge a sceptre is held by the god of whom only one hand survives. Engraved above, in the outer blue glass, part of a winged sun disc with one uraeus surviving. Ht. 4.8cm.; w. 3cm. Formerly in the Sangiorgi Collection (G. Sangiorgi, *Collezione di Vetri Antichi* (Milan-Rome 1914) 48, no. 157; Christie's New York, *Ancient Glass formerly in the G. Sangiorgi Collection* 3 June 1999, 61, no. 137 (part)).

This is the only known example of a cameo glass vessel where the decoration is achieved by cutting away an outer blue layer to reveal a design in white that forms the middle of a sandwich. In this it differs from plaques with white sandwiched between blue to enhance the design which itself is carved in relief in an upper layer of white. It is surprising that no more vessels with incuse designs have been found as the effect is pleasing, and once the dip overlay method had been established and multilayered vessels were being produced,

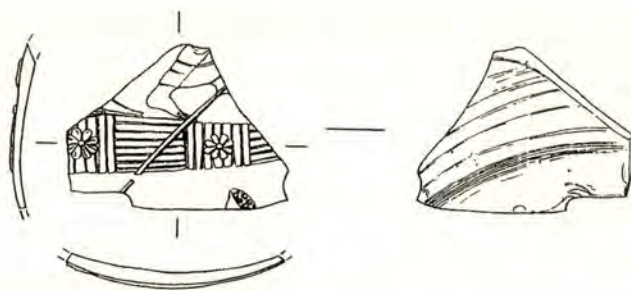


Fig 2 (1:3)

vessels with incuse designs would have been an obvious variant. For the dip overlay method, see H. Tait (ed), *Five Thousand Years of Glass* (revised paperback edition 1999) 227-8. Probably dating from the first quarter of the first century AD.

1999.9-27.1 (Fig.2): Blue and white cameo glass vessel fragment with traces of brownish weathering on both sides. Carved in white, a reed boat, decorated with two rosettes, being driven by a figure of whom the right foot and part of an ankle-length garment survives. A punt is shown diagonally across the boat. The foot of a companion is visible to the left, behind the punter, and Nilotic foliage grows behind the end of the punt. Underneath, to the right, the head of another figure with curly hair, perhaps an African. Ht. 3cms; w. 3.8cms. Formerly in the Sangiorgi Collection (G. Sangiorgi, *Collezione di Vetri Antichi* (Milan-Rome 1914) 48, no. 156; Christie's New York, *Ancient Glass formerly in the G. Sangiorgi Collection* 3 June 1999, 61, no. 137 (part)).

The reed boat and punt are in the Egyptian style and appear in other media such as mosaics, notably the Nilotic mosaic at Palestrina. Some authorities date the mosaic to the later second century BC, but there are reasons for believing that it is about a century later, thus belonging to the later first century BC. This later dating would ally it closely to this cameo glass fragment, as cameo glass is no earlier than the beginning of the first century AD (cf. H Tait (ed), *Five Thousand Years of Glass* (revised paperback edition 1999) 64-5). The vessel would again have been made by the dip overlay method (see above).

1999.9-27.2 (Fig.3): Free-blown stemmed goblet of colourless glass decorated with trails. Straight-sided beaker flaring out to a rounded rim folded inwards. The bottom curves in to a short hollow stem with a rounded foot, hollow on the underside with remains of a pontil mark. There is a single trail around the upper body just below the rim, and other trails forming rounded patterns on the side of the vessel that continues over the edge in places. White weathering film is prevalent. Ht. 13.6cm. Sangiorgi Collection (but not catalogued); Christie's New York 3 June 1999, 75, no.186.

No precise parallel for this piece can be quoted, but stemmed goblets are a late type with most examples occurring in contexts of the fourth century AD and later, and generally in the eastern Mediterranean milieu. Trails are a feature of perfume bottles with basket-like

Medieval glass vessels found in England c AD 1200–1500

Rachel Tyson



Medieval glass vessels found in England c AD 1200–1500

by Rachel Tyson

This volume collates material relating to approximately 1350 vessels from over 200 sites, encompassing the full spectrum of glass in use during the medieval period and providing a central source of reference for the identification and study of medieval glass vessels. The increasing number of these fragile artefacts available for study offers the chance to consider how studies of changes in the style and use of glass can provide a valuable contribution to the understanding of everyday life and society through material culture in medieval England. This volume makes just such a contribution.

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The Hamwic Glass by J R Hunter and M Heyworth

The assemblage of Middle-Saxon glass fragments from the settlement at Saxon Hamwic ranks as one of the most important of its period anywhere in Europe. It derives from a time in early Christian England when knowledge of glass production was slowly developing, but when pagan graves – the traditional source of glass material for the archaeologist – are no longer available. This volume breaks new ground by taking a total approach to the material by using typological and analytical data in a complementary way. The effect is not only to shed light on glass styles of the era, but also to view the nature and function of the assemblage as a whole and to consider the feasibility of an emerging glass industry in Middle-Saxon times.

