

Glass News

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Glass Fragment from Chedworth Roman Villa
© National Trust

Welcome to Glass News Issue 46!

AGM 2019

This year's Annual General Meeting of the Association for the History of Glass will be held at the British Museum on Tuesday the 12th of November 2019. We are hoping to combine the AGM with a guided visit to the Petrie Museum's collection of Egyptian glass and an opportunity to view the Egyptian glass in the British Museum. Further details will be sent to members nearer the time.

BOARD OF THE AHG

We are sorry to announce the departure from the board of Denise Allen, who has resigned after many years of dedicated work on behalf of the Association, serving as Honorary Secretary from 2011 to 2018. We would like to thank Denise for all her hard work and we will miss her greatly at our board meetings, though we are glad to hear that she will still be a keen participant at AHG events.

Many of you will already know about the sad death of Jennifer Price in May of this year. This has also left a position empty on the board of the Association and we are therefore inviting expressions of interest to fill both these spaces. Anyone wishing to be considered for nomination should contact the Honorary Secretary Sally Cottam via email on ahgstudydays@gmail.com

THE ASSOCIATION FOR THE HISTORY OF GLASS

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To keep up-to-date on news and current research on the history of glass visit:

[facebook.com/TheAssociationForTheHistoryOfGlass](https://www.facebook.com/TheAssociationForTheHistoryOfGlass)

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REMINDER

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

We can send a colour PDF version of this issue of *Glass News* on request TO MEMBERS AND SUBSCRIBERS (in addition to your paper copy – we know you like something to read in the bath!). Please email one of the editors (see back cover) if you would like a PDF copy.

While every effort is made to check the content of the articles and reviews, Glass News does not accept responsibility for errors.

CONFERENCES

Society of Glass Technology, Annual Conference: From Sand to Splendour

Murray Edwards College, University of Cambridge
1 - 4 September 2019

Within the SGT Annual Conference there will be a seminar devoted to the History and Heritage aspects of glass. The date will be Wednesday 4th September, so the organisers ask you to incorporate this in your 2019 diary!

In ancient times, the transformation of mundane sand into the splendour of brilliant glass was a subject of awe. Glassmakers guarded carefully the secrets of their craft, and formed guilds to ensure confidentiality to protect their livelihoods. Notoriously, in 14th Century Venice, a glassmaker judged to have betrayed his fellows risked losing an ear or a hand!

Today we delight in sharing information, insights and inspiration surrounding the history of glassmaking and the splendour of the heritage we have received from previous generations. So when we meet in Cambridge next September the topics could range from the most ancient to the contemporary, from the insights of science to the splendour of glass art, from the archeometric studies of glass sites to the conservation and display of our rich glass heritage – really the programme could be as limitless as glass itself!

As ever, our objective is to bring together enthusiasts from all branches of glass studies, to meet in friendship to share our passions, our perplexities, and our problem-solving successes. We cordially invite you to join us at Murray Edwards College to share in our discussions, and if you'd like to make a presentation or offer a poster we'd love to hear from you.

Prices to attend the conference which includes the Conference Banquet:

£370.00 for SGT members

£490.00 for non members

Day rates are available

Book here:

<https://cambridge2019.sgt.org/conference-registration>

EVENTS

International Festival of Glass

23 - 26 August 2019

Ruskin Glass Centre

Mark Taylor and David Hill will be building and running a small wood-fired furnace and Lehr at the Ruskin Glass Centre for the duration of the International Festival of Glass from 23rd to 26th August 2019 (www.rmlt.org.uk/international-festival-of-glass).

They will be joined by Jason Klein, an American glassblower who also specialises in reproducing historical glass.

Entry to the Ruskin Glass Centre is free.

Updates will appear on Mark and David's website (www.theglassmakers.co.uk), and on Facebook.

LECTURES

Stained Glass Museum Annual Lecture David Hillman's Stained Glass windows for Synagogues

16 September 2019, 2pm

Ely Cathedral Education & Conference Centre,
Palace Green, Ely

A Lecture by Prof David Newman OBE

Followed by a viewing of the David Hillman 'Purim' window from the Old Bayswater Synagogue in The Stained Glass Museum

Tickets: £9 Guests / £7.50 Friends

In this talk Prof. Newman will shed light on the life and work of David Hillman (1894-1974), a prolific Anglo-Jewish artist who understood the deep connection between art and religion. Hillman was born in Glasgow and his father was Dayan Samuel Isaac Hillman, of the London Beth Din. He created stained glass windows for many London Synagogues, and one of his windows made for the old Bayswater Synagogue (demolished 1966) is on display at The Stained Glass Museum.

Prof. David Newman is a great nephew of the stained glass artist David Hillman, and a researcher of political geography and geopolitics at Ben-Gurion University of the Negev, Israel. On a recent sabbatical, Prof. Newman has been researching the stained glass windows created by artist David Hillman that can be found in synagogues in Israel and England. He is interested in both their

artistic content and the social context of the people who were involved in their creation – ranging from Eastern Europe to Britain and to Israel.

<https://stainedglassmuseum.com/lectures.html>

AHG GRANTS

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

An application form may be downloaded from the website, or can be obtained from the Honorary Secretary, Sally Cottam, at ahgstudydays@gmail.com, or writing to her at:

The Association for the History of Glass Ltd,
c/o The Society of Antiquaries of London, Burlington House, Piccadilly, LONDON W1J 0BE.

OBITUARIES

Jennifer Price 1940 - 2019

Jennifer Price, who died in May this year at the age of 79, holds a special place in the history and affections of this Association. She was an early member, invited to join the Board in 1979, in time to help run the 8th congress of l'Association Internationale pour l'Histoire du Verre (AIHV) in London later that year. She served on the board for forty years and, as President (from 1996-2003), she led the team that brought the 16th AIHV congress to London in 2003. Throughout her years of service to the AHG she poured her energy into promoting its role as a vehicle to encourage engagement in glass studies. She was a regular organiser of study days and conferences to which she contributed countless scholarly papers and presentations.

