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The aim of l'Association Internationale pour l'Histoire du Verre is to promote the knowledge of the history of glass in its widest sense. Its chief activities are to hold a major congress at approximately 3-year intervals and then to publish the proceedings in its Annales. The 16th AIHV Congress, organised by the Association for the History of Glass, has just taken place at Imperial College, London. Over 225 delegates from 25 countries attended a week of oral and poster presentations covering all aspects of the history of glass. They shared their knowledge and enthusiasm for all aspects of the history, manufacture, scientific research and conservation of glass. The Board of Management of the Association for the History of Glass is grateful to all the Patrons and Sponsors of the Congress for their support and generosity.

In addition to the academic programme, there was a full social programme of receptions almost every evening. The most glittering of the receptions was surely the invitation by Hugh Bayley MP, to the Houses of Commons, with a sparkling introduction by Dr Simon Thurley, Chief Executive of English Heritage. Wednesday was reserved for organised visits, tours and exhibitions around London. On Saturday visits were made to collections and sites outside London.

The 5-day post-Congress tour, organised by Martine Newby and Sally Cottam, consisted of visits to collections in the south and west of England. The itinerary also included a glass-makers' workshop, glass collections, historic houses and glass-related sites of interest such as the Red House Glass Cone.

Stop Press: Study Day

AHG is arranging a day-seminar on **Recent discoveries in post-medieval glass-making**, to be held on 9th March 2004 at The Linnean Society, Burlington House, Piccadilly, London. The meeting will comprise short papers on the remarkable number of recent and current archaeological excavations and research projects on glass-furnace sites of the 17th, 18th and 19th centuries, together with accounts of work on glass and other residues from these sites. Details will appear on the AHG web-site, up-dated as the programme develops. Application forms will be available on our web-site, or will be obtainable by sending a stamped addressed envelope to: David Crossley, 5 Canterbury Crescent, Sheffield S10 3RW from mid-January. The meeting fee will be £12 (£6 student rate).

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AHG Study Day and AGM

Shape and Substance – replicating early glass making and glass working technologies

A Study Day to be held at
The Wallace Collection
Hertford House, Manchester Square
London W1U 3BN

Wednesday 3rd December 2003

Programme

- 10.00 Registration/coffee
10.30 **Introduction**
10.40 **Working with a traditional Venetian glass recipe** – Ian Hankey, Teign Valley Glass
11.10 **Beginnings and developments of glassblowing and enamelling** – Bill Gudenrath, Corning Museum of Glass, New York
11.55 **Reverse painting and gilding on glass** – Frances Binnington, San Francisco
12.30 Lunch (there are pubs, cafes and restaurants locally)
13.30 AGM of the Association for the History of Glass (AHG members*)
14.15 **Recipes, raw materials and replication: making glass from plant ashes** – Caroline Jackson, University of Sheffield
14.45 **Glaze manufacture in Uzbekistan** - Pamela Vandiver, Smithsonian Centre for Materials Research and Education, Washington
15.15 Tea
15.45 **Are they or aren't they? An Amarna glass furnace replicated** - Paul Nicholson, University of Cardiff
16.15 **Antimonates and alums: replication of innovative colourants in Egyptian glass** – Andrew Shortland, University of Oxford
16.45 End

If you would like to attend, please send your full contact details with a stamped addressed envelope and a cheque for **£20.00** (full rate) or **£10.00** (student) payable to *The Association for the History of Glass Ltd* to: David Crossley, 5 Canterbury Crescent, Sheffield S10 3RW. Participants who normally live outside the UK and who wish to pay by credit card (in Euros only) should contact David Crossley for details (email: D.Crossley@sheffield.ac.uk)

*Members of the AHG who wish to attend only the AGM may do so at no cost.

Annual Conference Society of Glass Technology

The next SGT conference will take place on 21-23 April 2004, at the University of Liverpool

SGT conferences cover all aspects of the history, art, science, design, manufacture, use, etc. of glass. As with previous conferences, one day will feature the History and Heritage of Glass.

Further details from Sara Lindley, Conferences and Membership, Society of Glass Technology, Don Valley House, Savile Street East, Sheffield, S4 7UQ. Tel: +44 (0)114 263 4455, fax: +44 (0)114 263 4411, website: www.sgt.org

20th Anniversary Spring Conference Ceramics and Glass Conservation Group (A Section of UKIC)

CRYSTAL CLEAR

TWENTIETH ANNIVERSARY SPRING MEETING AND AGM 2004

Stourbridge, West Midlands, 27-28 March 2004

PROGRAMME

Friday evening - Registration

Saturday

Morning: Coach to Broadfield House Glass Museum. short introduction to the collection, viewing the galleries and visit the glass-working studio and shop. Coach to The Red House Glass Cone for lunch. Afternoon: The Red House Glass Cone, where the copy of the Portland Vase was blown. Guided tour around the cone and the underground tunnels, a visit to the Hot Glass Studio to see glass blowing, and a chance to see Alan Crannage at work, the resident glass engraver at the Stuart Crystal Factory Shop. Coach to Broadfield House.

Evening: Dinner at the Copthorne Hotel.

Sunday

A day of presentations on aspects related to British glass including the history of glassmaking in the area, and the CGCG AGM.

Further information from:

Ros Hodges: Tel/fax: 01424 774313

E-mail: ros@hodges.ournet.co.uk

18th Meeting of AFAV

The 18th meeting of l' Association Française pour l' Archéologie du Verre will take place on the 14th and 15th November 2003 in Berck-sur-Mer. The meeting will feature 10-20 minute presentations on glass research and discoveries as well as visits to museums at Berck and Amiens. The cost is Euro 60 and details are available from:

George Dilly
CRADC, BP 6, 62601 Berck-Sur-Mer cedex 01.
Tel: 03 21 84 07 80
E-mail: musee@berck-sur-mer.com

Call for Papers

19TH AND 20TH CENTURY STAINED GLASS UKIC Stained Glass Section Symposium

Venue: Newcastle (details to be confirmed)
Date: Late May 2004 (to be confirmed)
Cost: £50 per person per day
(£65 non-UKIC members)

Topics to include:
Art, Science, Techniques, History, Problems.
Visits may include stained glass sites of interest such as Selby, Jesmond, Jarrow, Roker and Sunderland Glass Centre.

