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## Editorial

Welcome to the relaunched Newsletter of the British Society for the History of Science. With the hope that this is the place to which all those with an interest in the history of science will come to read and express their views, it has been retitled Viewpoint. Thus as well as carrying the usual reports, news and listings, we are including feature articles, reviews and a host of interesting and entertaining regular items.

Viewpoint also takes on the aims of our former publication, Education Forum, The intention is, therefore, to appeal to a broad constituency and to represent the views of teachers, museum, archive and library professionals and those with a general interest in the history of science, as well as our academic membership.

In order to make a success of this exciting initiative, we need the enthusiastic cooperation of our members. If you would like to contribute items – e.g. to our series on the history of science fiction – articles, conference reports or reviews of suitable books, films, plays, exhibitions, websites or television programmes, please contact me at [newsletter@bshs.org.uk](mailto:newsletter@bshs.org.uk).

Rebekah Higgitt, Editor

## Digital Curatorship for Scientific Creativity

*The exhibition Beautiful Minds. Capture the spirit of Nobel achievement, at the British Library until 15 March 2006, celebrates 100 years of recognition bestowed on great scientists and writers, highlighting the role of creative milieux in encouraging originality. During this time there have been major changes in the way science is done. The scientific community has grown much larger, scientific data, analysis and communication have become increasingly digital and, through the internet, accessible. How will curators capture future scientific achievement and creativity? In what manner will historical information be selectively retained and transmitted from generation to generation in the digital era?*

### Sources of information for HSTM

In a century rich in epochal science, one of the most influential books was *Principles of Geology* by Charles Lyell (1830-1833.) From the beginning, Lyell draws a shared historical perspective in human affairs and in the Earth's planetary processes.

One essential difference between the history of humanity and that of the physicochemical planet and the organisms that live on it, is the possibility of deception, of forgeries, of primary sources of information that have been selectively retained, or falsely created, or amended to mislead peers or posterity. The rocks do not lie (however convoluted their interpretation), but the writer of an ancestral manuscript may well do so; and subsequent misapprehensions may be repeated in the writings of others. Modern historians learn to suspect the evidence, to test for its motivation and origin.

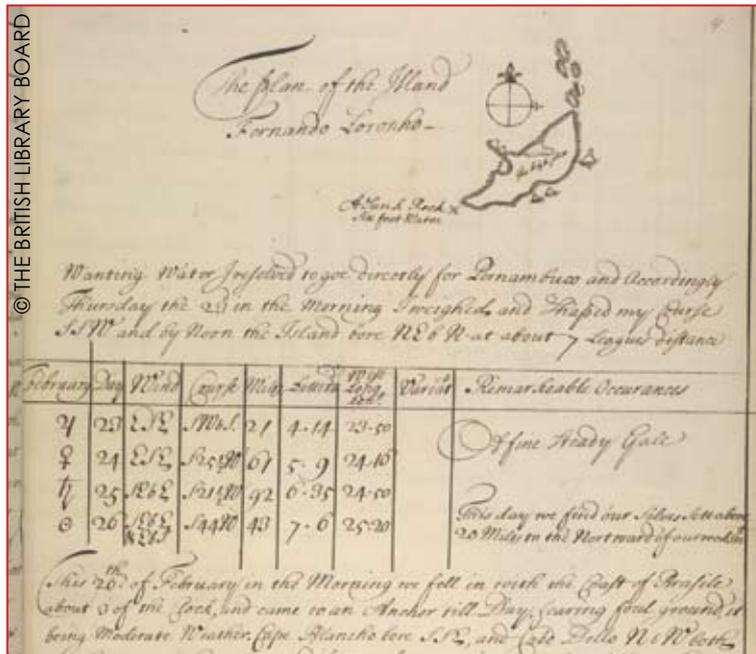
What helps truth to survive, as far as possible, is the complexity and volume of the primary sources, the way different archival collections emanating from different places can in time be compared. There are no sure guides to authenticity of information; but one of the reasons why archives are keen on comprehensive collections from individuals is that size gives an integrity due, for one thing, to the difficulty of removing all trace of specific historical events.

Existing search engines would allow deletion of any mention of an event or an individual (recall Isaac Newton's attitude towards Robert Hooke's intellectual legacy), and to do in minutes what might require months with paper manuscripts (short of burning the lot). In the brave new e-space, software will be able to go through an individual's digital holdings and amend personal history in a plausible manner. How would an archivist



**Figure 3 (see page 3):** Following Francis Willughby's untimely death (1672), his teacher and friend John Ray prepared and elaborated his notes for publication. This folio shows Mullet and Shad. BL Additional MS 5308C, f 5r, "A book of fishes done at Flamburgh with Mr Ray's notes".

**Figure 1:** Several manuscripts exist in the British Library derived from Adelard of Bath's 12th-century translations. One of the most beautiful is 15th-century Italian, with large vellum folios. This folio shows the end of Book VI and start of VII of Euclid's *Geometry*. BL Additional MS 22783, f 36v, "Euclidis Geometria cum Commento Campani (Novariensis)".



demonstrate that this has not happened? The curator is given a digital file containing an email ostensibly from a famous, long deceased scientist: how does she establish its provenance? A word processed early draft of a highly influential article lies on an encrypted disk: how does the curator enable access?

The challenges presented by digital media including digital manuscripts (see box, below right) are an understandable anxiety. Less often discussed are the significant opportunities. One of these is to collect, store and make accessible, unpublished information more widely and deeply than ever before.

### Scientific manuscript collecting

Over the last hundred years the scientific community has expanded enormously – across the world as well as within the UK. If we include independent scientists together with those of British education and training working abroad, and those who are retired but active, how many living scientists originate from the British Isles? There are 1285 Fellows of the Royal Society, the UK's national academy of science. If we took this to be 1% of scientists, it would indicate a figure of nearly 130,000 research scientists. The Health Professions Council provides a count of ca 25,000 clinical and medical laboratory scientists alone. Clearly not all of them will be engaged in original research, but conservatively there are tens of thousands of British scientific researchers living today.

The Royal Commission on Historical Manuscripts has listed archives of manuscript papers of 635 British and Irish scientists from the period between 1600 and 1940. In over 30 years of cataloguing since 1973 the impressively cost-effective National Cataloguing Unit for the Archives of Contemporary Scien-

tists has catalogued for numerous repositories the archives of more than 254 scientists, many being Fellows of the Royal Society, which sustains the Unit annually.

Such selection of individual science supports primarily a history of great men and women. Yet historians have long pointed to the value of a more comprehensively inclusive history. Most science is not done by the greatest, though much inspired by them. A history of science would be beneficial as well as a history of great science, to inform research policy apart from anything else.

The limiting factor has been the cost of sorting, selecting, cataloguing, looking after and making available large quantities of personal papers. It is much easier to justify expenditure of limited resources on papers of a Nobel Laureate than those of an apparently less successful scientist. Increasingly, science

### What are digital manuscripts?

Unpublished writings and workings of digital origin, currently residing on computer storage media: hard drives, CDs & DVDs, floppy disks, and magnetic tapes.

Like its paper counterpart, the digital manuscript embraces personal correspondence, conversational notes, draft essays, diaries and calculations. Besides word-processed documents, spreadsheets and images, a digital collection might include emails, instant messages, draft web pages, personal collections of RSS feeds, expedition video and family audio.

Two considerations are that eMSS may be dynamic, as with a scientist's computer programs, and integrated, as when emails have attached audio, video or image files.

is being done by large labile teams (witness the many multi-authored international papers in the scientific journal *Nature*), and in order to capture these activities it seems desirable to increase the scale of archival collection. With digital manuscripts it is for the first time becoming feasible.

### Longstanding creative milieux

The focus of the Beautiful Minds exhibition at the British Library is creativity, and its most invigorating feature is its attention to creative cultures – the success of particular laboratories, institutes, schools and cafes in fermenting originality. It examines how local conversational society nurtures the birth of ideas, while probing and influencing, leading to refinement of the individual's thoughts and conjectures.

Coffee houses and other social meeting places played a key role in scientific conversation during the emergence of early modern science in the 17th and 18th centuries, as an appealing letter in the British Library's collections (Sloane MS 4038, ff 82-83) illustrates: Edmond Halley first apologises for not inviting Hans Sloane for conversation over a bottle of wine and next entreats Sloane "to bestow yourself on me at the usual hour at the King's Arms on Ludgate hill as being a place that in some respects more convenient for the Company and myself than at home".

Many other milieux have contributed to scientific progress, not least in earlier times, when large institutional laboratories – which feature prominently in the exhibition – did not exist.