Jenny's early years were spent in Stourbridge in Worcestershire where her father's family worked in the glassmaking industry. After leaving school she moved to London, working for the Inland Revenue whilst at the same time studying law. But her career took a decisively different path when, shortly after being called to the Bar

in 1963, she decided to travel to Israel to take part in excavations at the hilltop fortress of Masada. It was here that she first encountered Roman glass in large quantities, igniting a passion that never faded.

After returning to Britain, Jenny completed an undergraduate degree in archaeology at Cardiff University. During her early research career she collaborated with Donald Harden from the British Museum, producing with him an important report on the glass from the Roman Palace of Fishbourne, her first major report in what was to become an astonishing body of published work on archaeological glass. It was Donald Harden who suggested she should do her PhD thesis on the Roman Glass of Spain, a topic so huge that it would be regarded as an absurd proposal for a post graduate student today. During the 1970s, whilst finishing her thesis, she held posts at Cardiff as a lecturer in prehistory and at the Salisbury and South Wiltshire Museum as Keeper of Archaeology.

In 1980 Jenny was appointed Lecturer in Archaeology at the Department of Adult Education in Leeds. Alongside her university commitments at this time, she was also approached by English Heritage with a proposal that would simultaneously tackle the backlog of unpublished assemblages of Roman glass from excavations in Britain and train an assistant in the skills needed to record and publish archaeological glass. So began the Romano-British Glass Project, which ran for nearly 20 years in Leeds and later at Durham University. It was a project to which she gave her time and expertise entirely for free. Her output of published reports, both within the remit of the Project and as an individual scholar was nothing short of prolific. From Inchtuthil in Perthshire to Trethurgy in Cornwall her work encompassed hundreds of glass assemblages from forts, villas, towns and temples. The book she published with Hilary Cool on the glass from Colchester will remain a standard work for years to come, as will *Romano-British Glass Vessels: A Handbook* and the report on the glass from the fortress at Usk.

I met Jenny when she was appointed as Senior Lecturer in Durham University in 1990, working as her research assistant on the Romano-British Glass Project. At Durham Jenny taught Roman provincial archaeology and launched an MA course in archaeological glass. She was promoted to a personal chair before retiring in 2005. To mark her retirement the AHG held a two-day conference in her honour, the papers from which were published as *Glass of the Roman World* (just re-issued as a paperback). Her retirement saw no let-up in her enthusiasm for working on glass and she collaborated widely with researchers at home and abroad.

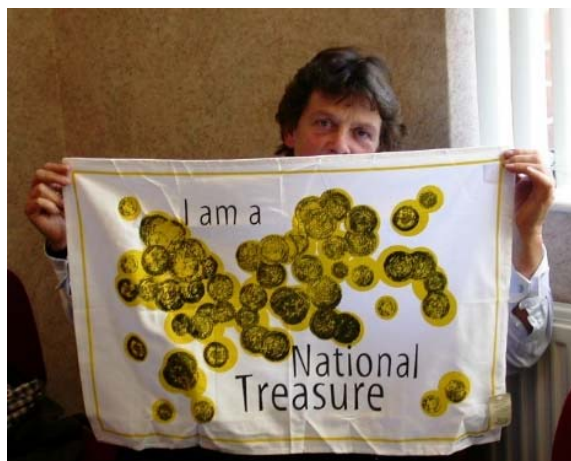
Many readers of *Glass News* will have met Jenny at conferences organised by AHG and AIHV. She brought an irresistible energy to these events. She fully engaged in every subject under debate and never passed up an opportunity to explore new ideas or to encourage brave scholarship. She expressed her opinions with passion, good humour and an entirely individual turn of phrase. She was particularly supportive of young researchers and gave up hours of time not just to her own students but to anyone who contacted her with queries – she was the first person we all turned to when we were puzzled by some odd piece of glass.



Restoring Roman bottles from a burial at Kelshall, Hertfordshire © Sally Cottam

Jenny's love of glass was infectious and inspiring. Her work will be valued by generations of researchers; but for those of us who had the privilege to know her and work with her, it is her extraordinary intelligence, her generosity, her enthusiasm and her humour that will stay with us always.

I last saw Jenny earlier this year when she showed me a remarkable fragment from a Roman glass fish, published in this issue of *Glass News*. In typical defiance of her poor health she took great delight in researching this unusual vessel. Jenny's funeral was held in York on the 10th of June, an event that drew hundreds of her friends and colleagues, all wishing to pay tribute to one of this country's finest scholars and to pass on their condolences to her partner Sue, who supported Jenny so tirelessly through her illness.



Jenny at her retirement party © Sally Cottam

We make no apology for re-printing the accompanying photo, which first appeared in issue no.19 of *Glass News* in 2006. It was taken at the party to mark Jenny's retirement from Durham University and shows her holding a tea-towel from the British Museum, a light-hearted gift from her glass colleagues. She was, and will remain, a National Treasure and we shall miss her sorely.

Sally Cottam

John P. Smith

1940 - 2019

An Appreciation



John Smith © Aileen Dawson

I first met John Smith in 1988, shortly after I started working for the glass dealer Christopher Sheppard of Sheppard and Cooper Ltd. John at the time was running the antique glass department at Asprey & Co. in Old Bond Street, and going there to deal with this immaculately dressed man with an impressive glass knowledge in such an imposing emporium was initially daunting. But John enjoyed nothing more than sharing this knowledge and we quickly became good friends and colleagues so that over the next three decades I was privileged to share his friendship, laughter, good advice,

encouragement and support. His circle of friends in the glass world was wide, encompassing dedicated collectors, general glass enthusiasts, museum curators, dealers and auctioneers across six continents, all of whom benefitted from his generosity of spirit.

