



MUSEUM *of the*
HISTORY *of*
SCIENCE



ANNUAL REPORT

1 AUGUST 2007 – 31 JULY 2008



“ Yet another event that shows that the Museum of the History of Science in Oxford is one of the most innovative STM-museums in the world.”

(Blog of Medical Museion, University of Copenhagen)

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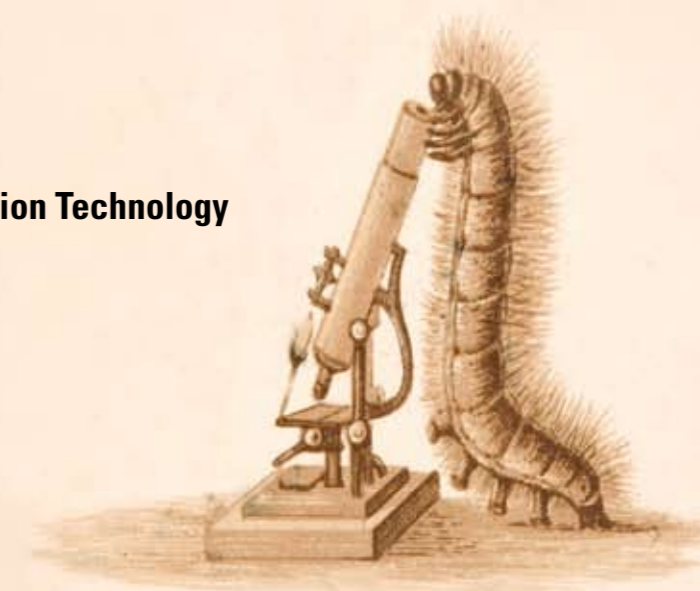
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DEVELOPMENTS IN THE MUSEUM

Visitor Numbers

For the first time in the Museum's history annual visitor numbers exceeded 100,000, reaching 100,865. This continues the upward trend of recent years.

2007-8: 100,865
2006-7: 97,066
2005-6: 70,131
2004-5: 70,791
2003-4: 53,796
2002-3: 46,838

Education Service

The fourth year of our professional education service, funded by MLA through the Renaissance programme, showed a very marked increase in the number of facilitated school visits, at both primary and secondary levels (up 38% overall). It has taken perseverance and dedication as well as originality and innovation from the education staff to establish the Museum's special position, offering as it does an understanding of science in history, rather than simply adding to the delivery of a science curriculum. This has not always been easy to sell but we feel that in 2007-8 we have seen the fruits of this work. At the same time, the uptake of our family friendly programme has increased very significantly (by 69%), showing that there too our particular approach has been recognised and appreciated.



DCF Project: Small Worlds

The 'Small Worlds' project, supported by the Designation Challenge Fund was successfully completed during the year, and achieved a number of developments for the Museum. In collaboration with a visual artist and a poet, an innovative exhibition was mounted which included original works of animation, wallpaper and curtain designs, and poetry as text and sound. A detailed report appears on page 26.



Collections in store and on line

Much work was done this year in the Osney Store (detailed below), building on the developments and investments reported for 2006-7. Further investment was made in the physical storage facilities at the main Museum building. The improvements are now reflected in the Museum's collections database, which in turn have appeared in the new on-line version, which has been launched this year. This is a great improvement on the previous database and has been greatly appreciated by our remote users.



COLLECTIONS MANAGEMENT AND CONSERVATION

Collections Management

The main achievement of the year was the completion of Phase I of work on the collections in storage at Osney. This was the first systematic work on the material in this store since the move from the Inventory to the more versatile and efficient museum database system, EMu. In addition to this key improvement for collections management and care, standards were raised in the storage of small, high-value items at the main museum and an initial review conducted of stored material at the Examination Schools. Significant progress was made towards improving the management of loans, with the revision of key paperwork for short-term loans out and research into longstanding loans in. The Museum's Acquisitions and Collecting Policy was revised during the year in line with the MLA's April 2008 directive. Progress towards the Museum's Accreditation Documentation targets to 2010, largely now achieved, was also reviewed. Successful outreach activities (MLA Sharing Skills placement and involvement with the MLA South East Emergency Response Unit) also brought benefits to the Museum in terms of new contacts and increased specialist knowledge.

Alongside the above, routine work continued, including the processing of new and recent acquisitions, dealing with object enquiries, arranging and managing research visits, moving objects and the managing of short-term and long-term loans.



A summary of the work carried out at the Osney Store follows.

- Placement of items on new mobile shelving and cabinets
- Installation of additional shelving and purchase of two further storage cabinets for small items
- Removal of items from remaining decant boxes
- Removal of material from tops of shelves in line with health and safety requirements.
- Identification, data entry, labelling, cleaning and appropriate placing on shelves of all objects in the Osney Store.
- Identification of unknown objects for future research
- Identification of groups of objects needing specialist boxing
- Installation of improved light fittings
- General identification of different hazardous groups (asbestos, radioactive sources, chemicals, lead, mercury). Progress with priority actions: removal and disposal of radioactive material with no provenance, training in radioactive procedures, liaison with Safety Office over an explosive item, asbestos procedures, assessment of unknown chemical collections, identification of hazardous items on the database.
- Introduction of regular cleaning between bays and in work areas.
- Initial discussions about rationalisation of storage at the site.

In addition, storage in the main Museum building was improved as follows.

- Installation of a second wall of storage cabinets in Lower Study for small, high-value objects.
- Improvements to storage in Director's Study.
- Adaptation of Top Landing cupboard for storage of radioactive objects.
- Establishment of procedures for the recording, movement and storage of radioactive objects to comply with legislation.
- Addressing the problems around the movement and use of objects within the Museum, particularly for Education Sessions.
- Provision of new trays, boxes and protective materials for object handling.

To improve the care of the displayed collection, we instigated a monthly inspection of display areas.

The improvements in physical care progressed alongside improvements in documentation, so that database entries were created for objects not previously inventoried, and locations were checked and updated. In addition, cataloguing for the 'Small Worlds' project resulted in the addition of many specimen slides to the database. As a result of both these improvements, the statistics for documentation work reported in the annual return to the AHRC for 2008 were impressive: 'Number of Items Documented: 11,088 inserted and 23,492 modified'.

Further documentation work was as follows.

- Upgrading of documentation on object descriptions, loans, acquisitions and object condition permitted by the new database, for example inputting of information on items purchased through PRISM and Grant-in-Aid.
- General cleaning up of data and setting standards to ensure systematic entry of information in liaison with web officer.
- Reduction in outstanding filing of Object History documentation.
- Revision of Museum Acquisitions and Collecting Policy in line with MLA directive, April 2008. This will be presented to the Visitors in February 2009.
- Interim review of Accreditation targets to 2010, prior to reporting to MLA in 2009. These will be discussed by the Visitors in February 2009.
- Review of spoliation policy and a general review of items acquired 1933 – 45.
- Revision of policy and procedures for short-term loans out in liaison with the University Solicitor and with reference to best practice and the policy and procedures of other University museums.
- Detailed research on historic loans in liaison with Archivist and lenders

The current Emergency Response Plan for the Museum was revised during the year, additional information was added arising from the MLA Emergency Response Unit training and contact information was updated. Initial progress was made towards an Emergency Plan for stored collections, with a visit to identify potential hazards. A minor flood from an adjacent Department at Osney and in the Special Exhibition Gallery were dealt with effectively and followed up to prevent reoccurrence as far as possible.

Two significant items from the collections were digitised during the year, enhancing access and long-term preservation from reduced handling:

Inv 61060: Set of 105 Prints from Ferdinand Verbiest's 'Liber Organicus', Beijing, c. 1674

Inv 55945 - Set of 9 Printed Astrolabe Sheets, by Adriaan Zeelst of Liege, 1602

The Collections Manager, Lucy Blaxland, hosted a visitor, Clare Caless of Maidstone Museum and Bentlif Art Gallery, under the MLA Sharing Skills placement programme, 13-15 November 2007. Lucy Blaxland was a member of the MLA South East Emergency Response Team, and has been on training days in this connection, as well as in radioactive materials as radiation protection supervisor, and in time management.

Conservation

Conservation of 43 objects was completed, of which 6 were for loans out; 18 are in progress. The 'bookcase' cases in the basement gallery were cleaned twice and objects on open display 4 times. 349 condition audits were entered on the database, and 11 more for objects in the store. Maintenance of environmental monitoring equipment continued and wider insect pest monitoring was introduced. The Conservator (Cheryl Wolfe) attended radioactive materials training and a 2-day British Museum conference on adhesives and consolidants. She dealt with conservation enquiries from other museums in our region, under the arrangement with Renaissance South East, and worked with a volunteer for a two-week period. Under the Renaissance arrangements, she also completed five reports for publication on the conservation section of the Museum's website. She was courier for two loans: to Kettle's Yard, Cambridge and Royal Academy of Art, London. New blinds were installed in the south-facing windows in two offices.