Further information or proposal for papers (including outline and time required for presentation), please contact Linda Cannon ASAP at:
Linda@cannon-macinnnes.co.uk

On the technological origins of glass – Part 1: Evolution from metallurgical processes

'The origins and use of glass as an independent material and its early history are only vaguely known' (Barag 1970: 132). Although there are references to isolated glass beads in Lower Mesopotamia and Egypt dating as early as to 2500 BC (Moorey 1994: 190-191), it has not yet been confirmed if the material is true glass. The emergence of fully-fledged glass industries in Egypt and contemporary Mesopotamia has been associated adamantly with glass vessels owing to the quantity required and the massive mode

of their production (Moorey 1994: 190). Beck's (1934: 14) original claim that regular glass production originated in Western Asia rather than in Egypt is still accepted, and both the epigraphic and archaeological evidence discussed by Oppenheim (1970: 11-19, 85-86) and Barag (1970: 131-134) support this theory.

With respect to *the technological origins of glass* as a material two groups of hypotheses have been suggested so far although it is difficult to determine where and when men first discovered how to make use of these properties and started melting glass (Brill 1963: 120). The first set of hypotheses argues that *glass arose from metallurgical processes* such as the smelting of copper and lead ores and the formation of slags, which may have provided a technological background for the isolation of glass as a material and its further development into industrial production.

Figuier (1876: 261) propounded the *Slag Theory* for the invention of glass: 'Chemistry and metallurgy combine to inform us that as soon as bronze foundries existed glass must have been discovered. What, in fact, does glass consist of? A silicate with a basis of soda and potash combined with some particles of iron and copper, which coloured it blue and green. As the scoria from bronze foundries is partly composed of these silicates, it is indubitable that a kind of glass was formed in the earliest metal works where this alloy was made. It constituted the slag or dross of the metal works.'

Fowler (1880: 79) argued against this theory by stating that 'no amount of observation of such slag could suggest, in an age ignorant of chemistry, the method of making glass from sand and alkali.' Mann (1905-6: 401) made use of the slag theory in an attempt to explain the local origins of the Bronze Age vitreous beads from the British Isles by associating them with the slags from Scottish sites on the assumption that this slag could have been worked to produce beads. Beck and Stone (1936: 204-205) provided the first brief review of the subject by dismissing Figuier (1876: 261) and Mann (1905-6: 401).

Despite the very early and simplistic character of these observations, experimentation with siliceous slags from smelting furnaces might well have led to the making of glass. This is supported by the fact that many early glazes and glasses are coloured blue by the addition of copper. However, slags contain only a little copper and they are much richer in iron than either the early glazes or glasses (Brill 1963: 120). Moreover, even if copper did occur as the principal colorant in early glasses, this is not *a priori* evidence for a link between the two technologies (Henderson

2000: 54). Although glass formed incidentally during the early stages of copper production would have been observable (Peltenburg 1971: 7), it is impossible to prove that the sight of a glazed surface caused or inspired the early glassmaker to make glass and shape it into objects (Henderson 2000: 54). Therefore, the link is a complex archaeological and technological issue.

An interaction between early glassmaking and metalworking seems plausible when considering the coloration of glass (Peltenburg 1971: 10; Sayre & Smith 1974: 51; Kaczmarczyk & Hedges 1983: 90, 274; Peltenburg 1987: 20-22; Rehren *et al.* 1998). Dayton (1993) put forward a controversial argument that Western and Central Europe were the sources of Mycenaean metals and vitreous materials associated with metallurgy. However, the archaeological evidence for such links, especially as regards the origins of glassmaking in general, is rather obscure. As Peltenburg (1987: 22) forcefully stated, 'the posited inter-relationship of glass and metalworkers, like the general proposal concerning the historical context of the development of working glass, is an hypothesis that, it should be realised, at present rests on all too slender a foundation.' Oddly enough, however, recent analyses of opaque glasses from New Kingdom Malkata and Lisht (Mass *et al.* 2002) have been used to test and support Peltenburg's hypothesis (1987: 20-22) about the interaction between the technologies of glass and metalworking. The argument by Mass *et al.* (2002) has been based on the use of metallurgical by-products for the coloration of opaque blue and yellow glasses. More specifically, the discussion about antimony-rich cupellation litharge as a source of lead antimonate has given rise to much controversy (Rehren 2003; Shortland 2003; Mass & Stone 2003).

Admittedly, glass production may have shared many technological features found in metal production, such as the use of all these metal oxides used as colorants, decolorants, or opacifiers of glass. Equally well, the use of specific fuels and the construction of furnaces may have enabled high temperatures, even higher than 1200°C, to be reached and retained. However, the temperatures necessary for melting glass had been achieved in the manufacture of copper alloys thousands of years before the emergence of the Mediterranean glass industries (Henderson 2000: 3, 53).

Glass is a latecomer among other early synthetic materials, which lends to its technology the quality of a highly sophisticated and specialised industrial activity. Of course, metallurgy seems to be a major

contributor to the evolution and manufacture of glass but it cannot and should not be considered in isolation, but should be seen in the global context of the technological developments in other high-temperature industries (*i.e.* ceramics and faience). The technology of vitreous materials, especially the technology involved in faience making, is more closely related to the making of glass. In addition to this, the emergence of early glass should be associated with these social and economic parameters, which were involved in or may have necessitated its discovery and subsequent manufacture, and they ultimately led to its well-organised industrial production in the Eastern Mediterranean and Middle East during the mid-second millennium BC.

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[Editor's Note: Part 2 will appear in the next issue of Glass News.]

Recent research on the assemblage of Tudor Glass from Gutter Lane, London

The Abacus House site in Gutter Lane was excavated in 1987 by MoLAS (Museum of London Archaeological Service), but due to the sheer volumes of excavated material being generated in London at that time, the glass from the site has never been fully studied. There were two periods of occupation on the site that had left significant evidence behind: the Roman layer (including an important section of road) and the early post-Medieval pitting, which had survived later development.

A large, brick-lined cesspit near the Gutter Lane frontage yielded a fascinating assemblage of glass tableware, bottles and urinals, which on close inspection appear to be of mid to late 16th century date. The tableware was clearly of high quality and so it was proposed early on in the proceedings that the glass and the cesspit might have been associated with the guild hall of the Embroiderers' livery company, known to have been located in the vicinity. This idea had only recently been thoroughly researched, and the assemblage has increased in significance since a compelling case has been formulated that the Embroiderers' hall was on exactly the same site as the pit. A map of the city, drawn just after the Great Fire of 1667 by Leake and Hollar, which has all the churches and guild hall that were lost marked on it, shows the crest of the Embroiderers' guild in the same position on the west side of Gutter Lane as the pit. This is supported by further documentary evidence, including a mention of the hall and a plan of the site on which it was built in Mills and Oliver's famous survey of 1667 (1). An association with a livery company (as they were then known) certainly explains the wealth and status reflected in the array of *façon de venise* products present.