John had been brought up in Burton-on-Trent, Staffordshire, and was sent to Repton School, Derbyshire, before going on to read chemistry at Bristol University, which stood him so well in his future understanding and appreciation for the complexities in the composition and manufacture of glass. He left behind his career in the chemical industry in 1974 when he inherited an antiques shop called Henning's in central London that had been founded by his stepmother's father in 1922. This shop closed in the early 1980s and John opened a new antiques firm, Regency House Antiques, in Walton-on-Thames, Surrey, which itself closed a couple of years later. John then joined Asprey's and worked alongside Derek Davis, son of the renowned glass dealer Cecil Davis. There John curated several exhibitions, the first was *100 British Glasses* (1985), another focussed on 18th- and 19th-century green table wares, which was followed by one on contemporary British stippled-engraved glass including works by the Whistlers and James Dennison-Pender.

John then joined Mallett and Sons (Antiques) Ltd in 1989, where he stayed until he retired, forging his own path as a highly respected dealer or "paddled his own canoe" as his former colleague Henry Neville described in his eulogy at John's funeral. John was the first man at Mallett's allowed to sport a beard, always beautifully trimmed, and later when I would work for him at antique fairs, he let me wear trousers at a time when the other ladies at Mallett's still had to wear dresses or skirts. John initially moved to Mallett's because they were prepared to buy a collection he and Christopher Sheppard helped form in New York of English and Dutch glass, which turned into the joint exhibition and catalogue, *A Collection of Fine Glass From the Restoration to the Regency* (1990). This then led to a second joint exhibition and catalogue later that same year, *Engraved Glass. Masterpieces from Holland*. In this latter catalogue we had great fun arranging the wineglasses in the catalogue to tell the story of a couple's courtship, some with quite racy scenes, ending up with glasses celebrating the *Kraamvrouw* or new mother. The exhibitions and catalogues that followed covered more diverse subjects including: *Osler's Crystal for Royalty and Rajahs* (1991), *The Age of Enlightenment: A History of Glass Chandelier Manufacture and Design* (1994), *James Tassie 1735-1799. Modeller in Glass. A Classical Approach* (1995), and *Danny Lane. Breaking Traditions* (1999). This latter exhibition was indeed ground breaking, mixing as it did contemporary glass furniture and design with those from

a century earlier especially those made by F. & C. Osler in Birmingham and their fierce Parisian competitor, Baccarat.

John met Aileen Dawson in the early 1990s, then a curator of ceramics and glass in the Department of Britain, Europe and Prehistory in the British Museum, and a former board member of the AHG. They married in 2005 and divided their time between Aileen's house in West London and John's folly in Thorpeness, Suffolk: a wonderful gatehouse and former water tower designed by William Gilmour Wilson, the large water tank of which John converted into a two huge rooms with 360 degree views of the East Anglian coast and Aldeburgh. Furthermore, they both enjoyed an allotment producing beautiful flowers as well as fruits and vegetables in London.

It was John who first introduced me to digital cameras, long before the invention of the smart phone, while we were at a glass conference in the sea-side resort of Sitges, Spain and instantly showing the great photographs he was taking while I was taking slides and hoping for the best. At his home he set up his own area for taking photographs with rolls of coloured paper backgrounds and his skill came to the fore when he undertook all the photography for and design of the exhibition catalogue, *From Palace to Parlour A Celebration of 19th-Century British Glass*. John was one of the three principal organisers of the exhibition held in the Wallace Collection alongside Henry Fox and myself that became the Glass Circle's contribution to the AIHV conference in London in 2003, and it was John who persuaded Mallett's to let us use their glass showrooms as the headquarters for the collection, cleaning, photographing, and subsequent dispersal of all the glasses.

It was also at Sitges that John, Aileen and I were royally entertained one evening with modern music being played on contemporary glass instruments. Glass musical instruments was another of John's many interests and he was delighted when he subsequently obtained a recording of *The Crystal Fountain Polka* composed by Louis Antoine Jullieu in 1853 in honour of Osler's magnificent 27ft tall glass fountain in the Crystal Palace, which we were able to use in the *From Palace to Parlour* exhibition.

After retiring from Mallett in 2007, John was able to devote even more time to his glass research, publishing and lecturing on an eclectic range of subjects especially for the Glass Circle and Glass Association in this country while also organising memorable trips to the Czech Republic, Cologne and USA. Nothing better illustrates John's depth and breath of knowledge of 18th-, 19th- and 20th-century glass than his chapters, "Europe and

America 1800-1940” and “The decline of the craftsman, the rise of the artist, 1940-2010” in the 2012 revised edition of the British Museum’s, *Five Thousand Years of Glass*, and two further chapters on the glass and its collectors in Helen Clifford’s, *The History of the Grocers’ Company Through its Collection of Silver and Glass* (2014).

Retiring also meant that John was able to spend three months skiing in the Swiss resort of Wengen, the only interruption being vetting the glass for two days at TEFAF (The European Fine Art Fair) held in Maastricht every March. TEFAF is the best art and antiques fair in the world and to be part of the vetting committee is a great honour indeed and ever since I have been an exhibitor there with my husband, Didier, we always celebrated with our own pre-vetting dinner.

John was much in demand for his mannered and scholarly approach and enthusiasm for glass studies. Not only was he Chairman of the Glass Circle for some 15 years, he was also elected a Fellow of The Corning Museum of Glass in 2000. He was an Honorary Member of the Guild of Glass Engravers, a Freeman for the Worshipful Company of Glass Sellers, and for several years a committee member of the Friends of the Victoria and Albert Museum raising large amounts for the museum. He was a founder member and then Vice-President of the European Society for Light and Glass, and lastly in December 2017, he was appointed a Trustee of the British Glass Foundation, which is overseeing the setting up of the new White House Cone Museum of Glass in place of the former Broadfield House Glass Museum.

