You may notice some changes to the appearance of this Glass News, as it is the first issue that I have edited having inherited the role from John Shepherd. Unfortunately our computers wouldn’t cooperate with each other during the handover and as a result a slightly modified version has evolved.

2003 promises to be an excellent year for conferences, seminars and symposiums on the subject of glass. As many of the deadlines or dates for these gatherings are fast approaching, the relevant details have taken pride of place on the first pages. If you book and pay to attend the AIHV2003 conference before the 1st of June, you are entitled to a discount so don’t miss out!

Interesting articles, by Chris Welch, Hilary Cool and Colin Clark, are also included in this issue. You will find other articles on window glass, related to Colin Clark’s piece on Window Glass Manufacture in the Weald in the previous issue of Glass News (no. 11).

Finally my contact details as editor are given on the third page and I look forward to being inundated with material for the next issue, which is due out in the early summer.

AIHV 2003

The 16th Congress of the Association Internationale pour l'Histoire du Verre will take place in London from Sunday September 7th 2003 to Saturday September 13th 2003 at the Imperial College of Science and Technology in Kensington.

Participants who book and pay for their attendance by 1st June 2003 will be entitled to a discount on their conference fee.

There will be a full programme of lectures, two poster sessions, opportunities to visit collections both in London and elsewhere in the south-east of England and a full social programme. The collections visited will include material on display in galleries and from reserve collections. The visits to the latter will naturally have constraints both on the numbers of people who can visit and the times at which the visits can take place. As a consequence, participants will be urged to indicate which trips they are particularly interested in when they make their bookings for the conference.

Draft programme

Sunday 7th - Evening opportunity to register and socialise
Monday 8th - All day lecture sessions
Tuesday 9th - Morning lecture sessions
Afternoon poster session
Wednesday 10th - All day visit to London collections
Thursday 11th - Morning lecture sessions
Afternoon poster session
Friday 12th - All day lecture sessions
Saturday 13th - All day visit to collections outside of London
A post congress tour visiting collections in the south-west of England starting on Sunday 14th September is also being organised.

The website will be the main source of information about the congress. If you would like to be placed on an email mailing list that will notify you when the site is updated, please contact hilary.cool@btinternet.com Details of the congress may also be obtained by writing to:
Dr H. Cool,
16, Lady Bay Road,
West Bridgford,
Nottingham.
NG2 5BJ

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page 7 - York Minster Glass from Staffordshire in the late 15th Century

Plus books and journals
Glass in the Islamic World:
New Discoveries, New Ideas

An all-day seminar will be held at The Wallace Collection, Manchester Square, London W1 on 5th March 2003 from 10.10am to 16.30pm. Manchester Square is north of Wigmore Street and Oxford Street, behind Selfridges; the nearest Underground Station is Bond Street (Jubilee and Central Lines).

Lunch is not included. If participants wish to lunch at the Wallace Collection restaurant (tel. 020 7563 9500), they are strongly advised to book prior to the day, and the menu should be ordered on arrival, before the proceedings start. There are also restaurants, cafes and sandwich bars in the vicinity.

To attend the conference please complete and return the form opposite, enclosing a cheque for the appropriate amount.

Programme

10.10-10.40: Registration and coffee
10.40-11.05: Welcome - Introduction by Patricia L. Baker
11.05-11.30: St. John Simpson - Cut & sparkle: the visual effect of Sasanian glass
11.30-11.55: Sally Worrell - Glass finds from Kush excavations in the Gulf
11.55-12.20: Daniel Keller - Early Islamic glass from the Finnish excavations on Jabal Harran near Petra, Jordan
12.20-14.00: Lunch (not included)
14.00-14.25: Margaret O'Hea - Umayyad to Fatimid glass: finds at Pella
14.25-14.50: Sarah Jennings - Tyre - a major mediaeval glass-making site
14.50-15.15: Ian Freestone - The products of early tank furnaces in the Levant: from composition to technology and trade
15.15-15.40: Tea
15.40-16.05: Judith Kolbas - 12th-13th century glass weights: the choice of colour and decorative motif
16.05-16.30: Rachel Ward - Technical developments in enamelled glass

The cost will be £20 (or £10 for students who provide proof of their status), to include coffee and tea but not lunch.