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Romano-British Glass Vessels: a handbook by Jennifer Price and Sally Cottam with drawings by Yvonne Beadnell

Written as an introductory guide to the glass vessel forms of Roman Britain this handbook describes and illustrates the major types an archaeologist might encounter on 1st–4th century sites, as well as a few more unusual forms. A first point of reference for anyone wishing to become more familiar with this type of artefact.

PH14 ISBN 1 872414 96 6 230pp 96 ill (5 colour) 1999

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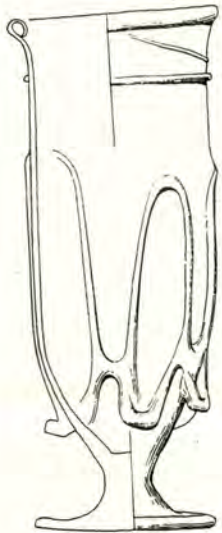


Fig 3 (1:2)

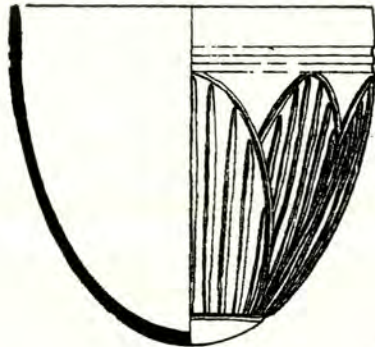


Fig 4 (1:2)

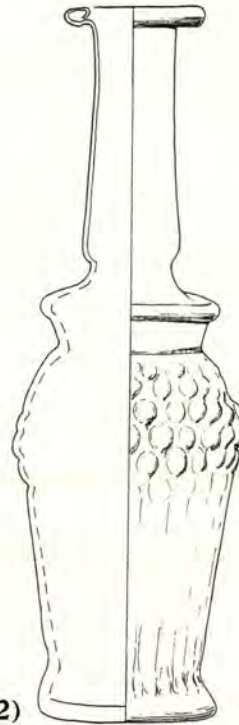


Fig 5 (1:2)



Fig 6 (1:2)

handles, and often double bodies, that were made in Syria and Palestine in the fourth and fifth centuries AD, and this goblet evidently dates from the same time.

2000.2-14.1 (Fig 4): greenish colourless glass beaker with a rim knocked off and ground smooth. Ovoid form with unstable convex bottom. A pair of cut grooves lies below the rim and the sides are decorated with 10 overlapping fluted lotus petals, the carving forming grooves. A circular cut line, outlining the bottom, delineates the end of the petals. Broken and mended so that it is now intact. Brownish weathering in patches on inside and whitish weathering patches on exterior. Ht. 9.5cm; D. rim 9.1cm. Said to be from Cyprus. Christie's, South Kensington sale of 20 October 1999, 46, lot no. 84.

The decoration is unusual because the lotus petals are fluted. More often they are unfluted and interspersed with groups of simple flutes. This connects the lotus petal series with a group of fluted bowls and beakers. A close parallel to the British Museum example was published in a Turkish newspaper, meaning that this example is not unique. The number of fluted bowls and beakers from the Syro-Palestinian area and neighbouring sites in the eastern Mediterranean makes it likely that they are part of the late Hellenistic (150-50 BC) Syro-Palestinian glass industry, to which this beaker, perhaps from Cyprus, and its parallel from Turkey, must belong. The British Museum example was formed by the slumping process using a positive form (see Tait (1999) 221, figs. 54-8) with the decoration carved after the bowl was completely finished and cold.

The following two glasses were in the collection of the Dr Aspeslagh, a Belgian diplomat and financier. He travelled to Damascus and Syria for his work, and lived there from 1956 to 1958. It was during this time that he acquired his collection. It was shipped, with full authorisation, to Antwerp from the Syrian port of Lattaquieh, reaching Dr Aspeslagh in Belgium in December 1958.

2000.9-8.1 (Fig.5): Mould-blown flask of pale brownish yellow glass with the upper body in the form of grapes. It is shaped like a bottle, having a tall cylindrical neck with a collar and everted rim folded inwards. Only the upper part of the piriform body shows grapes; the lower part is smooth with a heavy flared base. The outside is covered with brownish-white weathering. Ht. 19cm. Aspeslagh Collection. Bonhams, Knightsbridge, Antiquities, 12 July 2000, 20, no.71.

The neck, with its collar, is similar to the necks of Syro-Palestinian mould-blown bottles of about the third century AD that have ovoid bodies completely covered with a stylised grape pattern. The British Museum example was probably initially blown into a mould to form the grape pattern but, after cooling somewhat, it must have been further inflated so that it became partly smooth. It was probably made about AD350-450.

2000.9-8.2 (Fig.6): Blown green glass flask with a finely fluted cylindrical body and a heavy flared foot, also fluted. The body flares out towards the top and the rim is folded inwards. Four double-looped handles (most of one now missing) run from the rim to the upper body. Some patches of white weathering. Ht. 12.4cm. Aspeslagh Collection. Bonhams, Knightsbridge, Antiquities, 12 July 2000, 21, no.74.