The last time I saw John was the day before he died where his love for glass and Aileen shone through with him sitting up in bed enjoying running his fingertips over the sharp hobnail cutting on a Regency glass jug she had given him years earlier. John is also survived by his two children Alastair and Philippa from his first marriage, and four grandchildren.

Martine Newby Haspeslagh

David Martlew

1944 - 2019

David Martlew passed away on June 6th 2019 in Liverpool. He had been a member of the AHG Board for 15 years from 1999. He was a glass technologist by profession, working in the flat glass industry for 40 years. On retirement he pursued his interest in the history and heritage of glass, and brought an extra perspective to AHG meetings. He was involved in the organisation of

the ‘Glass in Science and Medicine’ meeting held at the Science Museum in 2011. He was also the link with the Society for Glass Technology, where he was President in 1993–94 and 2006–08. He was a friendly face always happy to discuss technological glass issues, and he will be missed. A full obituary will be published by the Society for Glass Technology.

Rachel Tyson

EXHIBITIONS

Chihuly: Reflections on nature

Kew Gardens, London

13 April - 27 October 2019

Seattle based, iconic artist Dale Chihuly will be exhibiting his luminous, utterly unique glass artworks across one of London’s most spectacular landscapes, in a perfect marriage of art, science, and nature. Famous worldwide for his dazzling glass artworks, Chihuly’s work has been exhibited in more than 240 museums around the world, over his 50-year career. As well as glass, Chihuly uses paint, charcoal, graphite, neon, ice, and Polyvitro to explore possibilities and realise his vision.



Dale Chihuly. *Sapphire Star*, 2010 © Chihuly Studio

32 art installations will be situated across the Gardens in a wide variety of locations. As visitors enter through Victoria Gate, they will see *Sapphire Star*, the individual blown glass forms of which will radiate outward to create a celestial visual experience. The vibrant blue colour of *Sapphire Star* is highly concentrated at the centre, where the individual glass elements meet and become increasingly opaque. The artwork’s translucent, achromatic tips reflect light and add to its intense radiance.

Kew’s Shirley Sherwood Gallery of Botanical Art (the world’s only gallery dedicated to botanical art), will host

12 bodies of work, as well as a film detailing Chihuly's creative process. Visitors to the gallery will experience the expressive lines and abstract forms of Chihuly's Drawings, as well as the Rotolo series - the most technically challenging work Chihuly and his team have ever created - and Seaforms: delicate undulating forms that conjure underwater life, among others. Other stunning locations for the artworks include the ornate Waterlily House and the resplendent Palm House lake.

The iconic Temperate House – the world's largest surviving Victorian glasshouse which has recently undergone a major restoration project – will be home to a new artwork, specially designed for the cathedral-like space, as well as nine other installations.

Journey to the Moon: How glass got us there

Corning Museum of Glass, NY, USA
29 June 2019 – 31 January 2020

Timed to the 50th anniversary of the first lunar landing, The Corning Museum of Glass will present a special display that invites visitors to get hands-on and explore the integral role glass has played in space exploration. Journey to the Moon: How Glass Got Us There opens on June 29, 2019.



The friendly "glasstronaut" was created by The Corning Museum of Glass glassmaker, Catherine Ayers © Corning Museum of Glass

"It has been 50 years since humankind first set foot on the moon—and it wouldn't have been possible without glass. From the development of telescopes to the creation of the Apollo Lunar Module, glass has enabled our increased understanding of and interactions with space in fundamental ways," said Marvin Bolt, curator of science and technology at The Corning Museum of Glass. "This exhibition will look at the direct and tangential ways in

which glass played key roles in the culmination of President John F. Kennedy's Moon Shot."

A highlight of the display will be a lunar meteorite with glassy components that visitors will be able to touch. Key objects and artifacts examine the role of glass in making this mission possible, including fiberglass—used in the protective outer layer of spacesuits worn by astronauts, and as insulation for the spacecrafts—and a Gemini window, designed by Corning, Inc. for the space shuttle windshield. Made of fused silica, this glass is able to withstand the heat of reentry into Earth's atmosphere. Visitors to the Museum will be able to see this glass in action during a Hot Glass Demo, as a piece of it sits between a 2,400°F reheating furnace and a camera allowing onlookers to see inside. A moonwalk montage will provide visuals of the lunar landing, revealing how glass on our TV screens gave everyone on Earth a first glimpse at the moon, and that glass in our TVs and devices still provides us a window through which to view important moments today.

"We first saw the moon up close through glass in our telescopes, opening our minds to what lies beyond Earth's atmosphere," said Bolt. "We visited the moon in a spacecraft made of glass, and we walked on its surface in glass spacesuits. And everyone back at home watched it happen through the glass on their TV screens. Once Neil Armstrong walked on the moon, we discovered that its surface was glassy. Glass has provided us not only a lens but a vehicle to make possible the journey to the moon."

Prittlewell Princely Burial New permanent gallery

Southend Central Museum, Victoria Avenue,
Southend-on-Sea, SS2 6EW

In 2003 archaeologists from MOLA excavated a small plot of land in Prittlewell, Essex. The discovery of a well-preserved burial chamber adorned with rare and precious objects astounded archaeologists but many of the burial chamber's secrets lay concealed beneath centuries of earth and corrosion, only to be revealed as conservators and archaeological specialists began their meticulous work.