One of the most significant conservation projects in the Museum in recent years was the work on the movement and case of the longcase clock by Ahasuerus Fromanteel, c.1662, carried out respectively by Matthew Read and Matthew King, in liaison with our Conservator. This is a very important object for the history of horology, since the earliest English longcase clocks are those made by Fromanteel and it is generally accepted that he introduced this type of clock. The Museum's example is regarded as the second earliest longcase clock surviving in its original case. Furthermore, it has not been significantly altered and the movement in particular retains its original form. The conservation work was funded by generous grants from the Antiquarian Horological Society and the PRISM Grant Fund administered by MLA. Although the clock is now in working order, because so much of the movement is original it is set going only occasionally, so as to preserve this condition. A reception was organised with the Antiquarian Horological Society on 26 February to mark the completion of the work.



Conservator, Cheryl Wolfe



The longcase clock by Ahasuerus Fromanteel, c.1662

Acquisitions

Numbers of acquisitions were relatively few and collecting cautious due to the limitations on space in storage. A number of offers were received which did not fit the Museum's Acquisitions and Collecting Policy and were rejected.

Inv 10011: Cylindrical pocket slide rule calculator by Otis King, 20th century
Inv 10012: Microscope with eyepieces and micrograph slides, by A. Abraham, Liverpool
Inv 10044: Geo-Liner Triangular Protractor and Set-Square, by Aristo, German, c. 1960
Inv 10045: Set Square, by Simplon, English, c. 1960
Inv 10046: Circular Protractor, by Simplon, English, c. 1960
Inv 10047: Set Square, by Simplon, English, c. 1960
Inv 10424: Relief Map of Switzerland, Swiss?, Early 20th Century?
Inv 10724: Watercolour; 'Old Ashmolean Doorway', by Bernard Gotch, Undated, 20th Century
Inv 10727: Four Mercury Thermometers in Fitted Case, by Beckmann, German
Inv 10728: TI-Programmable 57 Calculator with booklet, by Texas Instruments, USA, c.1980
Inv 10729: Advertisement for Sanatogen, from J. Squire, Oxford, Mid 20th Century
Inv 11173: Satirical Print 'A Scene of a Pantamime Entertainment lately Exhibited', London, 1768
Inv 11174: Klinostat, by S.W. Bush, Oxford, 1930s
Inv 11175: Eidograph, by Stanley, London, 1960s
Inv 11176: Saccarometer/ Polarimeter, by Franz Schmitt & Haenst, Berlin
Inv 11177: Student Table Spectrometer, by John Browning, London
Inv 11178: Camera Obscura, by Beck, London
Inv 11179: Camera Obscura, by Beck, London
Inv 11371: Print of Exterior of the Museum of the History of Science, by Valerie Thornton, 1971
Inv 11598: Astrolabe Greetings Card, Published by Antiquus Viejos Ingenios s.l., Spain, 2007

A number of items were also acquired by the Education Officer (Secondary) for the Museum's Handling Collection.



Deaccessions

There were a small number of deaccessions arising from the review of hazards at the Museum Store. In line with health and safety advice, and in view of the absence of provenance or supporting information, the following samples were fully documented and then destroyed via the University Safety Office:

Inv 65317: Small Bottle of Uranium Sulphate
Inv 88941: Small Bottle of Potassium Sodium Urano Vanadate 51%
Inv 75943: Uranium salts in glass bottle

Researchers

The year was busy for researchers, with numbers almost doubling last years figures. The items listed are objects produced by the Collections Manager for individual visits, accommodated either in the library or the store.

Anthony Duley
Inv 38988: Electro-Magnetic Clock, by C. Detouche, Paris, c. 1855
Inv 51910, 87538, 72278, 50538, 80963, 82611: Marconi coherers and related correspondence

Juliet Franks
Surgical material for potential Hunterian loan

Ester Lutman, V&A Museum of Childhood
Inv 40743: Celestial Planisphere by Wauthier, London, Early 19th Century
Inv 43370: Orrery, English, Early 19th Century, Unsigned
Inv 21434: Gregorian Reflecting Telescope, by John Cuthbert, London, c. 1830

Dr Nancy Edwards, University of Bangor
Inv 51916: Dyer Collection

Dr Pamela Kort, curator/art historian
Inv 58090: Painting of the Dodo, by Mrs. Louisa Gunther, English, c. 1877

Peter De Clercq, historian

Inv 62524: Royal Delineator Reflex Camera Obscura, by William Storer, London, c. 1780
Inv 25907: English Achromatic Telescope, by William Storer, London, c. 1783

William Sunderland and Christopher Lowe
Inv 55129: Wall Clock, by Nicholas Snowe, English, 1638

Laslo Gof, historian
MHS globe collection

Scott Walter, historian
Inv 37873: Hispano-Moorish Astrolabe, Unsigned, Spain?, c. 1260

Martin Beech, historian
Inv 11031: Mechanical Solution to "Kepler Problem", by Henry Minn, Oxford, c. 1897-1923

George Huxtable
Inv 40847: Circular Slide Rule and Horizontal Instrument, by Elias Allen, London, c. 1634

Susan Gamble & Michael Wenyon, artists connected with Dorchester Abbey
Inv 10209: Projection Microscope, by R.G. Mason, London, c. 1885
Inv 10714: Model 50 Universal Photographic and Projection Microscope (No. 19568) by Beck, London, c.1955
Inv 10841: Optical Instrument, by Jules Duboscq, Paris, 19th century
Inv 18208: Quartz Slide for Polarized Light Projection, c. 1900
Inv 18212: Thermally Strained Glass Slide for Polarized Light Projection, c. 1900
Inv 26237: Optical Polarimeter
Inv 28965: Optical Grating, Maker Unknown, English?, mid-19th Century
Inv 45432: Optical Cabinet, by Benjamin Martin, London, c. 1780
Inv 47140: Dipleidoscope, by E. J. Dent, London, c. 1870
Inv 58120: Magic Mirror, Japanese
Inv 64599: Projection Microscope Slide: Bed bug, by Griffin, c. 1870
Inv 73542: Magic Lantern Accessory: Adjustable Slit for Optical Demonstrations, by Ladd, London

Harry Webster
Inv 42866: Turret Clock from Wadham College, Oxford, c. 1670

Juliet Franks, Research Assistant, Nuffield Dept of Orthopaedic Surgery
General surgical material

David Young
Inv 37004: Crucifix Dial and Set of Drawing Instruments, by H. D., German, 1618

Professor Meegan Kennedy, Florida State University
Inv 44612: Microscopic Writing Machine with Ibbetson Geometrical Chuck, Made for William Peters, English, c. 1854

Liz Burns, University of Toronto
Inv 48213 Astrolabe with Geared Calendar, by Muhammad b. Abi Bakr, Isfahan, 1221/2

A number of researcher visits were dealt with directly by Jim Bennett and Stephen Johnston. A committee of the Royal Microscopical Society made a visit to the store.

Loans

Requests for short-term loans out were down on previous years but there was a significant loan to a national museum and loans to regional centres, particularly as a result of a V&A travelling exhibition which ends in 2010. The Museum however was busier with incoming loans as a result of two artist installations, the 'Heaven on Earth' exhibition and a Frankenstein event. The number of long-term, renewable loans in and out remained steady and unchanged apart from the successful loan to Bude.

Short-term loans out:

Inv 15449: John Dee's Holy Table
Lent to 'Making History: Antiquaries in Britain 1707-2007', Royal Academy, London from 15 September to 2 December 2007.

Inv 23689: Disc protractor, by John Marke, London, c. 1670
Johannes Christophorus Sturm, *Mathesis Compendiaria* (Coburg, 1714)
Lent to 'Beyond Measure', Kettle's Yard, University of Cambridge; 5 April to 1 June 2008.

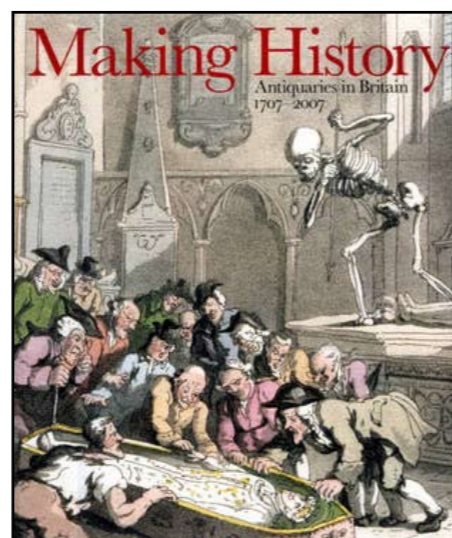
Inv 40743: Celestial Planisphere by Wauthier, London, Early 19th Century
Inv 43370: Orrery, English, Early 19th Century,

Inv 21434: Gregorian Reflecting Telescope, by John Cuthbert, London, c. 1830
Lent to the V&A Museum of Childhood for the exhibition, 'Space Age: Exploration, design and popular culture', 24 November 2007 to 6 April 2008, and eight subsequent venues to 29 August 2010.