The finely fluted body was formed with the use of a ribbed dip-mould. Subsequently the glass was further inflated and given its final shape. Similar examples are known from sites in Syria, Palestine and Cyprus. Thus this piece again belongs to the Syro-Palestinian glass industry and was probably made in the first half of the fourth century AD.

Veronica Tatton-Brown
(British Museum)

Drawings by
Candida Lonsdale (Fig 4) and
Kate Morton (Figs. 1-3, 5-6).

On technological change in Islamic glass production at Raqqa, Syria

Experimental work into the physical properties of glass types found at Raqqa has shown visible differences in workability and viscosity between 'Late Roman' and Early Islamic compositions. It is thus hypothesised that the change in composition and the corresponding change in raw materials could have been based, amongst other factors, on practical technological considerations associated with glassmaking processes.

A general shift in composition has been observed in Early Islamic (eighth – tenth century AD) glass traditions across the Islamic world, followed with a contemporary though different change in raw materials throughout Europe (Sayre & Smith 1961; Brill 1970a, 1970b and 1995; Gratuze & Barrandon 1990; Henderson 1995, 1999 and in press). The two compositional categories that are found during this transition have been labelled, respectively, type 3 and type 1 (Henderson 1999), equivalent to Sayre's (1964) low magnesia and high magnesia glasses (LMG and HMG). The earlier type 3 is based on Roman and Byzantine traditions of high alumina, low magnesia glass, shown to be probably made from natron and sand (Brill 1998). However, the Islamic version of this 'Roman' LMG generally contains higher alumina than found in Roman glasses (Henderson 1995, 1999; Freestone and Gorin-Rosen 1999). The later type 1 contains higher magnesia and lower alumina levels, the probable result of experimentation with quartz and halophytic plant ashes (Henderson 1985). Electron microprobe characterisation of fragments from a large-scale Early and Middle Islamic industrial centre at Raqqa, Syria, has underlined this shift in composition between eighth-ninth century 'Abbasid glass and eleventh-twelfth century glass (Henderson 1999).

The occurrence of the type 1 composition has been dated to the early ninth century and includes excavated 'Abbasid cast glass from Raqqa, where glass was both fritted from its raw constituents and worked into finished objects (Henderson 1995). Cast glass from the 'Abbasid period is only made out of the new composition whereas vessel glass is made from type 1 and type 3. Window glass is made from type 3 and a further distinct compositional type (Henderson 1999). It is not until the eleventh-twelfth century that type 1 is prevalent at Raqqa in nearly all finished products (Henderson and McLoughlin, in prep).

Two batches of replica glasses that mirror typical Raqqa type 1 and 3 contents were prepared in the Materials Department of Imperial College from original oxide and carbonate powders (of the six major components), mixed thoroughly and heated in a platinum crucible before being cast on to a steel plate. The compositions achieved, after characterisation by ICP-AES, matched their Islamic counterparts to satisfaction.

The type 3 replica glass was visibly more viscous - less glass actually flowed from the crucible - and contained bubbles of greater size and quantity than the type 1 replica glass. The same result was observed for three castings at 1200, 1300 and 1400°C. In practical terms

the alumina content bears great influence on some of the working properties of soda-lime-silica glass. Alumina, in fact, added in small quantities, forms glasses of high viscosity and durability (Volf 1984; Salem 1993). In the context of Islamic technology, experimentation with quartz and plant ashes to produce type 1 would have resulted in noticeably more fluid glass due to its lower alumina content.

Viscosity is important in glassmaking, as it defines the temperature range over which glass can be effectively cast and blown into finished articles and determines the rate at which gas bubbles escape from the melt. The replica type 3 glass in fact needed to be kept at temperatures above 700°C for several hours longer than type 1 in order to produce a sufficiently bubble-free glass. The workability range of type 1, defined as the temperature range between log viscosity values of 2.4 and 4 (Doremus 1994; Bezborodov 1975), is on average over 50°C lower than that of type 3, a significant difference when temperatures above 1000°C must be maintained. Thus the adoption of a new glassmaking formula from different ingredients that produced a less viscous glass workable at lower temperatures would have implications on fuel economy as well as the quality of finished products.

The type 1 composition is prevalent for ninth century cast glass samples analysed. Low viscosity is important in casting, more so than in blowing and other working techniques where the glass can be heated repeatedly as it is worked. It has been noted that some Roman cast glass, for example, contains significantly higher levels of Na₂O than blown glass, to impart greater fluidity at lower temperatures for pouring or slumping in, or over, a mould (McCray and Fischer 1999). In the case of Raqqa, however, where type 1 is also evident in 'Abbasid blown glass, the lower working temperatures and better fining properties would also have been advantageous for glass blowing. It can thus be hypothesised that the general shift to a type 1 glass composition could be due not only to economic and political factors governing the procurement and availability of raw materials but also to technological factors associated to glassmaking processes.