Open to the public for free from Saturday 11 May 2019, the new permanent gallery features some of the chamber's most impressive items. The exhibition will include objects such as coloured glass vessels, a gold belt buckle, a Byzantine flagon, an ornate drinking horn and a decorative hanging bowl. It is also possible to explore the burial chamber online at:
www.prittlewellprincelyburial.org

MEETING REVIEWS

Report on Conference cum Workshop on History, Science and Technology of Ancient Indian Glass

21 - 25 January 2019
IIT-Gandhinagar, India

The Archaeological Sciences Centre (ASC) at the Indian Institute of Technology Gandhinagar (IITGN) has pursued a program of organizing History, Science and Technology workshops that focus upon a selected archaeological artifact class or material. The aim of these events has been to expose a selected group of students with an acute sense of the specific problems and opportunities that are involved in the study of that material. This has taken shape in the motivation to host a conversation between the leading experts of the field, and equally to provide hands on training in the ethnoarchaeological, experimental and scientific prospects of that particular field of archaeological research.

After publishing the result of the first workshop of the series on stone beads (Kanungo 2017) which was held between the 10th and 14th of August 2015, the second

workshop was held from the 21st to the 25th of January 2019 in IIT Gandhinagar on Ancient Indian Glass. The experts included archaeologists who have had extensive experience of south Asian glass, and archaeological chemists with expertise in the elemental analysis of glass. In addition, it included established ethnohistorians and ethnoarchaeologists of south Asian glass and vitreous materials, alongside craftspersons who brought their lifelong and inherited skill, expertise and knowledge.

These five days of the conference cum workshop involved four days of academic presentations and two field trips, together that covered veritably all aspects of the study of glass. These ranged from the origin of glass and faience, to the manufacturing techniques developed at different times in south Asia and the regional distribution of key artifacts both within and as traded far outside the region. Valuably, the talks also included detailed introductions and extended examples of the analytical chemistry of ancient glasses. Finally the field trips gave exposure to the contemporary traditional glass working and a world famous archaeological heritage site of India.

This wide range was organized into the several panels, the first of these 'Glass in General' included a series of foundational introductions to the study of glass. Prior to this, Prof. Thilo Rehren's keynote introduced the



Group photo of attendees at the Conference © Alok Kumar Kanungo

chemistry of glass as a matter of three different components: the Sand/Quartz base to which a flux is added alongside the third component — a variety of “spices” to colour, opacify and lend it special qualities. Prof. Rehren’s talk provided an overview of the complexity involved in the study of trace element contributions from both the flux and colourants. His talk also stressed the need to locate all archaeometric analysis within a sense of the contemporary glass cultures and elite networks of political economy that sustained them.

Dr. Laure Dussubieux’s talk “Elemental Compositions and Glass Recipes” provided a synoptic overview of the kinds of questions which can be chemically asked of glass artifacts. Dr. Dussubieux very usefully organized these into three kinds of questions. First come questions that can be asked of Glass making: (who made glass, where, with what technology, which ingredients, and what was the organization of primary production). Second come questions that we can ask of trade in glass: (who traded what, what trade in raw glass existed, how networks sustained varied trade) and finally questions of the use of glass. Dr. Thomas Fenn presented a third introductory foundational talk — which covered the prospects and challenges of using isotope systems to understand glass provenance networks. Dr. Bernard Gratuze’s talk addressed the issue of the specificities of the transition from Natron glasses to Plant Ash flux glasses and “Forest” glasses in the connected spheres of the Middle East and Western Europe at the end of the first millennium. Dr. Gratuze’s talk was a lesson in the kinds of detailed analysis that careful and innovative sample selection from well-dated assemblages that combined with the precision of Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) can reveal. Dr. Stephen Koob, provided an introduction to the kinds of care which are demanded in the handling of glass. He provided a very useful and detailed discussion of the preferred binders (Paraloid B 72) that should be used in the conservation of glass. The last talk of the first day was that of Dr. Joanna Then-Obluska, who provided a tour-de-force survey of the issues, challenges and attention to detail which the typological study of ancient glass beads demands. Dr. Then-Obluska’s talk admirably summarized the different methods by which ancient glass beads were made and provided excellent illustrations of their visible traces on artifacts.

The second panel focused on ‘Protoglass and Faience’. Prof. Mark Kenoyer summarised the results of more than twenty years of the study of Harappan Glazed steatite and faience technologies. He provided the participants with a sense of the pyrotechnical virtuosity and playfulness with which they excelled at the manipulation of this material. Prof. Kenoyer, summarized not only the use of a range of

instrumental techniques [ICP-MS, Scanning Electron Microscope (SEM), and others] but also from his extensive replication studies. Dr. Ivana Angelini provided a second study of faience that involved small samples from both Harappa and Mohenjo-daro using Confocal Stereomicroscopy, X-Ray Powder Diffraction (XRPD) alongside using the latter method with SEM for the study of vitreous slags. Dr. Bhuvan Vikrama, communicated the interesting finds from the recently excavated site of Sakatpur Mustakil, Dist. Saharanpur, where a series of faience working furnaces and extensive faience artifacts of the Harappan style were found.

Three panels organized the discussion of ‘Glass in South Asia’, Part 1 addressed Ethnography and Literature. Part 2 provided analytical surveys from ‘Glass in different parts of South Asia’. Part 3 focused upon the present state of our understanding of the ‘Circulation of South Asian Glass beyond South Asia’. In Part 1 Dr. Alok Kanungo began by dismantling the unhelpful debates over the origins of glass, glass making and widespread use in south Asia. He relativized a series of otherwise difficult to understand textual references (in the Satapatha Brahmana, the Arthashastra and other texts) by pointing to how the metaphorical and allusive use of glass and glass making must presume at least a few centuries of familiarity with the material. Turning to the evidence for production, he, argued that the problem in Indian archaeology persisted on account of our expectations both on account of the forms of evidence and a misunderstanding of the taphonomic processes that are active. As a result, the distinctive debris of both glass production and glass working are likely often misrecognized.