Glass News Winter 2002 / 2003
In association with the Society of Glass Technology and the British Society of Master Glass Painters
Friday 4th April, 2003

The Society of Glass Technology has joined forces with the Association for the History of Glass and the British Society of Master Glass Painters to mount a one day Symposium on the History and Heritage of Glass. This is to be held on Friday 4th April 2003 as part of the Society of Glass Technology’s Annual Spring Meeting, full details of which may be seen on the website www.sgt.org or may be obtained on request from the SGT Office. The Symposium will begin at 10.00am and will end by 5.30pm. Nine invited papers will be presented during the day, but in addition there will be opportunities for discussion and for Poster Presentations. The Organising Committee wishes to encourage students and younger researchers to submit relevant posters; past experience is that such presentations and the discussions, which stem from them, considerably enrich the day. It is intended that both the Oral Presentations and the Posters will be published as Proceedings after the event.

Invited speakers

Peter Boland – Dudley MBC
Charles Hajdamach – Broadfield House
Russell Hand – Sheffield University
Martin Harrison – Author & Hon. Fellow of BSMGP
Joanne Howdle – Barrow Dock Museum
Neil Moat – DAC advisor for Durham & Newcastle
Victoria Oakley – Victoria & Albert Museum
David O’Connor – University of Manchester
Chris Welch – English Heritage

Topics will include:

Glassmaking archaeology in Staffordshire.
Glassmaking in the 18th Century.
Conservation of glassmaking skills.
Victorian revival stained glass.
Rediscovering mediaeval glass.
Glass and the arts & crafts movement.
Moisture attack on glass artefacts.
Science and the durability of glasses.
Conservation of glass photographic slides.

Delegates who wish to attend the SGT Spring Meeting are welcome to attend the History & Heritage Seminar. Delegates who wish to register for the Seminar only are also most welcome. The fee is £40.00 per person, inclusive of refreshments and a light lunch. Members of the Association for the History of Glass, the British Society of Master Glass Painters or of the Society of Glass Technology qualify for a discounted fee of £35.00, and there is a special rate of £20.00 for students engaged in full time education.

For further details or to reserve a place on the conference please contact:

Miss Sara Lindley,
Society of Glass Technology,
Don Valley House,
Savile Street East,
Sheffield. S4 7UQ
Telephone: 01 142 634 455
Email: Sara@glass.demon.co.uk

New Finds
New Research
New Publications
New Ideas
Conferences

REMEMBER
Glass News

Tell us all about your news, ideas and discoveries.

Send your contributions by mid-May to:
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Eastney,
Portsmouth.
PO4 9LD

Tel: 02392 856782 ● Fax: 02392 856701
e-mail: sarah.paynter@english-heritage.org.uk
Window glass was made in the Weald from at least the early fourteenth century, until manufacturing ceased in 1618 following the development of a viable coal-fired furnace and the prohibition of wood fuel. Although vessel glass was produced here, window glass manufacture assumed greater importance, particularly in the last fifty years of the industry.

Immigrants from Normandy and Lorraine brought with them their respective traditions of Crown and Broad glass manufacturing methods which appear to have been carried on side by side, although contemporary documents usually refer to ‘brode glasse’ (probably as a collective name for window glass). Coloured glass was at no time produced commercially, and even in the fourteenth century, when glass for ecclesiastical buildings was in demand, Wealden glassmakers produced only ‘white’ glass, to complement coloured glass imported from the Continent.

Wealden glass was of the potash ‘forest glass’ type. The local sand is notably ferruginous and was responsible for producing glass having a pale yellow, green or bluish tint. The flux was made from the ashes of selected plants and wood and has been found to be the most variable of the ingredients used in the batch. Analysis of glass fragments has revealed that excessive quantities of lime were often unwittingly incorporated in the mix as a natural pollutant in the ashes, causing a lack of durability and susceptibility to corrosion. As a result, the condition of surviving examples of Wealden glass is extremely variable, the poorest being soft and opaque and the best being hard and bright with little tint. Typical symptoms of weathering are surface pitting, a loss of transparency due to the development of an opaque coating, and flaking.