The foremost creative milieu must surely be that which enables 'conversation' between generations, as scientists build on the work of predecessors. The medium for such discussion is, of course, the book, the manuscript, from the library or archive. It allows an imaginary but essential conversation with not only the likes of Darwin and Einstein but almost every (especially published) scientific specialist – debating a new observation, asking how a novel line of thought might be countered.

Of all the 'conversations' in the history of science, among the most crucial were those which took place during medieval times among Arabic, Greek, Hebrew and Latin scholars, in Toledo, Spain and in Sicily – with the likes of Gerard of Cremona transmitting the thoughts and achievements of earlier scientists and mathematicians, as Arabic translators had done before them.

In translating there is a process of selection, of imperfect or amended interpretation. A clear demonstration of this transformation, of modified or improved transmission, is provided by Adelard of Bath's translation of

Euclid's Geometry for there are at least three distinct versions attributed to him (Figure 1).

A world away from the scriptorium, the library and archive, is the scientific expedition to remote locales. Here the stimulus for creativity comes from nature not experienced before. The conversation is with nature itself: the original milieu.

The reality of nature encountered will lead to immediate rejection of unworkable ideas, and conversely the reality of the expedition that emerges provokes studies and recordings of aspects of nature that were not anticipated.

So stimulating are expeditions that many explorers spend decades absorbing and reporting the experience. And in the remoteness there may be the creative mix of new facts observed and time for reflection. Perhaps the most famous instance is that of Alfred Russel Wallace, who in a malarial fever and after decades of wondering conceived in the Malay Archipelago a momentous idea: natural selection.

A pleasing lineage of inspiration stretches back from Wallace and Charles Darwin, both inspired by Alexander von Humboldt's travels within Latin America who in turn had himself been motivated by Captain Cook's discoveries in the Pacific: a scientific circumnavigation that had been promoted by Edmond Halley, following his own expeditionary experiences (Figure 2).

A third outstanding milieu for scientific creativity is friendship. It is difficult to exaggerate the significance of the way scientific friends influence each other: fuelling ideas, dismissing weak ones frankly, selecting or

improving others, often in passionate open conversation.

History shows many scientists completing and editing the work of deceased friends, and in the process a degree of editorial creativity is inevitable (if only in *not* editing). An example of a publication arising from a deep scientific friendship was Francis Willughby's monumental illustrated book on diverse fish species, *Historia Piscium*, edited in 1686 by John Ray (Figure 3: see page 1).

An early 20th Century example is provided by Wallace, who late in his own life edited Richard Spruce's botanical researches in Amazonia – deciphering his friend's 'hieroglyphic' abbreviations.

### Life caching and evolutionary manuscript informatics

All three of these examples of persistent scientifically creative milieux are, along with many others, represented in the digital era too, not least through the internet.

Many historically interesting conversations in person or, in recent times, on the telephone were lost forever. Today, more and more of life's activities are digitally facilitated, and coupled with moves towards life caching, a recording and retention of personal digital activity, there is clearly the potential to obtain more extensive and accurate records of historical and creative interest.

In this era of bits and dna (or memes and genes), it is natural to perceive scripted, printed and digital sources of scientific understanding as bearers of information passing through time, being copied, modified, improved and sometimes lost or ignored with

each generation; and to see creative milieux as the localised environments in which new and varied ideas are produced and initially tested.

Whatever the perception, a remarkable demonstration of cross-fertilised methodology is provided by recent manuscript research by historical and literary scholars using phylogenetic techniques of evolutionary biologists. Textual analysis by manuscript scholars and gene analysis by biologists share similar principles: a comparison of deliberate changes or accidental errors in diverse extant copies (of manuscripts or organisms) in order to identify the more ancestral versions and the grouping together of closely related versions.

Evolutionary computer techniques have been used for historical reconstruction at Cambridge University and elsewhere with manuscript copies of Chaucer's *The Canterbury Tales* – including from the British Library. In addition, a population analysis was employed at Cornell University with medieval scientific manuscripts such as Bede's *De Temporum Ratione* to assess the historical likelihood of manuscript survival, the preliminary procedure has been likened to treating manuscripts as fossils from an extinct population.

Adelard of Bath, scribal scientist and ornithologist, Edmond Halley, scientific historian and editor, and John Ray, pioneer of taxonomy and information classification, would undoubtedly have been intrigued.

But perhaps even more interesting is the realisation that due to the ease of digital copying, self-archiving by families will likely result in a child receiving two sets of digital manuscripts, one from each parent. Over a number of generations some digital manuscripts would be lost while others would be favoured. Future historians might want to know why some digital manuscripts were selected and why some changed (and so will future evolutionary biologists).

### Further Reading

Alan Cook (1998) *Edmond Halley. Charting the heavens and the seas*, Clarendon Press, Oxford.

L. D. Reynolds & N. G. Wilson (1991) *Scribes & Scholars. A guide to the transmission of Greek & Latin literature* (3rd ed.) OUP, Oxford.

Scott L. Montgomery (2000) *Science in translation. Movements of knowledge through cultures and time*, University of Chicago Press, Chicago.

Richard Dawkins (2004) *The ancestor's tale. A pilgrimage to the dawn of life*, Phoenix, London.

Ulf Larsson, editor (2002) *Cultures of creativity. The centennial exhibition of the Nobel Prize*, Science History Publications, Canton, USA & The Nobel Museum, Stockholm, Sweden.



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**Figure 2:** Edmond Halley's magnetic survey initially shared the global objectives of James Cook's later expedition, but was ultimately restricted to the Atlantic. This folio shows log entries for February 1699, when Halley approached an island off the coast of Brazil where he made some observations. BL Additional MS 30368, f 4r, "A journal of a voyage in his Majesties Pink the Paramore intended for the Discovery of the Variation of the Magnetical Compass".

# Anniversaries for 2007

The BSHS Newsletter has traditionally provided an advance list of anniversaries. This tradition continues, with a changed format. A fuller list is available on our website at [www.bsbs.org.uk/bsbs/publications/newsletter](http://www.bsbs.org.uk/bsbs/publications/newsletter).

## Marcellin Berthelot

Pierre Eugène Marcellin Berthelot was born in 1827 and 2007 sees the centenary of his death in Paris. Berthelot studied at the Paris Faculties of Medicine and Science and learned his practical chemistry in the private laboratory of Théophile-Jules Pelouze. He is known for his work on organic chemistry, thermochemistry, agricultural chemistry and on the history of chemistry and alchemy. He taught at the Collège de France and was active in government politics after the siege of Paris.

## Leonhard Euler

2007 will see the tricentenary of Euler's birth in Basel, Switzerland. He was a prolific writer, publishing on optics, mechanics, electricity, and magnetism as well as mathematics. He made major contributions to mathematical notation, the study of differential equations, analysis and number theory. In 1726 he accepted a post in St Petersburg, and subsequently held the senior chair in mathematics. He died in St Petersburg in 1783.



## William Harvey

We celebrate the 350th anniversary of the death of the discoverer of the circulation of blood in 2007. Born in 1578 in Folkestone, Kent, Harvey earned degrees at Padua and Cambridge before practicing medicine. His famous discovery was published in his 1628 *An Anatomical Study of the Motion of the Heart and of the Blood in Animals*. He also wrote an important work on embryology. He died in London or Roehampton. For other '50th' anniversaries see [www.bsbs.org.uk/bsbs/publications/newsletter](http://www.bsbs.org.uk/bsbs/publications/newsletter)



## 500 years

Nello Behaim	1459-1507	Geography
Guillaume Rondelet	1507-1566	Ichthyology, medicine, anatomy

## 400 years

Honoré Fabri	1607-1688	Mathematics
Henry Lyte	1529?-1607	Botany

## 300 years

Georges-Louis Leclerc, Comte de Buffon	1707-1788	Natural history
Walter Charleton	1620-1707	Natural philosophy, medicine
Denis Dodart	1634-1707	Botany, physiology
Leonhard Euler	1707-1783	Mathematics, mechanics, physics
Johann Jacob Huber	1707-1778	Anatomy, botany
Carl Linnaeus (von Linné)	1707-1778	Botany, zoology, geology, medicine
Vincenzo Riccati	1707-1775	Mathematics
John Robertson	1707-1776	Mathematics
Benjamin Robins	1707-1751	Mathematics, military engineering
Robert Symmer	1707-1763	Electricity
Sébastien le Prestre de Vauban	1633-1707	Military engineering