In the same vein, Dr. V. Selvakumar’s talk provided a thorough and thought-provoking review of the evidence for the production, use and status of glass in Tamil Nadu. His talk also provided a very rich account of the historical evidence on glass-makers and especially the caste of bangle traders and makers known from Tamil inscriptions. Dr. Jan Kock and Torben Sode presented over two papers a precis of their work over the last several decades on Indian glass crafts - of primary glass production, beading and bead-work and mirror-making.

Dr. Kanungo’s talk on ‘Glass crafts in Northern India’ in ‘Glass in South Asia – Part II : Glass in Different parts of South Asia’ exhorted participants to be attentive to the ‘when and why’ of changes in Indian glass crafts traditions. Dr. Shinu Abraham’s talk concentrated on the revisions that the analysis of a sample of c. 5000 beads from Pattanam have afforded into the complex which since Peter Francis Jr.’s formulation has been known as the “Indo-Pacific beads complex”. Dr. Sharmi Chakraborty’s talk addressed the important issue of how

do we assess the scenario of glass beads and their use in a regional perspective using new methods such as cluster analysis in the case of early historic Bengal. Mudit Trivedi's paper sought to revisit the questions of chronological change, typological diversity and cultural significance of the glass bangle as an artifact type of a much-neglected point of entry into the study of south Asian glass.

Talking about the cultural specificity of the site of Sanjan, especially in light of its association with the Parsi community, Dr. Kurush Dalal and Rhea-Mitra Dalal detailed the range and density of 10th to 12th century glass tableware that they had recovered during excavations including bottles, vials, footed plates, distillation apparatus, goblets and other items such as buttons. Prof. Massimo Vidale and Dr. Angelini provided a detailed account of the development and origin of glassy materials at the site of Barikot, in Swat valley, Pakistan over the first millennium BCE, through to Kusana times. Similarly, Dr. Wijerathne Bohingamuwa presented both a synthetic review of the voluminous evidence of glass production and use in ancient Sri Lanka. He provided first a site-wise and period-wise appraisal of the evidence and an equally valuable evaluation of the present state of evidence for the temporal shifts in glass intensity in Sri Lanka and its place within the Indo-Pacific beads phenomenon.

In the "Glass in South Asia – Part III : Circulation of South Asian Glass beyond South Asia" Dr. Maninder Singh Gill presented the results of his study investigating early Mughal architectural tile-work. He presented his work as a case study of the interaction of indigenous Indian glass tradition in the context of a cosmopolitan court culture, which drew equally in its political and material cultures on central and south Asian traditions. Dr. Gratuze spoke about the recent discovery and identification of a range of Indian glass beads in early medieval Europe in two distinct clusters. The first group of finds was from Western Europe and France in the period between 500-800 CE and as recovered from Merovingian era elite burials. The second and more puzzling group was that as recovered from Northern Germany, Denmark and Sweden in the 7th and 8th centuries. Dr. Fenn's case study of Indian glass beads in Eastern and Southern Africa added another layer of complexity by addressing the challenges of trying to identify the provenance of glass. Dr. Dussubieux' paper drew on her decade long study of the compositional groups of glass in South East Asia (especially sites in Thailand, Vietnam and Myanmar). She demonstrated how influential models such as the Arikamedu centric story advanced by Peter Francis Jr. of technology transfer and/or the movement of craftsmen were in need of re-evaluation in light of the elemental analysis of glass from

these sites. The last paper of the conference, by Dr. Then-Obluska, similarly presented new evidence to the south Asian audience of Indian beads as traded to northeast Africa in the period between the 1st and 6th centuries CE.

These diverse contributions brought together the challenges of studying the history, science and technology of ancient Indian glass in vivid detail. Considered together, they provided the best introduction to the complexities of regional diversity in glass traditions, the archaeometric challenges that stand before the field and the prospects of all we stand to learn from further investigations.

Live Workshops with Craftspersons

Throughout the conference a range of other resource persons were present and vital to the learning of all participants without making any paper presentations. These involved three sets of master craftsmen which included two craftsmen (Nandlalji and Krishan-ji) from Banaras Beads Limited (BBL). The second group was of stone-bead craftsmen from Khambat, Anwar Husain (chipping-grinding-polishing master) and Pratap-bhai (drilling master). The third were a group of women from the Rabari (Asha and Megha-ben) and Miri (Sakina, Madina and Zanab) communities, who demonstrated the care, attention and detail that the traditional beading work typical of the Kutch area requires and demands.

For many of the participants observing the lamp-wound beads was their first experience of the working of glass at close quarters. At once, interaction with the master craftsmen from BBL covered a range of topics and conversations. These ranged from the specificities of melting canes, combining colours, the clay separators used on the wires beads were wound around, the rates and kinds of failures, to the kinds of innovations in design they are regularly challenged to make.

In a similar vein, the presence of the stone bead master craftsmen allowed the students to witness, interact and experiment with the craftsmen and come to grasp the complexities of working with and drilling stones. Engagements with them moved from the basics of stone-identification to the reduction process and its complexities as well as the bow-drill apparatus used for drilling and its body-techniques.

Faience Workshop

All the participants also benefited from a specially invited workshop conducted by Profs. Mark Kenoyer and Massimo Vidale on the replication of Indus Valley faience technologies. The faience reproduction workshop was a truly unique component of the conference. It introduced and engaged all participants in the care and systematic outlook and planning which experimental

archaeology demands, and especially to the infrastructural, fuel and labor demands which the pyrotechnological products demand. In demonstrating the care and attention needed in both making frit and faience artifacts the workshop made clear how much the glassy phase demands of craftspersons, and a renewed appreciation of the extraordinary excellence of the Harappan artifacts. In addition, the detailed demonstration of all parts of the process, the hands on experience with all the raw materials and the ability to witness raw materials at various stages, as well as the transformation in them and the crucibles was invaluable.