New renewable loan out:

Inv 17012: Goldsworthy Gurney's oxy-hydrogen blowpipe, by Newman, London, c.1830
Lent to Gurney Gallery display, The Castle Heritage Centre and Gallery, Bude from 29 July 2007; extended for further 2 years to 24 July 2010.

Loans were continued to the Museum of Oxford, the National Maritime Museum (3 objects), the Museum of Science & Industry, Manchester (3 objects), the Jenner Museum, the Science Museum (30 objects) and the Hunterian Museum, Royal College of Surgeons (3 objects).



Short-term loans in:

'The Book of Imaginary Science'

installation by artist Roddy Bell, 5 art works, 25 September to 25 November 2007



'Chimera'

installation by artist Angela Cockayne, 28 items, 1 April to 1 June 2008



'An Evening with Dr Frankenstein'

loan from the Bodleian Library of a leaf from Mary Shelley's manuscript of *Frankenstein*
17 to 18 May 2008

'Heaven on Earth: Missionaries and the Mathematical Arts in 17th-Century Beijing'

loan of three items
24 May to 7 September 2008:

Jean-Baptiste Du Halde, *Description ... de l'empire de la Chine et de la Tartarie chinoise*, 1735

Athanasius Kircher, *China monumentis qua sacris qua profanis illustrate*, 1667
Lent by Trinity College, Oxford

An original printing block and block-printed Chinese book
Lent by David Helliwell.

Renewable loans in:

The loan of a selection of the Tradescant Collection from the Ashmolean Museum was extended to December 2008. The number of long-term loans in, partly collections on long-term deposit, partly on-going formal loans, from private individuals, University departments, Colleges and other institutions, continued unchanged.

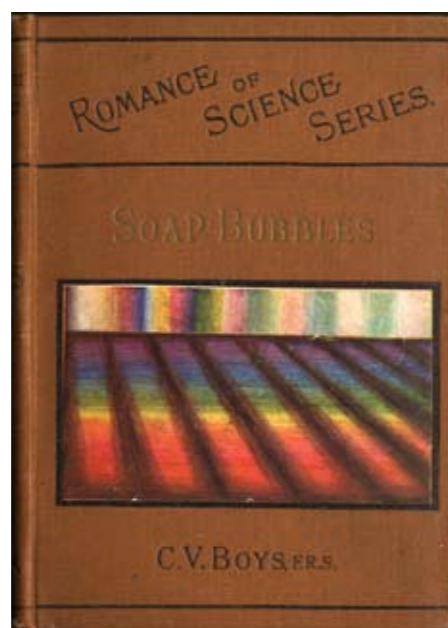
LIBRARY AND ARCHIVES

The number of readers in the library has slightly increased this year over last; over 325 visits have been made. The largest group has been museum staff, but external visitors were the second most common. Students and university staff also continue to use the library. The library has benefited from the work of two external researchers: Alastair Howatson donated a copy of his book on the history of the University Engineering department, and Peter de Clercq has transcribed a set of auction catalogues which can now be read on the library website.

Books and other items have been used in several exhibitions. The basement exhibition cases have been used for 3 library and archive exhibitions in the past year: **'Through the object glass'**, an exhibition on 17th century microscopical works to coincide with the Small Worlds special exhibition; **'The Elliott archive'**, a **'work-in-progress'** look at an archive being sorted and listed; and 'The instruction and entertainment of juveniles', an exhibition of children's science and mathematics books. Library items have been used in various MHS exhibitions, while one book from the Lewis Evans collection has been loaned to Kettle's Yard, Cambridge, for an exhibition. Our books are also used by the Education Officers for several events, and the librarian has been involved with the 'Meet the Museum' event run by the Education section.

The library collection has continued to grow, mainly from the donations of past and present library users. Over

450 items have been accessioned and added to the in-house library catalogue this year, a large proportion of which were from the Millburn bequest. Over 300 items have been added to the University's OLIS database, of which over 250 were catalogued by the Librarian.



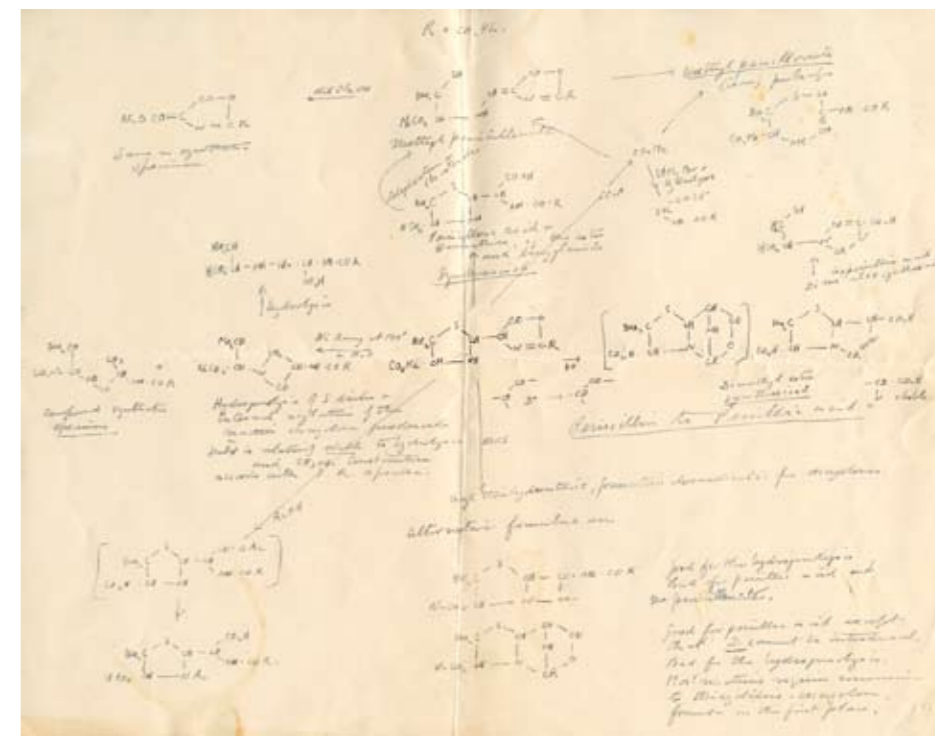
A significant archive acquisition came from the Society for the History of Alchemy and Chemistry (mostly from about 1940 onwards), deposited on long-term loan by the Society, to join other (mostly earlier) archives which already belong to the Museum, where various early officers of the Society were based. A one-day meeting in honour of Frank Greenaway and to mark the deposit of the SHAC archive was accommodated at the Museum, with a talk given by the Archivist and a small informal display of some of the archive and other papers relating to the history of the Society.

Part of an archival assemblage of a very miscellaneous nature collected together by the late Sir Ewart Jones and transferred to the Museum in 1998 from the Dyson Perrins Laboratory, relating to that Laboratory and to Oxford chemistry, has been transferred to the University Archives, after sorting and listing by the Museum's Archivist and appropriate consultation (as per the original intention); further items are meant to go to the Royal Society; the residue (including the important Robert Robinson paper mentioned further below) will remain in the Museum, which holds extensive archival material relating to Oxford chemistry

The major achievement on the archives side for the year is the work of the Archivist in the transfer (after several years in remote storage) of the Elliott Archive to the Museum's proper store and its checking, sorting, and arrangement, made possible by new mobile shelving in the store. This has been the Archivist's principal activity during much of the year and, while further sorting, rationalising, and in particular listing or cataloguing are still to be done, the collection is now fully available to readers and has already been used several times, as well as illustrated to a wider public in a small exhibition. In addition, significant progress has been made this year with listing the Millburn Bequest and a revised catalogue has been completed of the Underhill microscopical and natural history MSS and drawings, a small collection which has attracted much attention in recent years

An example of a research outcome

from work in the archives is an article 'Robert Robinson and penicillin: an unnoticed document in the saga of its structure', by Rachel Curtis & John Jones, published in the *Journal of Peptide Science* (2007). The subject matter is a document in the Sir Ewart Jones/Dyson Perrins Laboratory archive consisting of rough notes of Robinson's thinking about the very important issue of the molecular structure of penicillin from the early 1940s (before Dorothy Hodgkin solved the problem); the entire article is based upon this single piece of paper from an archive which the Museum made a special effort to ensure was preserved, and represents the importance both of vigilance in preserving scientific papers and of bringing them into repositories where they will be catalogued, elucidated, and studied. The book by Dr Roger Hutchins, *British University Observatories 1772–1939*, is a further example of research supported by the Museum and its staff bearing long-term fruit.