In conclusion, there may well be technological grounds for the preliminary use of type 1 glass, based on its better working properties compared to the older type 3 recipe. The implementation of new raw ingredients at Raqqa to produce a more workable glass would have led, amongst other considerations, to a more efficient use of fuel. Although politicised factors may have superseded purely technological ones, more complete experimental work is needed to shed further light on the reasons behind the general shift to type 1 in the following centuries.

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No pane, no gain

Window glass was used by the Romans as early as the first century AD, and is common on sites in Britain.

Roman glassworkers employed two differing processes for producing window panes. the earlier method is known as 'cast glass', and produces panes of uneven thickness that are fire-polished, or 'glossy', on one side and pitted, with a matt finish, on the other.

The later technique is known as 'cylinder glass' and produces panes of even thickness which are glossy on both sides. This method is well-known, being first documented by Theophilus in the twelfth century AD, and is still being employed on an industrial scale in the nineteenth century in glassmaking centres such as Charleroi in Belgium. A cylinder of glass is blown, both ends are opened, it is split longitudinally, reheated and opened out flat.

However, the precise technique of making cast glass has been lost since the Romans ceased to use it in the third century AD. it has often been suggested that molten glass was poured into a mould in much the same way that metals are cast. Some of the arguments against such a method are that it would not reproduce both the forms of the edges, the corners and the tool marks seen on original Roman glass.

recently, we were asked to produce a pane of glass for the Museum of London, for use in their 'High Street, Londinium' exhibition, using the earlier technique. Our research and experiments have enabled us to produce such a pane and also develop a process which faithfully reproduces all of the marks and idiosyncrasies of original 'cast' Roman glass.

We used a blue green soda-lime-silica glass with a typical Roman composition. We gathered molten glass from a furnace, poured it onto a damp surface – in this case a kiln shelf – and immediately flattened it with a large block of damp wood. this produced a flat disk of glass about 5mm thick. It also produced a lot of steam!

In order to turn this disk into a rectangular pane it had to be continually reheated and worked upon. We achieved this by transferring the disk to another, dry kiln bat coated with barwash to prevent it sticking, supported on a long pole, and introducing it into another furnace known as a 'glory hole' for controlled reheating.

This was the most interesting phase of the operation, as initially we had no idea what to do other than to pull and stretch the hot disk in order to form a rectangular shape. Our first attempts produced oddly-shaped, but promising panes.

Several attempts later we were beginning to learn how to stretch the glass in a controlled manner, and discovering the 'do's and don'ts' of making a window pane in this way.

Using this method successfully depends upon various factors. the pane has to be heated in a way which allows one area to heat up whilst the opposite area stays relatively cool. This allows the cooler area to be gripped and pulled using a pair of pincers whilst

pinning the hotter area down near its edge using a metal rod. this produces a corner, and subsequent heating and stretching will turn the disk into a rectangle.

This rectangle can be stretched by heating one half and leaving the other cooler, pinning the hot side down with a long metal rod and gripping and pulling the cooler side with a pair of pincers.

By varying the areas to be heated and stretched, the pane can be enlarged until it is the required size (the size of the initial gather will have a bearing on this - the larger the gather, the larger the pane).

Small adjustments to the straightness of the sides can be made using a metal hook to gently pull the glass where the side is curving inwards.

The tools we used were simple: metal rods, hooks and pincers, and the marks they produced on the finished pane closely match those seen on original Roman panes.

The method that we have developed is straightforward and repeatable – an essential criterion for mass production, and it is easy to imagine many glasshouses during the first and second centuries AD using this process to produce window panes until it was superseded by cylinder glass.

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Ancient Monuments Laboratory Reports

In 1999 English Heritage's Ancient Monuments Laboratory became part of the new Centre for Archaeology at Fort Cumberland in Portsmouth. The scientific investigations carried out there have continued to be made available in advance of full publication in the form of AML Reports. From the beginning of 2001, the report series is being relaunched as the Centre for Archaeology Report Series. The new series will include all the types of reports that appeared in the AML Series and will, in addition, also include reports of work in a wider range of archaeological specialisms, reflecting the whole range of work carried out at the Centre for Archaeology. As before, lists of new reports (which include abstracts as well as titles) will be issued every six months, and it is planned to make these lists available on the English Heritage web site. A few previous lists are already available at <http://www.english-heritage.org.uk/knowledge/archaeology/aml-reports/index.asp>. Copies of any AML or CfA Reports may be obtained for a small charge from the **Centre for Archaeology, Fort Cumberland, Fort Cumberland Road, Eastney, Portsmouth PO4 9LD**. Email requests and queries to: cfareports@english-heritage.org.uk. The following list includes all the AML Reports produced in the period 1986-2000 which have glass as one of their keywords. Most include analytical data, though in some cases it is qualitative rather than fully quantitative.