## 200 years

Foundation of Geological Society		
Jean Louis Rodolphe Agassiz	1807-1873	Ichthyology, geology, palaeontology
William Francis Ainsworth	1807-1896	Geography, geology
George Atwood	1745-1807	Mathematics, physics
Pierre-Auguste-Marie Broussonet	1761-1807	Zoology, botany
William Farr	1807-1883	Statistics, epidemiology
Arnold Henri Guyot	1807-1884	Geography, glacial geology
Robert Hawksley	1807-1893	Civil engineering
Robert Hunt	1807-1887	Chemistry
Friedrich Traugott Kützing	1807-1893	Botany

Joseph-Jérôme Lefrançois Lalande	1732-1807	Astronomy
Auguste Laurent	1807-1853	Chemistry
Gian Francesco Malfatti	1731-1807	Mathematics
David Dale Owen	1807-1860	Geology
Théophile-Jules Pelouze	1807-1867	Chemistry
Jeremias Benjamin Richter	1762-1807	Chemistry
Anna Russell [née Worsley]	1807-1876	Botany
Jacques-Christophe Valmont de Bomare	1731-1807	Mineralogy, natural history
George Walker	1734?-1807	Mathematics

## 100 years

Thomas Andrews	1847-1907	Metallurgy
Wilbur Olin Atwater	1844-1907	Agricultural chemistry, physiology, scientific admin.
Benjamin Baker	1840-1907	Civil engineering
Marcellin Berthelot	1827-1907	Chemistry
Marcel-Alexandre Bertrand	1847-1907	Geotectonics, stratigraphy, geology
James Carroll	1854-1907	Bacteriology
Michael Foster	1836-1907	Physiology
Asaph Hall	1829-1907	Astronomy
James Hector	1834-1907	Geology
(Julius) Eduard Hitzig	1838-1907	Neurophysiology, psychiatry
Pierre Jules César Janssen	1824-1907	Astronomy, spectroscopy
John Kerr	1824-1907	Physics
Amié Laussedat	1819-1907	Photogrammetry
Karl Mayer-Eymar	1826-1907	Palaeontology, stratigraphy
Nikolay Aleksandrovich Menshutkin	1842-1907	Chemistry
William Henry Perkin	1838-1907	Chemistry
Platon Sergeevich Poretsky	1846-1907	Mathematics, astronomy
Hendrik Willem Bakhuis Roozeboom	1854-1907	Physical chemistry
Edward John Routh	1831-1907	Mechanics
Henry Chamberlaine Russell	1836-1907	Astronomy, meteorology
Harriet Scott	1830-1907	Botany, entomology
William Thomson	1824-1907	Mathematics, physics
Hermann Carl Vogel	1841-1907	Astrophysics
Gustav Anton Zeuner	1828-1907	Mechanical engineering, thermodynamics

## Carl Linnaeus



Linnaeus, or von Linné, was born in Södra Råshult, Sweden, in 1707. He entered the University of Lund in 1727, where he already undertook botanical fieldwork and cultivated patrons. In 1728 he went to the University of Uppsala and by 1730 had begun to outline the basis of his new plant classification, the theory of plant sexuality. In 1732 he under-

took his important journey to Lapland, and published his *Flora Lapponica* in 1737. From 1741 he occupied a chair at Uppsala University, to which he attracted many pupils who subsequently spread his ideas worldwide. He died in Uppsala in 1778.

## William Henry Perkin

Perkin was born in London in 1838 and studied at the Royal College of Chemistry under August Wilhelm von Hofmann. As Hofmann's laboratory assistant, Perkin attempted to synthesize quinine from the by-products of coal tar but instead accidentally discovered the first synthetic dye, aniline purple (mauveine). He later produced the dye, which became fashionable for clothing, commercially. He was able to retire in 1873 but continued his research, synthesising further dyes and perfumes. 2007 sees the centenary of Perkin's death, while 2006 is the 150th anniversary of his discovery.

## William Thomson

2007 is the centenary of the death of Thomson, Lord Kelvin.

He was born in Belfast, where his father was professor of engineering, in 1824. He studied at Glasgow University, where he became interested in Continental mathematics. He is remembered for his work on the mathematical analysis of electricity and thermodynamics, is credited with discovering the atom, and later worked in telegraphy. In 1892 Thomson was elevated to the Peerage with the title Baron Kelvin of Largs. He died in Netherhall, Ayrshire.

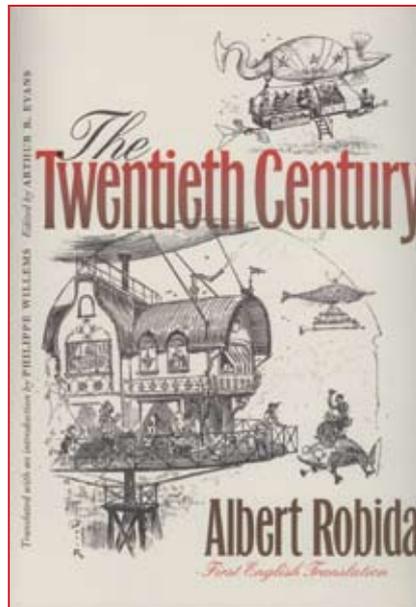


# Science Fiction: An Alternative 20th Century

Graeme Gooday considers a lesser-known example of early science fiction.

It's 1952 and an intelligent young woman steps out of omnibus-airship B into a bustling modern Paris. Although she's just been educated – joylessly – into the most up-to-date science, Hélène is indifferent to the vista of employment opened up to her by successes of the women's movement. She could become a lawyer, politician, historian or journalist after just a little further training, and under pressure from her apparently enlightened father, she tries her hand at each in turn. But much to her parents chagrin, and her growing ennui, she is disconcerted at her success in defending obviously guilty criminals; she is far too candid to pass the Machiavellian examinations for members of parliament, and so rational that she baulks at the delusional revisionism in which the historical profession indulges itself. And having been initially alarmed at the night long stream of news bulletins blaring from her bedside telephone (accidentally left switched on by an inattentive servant), she is most seriously perturbed by the duels she has to fight each time her rookie newspaper column incurs the wrath of its scandalized readers, notwithstanding the testimony of the ubiquitous telephonoscope to support her claims. Luckily, with the aid of the flying fish propeller-driven dirigibles and tube travel near the speed of sound, she can escape from the bizarre consequence generated by her careering around the French capital. Indeed our heroine cheats death, marriage and several other serious inconveniences of modern life at least for as long as Albert Robida's illustrations and miscellaneous plot devices can sustain the hilarity of her turbulent adventures.

This particular hi-tech – and yet chaotically irrational – 1952 was created by Albert



Robida (1848-1926) in his *Le Vingtième Siècle* (1882), now translated by Philippe Willem as *The Twentieth Century* (Wesleyan University Press, 2004). Although probably less familiar to BSHS members than his compatriot Jules Verne, Robida was not only a wittier observer on the micro-detail of everyday life, but also enhanced his projections with his own elegant illustrations of fantastical technologies. His late nineteenth century vision of a somewhat sub-utopian future is thus peppered with marvellous vignettes. Burglars trapped by an electrified floor in Hélène's father's house dance vigorously to escape punitive shock; when the Great Catering Company's urban pipes springs a leak a divorce party is deluged with floods of bisque; the heroine's fast underground tube overshoots its French

destination and zooms all the way to Spain after it is bumped from behind by an incompetent driver. But the drift is not just whimsically speculative about problematic innovations. Robida's 1952 is also distinctly satirical of trends in his contemporary world: painting has been rendered obsolete by the photo-artist; pianos have been abolished for the greater good of humanity, and special

'waiting list jump seats' assist beneficiaries of rampant political nepotism. Altogether the message is that new technologies have not brought real progress. Rather, old problems appear in new forms and intriguing new vices have appeared such as condensed literature for the very brief journeys of international tube travel, notably Homer's Iliad reduced to a handily succinct four lines.

For all the remarkable advances in technology for visual projection, communication transport and entertainment, Robida presents Parisian culture in 1952 as if it were just as packed with irony and absurdity as the year in which *The Twentieth Century* was published. Most provocatively, the initial feminist premise of his book sets up an egalitarian world in which men and women have equal access to science and technology. But then they find that husbands and wives oppose each other in political contests for parties representing only gender interest – related with Robida's characteristic trademark of cheerful pessimism. In response to such conflicts the heroine eventually gives up an attempt to pursue her own career before even trying the remaining option of joining the growing number of female physicians. Yet even if Robida's plot is thin and structurally episodic – reflecting its initial publication by instalment in periodicals – this book will entertain and edify many readers intrigued by the possibilities of alternative past versions of future worlds informed by technoscience. And indeed, how many such paperback primary sources could be used to meet the needs of teaching, research, leisure – and idle discussion using our very own telephonoscopes, the mobile phone or webcams? We can only hope that more of Robida's extraordinary oeuvre, such as his *La Vie Electrique* (1892), is translated or at least republished soon.