Readers consulting manuscript material, photographs, etc. and assisted by the Archivist have included:

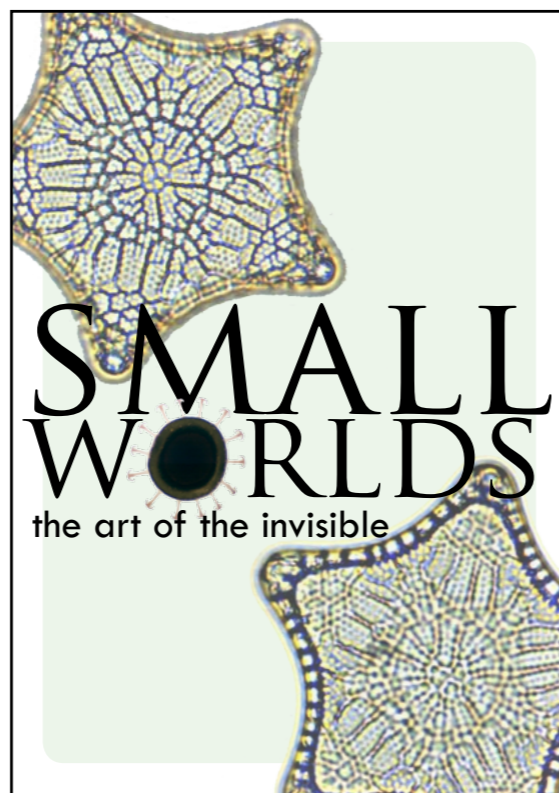
Dawn Ades, microscopical photographs and drawings
Alexi Baker, Ludlam and other MSS, prints
Martin Beech, Rambaut MSS
Regula Forster, Stapleton MSS
Alastair Howatson, Jervis-Smith MSS
Giles Hudson, Acland photographs
Roger Hutchins, Radcliffe Observatory MSS
Ken Jacobson, Ruskin daguerreotype and other early photographs
John Jones, Dyson Perrins Laboratory MSS
Alice Little, Rowell MS
Anita McConnell, Elliott MSS
Thad Parsons, Sherwood Taylor MSS and MHS archives
Roger Pearse, Sherwood Taylor MSS
John Perkins, SHAC archives
Pam Roberts, Acland photographs
Professor John Rowlinson, Brodie and other MSS
Elliss Sharpe, observatory prints
Steven Walton, Elliott and Millburn MSS

EXHIBITIONS, OUTREACH, EDUCATION AND PUBLIC PROGRAMME

Exhibitions

The exhibition, **'moonscope'** (mentioned in the previous annual report), closed on 16 September. The display of a substantial part of the **Tradescant Collection** in the gallery it occupied in the 17th century has been extended while redevelopment continued at the Ashmolean Museum.

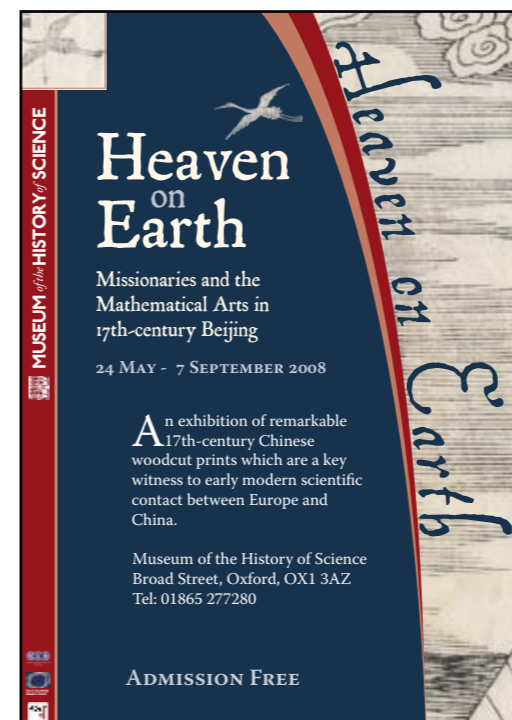
'The Book of Imaginary Science' was an intervention throughout the Museum by Norwegian-based artist Roddy Bell, which opened on 25 September and continued to 25 November. A series of texts, drawings and sculptures were placed within the Museum's permanent display, creating a direct juxtaposition with museum objects and encouraging speculation and dialogue on their heritage, purpose, and mythology. This was a collaboration with the Ruskin School and in particular with Professor Brian Catling.



A major exhibition project was **'Small Worlds: the art of the invisible'**, which ran from 31 October 2007 to 6 April 2008. It was one of the outcomes of the Museum's Designation Challenge Fund project, which has a dedicated report below. Mounted in collaboration with artist Heather Barnett and poet Will Holloway, it used a number of original techniques to present visitors with an experience of the invisible small, other than looking down a microscope (though that experience was included as well). It concentrated on aesthetic and emotional engagement, through such media as film animation, poetry, and bespoke curtain and wallpaper design. The poetry was delivered using audio-guide handsets (and printed in an issue of Broadsheet), and the e-cards sent from a gallery computer (also available on-line) were very popular. This was one of the most innovative exhibitions we have attempted and it involved a team comprising many of the staff.



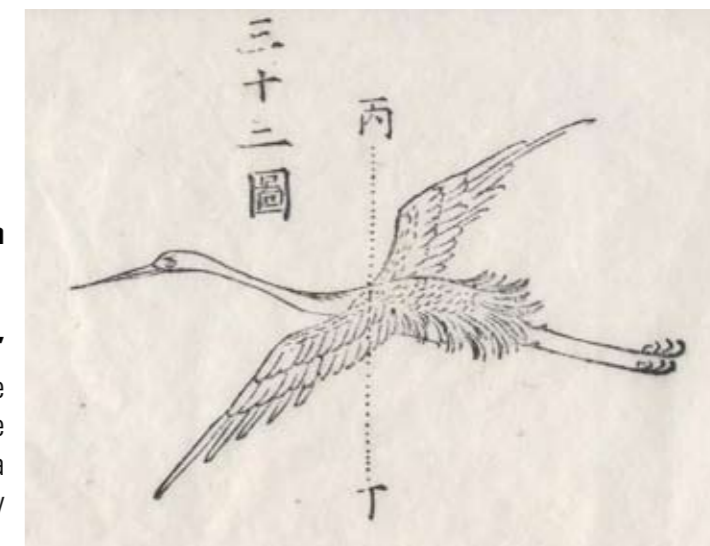
An intervention entitled **'Chimera'** by artist Angela Cockayne in the top gallery from 1 April to 1 June was a response to the display there of the Tradescant Collection. Collections of curiosities from the time of Tradescant often contained ambiguous objects that challenged contemporary categories, such as natural 'monsters' or objects located between art and nature, such as a ceramic cast of an animal or a 'mermaid's hand' fashioned from the limb of a manatee. A collection of new work by Cockayne combined found natural materials to present a curious mix of ironic humor, absurdity and spectacle. Coral, animal bone and cornhusks were attached to squid bodies cast in wax, with legs fashioned from hairgrips and champagne wire.



The exhibition to follow 'Small Worlds' in the Special Exhibition Gallery was **'Heaven on Earth: missionaries and the mathematical arts in 17th-century Beijing'**, which opened on 24 May. In the year of the Beijing Olympics and the 'China Now' festival throughout the UK (in which we were a partner), the exhibition was built around the Museum's remarkable set of 105 seventeenth-century Chinese prints, prepared under the direction of the Jesuit astronomer Ferdinand Verbiest. While dealing with a wide range of mathematical arts, the images are best known as a record of the building of the instruments of the old astronomical observatory in Beijing Presented as a key witness to early-modern contact between Europe and China, they were supported by related books and instruments. There was space in the gallery for some two dozen prints, the whole set being available for detailed examination on a computer in the exhibition, from where they could also sent as e-cards. The prints had all been scanned in a specialist studio and are now recorded as a set of high-resolution digital images.

A permanent display of items from the **Marconi Collection** was mounted in the Basement Gallery.

Smaller exhibitions included: **'Through the Object Glass'** (prints and drawings of microscopical specimens from the archives and library), **'Wireless'** (objects presented by the Wireless Preservation Society), **'Behind the Façade'** (a collaboration with other Oxford museums and local community groups), **'Calendars'** (the new-year exhibition for 2008), **'Frankenstein comics'**, **'Anaesthetics'** (material from a large collection transferred from the Nuffield Department of Anaesthetics), **'The Elliott Archive'** (a selection from the recently acquired archives of the famous instrument manufacturer), and 'The instruction and entertainment of juveniles' (science and mathematics books for children).



Education Service

In this, the fourth year of the Education Programme at MHS we have seen a remarkable increase in both the number of visits from schools and colleges, and the number of visitors participating in family events. During the Hub Year 2007-8 the Museum generated a 38% increase in facilitated school visits, and a 69% increase in visits to organised family events amongst the 5-16 age group compared with the previous year. This clearly demonstrates that the Museum's Education and Family Friendly programmes have gathered significant momentum along with a wider reputation.