- Justine Bayley 1987 Glass beads and miscellaneous finds from Beeston Castle, Cheshire. AML Report 9/1987
Michael Heyworth 1988 Examination and analysis of glass beads from Wakerley. AML Report 241/1987
Michael Heyworth 1988 Examination and analysis of glass beads from Mucking, Essex. AML Report 122/1988
Michael Heyworth 1988 Examination and analysis of glass beads from Great Chesterford, Essex. AML Report 137/1988
Michael Heyworth 1988 Examination and analysis of glass beads from Beckford, Worcestershire. AML Report 139/1988
Michael Heyworth 1989 Analysis of window glass from West Hill, Uley, Gloucestershire. AML Report 53/1989
Michael Heyworth 1989 Examination and analysis of a Saxon glass bead from Upton, Northamptonshire. AML Report 110/1989
Michael Heyworth 1990 Examination of a glass bead from Winchester, Hampshire. AML Report 6/1990
Michael Heyworth 1990 Examination and analysis of glass fragment from Trowbridge Castle, Trowbridge, Wiltshire. AML Report 16/1990
Michael Heyworth, Mike Baxter & H E M Cool 1990 Compositional analysis of Roman glass from Colchester, Essex. AML Report 53/1990
Michael Heyworth 1990 Examination and analysis of glass beads from Empingham, Leicestershire. AML Report 120/1990
Michael Heyworth 1991 Analysis of Roman glassworking material from London. AML Report 127/1990
Catherine Mortimer 1991 Chemical analysis of fragments from two early Saxon glass vessels, from Carisbrooke Castle, Isle of Wight. AML Report 22/1991
Justine Bayley 1991 The glass from site 95, Wharram Percy, Yorkshire. AML Report 48/1991
Justine Bayley 1991 Analytical results for metal and glass-working crucibles from Frere's excavations at Verulamium, Herts. AML Report 68/1991
Catherine Mortimer 1992 Analysis of medieval and post medieval glass from the City of London. AML Report 135/1991
Catherine Mortimer 1992 X-ray fluorescence analysis of early Anglo-Saxon glass beads from Market Lavington, Wiltshire. AML Report 30/1992
Michael Heyworth 1992 Analysis of early medieval glass fragments from London. AML Report 32/1992
Catherine Mortimer 1992 Analysis of glass from Tilbury Fort, Essex. AML Report 72/1992
Catherine Mortimer 1993 Analysis of post-medieval glass and glassworking debris from Old Broad Street, City of London. AML Report 52/1993
Catherine Mortimer 1993 Assessment of potential for technological analysis of glassworking debris from Little Birches, Wolseley (Staffordshire), 1991. AML Report 77/1993
Catherine Mortimer 1993 Glassworking debris from the gardens of Brodsworth Hall, Yorkshire. AML Report 82/1993
Catherine Mortimer 1993 Assessment of window glass fragments and grozing debris from Westminster Abbey, London. AML Report 83/1993
Catherine Mortimer 1993 Analysis of vessel glass from Acton Court, Avon. AML Report 98/1993
Catherine Mortimer 1993 Analysis of glass and glassworking waste from the collections of Guildford Museum. AML Report 106/1993
Catherine Mortimer 1994 Analysis of window glass from Chastleton House, Oxfordshire. AML Report 117/1993
Justine Bayley 1994 Gold-in-glass beads from Mucking, Essex. AML Report 1/1994
Catherine Mortimer 1994 Assessment of technological potential of the glass beads from Barrington Anglo-Saxon cemetery, Cambridgeshire. AML Report 3/1994

AML reports - continued

- Catherine Mortimer 1994 Assessment of potential for technological research of silver, copper-alloy and glass artefacts from Boss Hall and St Stephen's Lane Cemeteries, Ipswich, Suffolk. AML Report 4/1994
- D F Williams 1994 A petrological note on the crucible fabrics from medieval and post-medieval glassmaking furnaces at Wolseley, Staffs and other sites. AML Report 52/1994
- Catherine Mortimer 1995 Investigation of possible glass fragments from site 2, West Hampnett, Sussex. AML Report 21/1995
- Catherine Mortimer 1995 Glass linen smoothers from 16-22 Coppergate, York. AML Report 22/1995
- Anna Cselik 1995 Conservation of a mosaic from Aldborough in North Yorkshire. AML Report 32/1995
- Catherine Mortimer 1995 Analysis of a fragment of decorated Saxon vessel glass from Westminster Abbey, London. AML Report 51/1995
- Thomas Finney 1996 Investigation of a skull fragment from cremation 704, Mucking, Essex. AML Report 1/1996
- M E Hutchinson 1996 Gemmological work in the Ancient Monuments Laboratory 1980-1995. AML Report 35/1996
- Catherine Mortimer & Mike Baxter 1996 Analysis of samples of colourless Roman vessel glass from Lincoln. AML Report 44/1996
- Catherine Mortimer 1996 Compositional and structural analysis of glass beads from Mucking Anglo-Saxon cemeteries, Essex. AML Report 60/1996
- Catherine Mortimer 1996 Compositional and structural analysis of glass beads from Barrington Anglo-Saxon cemetery, Cambridgeshire. AML Report 76/1996
- Steven Rye & Justine Bayley 1997 Glassworking crucibles from excavations at Buckden, Hunts, 1961-64. AML Report 80/1996
- Catherine Mortimer & Tim Horsley 1997 Compositional and structural analysis of the glass beads from Boss Hall and Buttermarket (St Stephen's Lane) Early Anglo-Saxon cemeteries, Ipswich, Suffolk. AML Report 109/1997
- Paul Maclean & David Starley 1999 The analysis of metalworking debris, domestic metalwork and plate armour from Pontefract Castle, West Yorkshire. AML Report 33/1999
- Justine Bayley & Roger Doonan 1999 High-lead glassworking and alkali glass bead making at 16-22 Coppergate and 22 Piccadilly, York. AML Report 74/1999