Philippe Willem's translation of Robida's *Twentieth Century* is published by Wesleyan University Press, Middletown CT, 2004. ISBN: 0819566802; [www.wesleyan.edu/wespress](http://www.wesleyan.edu/wespress). This substantial volume includes an excellent introductory essay by the translator and comprehensive bibliographies of scholarship both on and by Robida. It is available from Amazon and other major book retailers.

Graeme Gooday, University of Leeds  
[g.j.n.gooday\[at\]leeds.ac.uk](mailto:g.j.n.gooday[at]leeds.ac.uk)

Graeme is currently working on a book on past electrical cultures that explores, among other things, the ameliorative and diversionary roles of futurist writing on electricity.



Robida's *The Twentieth Century*: Telephone courting

# Reports of Meetings

## HSS/SHOT, Minneapolis

**Waqar Zaidi** reports on the annual meeting of the Society for the History of Technology, held jointly with the History of Science Society.

As in previous years, the 2005 annual conference of the Society for the History of Technology ('SHOT') presented a bewildering diversity of papers, symptomatic, perhaps, of the current fragmented nature of the field. Papers dealing with surface transportation were the most numerous, although, as in previous years, museums and exhibitions, the philosophy of technology, and consumer and home technologies continued to be well represented. In addition, there were at least eight papers dealing at least tangentially, if not directly, with food production and technologies and their continuing industrialisation and mechanisation. The papers in these already loosely defined categories, however, represented less than a third of all the papers presented – the remainder covered topics as diverse as water resource planning in Asia, and the technology of repair.

Although a sweeping characterisation of such a diverse range of papers would be dif-



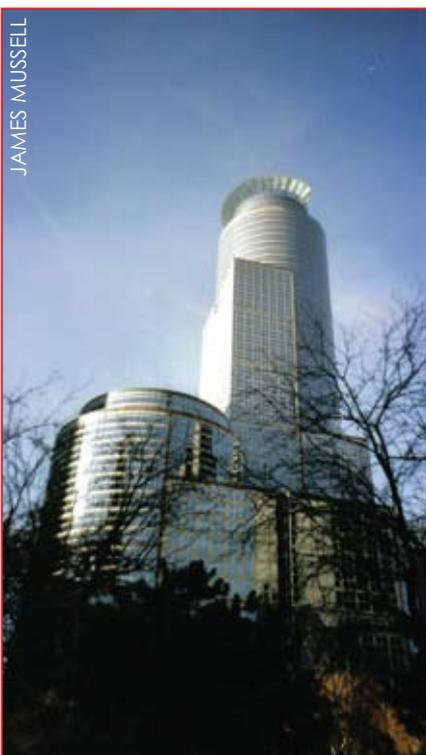
JAMES MUSSELL

ficult to make, Roger Launius' and Svante Lindqvist's papers at the Joint-Conference Plenary session, which focused on the continuing issues facing science and technology museums, throw much light on the current state of the field of the history of technology.<sup>1</sup> Both Launius and Lindqvist argued that science and technology museums today continue to focus on the wonders of modern high-technology, and are unable to develop and communicate more meaningful themes in the history of science and technology. Instead, they argued, they tend to, whether intentionally or not, provide further evidence for the pre-existing conceptions of their visitors. Although it would be unfair to extend this critique to the whole of the academic field of history of technology, the papers presented at the SHOT Conference, on the whole, continued to present a tilted view of history of technology with their focus on innovation, and on high-technologies of the twentieth-century. Engagement with the current concerns of more mainstream history, and other academic fields, is still largely missing. I say largely, because some important counter-currents were in evidence, in particular the increasing

interest in ideology and belief evidenced by several papers on a diverse range of topics, including the mythology of German aviators, United States' development projects in Asia in the sixties, the environmental discourse in the postwar period, and the European integration discourse in the interwar period.<sup>2</sup> Whether these interests, and others also evident at the SHOT conference, can grow and help the history of technology raise and critically address issues of relevance to other fields of history, and indeed other academic fields, still remains to be seen.

Waqar Zaidi

Imperial College London  
syed.w.zaidi[at]imperial.ac.uk



JAMES MUSSELL

<sup>1</sup> Roger Launius, "Serving Society Surviving Scorn? Presenting Science and Technology in a National Museum"; Svante Lindqvist, "What Difference does it All Make? Untimely Scruples in an Age of Enthusiasm."

<sup>2</sup> For example: Christian Kehrt, "Heroes and Knights: On the Mythology of Aeroplanes and Pilots"; Daniel Klingensmith, "Managing Water and Managing the Orient"; David Biggs, "Reclamation Nations: The US Bureau of Reclamation's Role in Nation-Building on the Lower Mekong, 1945-1972"; Sabine Höehler, "Spaceship Earth: Myth as a Theme for Environmental History"; Vincent Legendijk, "High Voltages, Low Tensions: the Interconnections of Eastern and Western European Electricity Grids during the Cold War"; Frank Schipper, "The Drive for Peace? Road Planning and the European Project during the Interbellum."

# China Intrigues Historians of Science

**Aileen Fyfe**, Treasurer of the BSHS, was the UK delegate to the 22nd International Congress of History of Science, held in Beijing. She reports on her experiences of the meeting.

China exerts a strange fascination for all historians of science: it was the home of gunpowder, the compass and paper, and it was a great empire long before anything much was happening in Europe. Why China did not have a scientific revolution akin to that we know from seventeenth-century Europe has intrigued scholars for over sixty years. Joseph Needham began planning a book on *Science and Civilisation in China* in the early 1950s. His original plan for a single volume has expanded into 23 volumes published so far, with five more on the way, and the apparently simple question with which he started has been transformed into a more general examination of the ways in which scientific and technical activity have been linked to Chinese society over the last four millennia.

In July 2005, however, there was another reason for historians of science to be fascinated by China: over a thousand of them attended the 22nd



Beijing Friendship Hotel

International Congress of History of Science, held in Beijing. Anybody who has ever attended the annual meetings of the History of Science Society, in the USA, will know how enormous those meetings are compared to the British equivalent. It is easy to be intimidated by the huge number of academic sessions running in parallel at any one time; by the ubiquity of breakfast, lunch and after-dinner lectures, symposia and workshops; and by the sheer number of people in front of you in the queue for coffee. The Beijing Congress was bigger.

The Hyatt Regency hotels which host HSS are nothing to the Beijing Friendship Hotel, which was built in the 1950s to host Sino-Russian conferences and consists of five accommodation buildings arranged around a central conference venue. There were rumoured to be 26 restaurants on site, but I don't think anyone found more than half a dozen of them. And even with such a large venue, the programme had so many parallel activities that locations spread across town had to be commandeered. Given the size of Beijing, the heavy and chaotic traffic which taxi drivers seem to regard as a challenge, and the potential problems of trying to navigate a foreign bus system, this provided some slightly risky excitement.

With five full days of academic sessions, this was a long and exhausting conference by any measure. Many delegates developed an addiction to the green tea which was copiously dispensed from the urns outside every session. There was an incredible variety of sessions, and unsurprisingly, there was far more content on Chinese, South-East Asian, Indian and Islamic science than one would usually see at British or American conferences. Some delegates treated the congress as a series of one-day specialist meetings. Others moved from session to session in the spirit of mental improvement. Just as an example, on Monday, there were thirty sessions to choose from – many of which ran for the entire day. The topics included comparisons of

## Need to know?

### What is the IUHPS?

IUHPS is the International Union of the History and Philosophy of Science. It is one of the 26 scientific unions which form the International Council of Science (ICSU). There are also International Unions for Astronomy, Geography, Anthropological and Ethnological Sciences, Physiological Sciences and Pure and Applied Chemistry, among others. IUHPS is sometimes thought of as the historical and philosophical consciousness of the other Unions.

### What is the DHST?

The Division of History of Science and Technology (DHST) is one of the two divisions of the IUHPS: the other is the Division of Logic, Methodology and Philosophy of Science (DLMPS). 49 countries, including both the UK and Ireland, subscribe to the DHST, and their fees are the main source of funding for the Division.

### When was the IUHPS/DHST created?

The International Union of History of Science (IUHS) was established in 1947 as part of ICSU (itself established in 1931). The statutes of the IUHS were drawn up by members of the International Academy of History of Science, an organisation founded in 1928 and still in existence as an association of distinguished scholars. In 1956, the IUHS was merged with the International Union of Philosophy of Science, thus creating the IUHPS and its two Divisions. The Division of History of Science was renamed to incorporate Technology in 2005.