In addition to the **'Tudor Ships'** and **'Made to Measure'** sessions on offer, the Primary Education programme at the MHS saw the introduction of the new 'Shadows and Sundials' session orientated towards KS2 into its regular programme, and the piloting and development of three new sessions all of which are aimed at expanding provision into KS 1. During the last quarter of 2007-8, the number of children engaged in facilitated sessions from Years 1-6 increased to 520 from 313 the previous year.

'Shadows and Sundials' was piloted in the Summer term of 2007 and is

orientated towards understanding concepts relating the movement of the Sun and Earth. It includes a modeling activity and an opportunity to explore the Museum's extraordinary collection of historic sundials. It has been a popular addition to the programme and has attracted considerable interest amongst local schools.

Further development of the 'Made to Measure' has also led to growing interest in this session which takes a varied look at the historical origins and practice of measurement.

Amongst the three new sessions, **'Meet the Museum'** (KS 1 and 2) and 'Space Explorers' (KS 1) aim to introduce children to the Museum and teach museum literacy, whilst addressing issues and information across the curriculum. The third session has resulted from the Museum's participation in a special partnership project (see below) as part of the Thames Valley Museum Learning Group (TVMLG) in which two teachers from St Francis and SS Mary and John Primary schools have been working with the MHS primary education officer and the education officers at the Oxford Castle: Unlocked and the Museum of Oxford. The aim of the project, called 'Lights, Camera, Action', was to develop a session which could be used with all three venues either as a group or individually shaped by the classroom goals of the teachers involved. This



session has been piloted with two Year 4 groups and one foundation/Year 1 group, and will be piloted again in the Autumn term of 2008-2009. It will be promoted to all schools by the three venues as part of their regular sessions on offer.

In addition, the MHS once again hosted several groups of Oxford Brookes University primary education PGCE students as part of their Community Weeks, giving sessions to encourage the use of museums in their future classroom environments.

Moving to our programme for secondary schools, despite the universally recognised difficulties of attracting visits from the secondary sector, the Museum has continued to achieve an increase in secondary school bookings and to maintain a diverse range of workshops in its programme. The number of children engaged with facilitated visits from Years 7-11 increased from 476 in 2006-7 to 1146 during 2007-8, an increase of 140%, whilst the number of sixth formers engaged with facilitated visits increased by 13%. Of particular interest this year has been the introduction of a new workshop, 'Observing the Universe', featuring the history of the telescope and designed to support the 21st-century Science GCSE syllabus and the understanding of 'how science works'. Other popular sessions this



year have included a workshop on the early development of microscopy in conjunction with the special exhibition, 'Small Worlds', and continued interest in the workshops, **'Penicillin, the wonder drug'** and 'Surgery and Anatomy in the Seventeenth Century' supporting the Schools' History Project unit on 'Medicine through Time'.

In addition to regular work with school groups, about ninety A-level Physics students from schools in the Oxford area attended this year's sixth form study day on **'Medical Imaging'**, a special topic in several of the A-level Physics syllabuses, organised by the Museum's secondary Education Officer in conjunction with the Physics Department. With a view to extending the study day format to other key stages, a pilot study day was also organised in February for Key Stage 4 (GCSE) students. This was fully booked with 75 students. In collaboration with the Oxford University Museum of Natural History and the Botanic Garden, the programme included three workshops carried out in rotation followed by a plenary session at the MHS touching on themes as diverse as Robert Hooke and the beginnings of microscopy in the seventeenth century, and the ethics of collecting plants and animals. Feedback from students and teachers was unanimously positive

and there are plans to repeat the event next year.

Study days have now become a well established part of the Museum's secondary programme and provide an excellent opportunity for students to gain access to the expertise of university academics and to explore cross-curricula connections linked with the Museum's collection.

The occasion of the 'Small Worlds' special exhibition also led to the development of a new workshop for art students called 'Making Micrographia'. With the aim of encouraging art teachers to make use of the Museum as a resource, this workshop offers students the opportunity to carry out observational

drawings with microscopes alongside an historical introduction, followed by a print-making activity inspired by the engravings of the seventeenth-century natural philosopher, Robert Hooke. This workshop was featured in a session introducing the Museum's collection to art teachers in October organised by Adrian Brooks, the cross-museums' Art Education Officer.

In addition to organising school visits, the Museum's education staff are responsible for the 'Family Friendly' programme, including this year the 'Gulliver's Worlds' and 'Paper Moon' days and 'An evening with Dr Frankenstein', detailed under 'Public Events' below.

This year the Education Officers have been involved in a number of special projects. 'Behind the Façade' was one that highlighted the ongoing collaborative relationship between the Oxford University Museums. The project was co-ordinated by Susan Birch, the cross-museums Community

Outreach Education Officer, working with artists Leo Brook and Tiffany Black. The project gave opportunities for selected community groups to experience aspects of the museums not normally accessible to the public by meeting people working in conservation, collections management and curation. MHS opened its doors to a group of adults with learning difficulties who met with the Conservation Officer, Cheryl Wolfe, and Collections Manager, Lucy Blaxland.



These meetings resulted in a series of artworks which were exhibited in the Museum and the Oxford University Museum of Natural History.

The Museum participated in a special partnership project as part of the Thames Valley Museum Learning Group (TVMLG) in which two teachers from St Francis and SS Mary and John Primary schools have been working with the





MHS primary education officer and the education officers at the Oxford Castle: Unlocked and the Museum of Oxford as a cluster group. The aim of the project, called 'Lights, Camera, Action', was to develop a session which could be used with all three venues either as a group or individually and was shaped by the classroom goals of the teachers involved. The resulting session has been piloted with two year four groups and one foundation/year 1 group, and will be piloted again in the Autumn term of 2008-2009 with the aim of embedding it as a regular session in the programmes of the partner museums.

This year the Museums' education department has continued to seek opportunities to share its expertise and promote its programme within the professional arena. In addition to participating in the Oxford University Museums' volunteers' training programme as usual, the museum has continued to take an active part

in SLIME (Science Links in Museum Education), contributing a session to the Early Years training day at the River and Rowing Museum in January and to the SLIME advocacy document currently being assembled.

The Museum also contributed to the Outreach and Education Committee's programme as part of the British Society for the History of Science's contribution to the 2008 'Three Societies' Conference' which took place in Oxford in July. This included a seminar on the value of modelling workshops in museum education which was repeated in the British Interactive Group (BIG) conference in July, as well as an object handling event at the museum offering delegates an opportunity to engage with visitors and share expertise about navigational instruments.



Public Programme

Four quarterly programme leaflets were printed and distributed; five further leaflets announced events linked to special exhibitions. In addition to more unusual events, a programme of frequent gallery talks, exhibition talks and 'table talks' was offered throughout the year by the curatorial staff and occasionally by visiting speakers. Rebecca Hind, the artist featured in 'moonscope' also gave several painting workshops for different age groups

The Museum took part in **the University's first alumni weekend** in October, with a performance of **'Who was Guglielmo Marconi?'**, which was repeated for the general public, and two table talks on Elizabeth I's astrolabe.

Our programme for The Big Draw day of 13 October, entitled **'Making Micrographia'**, was planned in conjunction with the 'Small Worlds' exhibition. The content was mainly aimed at younger visitors but included a talk by the Director on printing the drawings in Hooke's publication of 1665, to extend the content to adult interest. Visitors were able to make drawings and monoprints from microscopic images and to upload their work on to an online gallery.

An unusual half-day public workshop, **'Instruments of Speculation'**, was held on 3 November, linked to Roddy Bell's intervention **'The Book of Imaginary Science'**. The artist talked about his work, with parallel commentary from Professor Brian Catling of the Ruskin School of Drawing and Fine Art. Participants then created their own 'speculations', in words or objects, linked to instruments on display in the Museum, and these were presented and reviewed at the conclusion of the day.

Along with many other venues in Oxford, the Museum opened late for a **'White Night'** event on 7 December, a special evening to mark the end of the festival year 'Oxfordshire 2007'. We organised activities for children and hosted a poetry slam organised by Hammer and Tongue.

'Small and Shocking: microscopy in Restoration London' on 9 February was an afternoon programme about Christopher Wren, Robert Hooke, and the English encounter with the micro-world. It included a talk by the Director on 'Wren, Hooke and Micrographia', costumed readings from Thomas Shadwell's play *The Virtuoso*, and readings from *Micrographia* and from Hooke's *Diary*.



For the annual **'Night of Museums'**, held on 17 May, the Museum offered **'An Evening with Dr Frankenstein.'** The programme included a dramatised reading (two packed performances) of key passages from Mary Shelley's *Frankenstein*, a talk by Dr Matt Bradley, 'One Character in search of an Author', and a screening of the 1931 classic film with Boris Karloff. Most unusually, the contents of an exhibition (of early *Frankenstein* comics) were sold by auction – to great excitement and enthusiasm – and the highlight of the evening was a one-night-only display of a sheet from Mary Shelley's original manuscript, on special loan from the Bodleian Library.