A F A V news

The Annual Conference of the Association Francaise d'Archaeologie du Verre (AFAV) was held at the Chateau du Hochberg at Wingen-sur-Moder, in the Vosges, between Metz and Strasbourg, on 2nd - 4th November 2000.

The venue lies among wooded hills, in a district in which glass has been made from the Middle Ages until the present. Immediately opposite the chateau are buildings used for glass manufacture up to the nineteenth century, the main workshop now being a roofless shell, but the adjoining dwellings being either occupied or in a restorable state. On 2nd November the conference visited the village of Meisenthal, where a glass factory in recent operation has been adapted as a museum of the industry, with adjoining glass workshops which are in current use.

On the following day a visit was arranged to the Lalique crystal factory, in the woods near Wingen-sur-Moder. This, it seems, was an unusual event, for the factory, particularly the furnace areas, only has sufficient space for those working there. Care was needed, with hot glass at close quarters. The factory was built c.1920, and equipment such as mould-stands and presses were of that period or even earlier. Glass is made in small batches, for exclusivity, and great quantities of complex moulds are stocked for occasional use. Despite the intricacy of designs in the moulds, hand-finishing is a major element in the final cost of the product.

There were two half-days of lecture sessions. Contributions of particular interest were by Dominique van Geesbergen on research into medieval glass production in Belgium, developing from the foundations laid by the late Raymond Chambon, Hubert Cabart on research into Lorraine glassmaking, Maurice Picon on a glass furnace excavated in Lyon, Daniele Foy on Mediterranean glass in the fifth and sixth centuries, Bruce Velde on typologies of Venetian glass, Christophe Gerber on the excavation of an early-eighteenth-century French glasshouse and Veronique Brumm on the development of glass factories in the Vosges in the eighteenth century.

The meeting concluded with visits to museums in Strasbourg. As always, AFAV provide an excellent programme and the 2001 meeting promises to be well worth the journey.

This year, the annual international conference of the AFAV will be held at la Maison Méditerranéenne des Sciences de l'Homme (MMSH) at Aix-en-Provence on the 7th of June 2001, le Musée d'Histoire, Marseilles, on the 8th and returning to the MMSH for the 9th. There will be an excursion to Arles on the 10th of June. The conference is entitled 'Echanges et Commerce du verre dans le Monde Antique - du VIe siècle av. J.-C. au VIIIe siècle apr. J.-C.'

For more information contact, as soon as possible:-D. Foy, *Colloque commerce du verre*, LAMM, MMSH, 5 rue du chateau de l'Horloge, BP647, F-13094, Aix-en-Pce Cedex 2

AHG - lead glass conference

The Association for the History of Glass met at the Linnaean Society on Thursday the 16th of November. The subject of the meeting was Lead Crystal in the 17th and 18th Centuries. There were many themes that recurred amongst the presentations. The rapid development of the lead glass fine ware industry in England was emphasised by Colin Brain and Hugh Willmott. The role of foreign workers, skilled in fine ware lead glass production, was crucial to the rapid expansion of the industry. Workers from the Netherlands and Italy came to glass houses in Dublin, Scotland and England. Working conditions were also described: Jill Turnbull told of the 6-hour shifts, worked in rotation, night and day, in a Scottish glasshouse. Peter Francis found references to the collapse of a glass house in Dublin, resulting in the deaths of many workers.

The political intrigues of glass production were repeatedly discussed, as the ownership of patents was fundamental to the establishment of glass houses. The powerful political connections of successful patent applicants was emphasised by Jill Turnbull. Peter Francis pointed out the similarity, word by word, of the patent obtained by Irish glassmakers to that obtained by Ravenscroft in England. The aggression of the English glass industry towards potential threats was also frequently demonstrated with the imposition of import bans, Mansell opposing the founding of Scottish glasshouses, the dumping of Ravenscroft's produce on the Irish market, and London glassmakers blocking the export of barilla to the Scottish industry.