The end of the sixteenth century was a period of greatly increasing demand for window glass, not only for new buildings but for extending the glazed area in existing buildings and, where it was found desirable, to replace earlier glass of poor quality with glass of improved transparency. On occasions, the old glass removed during upgrading was passed on for use in previously unglazed areas. Although there was a growing local demand for glass to glaze the houses of the ‘great rebuilding’, the largest market was London.

At this time there were also significant developments in the organisation of the window glass industry. Glass manufactured in the Weald was transported to the Capital by ‘glass-carriers’ and sold to merchants from whom local glaziers obtained their supplies.

Sometimes this pattern of trade varied when, for example, a large developer bought glass direct from the manufacturer and employed local labour to carry out the glazing. Glaziers, who had followed an itinerant trade in the Middle Ages, settled in provincial towns forming local Guilds of Glaziers.

The last fifty years of Wealden window glass manufacture are marked by exceptional stability in prices at a time of high general inflation. This, combined with rising prosperity, led to an overall increase in the demand for glass and encouraged the use of larger glazed areas in buildings. Stability in prices was brought about by a number of factors including the improved skills of operatives, better working methods and increased competition between manufacturers.

A characteristic of glass made in the closing years of the industry is its thinness (1mm to 1.5 mm), which enabled a greater area to be made from a given volume of glass, and also contributed to greater transparency. Thinner glass, with a greater liability to breakage, was of concern to property owners but for glassmakers and glaziers it presented an opportunity for more business.

By the 1580s, the industry was expanding from the Weald into other parts of the country, such as Staffordshire where wood fuel was available, to develop new markets. By the time the Wealden industry was brought to an end, glassmaking had become firmly established as a native industry, making the nation practically self-sufficient in window glass.

Colin Clark
This bibliography covers works on glass that has been found or made in Britain and more general books on glass that have been published within the UK. Useful bibliographies that cover a wider geographical area are published annually in the *Journal of Glass Studies*. A bibliography of French material is published in the *Bulletin de l'Association Française pour l'Archéologie du Verre*. Readers are invited to send details of publications for the next bibliography to Hilary Cool (hilary.cool@btinternet.com or 16 Lady Bay Road, NOTTINGHAM NG2 5BJ).

**Scientific and Conservation**

Two articles have been published in *Archaeometry*. Freestone *et al* 2002 explores 6th to 7th century AD glass lamp fragments found in Cyprus by ICPMS and energy dispersive X-ray analysis and considers the origins of the raw glass used to make them. This provides a useful overview on recent work on the origins of glass in late antiquity. Freestone (2002) has also published an exploration of enamelling on Islamic material.

**Roman and Early Medieval**

A summary of the vessel glass found during the excavations of the Lanes, Carlisle has been published (Price and Cottam 2000). The full report is promised in a forthcoming fascicule, but this to my knowledge has not been published. A few scraps of 4th century glass have been published from the signal station at Filey, North Yorkshire (Ottaway, 2000, 126). A small number of mid Saxon pieces appear in the report on the excavations at West Hythe, Kent (Gardner *et al* 2001, 234).

There are three relevant articles in a volume of essays dedicated to Bill Manning and published in 2002. Denise Allen writes on Roman window glass and includes useful information about the experiments carried out in its production by Mark Taylor and David Hill which were briefly reported on in *Glass News* 9. Jennifer Price reviews the use of mosaic glass and shows that the technique remained in use for longer than is sometimes appreciated. Hilary Cool discusses pipette unguent bottles and argues that their context suggest they were an integral part of worship in a mystery religion.

There is a useful review by David Whitehouse (2001) of Rosemarie Lierke's theories about how many forms of Roman glass were produced. For an alternate view of the production techniques, readers with access to the Internet might like to look at the Roman Glassmakers Newsletters produced by Mark Taylor and David Hill. These are archived on the Association’s website (www.historyofglass.org.uk).