Public lectures linked to the special exhibitions were:

4 September

The Moon: a painter's eye view'

Rebecca Hind

22 January

'Molecules to organisms: what directs the music of life?'

Professor Denis Noble,

5 March

'Big questions about small worlds'

Professor Rom Harré

11 March

'Secrets of Nature: how the microscope brought an invisible world to the cinema'

Dr Tim Boon

27 May

'Science and Civilisation in China: Joseph Needham today'

Professor Mark Elvin

Other public lectures were:

4 December

'Between the Lines' series, talked about her book, Max Perutz and the Secret of Life

Georgina Ferry

19 February

'Between the Lines' series, spoke on his book, The Devil's Doctor: Paracelsus and the World of Renaissance Magic and Science

Philip Bal

The Museum's Family Friendly programme has now established itself in a regular pattern every other Saturday with activities alternating between taught, structured workshops and less formal 'drop-in' activities. Successful workshops have included 'Make a model Orrery', 'Pick a Pocket Sundial', 'Spice Raiders' and this year a new workshop on 'Galileo's telescope' in anticipation of the four hundredth anniversary of the telescope. The workshops are invariably booked up and have established a unique position in the overall University Museums' Family Friendly programme providing an 'in depth' educational experience suitable for older children.



The drop-in sessions are attracting an increasing number of families from the Oxford area and beyond. Not often do visitors have the opportunity to see pieces of historical electrical apparatus operational in the museum, hence a particularly successful drop-in session earlier in the year was 'Lightning Strikes' which included a set-piece talk and series of eighteenth-century style electrical demonstrations highlighting the story of Benjamin Franklin's investigation into the nature of lightning. This took place alongside a circus of simple electrostatic experiments in the Top Gallery that children could try out for themselves.

During the National Science week in March the Museum offered a workshop on the astrolabe and activities in this year's 'Wow How' science event based at the University Museum of Natural History. As ever, crucial to the success of these events has been the support of the university museums' volunteer programme.

The Museum's Family Friendly programme now regularly includes a popular theme day. This year, designed to link with the special exhibition, 'Small Worlds', it was the event 'Gulliver's Worlds'. This was a day of talks, activities and performances for adults and children focussing on themes from Swift's novel 'Gulliver's Travels' and, in particular, its references to the eighteenth-century world of natural philosophy. Gulliver himself was there to tell tales with the

aid of a magnificent set of illustrations, commissioned from illustrator Francis Mosley especially for the event, which were hung down the stairwell.

The talks on the **'Gulliver's Worlds'** day were:

Jim Bennett, 'Making Fun of Science: Gulliver in Laputa and Balnibarbi'

Dr Chloe Houston, 'Fairy-tale, Satire and Utopia in Gulliver's Travels'

Stephen Johnston, presentation of museum objects: 'Measuring Up', 'The Countess's Lodestone' and 'Spy Glass and Telescope'

Two storytelling sessions by Vergine Gulbenkian.

The Museum held its sixth '10/10 Day' on 14 June, with a programme of activities under the title **'10/10 East'**, to link with the 'Heaven on Earth' exhibition. The speakers were:

Dr Annie Skinner,

'East Oxford: Extraordinary, Exotic and Entertaining'

Dr Jan-Georg Deutsch,

'Zanzibar: A Brief History of Sultans, Spices, and Slaves'

Fr Stephen Platt,

'The Eastern Church'

David Helliwell,

'How traditional Chinese books were made'

Professor Timothy Brook

'If heaven is round, why isn't the earth flat? (a question for Jesuits in China)'

Dr Jim Bennett,

'When East is West

(and other anomalies of orientation in instruments)'

In addition to the usual tours and trails, activities and demonstrations included Tai Chi, a Chinese flute workshop, choral music from the Orthodox churches, Egyptian and Classical Indian dance, Japanese netsuke and Chinese fire-clocks, a Javanese gamelan recital and a screening of 'Beijing Bicycle'.

On 5 July the Museum arranged object handling sessions for visitors to the galleries, with the theme **'Objects and Travel'**, as an outreach opportunity for delegates to the 'Three Societies' conference.

The total number of group educational visits for the year rose to 254 (from 222 in 2006-7).

Dr Bennett contributed to 'In Our Time' on Radio 4, and to several films for television. He and Dr Johnston promoted the Museum's public programme on Radio Oxford.

The traditional Museum party was held on Ashmole's birthday, 23 May.



INFORMATION AND COMMUNICATION TECHNOLOGY

Web developments and projects

The Museum started an e-newsletter in August 2007 with monthly newsletters and events listings going to subscribers. As of early November 2008, the e-newsletter has just over 250 subscribers and is a popular way of publicising our events and exhibitions. Further details can be found at <http://www.mhs.ox.ac.uk/mhs-announce/>

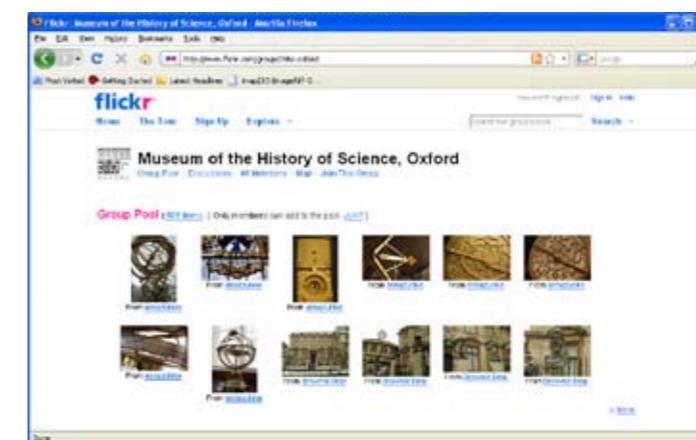
In September 2007, an online exhibition, 'Science in Islam' went live. The website can be found at <http://www.mhs.ox.ac.uk/scienceislam>

In December 2007, 'Small Worlds: the art of the invisible' was added to our website. The mini-site features material related to the exhibition including press releases, a calendar of events, education materials, a specimens and slides database, a Wordpress blog, e-cards, a selection of microscopes and the online exhibition. The creation and hosting of a blog was a first for the Museum. The online exhibition itself features a wide selection of multimedia, echoing the unusual range of media - images, objects, film, animation, curtains, wallpaper and poetry – featured in the physical exhibition. The exhibition itself also featured a public PC with access to the online e-cards; this has proved very popular with visitors to the exhibition. The website can be found at <http://www.mhs.ox.ac.uk/smallworlds>



Website statistics

Year	Month	Unique visits	Page visits
2007	August	31029	1072972
2007	September	41052	942035
2007	October	42901	1030494
2007	November	39757	1166874
2007	December	31289	1078090
2008	January	35686	1256304
2008	February	37098	1238028
2008	March	42519	1345832
2008	April	40778	1361791
2008	May	41373	1151590
2008	June	42614	1164642
2008	July	35852	1170421



In February 2008, the 'Museum of the History of Science' Flickr group (www.flickr.com/groups/mhs-oxford/) was launched. Nearly 400 photos have been added by the public to the group's photostream.

In July 2008, a 'beta' version of our online collections went live at <http://emu.mhs.ox.ac.uk/>. This is a vast improvement on our previous online collections and has been appreciated by our web visitors.

Major improvements and additions continue to be made to the education resources offered on our website. Two issues of Broadsheet have been added to the website.

Collections management

The Museum continues to work with our collections management system, cleaning up record data and adding a large amount of multimedia. Much of this work was pursued in anticipation of our collections going online utilising the built-in web publishing aspect of KE EMu; this was done in July 2008. A series of staff seminars continue to be held on a monthly basis.

Miscellaneous

The Annual report for 2006-07 is now on the MHS website, along with the available reports from previous years.

Following on from the Family Friendly 'Big Draw' events of October 2007, the MHS website has a form that allows members of the public to submit images for inclusion in the on-line micrographia gallery.

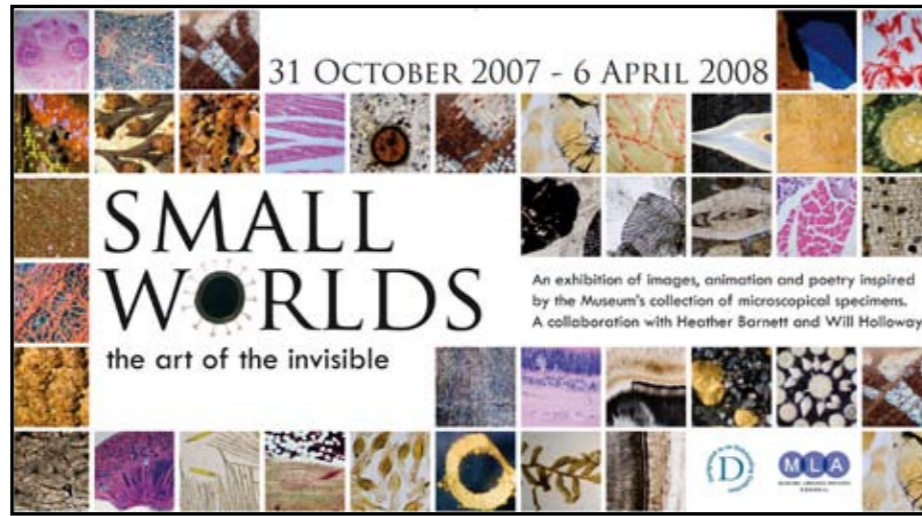
Two new public kiosk computers have been purchased and installed, along with new furniture consisting of a table, chairs, and notice-board. One new kiosk computer for sending e-cards as part of the Small Worlds Exhibition was also purchased.