The assemblage is comparatively small, consisting of only 85 significant fragments, but features some unusual types, styles and decorative techniques, and raises some interesting possibilities for future investigation. A number of the most interesting are illustrated here. Fig. 1 is the rim of a beautifully enamelled beaker, probably dating from the first half of the 16th century. It is similar in quality and appearance to the 15th century enamelled beakers found just a few metres to the west in Foster Lane in 1982 (Blair 1983; Clark 1983) (2)(3). The dark blue

glass, which is unusual for this type of vessel, is decorated with a band of lettering which reads "...N:SALVT: ET: MON..." enamelled in white running around the rim. One red and one yellow line

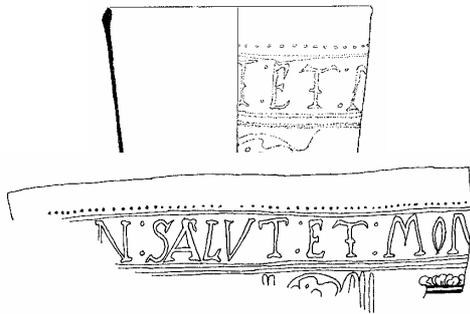


Fig. 1 Rim of enamelled beaker (2:1)

run below the lettering and one red line above, with a row of dots in white above that. The remains of the design below the frieze are also painted in red, white and yellow. Unfortunately only a glimpse of a figurative design below the frieze survives. Based on the colour scheme and parallels from Tours (Motteau, Vol. 1. no. 25, pp. 88-9) (4) and Poole (Charleston, nos. 5, 6, 7, 8, and 10, pp. 137-8)(5), it seems probable that this glass was imported from France.

The *crystallo* glass goblet in Fig. 2 exhibits a mould-blown horizontal ribbed effect from the base up to a horizontal band of decoration near the top, which consists a twisted white cane (*vetro a retorti*) marvered between two white threads. Interestingly it also appears to be gilded on the underside near where

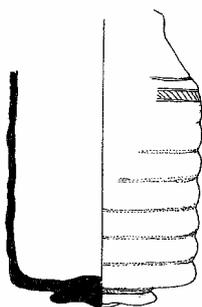


Fig. 2 Crystallo glass beaker (2:1)

the stem has been snapped off. As far as it has been possible to establish so far, this goblet is unique, at least in Britain. It seems highly likely that this is a Venetian export, but it would be fascinating to test that hypothesis with scientific analysis of the composition.

The problems of speculating on the origins of *façon de venise* vessels from this period are illustrated aptly by the two bowls from this assemblage: the *vetro a reticello* bowl (Fig.3) in particular is an extremely finely crafted piece made using a complex technique often thought to clearly indicate manufacture in Venice, but recent scientific analysis undertaken at the University of Sheffield (H. Willmott, personal communication, forthcoming) has revealed a chemical composition suggesting that both bowls were made in the Netherlands. Similarly, Antwerp was a significant

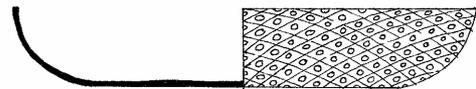


Fig. 3 *Vetro a reticello* bowl (2:1)

producer of *vetro a fili* and *vetro a retorti* vessels from the mid-16th century onwards, and many found in England, which have been identified as Venetian, were probably from Antwerp. It would not be surprising if tests on *vetro a filigrana* and indeed other types of *crystallo* vessels from this assemblage suggested as much.

It is interesting that bowls and the tankard in Fig. 4 are present, because using such expensive glassware in those ways suggests significant levels of wealth and a desire to display that wealth as prominently as possible. Neck and shoulder and body fragments of the bellied tankard survive: it represents a type made using a vertical pattern of plain white canes and white *vetro a retorti* canes embedded in a colourless ground. These are rare, especially archaeologically.

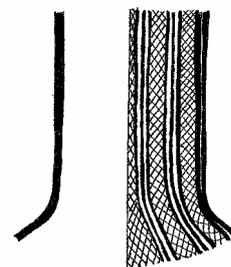


Fig. 4 Bellied tankard (2:1)

Similar vessels include the Franks Collection, British Museum AF 3133 (dated 1548); London (MOL A12609); and Acton Court (Willmott 2002, p. 56)(6). However, the most famous example of this type must be the Parr Cup, which was given as a New Year's

gift at the court of Henry VIII, which illustrates how prestigious these pieces were.

Finally, several fragments of painted window glass and one complete plain quarry were found along with the tableware and other household items. The painted pieces all seem to have been worked in either brown or red and all the surviving sections feature bird motifs (Fig. 5). While the significance of that theme

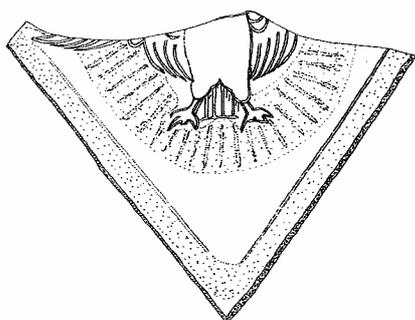


Fig. 5 Quarry (2:1)

may well remain lost to us, this glass shows that the building was beautifully appointed in the 16th century.

A full analysis of this assemblage will be available in the form of my Master's dissertation from both the London Archaeological Archive and Research Centre (where the glass itself is also stored), and the Institute of Archaeology (UCL).

Drawings by Rose Clark

Rose Clark
52 St Peter's Place
Canterbury, CT1 2DA

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The Portland Vase: Roman or Renaissance?