**Medieval**

Rachel Tyson (2001) has published the medieval glass in Salisbury Museum. This consists of approximately 18 vessels dating from the 10th to 14th centuries, mainly from the excavations at Old Sarum (1909-1915), but also including two from Clarendon Palace. A small group has been found in a 13th to 14th century context at a farm near Gillingham (Valentin and Robinson 201, 39-40).

**Post-medieval**

There are three useful new publications on 17th century glass. Jill Turnball (2001) has published a book examining the Scottish glass industry within the social context, exploring problems of low demand, the shortage of skilled manpower, and changing patterns of consumption. A considerable variety of glass is shown to have been produced in Scotland, including broad and crown window glass, bottles and apothecary vials, wine, beer and 'mortar' glasses and other table glasses. Most of the material is entirely new and has been extracted from a wide range of primary sources ranging from family papers to the House of Lords. Hugh Willmott (2001) has a well-illustrated paper on Anglo-Dutch drinking glasses again setting the material within the social context. He has also produced a book (2002) on 16th and 17th vessel glass, which will undoubtedly become a standard work of reference. A slightly unusual use of glass in surveying for the ordnance survey in the 18th century is discussed by Brooks (2001).

**Modern**

Susan Newell has two articles in the most recent *Journal of the Glass Association*. Newell 2001a discusses the Regency glass services made for the 3rd Marquis of Londonderry and his neighbour John Lambton and provides an appendix about the Wear Flint Glass company of Sunderland. She also has a useful section on how such services would have been
used. Her second article (Newell 2001b) provides a brief history of another Sunderland firm. The same journal has a survey of uranium glass (Skelcher 2001), a study of early 20th century painted windows on the west coast of Scotland (MacDonald 2001) and a provocative view of trends in modern glass (Robinson 2001). The whole journal, it should be noted, is beautifully illustrated in colour throughout, and was most interesting even to an archaeologist like me with limited interest in glass after the 5th century!

References

Dr Hilary Cool

This is a high magnification image of a tiny glass thread, recovered from samples taken during excavations at the site of a 17th-18th century glasshouse at Silkstone, South Yorkshire. An article on this site, by David Dungworth and Tom Cromwell, will feature in the next issue of Glass News.
A total of eighteen glass furnaces are known to have operated in Bagot’s Park in Staffordshire from the medieval period up to the early 17th century. All these were largely destroyed by reclamation work in the 1960s, although not before one was excavated by David Crossley in 1966.1 Sufficient remained of fifteen furnaces to allow archaeomagnetic dating, which has been carried out by the author and Paul Linford of English Heritage over three years. There are possibly two late-13th century dates, but there seems to have been a fairly intense period from the middle of the fourteenth century until the mid-sixteenth century over which thirteen furnaces were in use.2 Concurrently with this work documentary research has been carried out to complement the fieldwork, and it is intended that the results be published in the near future. A group of documentary references are of particular interest, as they potentially link a glassmaking area with its market. It has long been known that a John Glasman of Rugeley supplied glass to York Minster in 1418-19.3 Rugeley lies a few kilometres from Bagot’s Park, and John could have been selling glass from there or from the adjacent manor of Wolseley where glass was made over a similar period.4

Of interest here, however, is the Edmund ‘Bardale de Bramleybutt’, who was paid 14s 8d for sixteen ‘tables’ of English glass for York Minster between November 1478 and November 1479.5 It is known that a glasshouse was in use in Wolseley at precisely this period; a rental dating from November 1478 records the rent of le Glashomes as £7 6s 8d, and the following year rent for a glasshouse is again recorded (although the value is not known), together with the sale of bracken to the works. This episode of glassmaking may be associated with a known individual, Thomas Wakelen, described as a glassmaker of ‘Ruggeley’ in 1479.6 But on both the 1478 and the 1479 rentals that refer to the glasshouse the name of Edmund Bardall occurs, who is paying 18s for a field called the Horsecroft.7