### What does the DHST do?

The Division hosts an International Congress every four years: these are enormous events, attended by people interested in the history of science from all over the world – they bring together teachers, scientists and professional historians of science for a week of academic papers and workshops. The Division also manages and funds thir-

Chinese and Russian technology in the nineteenth and twentieth centuries; the diffusion of science and technology in the Ottoman Empire; ancient Chinese mathematics; Einstein in context; computing and the internet; science in Islam; the history of genetics; and the social and political engagement of scientists.

Many of the all-day sessions were organised by European and American scholars, and typically engaged with their topics at a highly specialised level. The shorter sessions were often those created by the organisers, and tended to incorporate a much wider variety of speakers, both geographically and professionally. I attended one session which included Japanese, Russian, Hungarian, Mexican, Portuguese and British speakers. It was a fascinating experience, quite different from BSHS or HSS meetings, and valuable less for the academic content than for the insight into the ways in which other nations and cultures

# Science

teen Commissions devoted to particular topics, including scientific instruments, Islamic civilisation, meteorology, modern chemistry, women in science, and science and empire. These Commissions organise their own meetings – the Scientific Instruments Commission, for instance, holds meetings every year. The DHST also issues an annual newsletter, which is available from its website.

## How does the DHST affect me?

The Council of the BSHS is the UK national committee for the DHST. With help from the Royal Society, BSHS pays the UK subscription to the DHST and sends a representative to the General Assembly. (In Ireland, the national committee is under the auspices of the Royal Irish Academy, which pays the subscription.) Individuals are most likely to benefit from DHST through attendance at the International Congress, or in the activities of the Commissions.

## Where is the next Congress?

The most recent Congresses have been in Mexico City in 2001, and Beijing in 2005. The 23rd International Congress will be held in Budapest from 26-31 July, 2009.

## How do I find out more?

- Visit the DHST website at <http://ppp.unipiv.it/dhs/>
- Read the DHS newsletter (Nov 2004) at <http://ppp.unipiv.it/dhs/modifieddhs/Newsletter2.pdf>
- Visit the ICSU website at <http://www.icsu.org/>
- Visit the website for the Budapest congress at <http://www.conferences.hu/ichs09> (which will have more information nearer the time).
- Visit the website of the Needham Research Institute, the editorial home of the *Science and Civilisation in China* project, at <http://www.nri.org.uk/>

perceive and study the history of science.

Of course, it would be a shame to go all the way to China and spend six days in a hotel (however grand) in the university suburb of Beijing. Most delegates were determined to fit in as much tourism as possible. The organisers were well aware of this, of course, and laid on a 'highlights of Chinese opera' performance in the hotel (intriguing, but ear-shattering), and day of free tours, including the Ancient Observatory and the Science and Technology Museum. There was also a range of half-day tours to all the main tourist attractions, as well as more extensive pre- and post-conference tours. The committed tourist could have found something to do instead of just about all the academic sessions. The Forbidden City was high on everyone's list of things to do, closely followed by the Great Wall (which is indeed 'great'). Those who went to the Wall on the Saturday



Aileen visits the Beijing Ancient Observatory

before the conference had a particularly memorable experience, walking along it in non-stop torrential rain.

As well as the academic and cultural activities, some delegates had official business. The Congress was organised by the Division of History of Science of the IUHPS (see boxed text), and was the venue for the Division's General Assembly – as well as the business meetings of all the Division's Commissions, Sections and other entities. The General Assembly is the chance for the representatives of all the member countries to scrutinise the accounts, choose the next Congress destination, elect a new ruling Council and plan future activities. Of course, as with all such bodies, there were far too many people present for anything very constructive to be decided upon – and even so, the discussions occupied two entire mornings! The new president is Ronald Numbers, of the University of Wisconsin-Madison, USA. He takes over from Ekmeleddin Ihsanoglu of Turkey.

Going to Beijing for any reason would be a memorable experience. Going to encounter such a varied group of people, representing 57 nations, all with a shared interest in the history of science, was particularly memorable. It is a different sort of conference from the ones that academics usually go to in Britain or America, precisely because it was not dominated by professional historians of science (or, for that matter, by English-speakers). It was a timely reminder that professionals are surely in a minority among those interested in the history of science globally. Equally, listening to the

formal speeches at the opening and closing ceremonies, one was reminded that history of science means different things to different people, and to their governments and their academic culture. And that is something we would all do well to remember.



Great Wall of China – Watchtower

Aileen Fyfe  
National University of  
Ireland, Galway  
[aileen.fyfe\[at\]nuigalway.ie](mailto:aileen.fyfe[at]nuigalway.ie)

## The Copley Medallist of 1805

**David Knight** remembers a recent anniversary for Humphry Davy that shows him as ‘the apostle of applied science.’

At the end of November 1805, the Royal Society’s highest award, the Copley Medal, went to Humphry Davy, then rising twenty-seven. The award was for ‘communications published in the *Philosophical Transactions*’. In 1805, there were two, both brief, on mineral analyses; but



Humphry Davy by Thomas Lawrence, c. 1821

in 1803 there had been a long paper, forty quarto pages, on tanning. We have no text of Sir Joseph Banks’ remarks on the occasion – Davy was the first President to publish such addresses (to the indignation of Charles Babbage, quick to spot expensive ego-trips). We remember Davy’s work done earlier on laughing gas, and later on electrochemistry (which won a prize from the Paris Academy of Sciences), chlorine and the safety lamp. Surprisingly perhaps, the Copley came for something done in what appears an enforced interlude. It casts light on his role as the apostle of applied science.

When in his inaugural lecture of 1802 he thrilled the audience at the Royal Institution with the prospect of a society transformed through science, his employers had already set him to work on agriculture and tanning. Working with Thomas Poole, tanner of Nether Stowey, patron of Coleridge, notorious radical, and spokesman for the industry in discussions with William Pitt, Davy used chemistry to vindicate the current best practices among tanners by providing a scientific rationale in a

process too complex to be fully explained. He confirmed Banks’ hunch that the plant Indians chewed with betel, catechu, would be an excellent substitute for oak bark, then in short supply. But his science could provide no royal road to well-tanned and durable leather, so that tanners could speed up a noisome process and thus save money:

*they appear to have arrived, in consequence of repeated practical experiments, at a degree of perfection that cannot be far extended by means of any elucidations of theory that have as yet been made known.*

The steam engine gave more to science than science gave to the steam engine: and in ‘chemical industry’ too, there was limited room for ‘applied science’. Davy had referred to and extended the latest French analyses of the natural products concerned; but in the existing state of chemistry, results were bound to be inconclusive. Davy escaped. The Copley medallist and star lecturer could no longer be bossed about; and the medal was a passport back to electrochemistry and his triumphant researches of 1806-7. Ten years later, contrasting Davy’s work on the safety lamp with these ‘abstruse discoveries beyond the understanding of unlearned people’, Banks was delighted about this return to practicality that would advance the ‘solid and effective reputation’ of the Royal Society. Maybe the award shouldn’t surprise us.

David Knight  
University of Durham  
d.n.knight[at]dur.ac.uk

## Reviews

### Books

John Waller, *The Discovery of the Germ*, Icon Books, 2002, pp. 208, £9.99

John Waller’s *The Discovery of the Germ* fol-

lows a line of attempts to write histories of germ theories and discoveries, covering the major events in France, Germany and Britain. So why add to this literature? Waller’s book makes no attempt to be a scholarly version. As an Icon book it is aimed at a popular audience, but so were Paul de Kruif’s *The Microbe Hunters* (1926), and the more recent *Microbes and Men* by Robert Reid, a spin-off from a 1970s’ BBC television series, which sensationalised the stories of discoveries. Waller, too, attempts to write a dramatic story of early bacteriology and work with vaccines for bacterial and what were later known to

be viral diseases – indeed, very successfully, with the book reading as easily as a fast moving novel, especially with its structure of very short chapters. Although telling heroic stories of the discoverers of germs, this is also balanced with the mistakes and confusion which threatened acceptance of new theories. These include Robert Koch’s claim of a cure for tuberculosis proving false, and the doubts which Max von Pettenkofer brought by deliberately swallowing cholera vibrios without developing the disease.