Fig. 1 The Portland Vase.
© The British Museum

Readers of *Glass News* may have been surprised by the extensive coverage given by *The Times* (21.8.03) to the suggestion, in *Minerva* magazine, that the Portland Vase (Fig. 1) was a product of the sixteenth century. Further comment appeared in the *Guardian's Life* supplement (28.8.03). Unfortunately, as is so often the case, the newspapers did not get it quite right; close reading of Jerome K Eisenberg's article (*Minerva* 14 (5),37-41) indicates that he was far more cautious than they suggest. His argument, on the basis of perceived inconsistencies with the mythology and artistic practices of the Roman period, is that the cameo frieze was *cut* in the late Renaissance. He appears to accept that the blue glass of the vase may be Roman. Thus he asks if the hypothesised Renaissance engraver could have discovered "an unfinished or damaged ancient cameo glass vase....stripped off most or all of the outer white layer, if necessary, and reapplied another? Glass was

certainly recycled in both the Roman and medieval periods....". In marked contrast to the preceding pages of closely argued text devoted to the iconography, the technical arguments are vague, and appear to offer a rather broad range of possibilities to accommodate a sixteenth century origin.

In fact, the evidence that we have from the scientific analysis of the Vase (*Journal of Glass Studies*, **25**, 55-64, 1983) significantly limits modifications that might possibly have been made in post-Roman times. The vase consists of two layers of glass, a blue base coloured by the element cobalt, and a white overlay, which is rendered opaque by the presence of tiny particles of calcium antimonate (fig.2). Our analyses at the British Museum revealed that both white and blue glasses were soda-lime-silica glasses, with low potash and magnesia. These are so-called *natron* glass, typical of the Roman period. We know that while Roman glass was almost exclusively based upon the use of natron as an alkali, Renaissance craftsmen based their glasses upon the use of plant ashes, which imparted higher potash and magnesia to the compositions. Thus the composition of both the blue body of the vase and the white overlay are definitively Roman.

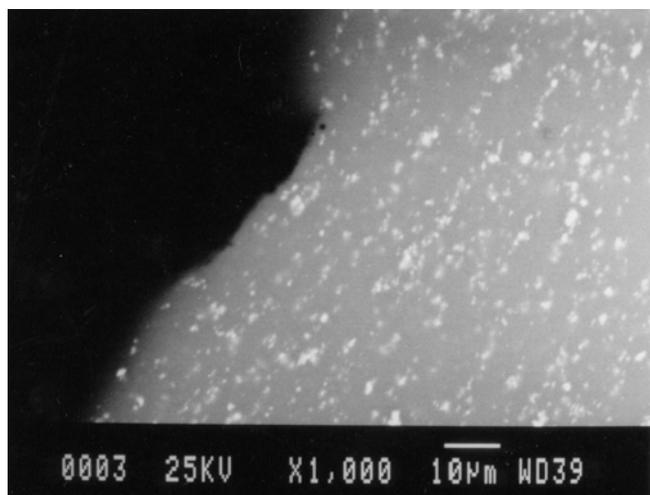


Fig. 2 Microstructure of the blue (left) and white (right) glasses seen in a scanning electron microscope. The white particles in the white glass are calcium antimonate; it is these which make the glass opaque

Supporting evidence for the Roman origins of the glass comes from the cobalt pigment of the blue glass which is associated with elevated levels of copper, iron and (possibly) manganese oxides. This is typical of Roman cobalt blue glass. On the other hand,

studies of European cobalt-coloured glasses, notably by Bernard Gratuze and colleagues, indicate that the cobalt pigments in use in the Renaissance were rich in zinc or in arsenic.

The use of antimony as an opacifier in the white glass is additional evidence for a Roman origin, as sixteenth century glassmaking practice typically used tin to make the glass opaque. However, Eisenberg mentions the possibility of re-using old Roman glass, which was common practice in the Medieval period, for example in enamelled metalwork. However, the practice seems to have declined by the mid-thirteenth century as contemporary glassmakers mastered the technique of opacifying glass with tin. It seems unlikely that the Italian masters of the wonderful *lattimo* glass of the Renaissance would have resorted to the use of recycled Roman white, which would not have been easy to acquire in the quantities needed to case the Portland vase, when they had an abundance of high quality contemporary material to hand. Furthermore, the white of the Portland Vase belongs to a special category of Roman opaque whites that not only contain antimony, but also lead. Roman lead-bearing opaque white glasses appear restricted to before the middle of the first century AD, and have been identified particularly in cameo glass and mosaic glass vessels. If Renaissance craftsmen had been collecting old Roman opaque white glass for re-use, it seems very unlikely that they would have collected such specifically early material, and a remarkable coincidence that this was a glass composition typical of the Roman cameo group.

Thus we may conclude that both blue and white glasses of the Portland Vase are beyond reasonable doubt Roman in origin, and that additional material is unlikely to have been added. Any reworking in the Renaissance would therefore have been confined to the removal of weathered material, and the "tidying up" of the already existing iconography, perhaps involving minor modifications. While some such cleaning of the weathered surface after excavation is very likely to have taken place, the result of this would have been constrained by the configuration and thickness of the original cameo design.

Ian Freestone
British Museum

Preliminary List of Glass Archival Holdings

Most of the following archival material is available for viewing only by appointment. This list has been collated in the main from a few general publications listing archival sources throughout Great Britain, as detailed in returns submitted by the chief archivists in charge of the various collections. Some archives consist only of trade catalogues and other company publications, while others consist of papers of glass historians, designers, businessmen etc. In the list below, company names are set down in alphabetical order, e.g. Arthur N. Other. Individual library catalogues may list items under surname instead, e.g. Other, Arthur N & Co. Other holdings relating to British glass manufacture undoubtedly exist and any information of such material would be welcomed.

BIRMINGHAM CITY ARCHIVES, B3 3HQ (also given as City Reference Library, Archive Section)

- John Hardman & Co., 1839-70, stained glass and metalwork manufacturer
- Matthew Boulton Soho Manufactory, 1762-1850; pattern books inc. designs for glass items for metal containers

BIRMINGHAM MUSEUM & ART GALLERY, B3 3DH

- Hardman & Co., 1840s-1948, stained glass, business records
- Morris, Marshall, Faulkner & Co., stained glass, photographs
- F&C Ostler & Co; folio of drawings inc. glass furniture
- John Walsh Walsh archives

(BRIGHTON) DESIGN HISTORY RESEARCH CENTRE, BN2 2JY

- Design Council Archive, documents, publications and photographs

BRISTOL RECORD OFFICE, BS1 6XN

- Phoenix Glass House mid 18thc onwards; manuscript 12143

(CAMBRIDGE) FITZWILLIAM MUSEUM CB2 1RB (Dept. Applied Art)