We purchased and installed a hard disk-based security camera multiplexing and recording unit, replacing the previous analog-to-VCR tape system. The access control unit on the swipe card system was replaced by a newer system.

An ICT committee, chaired by Stephen Johnston, was instituted and meets regularly as a focus for IT and Web-related issues.

SPECIAL REPORT

SMALL WORLDS



The 'Small Worlds' project, supported by the Designation Challenge Fund administered by MLA/Renaissance, was successfully completed this year, with the following principal outcomes.

10,084 microscopical specimens were catalogued; 1,955 micrographs were taken; all these records and images are now available on our website. 1,486 microscopes and related items of equipment were catalogued; 1,328 photographs were taken; all these records and images are now available on our website.

A special exhibition, 'Small Worlds: the art of the invisible' was organised and ran from 31 October 2007 to 6 April 2008; it was mounted in collaboration with a visual artist and a performance poet, and along with innovative displays of micrographs and specimens, it included original works of animation, wallpaper and curtain designs, and poetry as text and sound.



An on-line version of the exhibition was part of a website dedicated to the project, see www.mhs.ox.ac.uk/smallworlds, which includes both video and audio.

There was a programme of educational events for school groups, family events for visitors, and talks, tours and lectures.

The Museum gained its first experiences in a variety of areas – micro-photography, film animation, generating an on-line database from our new collections management system.

35,785 visitors came during the period of the exhibition and about two thirds of them visited the exhibition itself; for us this is a very good figure for 5 winter months. 1,784 people attended 2 special days of activities linked to the project. 678 school pupils attended group education sessions relevant to the project (a sub-set of the overall education programme); these were both science and art students 493 people participated in events in the family friendly programme (workshops and drop-in sessions). 171 people attended 3 public lectures. 64 people attended 4 gallery talks.

We appointed two researchers (Vince Mason and Ben Mersey), whose backgrounds in the biological sciences were unusual for the Museum (where most of the work relates to the physical sciences and mathematics). Once dedicated staff were in post, we began regular fortnightly meetings of the project team, for planning and discussing progress; these continued throughout the project. We provided workstations in the Museum and at the store for the researchers, though one spent a few months working in the galleries, as a section of

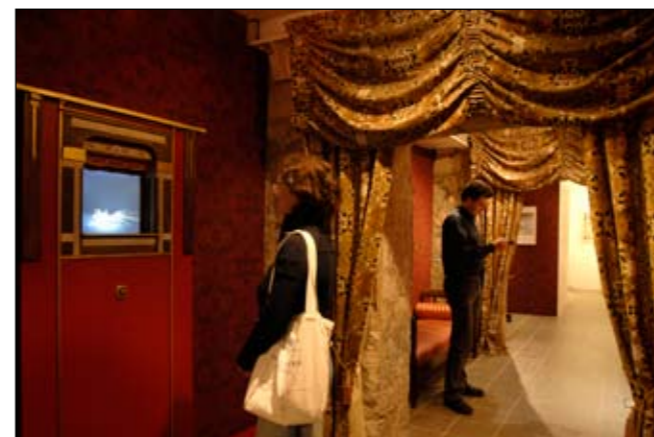
the microscopes was on display. As the project progressed, they came to spend almost all their time at the store. At an early stage both researchers (along with all the collections staff at the Museum) attended training sessions



on our new KE EMu collections management system, but we also designed an Excel database for the microscopical specimens. We appointed a website designer (Liz Bruton) and two artists (Heather Barnett and Will Holloway) – one a visual artist and film maker, the other a performance poet. We decided not to appoint a photographer, as it would be more efficient and safer for the collection for the researchers to take photographs as they progressed; the advantages applied particularly to the researcher working on the specimens, as it was sensible to photograph them as he catalogued them under the microscope. This required the diversion of funds to equipment for image management and to certain lab services, and permission for this was obtained from DCF. The artists paid visits to the Museum, staying to work with us for extended periods, and the plans for the exhibition took shape alongside the work of research and cataloguing. Everyone on the team was involved and the experience of working with artists was novel and stimulating for the research and IT staff.

We opened the exhibition on 31 October 2007. In many ways it sat at the intersection of display in art and science (an impression is given by the images at www.mhs.ox.ac.uk/smallworlds/exhibition/gallery.php) and it included animation, and curtains and wallpaper based on microscopical specimens, as well as examples of the specimens themselves. A computer in the gallery gave access to the whole database of specimens, and also the possibility of sending e-cards based on these images (this proved very popular with visitors). Seven poems written for the exhibition by Will Holloway were offered to visitors on audio-guides (available free), and we published the set as an issue of the Museum's serial 'Broadsheet'. Admission was free.

The 'Small Worlds' website was designed with input from the artists. It includes the databases, an on-line version of the exhibition and the e-cards, with the poems as audio files and a film animation. The website also has an education section, with links to educational resources we have provided for schools on the



history of microscopy and a gallery of the work done by children at some of the family friendly workshops (www.mhs.ox.ac.uk/smallworlds/education/gallery.php).

Everyone on the team was involved and the experience of working with artists was novel and stimulating for the research and IT staff.

With the opening of the exhibition, the public programme began with a range of family-friendly workshops, activities and drop-in sessions, gallery talks and tours, and public lectures. Alongside this, sessions were organised for school groups, in both science and art.

The exhibition closed on 6 April 2008. Our two researchers have moved on to further university work.

We have forged stronger links with the Royal Microscopical Society and their education programme and with their help we now have an excellent set of new microscopes for future education work. We also commissioned one replica of an old portable botanical microscope, which can be used in the education programme without exposing a historic object to danger. These are continuing resources for the Museum's education work.

We conducted a detailed survey of 50 visitors, by interviewing them as they left the Museum (so they were not selected for having visited the exhibition itself). A very gratifying 43 had visited the exhibition as part of their visit to the Museum, and all said they had enjoyed it - 17 'fairly' and 26 'very much'. Of the total sample of 50, 40 had never visited the Museum before and 22 had come in family groups, while 41 were not members of the University (indicating the value of the Museum for outreach for Oxford University). Of the 46 visitors to the 'Small Worlds' exhibition, 10 nominated it the thing they had liked most about the Museum; this is a high figure, considering the exhibition's unconventional nature and the many other more famous things to see in the Museum; in fact 10



was the highest score for this question. The collaboration with artists was a great success, and not only in giving us a much more interesting exhibition: the process was more stimulating for everyone concerned for having two people with different aims and approaches joining the team after its work was well underway. The fact that the team was already established in their work was valuable, however, as it gave them a strong ownership of the project before the artists joined and without that they may have been a bit overwhelmed. Equally, it was good that there were two artists, as that helped them in their work and gave them a greater strength within the programme.



TEACHING, RESEARCH AND THE DISCIPLINE



Teaching

This was the first year of our involvement with the MSc organised by the Professor of the History of Science, Pietro Corsi, where an advanced option was taught and examined by Dr Bennett and Dr Johnston. It was also the first year for a new undergraduate course, 'Nature and Art in the Renaissance', taught in the Museum by a number of History Faculty staff, including Dr Bennett and Dr Johnston. The

undergraduates and masters students in History of Art visited the Museum for a tour of the collections and Dr Bennett and Dr Johnston both offered tutorials on objects in the collection, Dr Bennett supervising an extended essay in the Master's programme. Dr Bennett continued to supervise three DPhil students.

Research

The Museum organised and hosted a research seminar series in Trinity Term 2008; the speakers were Dr Samuel Gessner (University of Lisbon), Dr Anna Maerker (Oxford Brookes University), Pedro Raposo (University of Oxford), Dr Sofia Talas (University of Padua), Professor David Wootton (University of York), Dr Alexander Marr (University of St Andrews).

Anthony Gerbino and Stephen Johnston organised a seminar series in the Hilary term on 'Architecture, Science, and Mathematics in Early Modern England'; the speakers were Matthew Walker (University of York), David Yeomans, James Campbell (University of Cambridge), Professor Maurice Howard (University of Sussex) and Jim Bennett (University of Oxford).

A one-day meeting of the British Society for the History of Mathematics, on the subject of 'Musical Instruments and Mathematical Instruments', was held at the Museum on 15 December 2007. Dr Johnston presented a paper.