Field Trips

The first of two field trips, took participants to the last surviving tank furnace and traditional hot lead mirror workshop in Kapadwanj similarly provided the kind of hands-on and on-site training that is impossible by any other means. Ahmed Basir Sengar, proprietor of the workshop, who had also attended the conference, led the group to his workshop that continues to produce convex hot-lead coated traditional mirrors, the find extensive use in local crafts, especially in textiles. The field trip to Kapadwanj was especially useful as it brought together many of the complexities which presentations had alluded to: the attrition in capacities for traditional crafts to sustain themselves and reproduce and a first-hand sense (for the first time for most participants) of the skill, technical excellence and physical endurance which glasswork demands. The final component of the event was a field trip to the Archaeological Survey of India (ASI) excavations underway at Vadnagar.

Conclusion

The experts and participants at this truly international event were from eleven countries including United States of America, United Kingdom, France, Italy, Denmark, Cyprus, Poland, Malaysia, Thailand, Sri Lanka, and India. It was gratifying to see that participants represented 54 universities, research institutes, laboratories, museums and state departments.

The last major collective evaluation of the state of scientific interdisciplinary research on ancient Indian glass had been made in 1987 (Bhardwaj 1987). Similarly, the last monograph that had synthesized the available data on the history of Indian glass was written a generation still earlier (Dikshit 1969). The conference cum workshop on the history, science and technology of Ancient Indian Glass aimed at filling precisely this gap. The description above has communicated the efforts made to provide as multi-faceted, thorough and valuable an experience to the next generation of researchers, who will, hopefully pose research questions and pursue methods of analysis that will build on, extend and exceed those reported here.

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Gold Glass Memorial Day for Daniel Howells

27 April 2019
University of Oxford

This very interesting day exploring a fascinating group of Hellenistic and Roman glass decorated with gold was organised in memory of Daniel Howells, who was researching gold-in-glass at the British Museum when he died tragically young in 2011. His insight and enthusiasm were remembered by the speakers, chaired by Professor Liz James, University of Sussex, and it was wonderful to have members of his family at the event.

The day began with Giulia Cesarin's paper presenting her PhD research on Hellenistic and Roman gold-band glass, conducted at the universities of Cologne and Padua, reviewing the variety of techniques of using gold to decorate glass, the different forms of glass vessels and

objects that it is found on, and included experimental work, a particular enthusiasm of Daniel's. The study looked at the location of workshops, chronology of the glass types, and both continuity and innovation moving from Hellenistic to Roman gold glass. This was followed by a fascinating presentation from glass researcher Yasuko Fujii and traditional Japanese cut-gold leaf master Hidetoshi Namiki from Tokyo University of Arts, who described details of their experimental research on gold glass and how the different effects seen on Hellenistic and Roman glass can be achieved, augmented with short videos and examples of Hidetoshi's experimental decoration on glass. The technique of 'kirikane' originated on Hellenistic glass, where gold leaf was cut finely and applied to the glass using glue and brushes, which was sometimes covered by another layer of glass, pigments, or left uncovered. As Roman art fashions became more realistic, a brief period of 'clipping' occurred in the 2nd century AD where this *kirikane* was augmented with black lines. The 3rd and 4th centuries saw the growth of 'scratching', where an entire gold leaf background was glued to the glass, and detailed engraving of figures and inscriptions were made. Experimentation by Hidetoshi gave many valuable insights, for example, revealing that firing the piece once the gold leaf was applied allowed for much finer engraving. One of the techniques he demonstrated was how, on unfired gold leaf, parts of the cut gold could be slid to a different position using water, and this result is evident particularly on the borders of Roman gold glass medallions. *Kirikane* is a highly skilled craft still practised in Japan today, where it was introduced along with Buddhist art in c. the 6th century AD.

Will Lewis, a postgraduate at Cardiff University, gave an entertaining guide to religion and culture in the 4th century 'with Julian the Apostate', showing that an interfaith Christian and pagan culture flourished in Rome, setting the context for the gold glass medallions and plaques, which include both Christian and pagan inscriptions and symbols.

Susan Walker, an Honorary Curator at the Ashmolean, guided a group to see the gold glass on display in the Ashmolean, collected by the didactically Christian Charles Wilshire in the 19th century. She then spoke about 'craft, consumers and the value of gold glass' from the cemeteries of Late Antique Cologne, where the greatest number of gold glass vessels have been found outside Rome, although they are thought to have been imported from Rome. The diverse examples raise many questions, and rather than considering the glass only stylistically, Daniel Howells had examined the manufacturing techniques of the glass, in conjunction with Andrew Meek of the British Museum analysing the chemical composition, to establish specific groups and

refine the chronology of the glass. Susan considered the use of the glass, and it appears that some glass from funerary contexts was embellished with unprotected gold-leaf decoration in Cologne specifically for the burial, although other glass was not personalised. The reasons that gold glass is sometimes found buried in an already fragmentary state were also discussed.



Gold glass day speakers and Daniel's family, from left to right: Azin (Daniel's widow), Susan Walker, John Bradley, Lucy Grig, Jan Howells (seated, Daniel's mother), Liz James (Daniel's supervisor), Will Lewis (seated), Eileen Rubery, Hidetoshi Namiki, Yasuko Fujii.

© John Bradley

Lucy Grig from the University of Edinburgh explored the social and cultural background of drinking and dining in which these glasses were used in Late Antiquity, and whether they had a role in domestic or funerary contexts, or both. Their inscriptions were considered, and links to different religions. Their interpretation is not straightforward and they may have been used in different contexts in their lifetime, demonstrated by a gold glass fragment found in the purse of a male burial at Estagel in southern France in the first quarter of the 6th century. Eileen Rubery from the London School of Mosaic, who had enjoyed her discussions about gold glass with Daniel, looked at the images on hundreds of gold glass discs of the 4th century from the catacombs in Rome, considering the reasons for the large number of examples of gold glass depicting St Agnes, which significantly outnumber those with images of the Virgin Mary. The background to St Agnes' cult was outlined, supported by Constantine, and was clearly significant in Rome in the 4th century, while the cult of Mary became more important in the 5th century.