- Arthur Churchill, letters, invoices
- Cecil Davis, London, letters, invoices

- HR Marden King, Kingsworthy (Hants) re. Donald H Beves bequest 1961, correspondence
- CHESHIRE RECORD OFFICE, CH1 1RL
- Bank (Quay) Glass Works (1756 onwards), financial papers
 - Peter Vawdrey (d.1831) assoc. with Perrin Geddes (glass-works), papers

(DUBLIN) NATIONAL MUSEUM OF IRELAND, Dublin 2

- Waterford notebooks (assoc. with Apsley Pellaat)

DUDLEY ARCHIVES & LOCAL HISTORY SERVICE, Coseley WV14 9JR

- Local and parish records; pattern books and photographs concerning local glass manufacturers (no hand-list available)

(EDINBURGH) HUNTLY HOUSE MUSEUM, EH8 8DD

- Ford Ranken Glass Works, business records, cutting and pattern books, loose drawings
- Holyrood Flint Glass Works
- Norton Park Glass Works (Edinburgh & Leith Flint Glass Works), c.1791-c.1917

(FIFE) UNITED DISTILLERS & VINTNERS ARCHIVE, LEVEN KY8 5HD

(GLASGOW) SCOTTISH BREWING ARCHIVE, G11 6PE

LIVERPOOL MUSEUM (Decorative Arts Section), L3 8EN

- Records of the Buckley, Harding and Roscoe Collections

(LONDON) THE BRITISH MUSEUM, WC1 (Dept Pre-Roman & Roman Antiquities)

- Donald Harden, notebooks, letters and thesis (viewable via Students Room of dept.)

GUILDHALL LIBRARY, EC2P 2EJ

- Inc. Muniments of the Worshipful Companies of the Glass Sellers, the Glaziers, and the Spectacle-Makers, such as apprentice listings, regulation, financial and administrative records, from c. early 17thc.
- Anthony Seal, glassmaker, Whitefriars, 1753-64
- Sun, and Hand-in-Hand Insurance companies, papers

MUSEUM OF LONDON, EC2Y 5HN

- James Powell & Sons / Whitefriars Glass Co. archives, 1680-1980

NATIONAL ARCHIVES (Public Records Office), Kew TW9 4DV

- Patent Offices files

SOCIETY OF APOTHECARIES, Apothecaries' Hall, EC4V 6EJ

- Archives and 19th century laboratory glassware

VICTORIA AND ALBERT MUSEUM (NATIONAL ART LIBRARY), SW7 2RL

- Barrow Stores, Birmingham, Cat. Christmas presents... 1938
- Chance Brothers & Co., Birmingham, 1863, church window designs
- Crafts Council, c.1960-1994, documents, listings, publications
- Davenport recipe book c. 1840-60
- Henry Hope & Sons, Birmingham c.1899, catalogue of casements, leaded lights etc.
- James Powell & Sons (Whitefriars), London, windows and mosaics' designs 1924
- John Walsh Walsh Ltd., Birmingham, English crystal glass designs c. 1925
- National Glass Co., London catalogue of Chippendale Krys-tol c. 1930
- Octavius Hudson (d.1874) papers inc. catalogue of cathedral glass windows
- Sowerbys Ellison Glassworks Ltd., Gateshead on Tyne, 1882 Pattern book of fancy goods
- Stock & Sharp, Birmingham 1847 (ornamental window glass)
- Stuart & Sons Ltd., Stourbridge, pattern book of glass designs 1887-1939 (microfilm); c. 1925 catalogue of table crystal
- Thomas Webb & Corbett Ltd., Stourbridge, catalogue of Fine English Crystal, c1927
- William Morris & Co. (Westminster), architectural glass designs 1920
- William Robinson & Co, London 1854

V&A MUSEUM, AAD, Blythe House, Olympia, W14 0QF

- In addition to the Accession files (i.e. correspondence dealing with the acquisition of each numbered museum object), and the Nominal files (i.e. correspondence concerning named persons and companies), the archives include:
 - AC Adamson, designer of light fittings for Osler & Faraday; drawings, press cuttings, photographs from 1922-65
 - Basil EE Barker, (d.1922) stained glass artist/designer for Joseph Bell & Son; press cuttings, invoice book, photographs
 - Joseph Bell & Son, Bristol, c.1840-1996 (assoc. with James Powell, Whitefriars); architectural and stained glass designers, sketch books, cartoons, project files
 - Ervin Bossanyi, stained glass artist/designer c.1920-997; letters, sketchbooks, photographs, family history

- Frederick W Cole, stained glass artist/designer 1938-98 (assoc. with William Morris & Co); sketches, photographs etc.
- Thomas Cowell, stained glass artist/designer c.1880-1985 (assoc. with James Powell, - Whitefriars); sketches, press cuttings, cartoons
- Hugh Easton, stained glass artist/designer c.1930-78; photographs, letters, press cuttings
- Moira Forsyth, stained glass artist/designer 1877-1989; letters, sketches, cartoons, photographs
- Ernest Heasman, stained glass artist/designer 1880-1928 (assoc. with CE Kempe & Co. Ltd.) letters, photographs, press cuttings, etc.
- CE Kempe & Co. Ltd (London), church stained glass 1810-1950; letters, sketchbooks, photographs, press cuttings, etc.
- John William Lisle, stained glass artist/designer c.1885-c.1988 (assoc. with CE Kemp & Co Ltd); letters, photographs, press cuttings etc.
- James Powell & Sons (Whitefriars) Ltd., stained glass and mosaic records; cash and order books, letters, photographs, etc.
- Queensbury Hunt Partnership, London c.1970-92, inc incomplete projects for Dartington Glass, Pilkington Glass Co, Royal Brierley etc.
- Hans Unger, stained glass and mosaic designer c. 9153-77, photographs, press cuttings, letters

V&A MUSEUM, SW7 2RL Prints, Drawings & Paintings Section (NB Print Room will close 22 Aug. 2003 for 'about a year' but a limited service/access to material will be available through the NAL.)