What is most useful about this book is that it sets the history of germs and disease con-

cepts in a wide context. The book provides a succinct and entertaining introduction to the history of medicine for someone who has never encountered the subject before, and as well as being a fascinating non-fictional story for the general reader, it could provide useful introductory reading for medical students, for example. Far more than the story of germ theories and its immediate antecedents of anti- and asepsis is told. Additional stories such as disease concepts in Ancient Greece and Rome, the impact of Paris medicine especially in terms of autopsies in discovering disease causation, the change in the doctor-patient relationship, and the rise of the laboratory in both science and medicine. There is also a bibliography giving a useful, though not comprehensive, guide to further reading

As Michael Worboys and Nancy Tomes have shown, there was a large amount of continuity with regards to areas of medicine such as concepts of disease causation and public health policy. Although Waller mentions that ideas of constitution and miasma continued alongside ideas of microbial causes of disease, in the introduction and conclusion to the book he really stresses the idea of 'revolution'. Also, the epilogue to the book is perhaps a little too jovial in discussing how unexpected it is for a Western patient not to be cured from infectious disease, without mentioning the history of resistance to antibiotics and problems such as the AIDS pandemic which has spread to the Western world. Despite these issues, *The Discovery of the Germ* is a book worth reading as an entertainingly written introduction to a fascinating episode in the history of medicine, set in a wider context of a long history of medical beliefs, especially for those who are new to the field.

Rosemary Wall  
Imperial College London  
rosemary.wall[at]imperial.ac.uk

Chiara Frugoni, *Books, Banks, Buttons and Other Inventions from the Middle Ages*, trans. William McCuaig, Columbia University Press, 2005, pp. 240, \$21.00

This beautifully illustrated book was intended (as Frugoni explains in the preface) as a tribute to the Middle Ages, as a way of bringing to life this sometimes misunderstood period of history. Organised in six themed chapters, the book begins with eyeglasses and ends with Santa Claus, and along the way we encounter a huge variety of other things. Open-

ing some pages at random, we find musical notation, water- and wind-mills, domestic cats, the fork, or playing cards. Every time you open the book, there is something new and interesting, and reading through the chapters is like being taken on a guided tour through the medieval world.

The author, as your knowledgeable and enthusiastic guide on this journey, points out interesting things along the way, linking together subjects in a narrative thread rather than grouping them according to the usual divisions of types of objects, or fields, of study. For example, the first chapter, titled, 'reading and keeping the books', begins with eyeglasses, moves on to glass windows, and then to the contents of the learned man's house and study – and this is where we meet some early domesticated cats. The books and things for storing them link to development of universities, we then encounter notaries, numerals, and the numbering of years from the birth of Christ. From there, we take a look at banks and bookkeeping before moving back to the books themselves and the paper they were increasingly made from, and the chapter closes with an account of the invention of moveable-type printing.

*Books, Banks, and Buttons* brings together written sources and illustrations to show how many of the things we take for granted in the modern world have their origins hundreds of years ago, in the Middle Ages. Footnotes give full references for the source material, allowing the interested reader to find out more, but the book is never simply a dry account of those sources and what they can tell us. This is not a comprehensive survey of the innovations of the Middle Ages, and nor does it set out to be, but instead is a selection of sources put together by someone with a passion for the subject. This book is a celebration of what this fascinating period of history has given the modern world, giving readers a glimpse of that time in all its dynamic, innovative, glory.

Catherine Eagleton, Curator of Coins and Medals, The British Museum  
ceagleton[at]thebritishmuseum.ac.uk

## Television

Space Race, BBC Television, BBC 2, September-October 2005

On 14 September 2005 the BBC broadcast the first episode of a four-part weekly 'docudrama' on the space race. Several weeks of trailers had preceded the first instalment and much was made of the expensive Hollywood-style blockbuster treatment. Entitled simply



Yuri Gagarin as seen in the BBC's *Space Race*

'space race', the aim of the series was to cast a fresh eye over the American and Soviet space programmes on the basis of a new unprecedented collaboration of documentary makers which encompassed American, Russian, German and British television concerns. The BBC were keen to point to the rigorous 'fact checking' and 'faithful and accurate character portrayal' which had gone into the making of the series. So was it a success?

Constructed in a way which effectively captured the intense political rivalry that drove the two superpowers into space, this series was a notable achievement. Undoubtedly the earlier two episodes were the stronger in terms of tension. We are introduced to the principal characters: Werner von Braun, a Nazi and member of the SS (a point which is not played down as it was in post-war America), is shown developing the V2 rocket at Peenemünde; whilst Sergei Pavlovich Korolev, the Ukrainian-born rocket designer, has to be released from a notorious Siberian gulag (in which he had been unfairly incarcerated) in order to take control of the Soviet programme. Of course the early stimulus for any space activity was the desire for a ballistic missile to carry a nuclear warhead – that such a missile could be used to launch a satellite was in some measure happy coincidence. The early programme in America, led by von Braun who had been spirited to the US to impart his rocket knowledge, was dogged by problems, and von Braun struggled to secure sufficient political and military backing. Korolev also had to deal with problematic political and military masters, but Soviet premier Nikita Khrushchev is shown personally agreeing the Sputnik project which would so famously mark the spectacular dawn of the space age.

During these early years of space activity, the Soviet Union was in the ascendant. Sputnik I in October 1957 was followed in November by Sputnik II, which housed Laika the dog.

This was followed by the incredible achievement of the first man in space when Yuri Gagarin orbited the earth in a space capsule in April 1961. In short, the USSR was burying the West.

However, the Soviet lead was not to last. Of course both sides suffered setbacks. The series illustrated the risks inherent in space activities by detailing some of the accidents which took place - this made for some tense viewing. Both sides experienced some frightening disasters which led to fatalities, as well as some very close-shaves, such as an early Soviet space-walk which almost ended in failure when the cosmonaut's suit became so distorted and enlarged in space that he was almost unable to fit back through the small space capsule entrance.

Once into the 1960s the Americans were starting to make progress. With President J. F. Kennedy's pledge to place a man on the moon came the Apollo programme which would lead to 'one small step for man, one giant leap for mankind'. Perhaps because this story is well known, and also because by the late 1960s the USSR was suffering a lack of dynamism under the rule of premier Leonid Brezhnev, the last two episodes lacked some of the earlier pace, although they faithfully charted the developments. In terms of new insights brought to bear, the series-makers must have benefited from recent works like

on History and the Media at the Institute of Historical Research in 2002. However, when dealt with care and with historical rigour, the result can be an effective way of popularising history, and the space race series is a fine illustration of this.

Matthew Godwin  
University College London  
m.godwin[at]ucl.ac.uk

## Journals

**Patricia Fara** considers a discussion on writing for the non-specialist.

'Focus: The generalist vision in the history of science', *Isis* 96 (2005), 224-51

Noel Coward grumbled that reading a footnote is like making love in the bedroom and having to go downstairs to answer the door bell. Academics seem to relish interruptions: however keenly they hanker after the success

impenetrable jargon and intellectual self-absorption. Sufferers wallow in their own profound yet narrow wisdom, making no attempt to engage their audiences' interest. 'As the saying is,' quips Shapin, 'hyperprofessional disciplines don't get out enough.'

Without pedantic footnotes, I can give quotation sleuths only an imprecise reference: Shapin was writing in a recent issue of *Isis*. The new editor, Bernie Lightman, has recently introduced a valuable Focus section, in which eminent contributors address a single theme from various angles. Previous topics include 'Colonial science' and 'Scientific readers'; the latest is 'The generalist vision in the history of science.'

This title may sound like a committee compromise, but it has elicited four intriguing responses (all footnoted). Like Shapin, David Kaiser is concerned about over-specialisation, and he examines how our teaching practices force students to carve out original topics in the face of increasing competition and decreasing funding. In an interesting reversal, Kaiser suggests flipping the flashlight direction to make pedagogy an analytical tool for exposing not only the balkanisation of our own discipline, but also that of the sciences we study.

One recurring concern is the relationship between 'microstudies' of specific episodes and the 'big picture' histories that are coming back into fashion. While Shapin denies the possibility - and even desirability - of coherent narratives, Robert Kohler and Paula Findlen both search for new ways to reconcile particular cases with broader vistas. For Kohler, the answer lies in focusing on themes such as work, identity and credibility that thread through all local stories, thus enabling them to transcend boundaries of time and place. In contrast, Findlen favours making a mammoth out of a mouse - using detailed archival material to tell a fascinating tale, and then drawing out its wider implications.

Historians of science hungry for big reader numbers can turn to the web, a strategy not considered by these *Isis* authors. Since university presses are predicting the demise of scholarly monographs, academics who want to resist being squeezed out of publishing should heed Shapin's pithy admonitions to adapt themselves to their readers. The massive sales figures achieved by mediocre (and even bad) books on the history of science confirm our subject's wide appeal, so perhaps we need to drop the footnotes.<sup>1</sup>

Patricia Fara  
Clare College, Cambridge  
pf10006[at]cam.ac.uk



Werner von Braun as depicted in the BBC's *Space Race*

James Harford's biography of Korolev, which is a great source of information on the Soviet programme, based to a large extent on interviews.