Hugh Willmott illustrated that many forms of glassware made the transition from potash to leaded glasswares. Colin Brain pointed out that although George Ravenscroft is generally credited with introducing leaded glass for fine drinking vessels, the seals found on vessels of this period indicate that other glasshouses were also producing in leaded glass. The form of vessels was also highlighted by Peter Francis, who identified characteristic features diagnostic of vessels produced in Ireland. These wares generally have a marise between the stem and bowl, and the bowl is usually thinner than on other wares.

Technological developments were emphasised by David Crossley who highlighted the development of coal-fired furnaces, which made glass production cheaper and led to the use of glass for containers, including wine bottles. An archaeological example was given of a furnace that probably contained both closed and open pots, the former to stop contamination of the glass by gases from the fuel. Colin Brain's proposal, that the Glauber furnace was important to leaded glass due to better temperature control, was debated. Several speakers also mentioned the varying compositions of wares. Jill Turnbull described the materials requested by glass workers in Scotland for producing glass of Venetian quality, which required more barilla to make, the barilla comprising half the cost of the glass. Zaffer was used as a

colorant (also mentioned by other presenters) and manganese as a decolouriser. Several different glass types, with different compositions, were produced at one of the Scottish glass houses using the expertise of glass workers recruited from glasshouses in London.

The subject of crizzling was also addressed. A letter from a merchant, described by Peter Francis, told of the clouding and loss of colour that occurred when glass was left outside and got wet; however, Irish glassware generally crizzles less than English. Irish glassmakers used less pure ingredients, adding a manganese decolouriser to neutralise the colour generated by the impurities. The presence of the impurities resulted in a more stable glass. In contrast, the English industry used highly purified ingredients resulting in a less stable glass. Victoria Oakley described recent research into the problem of crizzling and glass degradation at the Victoria and Albert Museum, in collaboration with the Materials Department of Imperial College. A 1992 survey showed that 10% of the collection was showing signs of degradation, initially appearing as a dull surface followed by alkali salt crystallisation on the surface of the glass, weeping, crizzling and finally potential disintegration of the object. Methods for preventing this degradation included periodic washing of the glass in de-ionised water and displaying the glass at stable temperature and relative humidity (about 38%). There is some indication that an increase in air movement is beneficial. Silane treatments to glass have been shown to inhibit crizzling, however this treatment is not reversible and further research is being undertaken.

David Crossley described work for the Monuments Protection Programme relating to the English glass industry and provided examples of furnaces in various states of preservation up to the First World War. A common theme was the excellent survival of characteristic underground features, namely the flues (and sometimes channels used for removing ash), which has led to the identification and protection of many sites that, although there is no surface survival, are likely to have undisturbed subterranean features. The presentation by Victoria Ridgeway, of Pre-Construct Archaeology, illustrated this point with the excavation at Hopton Street, Southwark, where two glass houses of different dates were found within the same trial trench. The flues and sieges of the earlier furnace remained, although cut by the later construction. There was evidence for repeated repair to the flues, eventually resulting in it being lined with protective iron plates, although these were not custom-made for the purpose. However, in common with other glasshouse sites, few actual products were recovered; glass dribbles, cullet and crucibles were more common finds.

Surpassing the Past Historicism in 19th Century Glass

Victoria and Albert Museum, London
Friday 22nd June 2001

The Association is supporting this special Study Day that will take place at the Victoria and Albert Museum. It is being organised by board members Reino Liefkes, Paddy Baker and Raymond Notley.

Reassessment of the historicism of the 19th century is gaining momentum following the pioneering exhibition, and documentation by Barbara Mundt, 'Historismus - Kunsthandwerk und Industrie im Zeitalter der Weltausstellungen' Berlin 1973, followed by the Hamburg Exhibition '...Historismus in Hamburg und Norddeutschland' of 1977, leading on to the major exhibition, 'The Age of Ugliness - Showpieces of Dutch Decorative Art 1835-1895' at the Rijksmuseum, Amsterdam, winter 1995-96, and the Gargantuan 'Der Traum von Glück - Die Künste des Historismus in Europa' which overflowed from the Künstlerhaus, Vienna, into the Akademie der Bildenden Künste, during the autumn of 1996. With the more recent V&A focus on Pugin and the Musée d'Orsay tribute, Gothic Revival, the retrospective, inspirational sources of the 19th century are being dusted off, spot lit and accumulatively displayed. This should facilitate a process of reassessment, or rehabilitation depending on your point of view.

This study day hopes to add a specialist view, to this ongoing debate, by focusing on the following important aspects of nineteenth century glass, which have probably not previously been placed together in the proposed sequence. The day, hopefully, will feature a sequence of discussive slide lectures by Reino Liefkes, (on Venetian Glass), Charles Hajdamach (on Classicism), Dr Patricia Baker (on Orientalism), and Alex Werner (on Historicist Whitefriars Glass) with a general opening session and introduction to *Historismus* by Raymond Notley. It promises to be a stimulating, visually rich and satisfying day.