- Davenport designs for Queen Victoria's table glass
- James Powell, designs 1850-1973
- Franz Tieze, sketchbook

MANCHESTER CENTRAL REFERENCE LIBRARY, M2 5PD

- John Unsworth, late 18thc. glass engraver, 1798-1806 records

CITY ART GALLERY, M2 3JL

- Molineaux Webb pattern book

ST HELENS LOCAL HISTORY & ARCHIVES LIBRARY, Merseyside WA10 1DY

- Forsters Glass Co. Ltd. archives

(SALFORD) UNIVERSITY OF SALFORD LIBRARY, M5 4WT

- Lionel Angus-Butterworth papers, inc. family papers of Butterworth Bros;
- Newton Heath Glass Works, Manchester records

SANDWELL COMMUNITY HISTORY & ARCHIVAL SERVICES, Warley B66 1AB

- TW Camm, Swethwick, 1866-1960, stained glass studio records

UNIVERSITY OF SHEFFIELD LIBRARY, S10 2TN

- WES Turner bequest include papers
- Elmsfield collection

STOKE ON TRENT MUSEUM LIBRARY

- Wood Papers, 1875-87 inc. sales catalogue of William Davenport & Co, Liverpool, Jan 1881

TYNE & WEAR ARCHIVES SERVICE, Newcastle on Tyne, NE1 4JA

- Ralph Beilby & Thomas Bewick (1752-1881) engravers and decorators, financial records

YORK CENTRAL LIBRARY, YO1 7DS

- Knowles family, late 19th c. stained glass manufacturers' records

CITY ART GALLERY, YO1 2EW

- William Pickett, 1731-95, glass painter; 1793 manuscript of his work *Principles of Introducing... Art of Painting & Staining of Glass*

List compiled by Paddy Baker

The Pilkington Archive

The following information on the Pilkington Archive is published on the Government's web pages, dedicated to improving the accessibility of archives. Note the company name is now Pilkington plc. The information was last amended: 12/04/2000. However the web site provides some new leads for information gathering. The URL is: http://www.a2a.pro.gov.uk/links/archives_network/index.asp

Archon Code: 0429

Pilkington Group Archives and Records Service
Contact Details: Information Management and Storage, Unit 2b, Delphwood, Sherdley Industrial Estate, St Helens WA9 5JE, England
Tel 01744 453555

Archivist: Ms Dinah Stobbs

Access Information: open Mon - Fri 10 am - 4 pm,

Access is by courtesy of the Directors

Book in advance

NRA information for this repository

The NRA indexes contain the following entries for this repository:

NRA catalogues (1)

Businesses (3)

The company name is given as:

NRA 20301 Pilkington Brothers Ltd, glass mfrs, St Helens

and the description of the archive contents is given as:

Businesses noted in the NRA with records held at

Pilkington Group Archives and Records Service

British Plate Glass Co Prescott, Lancashire (1)

Chance Brothers Ltd, glass manufacturers Sandwell, Worcestershire (1)

Pilkington Brothers Ltd, glass manufacturers St Helens, Merseyside (1)

David Martlew

Pilkington Technology, Lathom

Book Reviews

Cairo to Kabul: Afghan and Islamic Studies presented to Ralph Pinder-Wilson, edited by Warwick Ball and Leonard Harrow, London: Melisende, 2002; ISBN 1-901764-12-5; 259 pp.

Fustat Glass of the Early Islamic Period: Finds excavated by The American Research Center in Egypt 1964-1980, by George T. Scanlon and Ralph Pinder-Wilson; London: Altajir World of Islam Trust, 2001; ISBN 1-901435-07-5; 134 pp.

This Festschrift is dedicated in gratitude for the support afforded to Warwick Ball by Ralph Pinder-Wilson in Kabul in 1977 and is a collection of twenty-seven essays by English, European and American scholars. It is attractively designed and published by Warwick's co-editor Leonard Harrow. It is illustrated throughout with good-quality black-and-white photographs. The concordance of chapters at the beginning gives a flavour of the contents as most of the essays are listed both by region and subject. Thus, for instance, ten deal with Afghanistan, five with the Indian sub-continent, four with Iran, four with Egypt, three with the Near East and one with Europe. The breadth and number of contributions reflect Pinder-Wilson's career as co-director of excavations at Fustat in Egypt, participant in excavations at Harran, curator in the Department of Oriental Antiquities at the British Museum (1948-76) and director of the short-lived British Institute of Afghan Studies in Kabul (1976-82).

Several articles and comments caught my eye. Bruce Wannell records seeing in the village of Sarmazur in north-west Afghanistan, a region which remains *terra incognita* for most ancient periods, "a remarkable

bronze tripod vase with three elaborately curving horned ibex heads, comparable to Bactrian and Lurestan finds from the Bronze Age ... which he offered to swop for my tape-recorder" (p. 238). However, the description of this recalls Early Iron Age objects excavated at Tepe Sialk or reportedly found in western Iran rather than the Bronze Age versions known from Bactria or Margiana (cf. P.R.S. Moorey, *Ancient Persian Bronzes*, 1974, pp. 151-52 for a related example). David Fleming dismisses Herodotus' claim of an annual Indian tribute of over 9 tonnes of gold dust to the Achaemenid treasury as the presumed placer deposits are non-existent and the total is four times that of present-day India (pp. 95-101). Geoffrey King discusses literary evidence for pre-Islamic sculptures in Mecca (pp. 144-50). Avinoam Shalem provides an elegant discussion of Early Islamic book-covers and argues a 7th century date for a rock-crystal dish excavated at Susa and hitherto regarded as Sasanian (pp. 201-206).

Five of the contributions in this Festschrift discuss glass, a particular love of Pinder-Wilson, including Stefano Carboni who publishes a trailed Umayyad anthropomorphic glass rhyton from Central Asia, albeit misleadingly compared with Partho-Sasanian terracottas and snake-holding goddesses (pp. 58-61). Jens Kröger analyses an outstanding cut-glass bowl sherd excavated by E. E. Herzfeld in the Jausaq palace at Samarra in 1912/13 and compares its style to contemporary stuccoes; he also suggests a possible Abbasid date for the famous silver *senmurw* plate in The British Museum (pp. 151-56). In addition, George T. Scanlon suggests a 12th century Fatimid date for some fragmentary marvered glass bracelets found at the city of Fustat (Old Cairo). This therefore extends back in time the possible date-range of these ubiquitous yet often poorly stratified finds for which a Mamluk or Ottoman date is normally assumed (pp. 176-80).