There is an on-going debate over the strengths and weaknesses of the marriage between history and television, as was outlined in a series of papers at a conference

of *Longitude*, few historians of science are courageous enough to court popularity by relinquishing those tiny numbers advertising professional status.

According to Steven Shapin, self-righteous scholars run the risk of succumbing to *hyperprofessionalism* (his italics), the disease of disciplinary addiction characterised by

<sup>1</sup> Although I find it impossible to kick the habit: the reference to Shapin's quotation is *Isis* 96 (2005), 239.

## HSTM People: The Questionnaire

Peter Ellis is Head of Science at Cranford House School, Moulsoford. He joined the committee of the BSHS Education Section in the summer of 1988, and was its longest serving member, being still on the committee when it ceased to exist last summer.



*Peter in costume for Lavoisier Week*

### Who or what turned you towards HSTM?

I'm not sure when I first became interested in the History of Science. What I can remember is taking a course in Scientific Methodology with Prof E F Caldin as part of my degree course at the University of Kent at Canterbury (a long time ago). The course was largely a run through the basic history of scientific ideas from the Greeks onwards. I recall becoming very interested in early chemistry and being excited at finding a facsimile copy in the university library of Ashmole's Theatrum Chemicum Britannicum.

### What's your best dinner table HSTM story?

I'm not sure if I've ever made my dinner guests suffer from one of my lectures, but if I have it has probably been about a little known chemist who I became interested in while living on the Isle of Wight. He was Augustus Vernon Harcourt (known to me but probably no-one else as Gussy Harcourt) famous (?) for the Harcourt & Essen Experiment – a delightful rates of reaction experiment. Harcourt spent all his working life at Oxford, most of it devoted to work on this one reaction. But far from being a bore he seems to have been full of fun. The anecdote I have is that he was a close friend of Charles Dodgson (Lewis Carroll), taught Dodgson photography (all those pictures of young girls!), rowed down the Thames to his Uncle's place at Newnham with Dodgson and the Liddell girls, and is probably recorded in Alice Through the Looking Glass as the White Knight, because he was also a slightly mad inventor. Sadly their friendship cooled when Gussy fell in love and married.

### What has been your best career moment?

Oh dear, what a question, especially since HSTM is my hobby not my career. Sort of combining the two, one of the best buzzes I got was when I gave my Harcourt presentation to the 6th form at the school at which I taught.

### And worst?

See above. Plenty of moments when I've realised that classes have totally missed the point I was trying to make. In HSTM, the moment when I discovered my laptop had been nicked from the exhibition stand at the BSHS conference in York.

### Which historical person would you most like to have met?

Gussy Harcourt (see above), but also Michael Faraday, Humphry Davy, Joseph Priestley.

### What one thing should 16-year-olds know about HSTM?

Science changes! It's not a fixed, block of facts that we chip away at, but more like the image in a mirror which shifts as we change our point of view.

### Do you have a nick name?

Don't think so. The art of awarding teachers nicknames seems to have died in schools. As a young teacher in Norwich with a noticeable Welsh accent I was known as "Boyo" (there was already a Taff on the staff).

### What other career would you be in if not this one?

As my present career is as a full-time science teacher, I'd like to be working full time in HSTM – not as an academic as I don't think I have the patience for a narrow area of research – but as a populariser, bringing the stories alive for a new generation.

### Favourite HSTM books

For reference (simple stuff!) - Illustrated History of the World's Science, Colin Ronan – (more serious) – History of Chemistry, John Hudson. Sadly out of print but an excellent short but comprehensive history. Biography – Surely your joking Mr Feynman: a laugh but also a real insight into Feynman's character and times. Favourite museum – Ironbridge. I'm keen on industrial history. I wish there were more preserved sites of the chemical history. I'm hoping that the Lion Salt Works in Cheshire will become my favourite if it finally gets funding for all the renovations needed. At one time Prof Colin Russell hoped that a Lead Chamber works would be preserved but I don't think there is a survivor.

## News

### The 2005 Erasmus Prize goes to Simon Schaffer and Steven Shapin.

Congratulations to Simon Schaffer (BJHS Editor, Cambridge University) and Steven Shapin (Harvard University) who have been awarded the Erasmus Prize for their work in the sociology of science and as joint authors of *Leviathan and the Air Pump*. The Erasmus Prize is the Dutch equivalent of a Nobel Prize for the Humanities, established in 1958 by Prince Bernhard of the Netherlands. The Praemium



Which one is BJHS editor?  
Erasmus Prize winners Shapin and Schaffer with HRH the Prince of Orange

Erasmianum Foundation's aim is to enhance the position of the humanities, the social sciences and the arts, and to promote appreciation of these fields in society within the context of the cultural traditions of Europe in general and the ideas of Erasmus in particular. The emphasis is on tolerance, cultural pluralism and undogmatic critical thinking. Former laureates have been drawn from a wide variety of fields and include Mary Robinson, Vaclav Havel, Jean Piaget and Marc Chagall. The citation can be found on <http://www.erasmusprijs.org/eng/> but very briefly they are honoured for demonstrating that a historical approach is crucial for understanding the connection between science and society, and for linking fundamental innovations in science – such as the emergence of experiment as a method of inquiry – to political and social processes. The ceremony took place in the Royal Palace in Utrecht in November and was accompanied by a public conference in Amsterdam and workshop for students – as well as a good number of celebratory parties.

## Museums News

### The future of the Science Museum Library at South Kensington.

There have been substantial advances to the

plans regarding the future of the Science Museum Library. The main elements of the current proposal are as follows:

- \* The Science Museum Library's important Science and Technology Studies collection will remain within the Central Library at Imperial College's campus in South Kensington

- \* Imperial College plans to redevelop a large part of the existing library building to provide modern, upgraded student study facilities with improved access to digital library materials

- \* The less frequently used parts of the Science Museum Library's collections, including some periodicals, will move to a newly created library repository at the Science Museum's site in Wroughton, near Swindon

- \* All printed materials stored in Wroughton will be made available to users in the Central Library within one working day

- \* There will also be a separate consultation room within the Science Museum where researchers can consult specialist Science Museum archives and library material

- \* All three locations will be electronically connected to ensure efficient management of document requests and cataloguing

- \* Implementation is scheduled to start in January 2006 and is likely to take around two years to complete.

Full details can be found at [www.science-museum.org.uk/libraryfuture](http://www.science-museum.org.uk/libraryfuture). The museum is inviting all library users to provide their feedback on the best way to implement the new agreement.

### Subject Specialist Network in Science, Technology and Industry.

A group of museums have joined together to form a Subject Specialist Network in Science, Technology and Industry. Birmingham Museums, Bristol Industrial Museum, National Museums of Scotland, Science Museum, Tyne and Wear Museums, Thinktank and the Museum of Science and Industry in Manchester combined forces with funding from the MLA to undertake exploratory activity into the establishment of the network.

The network steering group consulted with the Science and Industry Museums sector through a questionnaire and a conference in June 2005 to identify the level of enthusiasm and need for the network. The group identified that the network should be as broad and inclusive as possible, with regular communication and the need for better information exchange, possibly through the creation of an experts' database in Science, Technology and Industry subject areas. The conference focused on the necessity to share skills and expertise between museums, increase training and advocacy in the sector and develop research

with academic departments.

In the medium term the network aims to hold a regular annual conference, stimulate collaboration on collecting policies, develop collaborative projects and funding streams and improve discussion and dissemination between institutions. The longer-term development of the network depends on further funding from the MLA, but it hopes to be able to develop structured information exchange, create and maintain an experts' database and raise training and the profile of the sector.

If you work with Science, Technology or Industrial collections and would like to share expertise or become involved in the network then please contact the steering group via the mailing list on: <http://www.jiscmail.ac.uk/lists/STI-SSN.html>.

Tilly Blyth, Curator of Computing & Information Science Museum, [tilly.blyth\[at\]nmsi.ac.uk](mailto:tilly.blyth[at]nmsi.ac.uk)

## BSHS conferences

### Franco-British Interactions in Science since the Seventeenth Century

Maison Française, Oxford  
24-25 March 2006

### The Worlds of Oronce Fine: mathematics, instruments and the book in Renaissance France

University of St Andrews  
12-13 May 2006

### Annual Conference 2006

University of Kent, Canterbury  
7-9 July 2006

Proposals for papers, poster and symposia are invited in all areas of the history of science, technology and medicine.