This is a preliminary notice and the casting and costing for the day have yet to be finalised. However, full details and booking forms will be sent when ready, to anyone who cares to give their name and address to:-

Reino Liefkes, Department of Ceramics and Glass,
Victoria and Albert Museum, London SW7 2RL
Email: r.liefkes@vam.ac.uk

XIX International Congress on Glass Edinburgh International Convention Centre 1-7 July 2001

The Society of Glass Technology will be organising the 19th International Congress on Glass at the Edinburgh International Convention Centre, Scotland on 1-7 July 2001. The meeting covers all aspects of glass science, technology, manufacture and use, attracting almost 1000 people every three years. The event in Scotland will also be a focus for a number of cultural events including a special exhibition of glass at the National Museum of Scotland.

Visit the conference site (<http://www.icg2001.org>) for full details or contact Karen Boston at the Society (karen@glass.demon.co.uk)

AFAV Annual International Congress Aix-en-Provence Marseilles 7-10th June

The Association's congress will be held at la Maison Méditerranéenne des Sciences de l'Homme (MMSH) at Aix-en-Provence on the 7th of June 2001, le Musée d'Histoire, Marseilles, on the 8th and returning to the MMSH for the 9th. There will be an excursion to Arles on the 10th of June. The conference is entitled 'Echanges et Commerce du verre dans le Monde Antique - du VIe siècle av. J.-C. au VIIIe siècle apr. J.-C.'

For more information contact, as soon as possible:-
D. Foy, *Colloque commerce du verre*, LAMM, MMSH, 5 rue du chateau de l'Horloge, BP647, F-13094, Aix-en-Pce Cedex 2

A Few New Books

Roman Glass in the Coming Museum of Glass: Volume Two

David Whitehouse
Corning Museum of Glass (2001)
\$185

This volume, which continues the survey of one of the world's most extensive collections of Roman glass, describes and illustrates nearly 400 objects. Another 500 were presented in volume one (see *Glass News* 5) which was published in 1997.

The volume contains four sections which continue the sequence of headings began volume one. These are:-

Section G, which describes and illustrates objects decorated or inscribed by inflation in a mould. This includes examples of almost all of the principal types of Roman mould-blown vessels, including first-century objects with Greek inscriptions, mythological beakers, sports cups, head-shaped vessels, and vessels with Christian or Jewish symbols.

Section H examines objects decorated with trails or appliqués. This includes vessels decorated in simple fashion with spirally wound threads and the more elaborate snake-thread decorated vessels with trails applied in sinuous, snakelike patterns.

Section I examines medallions and fragments of gold glass. These objects and fragments were decorated with gold foil sandwiched between two fused layers of glass. In most cases the foil was decorated by removing unwanted glass areas and embellishing the resulting silhouettes with scratched or painted details.

Finally Section J examines objects with painted, reverse-painted, painted and gilded or gilded decoration among which are the Paris Plate, which is probably the most impressive example of Roman reverse-painted glass, and the Daphne Ewer, a cold-painted and gilded vessel that was found at Kerch on the Black Sea coast.

To purchase this volume, and for information about other Corning Museum of Glass publications, please contact:-

Ernestine Kyles
The Corning Museum of Glass
One Museum Way
Corning, NY 14830-2253 U.S.A
Tel: (607) 974-6479
Fax: (607) 974-7365
email: kylesew@cmog.org

Medieval Glass Vessels Found in England c AD 1200-1500

Rachel Tyson
Council for British Archaeology Research report 121
(ISBN 1-902771-12-5), 220pp, 38 ill (2 col), 2000
£28

This volume collates material relating to approximately 1350 vessels from over 200 sites, encompassing the full spectrum of glass use during the medieval period and providing a central source of reference for the identification and study of medieval glass vessels. The increasing number of these fragile artefacts available for study offers the chance to consider how studies of changes in the style and use of glass can provide a valuable contribution to the understanding of everyday life and society through material culture in medieval England. This volume makes just such a contribution.

Naissance de la Verrerie Moderne XIIe-XVIIe siècles

Aspects économiques, techniques et humains

Michel Philippe
De Diversis Artibus no 38, n.s.1.
(Académie Internationale d'Histoire des Sciences)
(ISBN 2-503-50738-7), 464pp, 1998
88EUR + TVA

This work is the first general synthesis of all the available archaeological and archive information concerning the history of glass in the region of France from the twelfth to the sixteenth century. It examines, region by region, the economic evolution of the workshops, the glass dynasties, the materials and equipment, the workshops themselves, the furnaces and working techniques, the administration of the workshops and the distribution and use of glass.

To purchase this volume, contact:-

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CORRECTION

A serious typo slipped into K. Robin Murdoch's paper on glassmaking in Scotland in the last issue of *Glass News*. Alloa glassworks was founded in 1750, not 1705. I apologise for this and, too, for the abundance of spellings for Salamander Street in the last paragraph on Edinburgh. (JS)



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