The publication of this Festschrift coincides with another of Ralph Pinder-Wilson's publications, namely a catalogue of *Fustat Glass of the Early Islamic Period: Finds excavated by The American Research Center in Egypt 1964-1980*, written together with his former co-director George T. Scanlon and again ably produced by Melisende. This follows the authors' two earlier articles on this material which were published in the *Journal of Glass Studies* (1973, 1987), and which promise to offer an important benchmark in the appreciation of Early Islamic glass, a subject unfortunately still dominated by art-historical studies. Much of the Fustat glass was recovered

from pits, plus the usual archaeological contexts of floor fills and street deposits which are rather surprisingly regarded as "undisturbed loci" as, by definition, these contexts contain material of secondary or even tertiary deposition. Heavy reliance was placed on association with coins and inscribed glass weights to build an independent absolute chronology rather than using external typological parallels or associated ceramics (which, like the stratigraphy and most other finds, remain to be fully published). Most of the glass dates from between the mid-8th and mid-11th centuries AD, although a small number of surface finds of trailed, gilded and enamelled pieces date from the 12th-15th centuries and represent the later development of the city of Cairo. Scanlon emphasises the "plethora" and "large mass" of glass (pp. 7, 9) yet, despite this being the final publication, it is unclear exactly how much was found, either in total or within each phase or context. This lacuna is unfortunate given the redeposited nature of many of the excavated contexts and the relatively low total of some 331 registered items (which are arranged typologically and individually illustrated). The drawings imply that only semi-complete or complete profiles were registered whereas rim sherds appear to have been discarded; the report also excludes heavily weathered or body sherds which presumably made up the bulk of the finds. This accounts for the suspiciously low proportion of blown window-glass as this is normally heavily fragmented and indeed only represented here by a single example. The archaeological value of the report is sadly compromised by this approach, and it thus represents an unquantified assemblage of greater use as a source of dated provenanced parallels than as a tool for understanding the real scale of glass usage in the Early Islamic Egyptian capital of Fustat. There is surprisingly little discussion of comparanda or the overall significance of the finds; the lack of plans or sections to illustrate representative contexts supports the impression that this is fundamentally a stand-alone catalogue rather than an integrated volume in an excavation series.

These criticisms aside, this report does enable a cautious glimpse into the types of glassware in use. The following statistics are exclusively based on the registered pieces with all the provisos that that entails. Bowls and beakers appear to have been common (14.4% and 8.5% respectively), as were flasks and toilet-flasks, although the higher proportions of these (20-22%) probably represent the greater durability of these miniature vessels. Goblets were surprisingly rare at 0.9%, particularly as their stems and bases are

relatively robust and they feature in reasonable quantities in Umayyad and later contexts at Jerash. Dishes, vases, bottles, jugs, ewers, filters, measures and situlae were all represented by very low frequencies ranging from 0.3% - 1.6% of the total. This almost certainly reflects the greater fragmentation of these forms, many of which also appear to have been undecorated. More specialised forms were slightly more common as so-called "druggists's measures" (possibly lamps) formed 1.6%, alembics were represented at 2.6% and the highly distinctive (and robust) molar flasks constituted some 4.6% of the whole.

Two-thirds of the glassware was naturally tinged (particularly light greenish or yellowish green) but colourless and coloured glassware were represented by the rather high respective proportions of ca 18% and 13%. Coloured glass ranged through cobalt blue, blue or dark blue; dark, smoky or light green; and amber. Approximately half of the vessels were undecorated. The remainder were decorated with trailed and/or marvered threads, pinching (rare), moulding, tonging, cutting, lustre-painting, and enamelling and gilding. In many cases several classes of vessel were decorated with any given technique, suggesting the mass-production of sets rather than exclusive lines.

Most of the forms apparently show little evolution through time yet several are exclusively Islamic types. These include the molar flasks, and the globular, bell-shaped and mallet-shaped flasks (the latter two possibly inspired by 8th century Iranian metalwares). In contrast, the vertical sided bowls and beakers are present from the beginning of the sequence (and occur earlier in Mesopotamia and Iran). Significant individual finds include the discovery of a single fragment of a dark blue boot-shaped rhyton in a context dated to ca AD 800 as this type has been previously claimed to be Sasanian (pp. 62, 65-66).

It is presumed that most, if not all, of the glass was made locally yet the difficulty of determining centres of production is illustrated by the authors' suggestion that a plain bell-shaped flask with a funnel neck and a single colourless globular vessel decorated with two rows of deep cut facets may have been Iranian imports (pp. 11, 33, 91). They also admit that other relief-cut wares may be either Iranian (drawing on a cutting tradition which began in the Sasanian period) or locally made. Complicating matters further, these pieces also find parallels in Abbasid Iraq (where indeed most of the Sasanian cut glass was probably

produced) yet the authors prefer a local source on the grounds that Fatimid glassworkers were probably influenced by contemporary hardstone engravers working of imported rock-crystal. Finally, several of the miniature plain toilet-flasks with globular bodies are admitted to have good parallels at Samarra. Despite their lack of decoration, they are distinctive owing to their very thick walls which suggests that they are the descendants of a Partho-Sasanian rather than Roman glass-blowing tradition; the vertical or lightly spiralled mould-blown ribs on some other vessels from Fustat likewise hint at this eastern tradition (pp. 70-73).

It is possible that some of these other vessels are therefore also imported and hence may represent the discarded packaging after use of the contents (presumably perfume in the case of the toilet-flasks). However, another possibility is that, following the Islamic conquest, the previously independent glass-working traditions of the Roman and Sasanian empires began to fuse with the breakdown of earlier political borders and the ensuing greater freedom of travel of individuals. Popular forms and types of decoration thus began to be copied in a wider range of ateliers, and it is in this period that more widespread glass production begins in highland Iran and Central Asia.

Further excavation, research and publication, not least from Red Sea ports such as Quseir al-Qadim as well as glass-producing centres such as Raqqa, will doubtless help set the Fustat glass into clearer context. In the meantime it is encouraging to see the gradual development of "the archaeology of Islam".

St John Simpson
Department of the Ancient Near East
British Museum

Exhibitions

VENISE ET FAÇON DE VENISE

VERRES RENAISSANCE DU MUSÉE DES ARTS DÉCORATIFS

Exhibition by Mattia Bonetti to celebrate the publication of the catalogue by Edwin Baumgartner and Jean Luc Olivié.

Musée des Arts Décoratifs

16 October 2003 – 4 January 2004

107-111 rue de Rivoli, 75001 Paris

Open: Tue.-Fri. 11-6, Sat.-Sun. 10-6, closed Mon.