The Edmund ‘Bardale de Bramleybutt’ of the York Minster accounts may have had no connection with the Wolseley rentpayer Ballard, and the latter need have had no connection with the Glashomes there. But an Edmund Bardell is a witness to both a deed and a quitclaim of 1489 which relates to lands in Bagot’s Park, along with Ralph Wolseley, the lord of the manor of Wolseley. In 1501 Edmund Bardell ‘de Bromley abbobis’ witnessed a deed by which land was granted to Thomas Harve (Harvey) ‘glasemaker’.8 And it seems reasonable to suggest also that the ‘Bramleybutt’ of the York accounts might be a scribal mistake for Bromley Abbatis, or Abbots Bromley, the village between Rugeley and Bagot’s Park, which was associated with the glassmakers throughout this period. The evidence is circumstantial, but strong, that glass from the Staffordshire industry was being supplied to York Minster in 1478. It would be fascinating to know more of the relationship of Edmund Bardall with the glassmaking industry. There is no evidence that he was himself a glassmaker, but as a witness to the documents he was evidently of some standing locally, known to both landowners and glassmakers, and sufficiently involved to handle the sale of glass.

The York Minster sale can be added to the only other known destination of Staffordshire glass at this time, the church at Tattershall in Lincolnshire, and supports the impression from investigation of sites in both Wolseley and Bagot’s Park that the principal output of the industry was window glass. Given the evidence from the archaeomagnetic dating of a period of

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1 D. W. Crossley ‘Glassmaking in Bagot’s Park, Staffordshire, in the sixteenth century’ Post-medieval Archaeology 1 (1967), 44-83
3 J. A. Knowles, Essays in the History of the York School of Glass Painting (London, 1936), 199
4 C. M. Welch ‘Glass-making in Wolseley, Staffordshire’ Post-Medieval Archaeology 31 (1997), 1-60
5 York Minster Archives E 3/28; I am extremely grateful to Nigel Tringham for investigating this source. Saltzman thought the local surname might have been ‘Bramley buttes’ (English Industries of the Middle Ages (1923), 187)
6 Welch, op.cit., 2
7 Staffordshire Record Office D(W)1781/6/3/2 (1478) and 6/3/4 (1479)
8 Staffordshire Record Office D(W)1721/3/5/3; Wrottesley, G. Collections for a History of Staffordshire vol xi, 1908, 63; Staffordshire Record Office D(W)1721/3/5/8; I am grateful to the members of the Ranulf Higden Society who translated the deed and quitclaim.
9 C. Welch, ibid., 35.
regular, if not continuous, output from the local industry from the fourteenth century until the mid-sixteenth, glass must have been supplied in quantity over a large area to a variety of glazing projects, but only the two at York and that at Tattershall have so far come to light.

Christopher Welch, Inspector of Ancient Monuments, English Heritage.

**Books and Journals**

**L’Atelier De Verriers D’Avenches**
L’Artisan du Verre au Milieu du 1er Siècle après J.-C.

Heidi Amrein
Cahiers D’Archéologie Romande No 87 Aventicum XI.

The study of a glass workshop excavated at Avenches-Aventicum (Switzerland) in 1989 and 1990. The workshop was active between 40 and 70 A.D. Circular hearths and a large number of fragments of coloured glass were discovered. The research investigated the nature of local production, the diverse techniques of glass production and also reconstructed the hearths and spatial organisation of the workshop.

Price: SFr. 60.-, postage abroad: SFr. 15.-, Total: SFr. 75.-

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**The Art of Glass**
“The World’s Most Famous Book on Glassmaking”.
Edited by Michael Cable.

A reprint of Christopher Merret’s 1662 translation of Antonio Neri’s L’Arte Vetraria of 1612.

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Price: Society members and ICG Affiliate members £12.50, non-members: £15.00.

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**Early post-medieval vessel glass in England c.1500–1670**

Hugh Willmott
Council for British Archaeology Research Report Number 132

This illustrated guide is a comprehensive classification of vessel glass found in England between 1500 and 1670. It provides clear and accessible coverage of vessel forms and individual types, with an indication of their date range, provenance and a description. Each form is illustrated with an excavated example and there is a general summary of the types with reconstruction drawings at the end. The Research Report also addresses how post-medieval glass should be studied, summarises current information on the production and importation of vessels in England and provides a social context for glass use.

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