The Museum hosted a training conference for graduate students on 'Material Culture' on 28 May. It was convened by the Humanities Division and sponsored by the AHRC's Interdisciplinary Research Training Network. Dr Bennett was one of the speakers.

The Museum played a prominent part in the 'The Three Societies Meeting' of the British Society for the History of Science, the Canadian Society for the History and Philosophy of Science, and the History of Science Society, held in Oxford, 4-6 July 2008. Three members of staff gave papers, we provided one of the venues for sessions, and organised activities for the Outreach Day: 'Objects and travel: hands-on public engagement' and 'Model-making as a pedagogical tool for schools'. A reception in the Museum was attended by around 550 historians of science from around the world.

Dr Bennett was appointed an expert adviser to the Reviewing Committee on the Export of Works of Art of the DCMS in connection with an application for an export license for a 14th-century English astrolabe quadrant found in Canterbury. He objected to the quadrant's export under the first and third Waverley criteria, on the grounds that it was so closely connected with our history and national life that its departure would be a misfortune and that it was of outstanding significance for the study of the history of

science. He presented the case to the Committee, who found that it met the third Waverley criterion on the grounds that it was of outstanding significance for the study of the history of science and scientific instruments outside the academic context in the medieval period. The Committee also recommended that it should be starred, meaning that every possible effort should be made to raise funds to retain it in the United Kingdom. After a fundraising campaign, the quadrant was purchased by the British Museum with assistance from The National Heritage Memorial Fund, The Art Fund and The British Museum Friends.

The Museum continued to host the meetings and the website of the Society for the History of Medieval Technology and Science, and the websites of the Scientific Instrument Commission of the International Union of the History and Philosophy of Science and of the journal 'Rittenhouse', and to host and administer the much-used and valued 'rete' bulletin board for the instrument history community. A telescope by James Short was displayed in Magdalen College library as part of the celebration of the College's 550th anniversary. An example of 'The Oxford Astrolabe', designed by the professor of engineering C. F. Jenkin (1865-1940), was displayed in the Museum to mark the 100th anniversary of the University Department of Engineering.

Dr Bennett served on the trustee committee of the Science Museum, the 'A' Awards Committee and the Astronomical Heritage Committee of the Royal Astronomical Society, and the Board of Visitors for the Pitt Rivers Museum. He was a member of the International Scientific Committee for the exhibition 'Galileo: Images of the universe from Antiquity to the telescope', to be held at the Palazzo Strozzi in Florence in 2009. He served on the editorial board of the journal *Nuncius*. He has taken over the chair (from Professor Kennedy) of two sub-committees of the Committee for Museums and Scientific Collections: the ICT Committee and the Education Heads Committee. He continues to sit on the University Security Committee. He provided an extended interview for the Gulbenkian Foundation's evaluation of their Sci-Art programme.

Dr Johnston served on the committee of the Scientific Instrument Society and the editorial board of *Scientific Collections and Museums*.

Dr Johnston served on the committee of the Scientific Instrument Society and the editorial board of Scientific Instruments and Collections.

Dr Bennett gave the following lectures and seminars:

- 7 September **'Were There 'Surveying Instruments' in the 16th Century?'**, Scientific Instrument Commission, Harvard University
- 19 September **'A Role for Museums in the Public Culture of Science Today'**, Science Studies Seminar, University of Oslo
- 19 October **'Prints as process and product in the early Royal Society'**, Royal Society, London
- 11 February **'Eighteenth-Century Astronomy'**, Oxford University Space and Astronomical Society
- 6 March **'Circumspice: Wren in Retrospect'**, Museum of the History of Science
- 13 March **'The Creation of the Ashmolean Museum'**, Musée des Arts et Métiers, Paris
- 16 April **'History of Science' in the 'Rethinking the Early Modern' workshop**, English Faculty
- 25 April **'Uncertainty, anomaly, ambiguity: using arts for public science'**, Nobel Museum, Stockholm
- 22 May **'Einstein: Reflections on 2005, his special year'**, Abingdon Anglo-German Club.
- 28 May **'Objects in a World of Ideas'**, Interdisciplinary Research Training Network conference, Oxford
- 6 July **'Seth Ward's "reall designe amongst us" – "a Magneticall, Mechanicall, and Optick Schoole"'**, Three Societies Conference, Oxford

Dr Johnston gave the following lectures and seminars:

- 10 September **'From Mathematics to Philosophy: Thomas Digges, Magnetism and the Renaissance Sundial'**, Scientific Instrument Commission, Harvard University
- 29 September **'Mirror of the World: the Astrolabe in the Renaissance'**, Dorothy Dunnett Readers' Association, Wolfson College, Oxford
- 15 December **'Do instruments make history?'**, British Society for the History of Mathematics, Oxford
- 12 January **'Mathematics, causes and magnetism: Thomas Digges on the variation of the compass'**, EMPHASIS, Birkbeck College
- 4 July **'Business, art and utility: mathematical instruments and architecture in 18th-century England'**, Three Societies Conference, Oxford
- 8 July **'The Castle of Knowledge: Astronomy and Instrumentation'**, British Society for the History of Mathematics, Gregynog

Elizabeth Bruton gave the following paper:

- October, **'Experiments in Radio Telephony in the Royal Flying Corps and Royal Air Force during the First World War'**, Smithsonian National Postal Museum, Washington DC

Staff Publications

- Jim Bennett **'Wind-gun, air-gun or pop-gun: the fortunes of a philosophical instrument'**, in Lissa Roberts, Simon Schaffer and Peter Dear, eds, *The Mindful Hand: Inquiry and invention from the late Renaissance to early industrialisation* (Amsterdam, 2007), 221-45
- Jim Bennett **'Christopher Wren in mid-career'**, in S.J.D. Green and Peregrine Horden, *All Souls under the Ancien Régime: Politics, learning, and the arts, c.1600-1850* (Oxford, 2007), 76-91
- Jim Bennett **'No Strings'**, Essay review in the *Times Literary Supplement*, no. 5478, 28 March 2008, 28-9.

MUSEUM STAFF

Staff in post at the end of 2007-8

Jim Bennett, Director
Stephen Johnston, Assistant Keeper
Margaret Hauser, Museum Administrator
Lucy Blaxland, Collections Manager
Cheryl Wolfe, Conservation Officer
Richard Rowley, Photographer and Designer (maternity leave cover for Keiko Ikeuchi)
Owen Shaw, Technician (0.5)
Spiro Vranjes, IT Assistant (0.5)
Gemma Wright, Librarian
Anthony Simcock, Archivist (0.4)
Corrina Connor, Clerical Assistant (0.5)
Mariella Guida, Senior Gallery Assistant and Supervisor
Thad Parsons, Weekend Gallery Supervisor (succeeded Arianna Carlini, 23/02/08)
Anthony Lummis, Gallery Assistant
Frances Turner, Gallery Assistant
Maria Mate, Gallery Assistant (, appointed 8/04/08)
Nick Wicker, Cleaner
Anthony Gerbino, Project Researcher
Christopher Parkin, Education Officer (0.6)
Michelle Holloway, Education Officer (0.4, maternity leave 1/04/07-31/03/08, cover appointment Meg Zeyfert)
Elizabeth Bruton, Web Officer (0.5)
Laura Ashby, Audience Development Officer (0.5)

CASUAL STAFF (GALLERY ASSISTANTS)

Raul Arends-Morales
Katie Barrett
Philip Burton
Chris Dadds
Sarah Debenham
Peter Ells
Joan Fraser
Marc Gascoigne
Marianne Harlock
Linda Harmer
Sydney Hicks
Camen Lei
Vince Mason
Maanasa Raghavan
Kashif Rajpoot
Malini Roy
Makiko Tsunoda

CASUAL STAFF (COLLECTIONS WORK)

Nicole Shih, Museum Assistant, Store Project
Hannah Proctor, Museum Assistant, Store Project
Sarah Beattie, Museum Assistant, Store Project
Elizabeth Bruton, IT Officer, EMu Project

VISITORS

Professor Pietro Corsi, History Faculty (Chair)
Professor Mark Harrison, Wellcome Unit
Professor Jim Kennedy, University Museum of Natural History
Dr Mike O'Hanlon, Pitt Rivers Museum
Mr Ashok Handa, Nuffield Department of Surgery
Professor Harvey Brown, Philosophy Faculty
Dr Laurence Goldman, History Faculty
Professor Christopher Minkowski, Oriental Institute
Dr Robert Anderson, co-opted Visitor
Mr Howard Dawes, co-opted Visitor
One of the Proctors or the Assessor

Temporary Visitors during sabbatical leave of
Professor Brown, Professor Kennedy and Professor Harrison:

Dr Oliver Pooley, Philosophy Faculty
Dr Sloan Mahone, Wellcome Institute
Dr Monica Price, Natural History Museum



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