[See also the 'Books' section on page 15]

FISHERMEN, MERCHANTS, MONKS AND LORDS: MEDIEVAL AND LATER GLASS FROM FLANDERS AND ZEELAND

The end of March saw the opening of a major new exhibition of glass, *Glas van vissers, kooplui, monniken en heren; middeleeuws en later glas uit het bodemarchief van Kust-Vlaanderen en Zeeland* at Provinciedomein Raversijde, an excavated and partially reconstructed late medieval fishing village just outside of Ostend. This is an inspirational location, the archaeological preservation and artefacts recovered from the village (of which glass only forms a tiny proportion) are worth a visit in their own right. The exhibition will continue Raversijde until 11th November 2003 (Mon.-Fri.: 2-5, Sat.-Sun.: 2-6), and will then be at the Zeeuws Museum in Middelburg, Zeeland from February 16th until May 14th 2004.

The glass on display comes from a wide variety of different contexts (thus giving rise to the exhibition's name) from seven sites in Flanders and four in Zeeland. The pieces selected are of particular interest, in some cases due to their scarcity, as with the example of a flask decorated with blue, green and red *vetro a fili* from the Nunnery at Vrouwenpolder in Zeeland. Similarly there is particularly fine assemblage from the castle at Middelburg, East Flanders. Other pieces have clearly been chosen as they are representative of more everyday wares, such as a well preserved group of *kruisribbelbekers* and a plain flask from Veere. Enthusiasts for window glass will not be disappointed as fragments of grisaille, as well as other plain and coloured windows, from Slijpe, Aardenburg, Sluis, and Aldegonde are on display; some finely executed figurative glass from Walraversijde is particularly noteworthy.

A very reasonably priced publication, to accompany the exhibition, provides a comprehensive and colourfully illustrated discussion of the material. It starts with a discussion on the nature of glass composition, formation, decay and conservation, followed by a useful review of the various types of glass found within the eleven groups on display. There is a brief discussion of these groups, including a review of the forms and their context, copiously illustrated with colour plates. Also included is a catalogue of all the fragments in the display and a glossary.

The exhibition is attractively laid out to appeal not only to the specialist, but also to the interested layperson. Its greatest strength lies in the way the glasses are not treated just as objects of artistic merit, but have a genuine context. One begins to see the fishermen, monks, merchants and lords who actually used the glass. Any exhibition is inevitably the result of the efforts of many people, and all the contributors to the publication as well as all the staff at Provinciedomein Raversijde are to be congratulated. Particular credit must be given to Danielle Caluwé and Hilde Wouters who have been responsible for the greater part of the organisation. The result has been the creation of a superb exhibition.

Glas van vissers, kooplui, monniken en heren; middeleeuws en later glas uit het bodemarchief van Kust-Vlaanderen en Zeeland. Provincie West Vlaanderen, Instituut van het Archeologisch Patrimonium and Vrije Universiteit Brussel. A5 paperback, 128 pages, 60 colour plates. Available for €6.00 from Provinciedomein Raversijde, Nieuwpoortsesteenweg 636, 8400 Oostende, Belgium.

Hugh Willmott
University of Sheffield

Information Sought: Early Weather Glasses

Before the advent of the mercury barometer, in 1643 by Evangelista Torricelli, it is evident that many water glasses were used. Fig. 1 shows a copy we made at Barometer World and Museum based on a 1631 print included in most barometer books and now in The British Museum.



Fig. 1 Modern copy of a 1631 weather glass

John Bate's book 'The Mysteries of Nature and Art', 3rd Edition 1654 (1st Edition 1634) illustrates a variety of weather glasses. Robert Flood also illustrates a number of similar weather glasses although often described in connection with health and medical reasons. The principal shape would be a long drawn out tube with a spherical end in which to hold air (Fig. 2), although this could be shaped (Fig. 3).

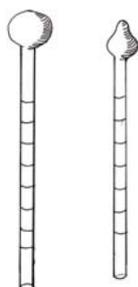


Fig. 2, 3: Glass shapes of early weather glasses

To my limited knowledge there are no surviving early weather glasses of this type. Has anybody in the historic glass world come across any such items? Are there any languishing in any museums around the world? It may be that the broken pieces are just put down as alchemists' tubing. Any guidance or knowledge on this subject would be most welcome.

Please contact:

Philip R Collins, Barometer World Ltd, Merton,
DevonEX20 2DS
E-mail: philipcollins@barometerworld.co.uk

Information Sought: Dalle de Verre

I am a final year MA student in the conservation of Stained Glass on the RCA/V&A course. I would be grateful if anyone could assist with my research by:

- Contacting me if they have experience in conserving dalle de verre windows;
- Recommending UK sites with dalle de verre windows, particularly those showing signs of deterioration, that I could visit;
- Providing details of any published or unpublished literature relating to the conservation of dalle de verre windows (I have searched the usual sources (BCIN, JAIC) but haven't found any information).

Sherrie Eatman, Stained Glass Conservation

Victoria and Albert Museum, South Kensington
London SW7 2RL
Tel: 020 7942 2122, Fax: 020 7942 2092
E-mail: s.eatman@vam.ac.uk

Wanted!

I am very interested in acquiring the Victoria and Albert Museum's CD-Rom 'The Story of Glass' (for PC). Unfortunately, the museum shop is no longer able to provide it. Perhaps the readers of Glass News know of any available new or second-hand copies? I will pay a good price and cover the postage.

Please contact:

Bjarne Gaut, 65 Holgate Road, York YO24 4AA

Books

Venise et Façon de Venise Verres Renaissance du musée des Arts décoratifs

Edwin Baumgartner and Jean Luc Olivie

The catalogue accompanies the exhibition of the same name. It presents *ca.* 60 Venetian glass objects from the musée des Arts décoratifs, mostly unpublished, representing the main typologies and techniques used in Venice during the Renaissance.

Pages: 150. Illustrations: 90 colour, 60 au trait.
Available from: Musée des Arts décoratifs
107-111 rue de Rivoli, 75001 Paris

Gothic: Art for England 1400-1547

Richard Marks and Paul Williamson, eds.

This definitive catalogue to accompany the exhibition includes essays by leading medieval scholars on subjects which encompass all aspects of life in this vibrant and influential time in English history. Contains 410 colour and 65 black and white illustrations.

Price: £45
Published by the Victoria and Albert Museum, 2003
ISBN: 1 85177 4017
www.vam.ac.uk

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Glass News editor Sarah Paynter will be back from maternity leave in Spring 2004. In the meantime, please send your contributions by **30 March 2004**

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