This was a rich day of interesting discussions looking at gold glass from many different perspectives. The Ioannou Centre for Classical and Byzantine Studies was an ideal venue, and many thanks are due to the organisers, who included John Bradley, Eileen Rubery, Susan Walker and

the Ashmolean Museum, and Ine Jacobs at the University of Oxford.

Rachel Tyson

ARTICLES

An Unusual Fragment, perhaps from a Glass Fish

Jennifer Price and Sally Cottam

Excavations at Chedworth Roman Villa in Gloucestershire in 2016 produced a small polychrome blown glass fragment with a most unusual profile. It appears to come from a vessel with an elongated oval section, tapering in. The ground colour is translucent greenish blue (peacock) and the surface is decorated with four loops of opaque white and opaque yellow trails. The form is unlike any of the standard vessel types known from Roman Britain. It can however be compared with a vessel without provenance now in the Corning Museum of Glass (Whitehouse 2001, 210 no.774). This object, 16cm long and restored from many fragments, is in the shape of a fish. It was produced in opaque red glass and has looped marvered trails in opaque white yellow and green, representing scales on the body. Along the upper and lower body of the fish are unmarvered wavy trails, perhaps representing fins. When compared to the Corning fish, the Chedworth fragment would appear to come from the end of the fish's body where it tapers in towards the tail. The trace of an applied unmarvered trail is visible, suggesting that this object may also have had a wavy trail along at least one side of its body.

If this interpretation is correct, then this piece is the first fish of its kind to be recognised in Roman Britain. The Corning fish, and a further fragment in the Corning Museum (Whitehouse 2001, 211 no.775) are from unknown contexts but a better known fish in purple glass with opaque white and opaque yellow looped trails comes from a 2nd century A.D. burial at Chersonesus in the Crimea (Kunina 1997, 123-4, 294 no.200).



Glass fragment from Chedworth Roman Villa
© National Trust

When complete the Chedworth fish is likely to have had an open mouth with trailed lips forming the aperture of the vessel, making it a small flask.

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Historical and Archaeological Researches about Historical Glass in Slovakia

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The history of glass-making in Slovakia represents a topic in which only a small community of historians is interested. On the contrary, Slovak archeologists pay much more attention to historical glass than historians.

At the end of 2018, the Slovak Archaeological Society at the Slovak Academy of Sciences published a monograph “*The Historical Glass. A Multidisciplinary Approach to Historical Glass III*” with an amount of new information. This is mainly information from various studies which were performed in 2011 – 2017. A major part of the publication deals with archaeological discoveries dated from 2200 BC to the 18th century AD. The book touches on very interesting topics such as a glass bead, probably from the end of Bronze Age found in Lovinobaňa-Uderiná (Banská Bystrica region), Hellenistic glass from the Bratislava castle, a glass bracelet fragment from Late Iron Age found in Prešov-Šalgovík, a load of fragments of glass bracelets from Roman fort in Iža (south-western Slovakia), glass from Great Moravian hillfort Bojná or glass beads from sites of Radzovce and cave called Kostrová jaskyňa dated back to the Piliny culture (Bronze Age culture from about 1300 to 700 BC). Furthermore, the publication includes five historical studies about several glass workshops which were established in Slovakia (back then the Kingdom of Hungary) in the period from the 17th until the 19th century.

The oldest glass artefacts considered as purposely made by humans in the territory of contemporary Slovakia are peculiar ceramic beads with a glaze which were produced ca. 2200 – 1800 BC. Information that man-made glass had appeared in Slovakia already in the Early Bronze Age was discovered thanks to multidisciplinary studies. It was found that during the Late Iron Age beads of transparent glass or glass bracelets had been made. Based on archaeological discoveries, there is considered to be at least five regions related to glass production within continental Europe in the 3rd century BC. These areas are known as Netherlands, Switzerland, north Italy, Pannonian basin (Carpathian basin) and the territory by Middle Rhine.

More than 30,000 pieces of glass beads from the Early Middle Ages are currently known. Often these beads have been found in graves with women or children's unburned bodies. The majority of Early Middle Age glass has an inhomogeneous structure. We can consider that

the skills or techniques of glassmakers in that era were not at a good level.

The oldest written document mentioning glass production in Slovakia comes from the year 1550. It says that in Sklené Teplice (Banská Bystrica region) exists a glass workshop approximately since 1350. Later in 1360 a glass workshop in Sklené (Žilina region) was established. In the first half of the 17th century another two workshops were established, one in eastern Slovakia, nearby the town of Bardejov, and a second nearby the mining town of Nová Baňa.

The history of glass-making in Slovakia during the period from the 15th until the 19th century is an attractive topic for historians who, apart from working with the primary archival sources, also contribute to the area of genealogical research. During these centuries there were at least 20 families which had a notable impact on glass production and the glass industry in Slovakia. The migration of glassmakers and their families across several central European regions (e.g. Lower Austria or Vysočina in Czechia) was very common. The process of the integration of these craftsmen into local societies through generations in the early modern period also presents an interesting topic for historians.

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NEW PUBLICATIONS

The Techniques of Renaissance Venetian-Style Glassworking

William Gudenrath

Online publication
Corning Museum of Glass
2019

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While Gudenrath’s first digital publication detailed the golden age of Venetian glassworking, the sequel publication follows the Venetian maestros as they fled isolation and restrictive conditions in the lagoon to set up workshops in a variety of locations across Europe—taking their masterful skills and technical prowess with them.

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