BSHS subsidies are available for all student members to help with the cost of registration and accommodation. Abstracts (max. 250 words) should be sent by **16 January 2006** to Chris Chilvers: [bshs2006\[at\]bshs.org.uk](mailto:bshs2006[at]bshs.org.uk).

Further details are available at:  
[www.bshs.org.uk/bshs/conferences](http://www.bshs.org.uk/bshs/conferences)

# Listings

## Conferences

### The Arboretum: "Conversing with other nations"

Linnean Society, London, 6-8 September 2006  
This conference will examine the cultural history and geography of tree collections and the different types of arboretum. Those interested in giving a paper or in attending the conference are invited to contact the project researcher: Dr. Paul Elliott, School of Geography, University of Nottingham: paul.elliott[at]nottingham.ac.uk or Professor Charles Watkins: charles.watkins[at]nottingham.ac.uk.

### Canadian Society for the History and Philosophy of Science

York University, Toronto, Ontario, 29-31 May 2006.  
Abstracts of 150-250 words should be sent to program.cshps[at]utoronto.ca by 1 February 2006. See <http://www.yorku.ca/cshps1/> for further details.

### European Society for the History of the Human Sciences (ESHHS)

25th Meeting, Oslo, 9-12 August 2006.  
Papers and symposia dealing with subjects related to the history of the human sciences are welcome. Submissions (max. 300 words): 26 April 2006. Send a copy of your proposal to each member of the programme committee: Karl Teigen (local organizer), k.h.teigen[at]psykologi.uio.no; Irina Sirotkina, isiro[at]mail.ru; Alan Collins, a.collins[at]lancaster.ac.uk. For further information see <http://psychology.dur.ac.uk/es-hhs/>. Deadline for registration 15 May 2006.

### History of Science Society

Annual Meeting at Vancouver, 2-5 November 2006.  
Annual Meeting at Washington, 1-4 November 2007.  
Further details at [www.hssonline.org](http://www.hssonline.org).

### The Museums and Galleries History Group

'Past and Present: negotiating museum and gallery history', Newcastle University, 7-8 September 2006.  
The Museums and Galleries History Group will hold its next international symposium on the theme of negotiating museum and gallery history. See <http://www.mghg.org/events/> for further information.

### National Maritime Museum Greenwich

'Navigational instruments as a source of historic information', 16 November 2006.  
The aim of the symposium is to improve our understanding of the ways in which navigational instrument collections can illuminate

history and historical process. Those wishing to attend or to submit a proposal (250 words) should contact Janet Norton by 1 May 2006., e-mail: jnorton[at]nmm.ac.uk.

### Society for the History of Alchemy and Chemistry

'Innovation in Industrial Chemistry', Royal Society of Chemistry, Burlington House, Piccadilly, London, 28 April 2006.  
This joint Anglo-Dutch meeting is organised by the Historical Group of the Royal Society of Chemistry and the Society for the History of Alchemy and Chemistry in conjunction with the Chemical-Historical Group of the Dutch Chemical Society (KNCV). For further information please see [www.ambix.org](http://www.ambix.org) or contact Dr Anna Simmons on A.E.Simmons[at]open.ac.uk or at Department of History of Science, Technology and Medicine, The Open University, Walton Hall, Milton Keynes, MK7 6AA.

### Women's History Network

15th Annual Conference: 'Thinking Women: Education, Culture and Society', Collingwood College, University of Durham, 1-3 September 2006.

Papers are welcomed on the following themes: Women and education; women and scientific endeavour; women, the humanities and cultural representation; women's intellectual contribution to the social sciences; thinking women: past representations. Please submit a 200 word synopsis (individual papers, panels and poster sessions) by 1 March (1st call) or 1 June (final call) to whn.conference[at]womenshistorynetwork.org. Further information at [www.womenshistorynetwork.org](http://www.womenshistorynetwork.org).

## Exhibitions

### Northwestern University's Mary and Leigh Block Museum of Art

3 January-12 March 2006  
The exhibition 'The Anatomy of Gender: Arts of the Body in Early Modern Europe', Alsdorf Gallery, explores the representation of gender and sexual differences in anatomical illustrations from the sixteenth through eighteenth centuries. The Block Museum is located at 40 Arts Circle Drive, Evanston, Illinois, 60208. For more information, please call 847.491.4000 or visit the Block website at [www.blockmuseum.northwestern.edu](http://www.blockmuseum.northwestern.edu).

### The Royal Observatory: New Time Galleries

Open 15 February 2006.  
'Time and Longitude', 'Time and Society', 'Time and Greenwich' and 'Time for the Navy'. Admission Free.  
For more information please visit [www.nmm.ac.uk](http://www.nmm.ac.uk)

or telephone 020 8858 4422.

### The Royal Society

A new Astronomy Exhibition, from early books to the discovery of pulsars. The exhibition is located in the basement and ground floor of the Royal Society and is open to the public from Monday to Friday, 10am - 5pm.

## Websites

### Robert Boyle Project

Recent changes to the Boyle website, [www.bbk.ac.uk/boyle](http://www.bbk.ac.uk/boyle). First, a new version of 'On the Boyle', no. 7, is now online in the section of the website entitled 'What's New in Boyle Studies?' This includes an article by Noel Malcolm on 'The Boyle Correspondence: Some Unnoticed Items' (available as a PDF file). The website also has a new section in its 'Researchers' Area', where the first two titles in a new series of Occasional Papers of the Robert Boyle Project are available,.

## Appointments

### The Open University

Dr Malcolm Oster has been appointed senior lecturer in History of Science, Technology and Medicine at The Open University.

## Prizes

### The National Museum of Australia Student Prize for the History of Australian Science/Environmental Science

The prizes of \$2,500 will be awarded for original unpublished research undertaken whilst enrolled as a student (postgraduate or undergraduate) at any tertiary educational institution. See <http://www.science.org.au/natcoms/award-hps.htm> for details.

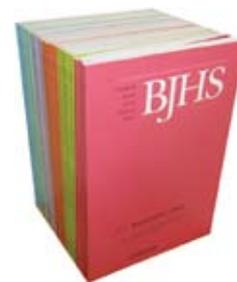
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Please contact the Editor at: [newsletter\[at\]bshs.org.uk](mailto:newsletter[at]bshs.org.uk).

## Further listings:

A more comprehensive list of announcements, including conferences and job advertisements, is available on the BSHS website: [www.bshs.org.uk/hstm/news](http://www.bshs.org.uk/hstm/news).

## The British Journal for the History of Science



The BJHS is expanding! The March 2006 issue will be 160 rather than 128 pages and articles will be selected from the following:

- Stephen Pender: 'Examples and experience: on the uncertainty of medicine'
- Anna Maerker: 'The tale of the hermaphrodite monkey: classification, state interests and natural historical expertise between museum and court, 1791-1794'
- Huib J. Zuidervaart: 'An eighteenth-century medical-meteorological society in the Netherlands: an investigation on early organization, instrumentation and quantification', Part 2 (Part 1 was published in Dec. 2005 issue)
- Karen Wood: 'Making and circulating knowledge through Sir William Hamilton's Campi Phlegraei'
- Claire Brock: 'The public worth of Mary Somerville' (an expanded version of the essay awarded the 2004 BSJS Singer Prize)
- Savithri Preetha Nair: 'Science and the politics of colonial collecting: the case of Indian meteorites, 1856-1870'

## Viewpoint: the Newsletter of the BSJS

### Contributions

All contributions and correspondence should be sent to the Editor, Dr Rebekah Higgitt, Institute of Geography, The University of Edinburgh, Drummond Street, Edinburgh EH8 9XP; [newsletter\[at\]bsjs.org.uk](mailto:newsletter[at]bsjs.org.uk). Electronic communication is preferred. Viewpoint is issued three times a year – in February, June and October. The next issue will be in June 2006 and the deadline for copy is **15th April 2006**.

### Circulation

Enquiries about circulation should be sent to the BSJS Executive Secretary, 5 Woodcote Green, Fleet, Hants GU51 4EY, UK. Tel: +44 (0)1252 641135; [execsec\[at\]bsjs.org.uk](mailto:execsec[at]bsjs.org.uk). Viewpoint is free to BSJS members and is priced £10.00 a year (three issues) for non-members.

### Advertisements

The Editor will consider advertisements regarding new appointments but, as a general rule, other advertisements are not printed in this publication. However, for an appropriate charge, leaflets advertising suitable events, publications etc. can be sent out with Viewpoint, subject to size and postage restrictions: full details are available from the BSJS Executive Secretary.

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