**Teaching Old History to Promote New Innovation: Part I**

by Brett Steele

This is the first installment of a two-part series in which the author describes opportunities for historians of science outside of academia. Part one highlights the sophisticated strategic reasoning that education in the history of science can impart. The second section, to be published in the July 2012 Newsletter, will discuss how this type of preparation can help those who are seeking careers in marketing, sales, or advertising, especially in high-tech domains.

What follows are my reflections on the practical—yet largely unrecognized—utility of using the history of science and technology to educate undergraduate science and engineering students. After completing my Ph.D. in the University of Minnesota’s Program for the History of Science, Technology and Medicine, I secured a postdoctoral lectureship at UCLA’s Department of History. There, I taught courses in history of science and technology, as well as a strategy and ethics course for the School of Engineering. After finally conceding to the lack of academic demand for my research program (to reveal the symbiotic relationships between science and warfare in the Napoleonic Wars), I accepted a research position at the RAND Corporation in 2000. I have since been conducting research in, as well as teaching graduate courses on, security and business strategy in Santa Monica, California and Washington, DC. In the process, I have immersed myself in the academic aspects of business and in international relations and security studies. Now, looking back, I am struck by how the history of science and technology can offer a remarkably effective way for undergraduate science and engineering students to appreciate the managerial, competitive, and “strategic” dimensions of innovation in their future professions. This is especially critical in the twenty-first century, when these students will face global competition in graduate research programs and in commercial enterprises.

All innovators must make fundamental choices about the cost and performance of their output. They must also decide how much to invest in innovation through invention, analysis and development, and how much to spend to stimulate market demand. Yet where are undergraduates exposed to the approaches successful innovators use to make such decisions? Scientific innovators must always decide whether to move against competitors with more defensive actions and hold on to existing levels of influence, or to take more offensive actions against competitors to secure new advantages. Yet who exposes science and engineering students to the benefits and costs of such choices? In short, who ensures that science-oriented undergraduates are

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Old History New Innovation

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exposed to the strategic dimensions of innovation that will make these students more globally competitive throughout their careers?

Professors in the history of science and technology could offer the most efficient and effective means for satisfying such a need. Just think about how strategic naïveté could be minimized by enlightening undergraduate science and engineering students about the battles of annihilation between Newton and Leibniz or Boyle and Hobbes, the literary strategies Galileo used against his critics and skeptics, the Sun-Tzu-style manipulation of perception that Watson and Crick used to secure credit in discovering DNA, or the Machiavellian marketing campaign that Edison waged against Tesla. Many university presidents assume that business-school professors and economists are best suited for such a task. A closer look reveals, however, that these academics focus on a relatively narrow range of commercial issues. As far as most economics and business departments are concerned, the strategies of basic research and the political maneuvers of scientists are scarcely worth considering. Compare that focus to the scope of the history of science and technology: a broad spectrum of innovation in educational, industrial, military, political, and medical organizations throughout history.

A reasonable explanation does exist for this neglect, of course. Academic economists, despite the Schumpeterians, are still dominated by the early nineteenth-century worldview comprised of static commodities and their market-equilibrium states. Many business-strategy professors remain heavily oriented toward short-term Harvard case studies and simplified models of external competition that leave closed the black box of innovation. Contrast those approaches to the complex narratives of innovation routinely presented at HSS and SHOT conferences, in which creative innovators both struggle against and are inspired by a bewildering array of social and cultural factors. Comparing the output of historians of science and technology to the Harvard Business School case studies is almost like comparing descriptions of combat skirmishes to an analysis of entire wars. I’m deliberately using this military analogy, of course, as encouraged by Bruno Latour’s Science in Action and A. Rupert Hall’s Philosophers at War. Let’s face it; to best prepare undergraduate students for the frustrations, turmoil, betrayals, humiliations, and consequential need for sheer persistence in the face of the opposition that real innovators inevitably face, they need to be forearmed with vivid historical “experience.” And nothing accomplishes this more effectively than the rich contextual trajectories of innovation that historians of science and technology work so hard to construct, subject to the highest standards of the humanities.

Teachers of the history of science and technology must focus on the cyclical process in which innovators establish and defend their domains.
I’m writing this on a bus, bouncing through the middle of Seattle on my way to Vancouver, British Columbia and the annual meeting of the American Association for the Advancement of Science (I am the HSS delegate to Section X—Societal Impacts of Science and Engineering). This is a full day of travel: 12 hours of plane, light rail, and bus. Had I flown directly to Vancouver, I would have saved some 5 hours, and so you may ask why I would come up through Seattle. There are many reasons but costs figure near the top.

Let me explain. This past year, members have been especially generous to the HSS, particularly in their contributions to our general operating fund. One of my pleasures is thanking those who trust us with these gifts, and my pledge to donors who give unrestricted gifts (those gifts that do not target specific activities such as prizes or Sponsor a Scholar) is to spend the money wisely. So when I looked at the price of roundtrip airfare from South Bend to Vancouver and then compared that cost to flying to Seattle and me taking the bus to Vancouver, we saw that we could save over $200 US (and I could use my time in Seattle for a site visit for a future HSS meeting). Sure, the trip is longer than flying directly to Vancouver (and time is money) but I can work on the bus and the more we stretch our money the more we can further interest in the history of science. And though I must admit to a certain degree of fatigue when the bus rolled onto the Notre Dame campus two weeks ago at 1:00 in the morning (because I flew into Chicago rather than South Bend) this feeling was tempered by knowing that we had saved the HSS another $200. And this savings is important because I know that our members have many options for donations.

So how do we spend these generous donations? The first question we ask is how does an activity advance our mission to further interest in the history of science, followed closely by the second question of how can we fulfill this activity at the lowest cost. These are important questions because one of the more important benefits of these gifts is that they allow us to lower our draw on the HSS endowment. After the economic downturn of 2008, we re-evaluated our financial policies and one of the results of this re-examination was the decision to lower our dependence on endowment income, adopting a policy where we try to draw around 4%, a conservative tapping of these funds that will help us not only preserve the endowment but help it grow. And when our members are especially generous, as they have been, we can both lower our endowment draw and take advantage of opportunities not otherwise open to us, such as participating in the second Science and Engineering Festival in Washington DC later this spring (one of the larger such festivals in the world) and defraying costs for graduate students to participate in the 3-Society conference. It is your generosity that makes it possible. Thank you!

And thank you for your membership in the HSS.

- Jay Malone, HSS Executive Director
Institute for Advanced Study, School of Historical Studies, Opportunities for 2013–2014

The Institute for Advanced Study is an independent private institution founded in 1930 to create a community of scholars focused on intellectual inquiry, free from teaching and other university obligations. Scholars from around the world come to the Institute to pursue their own research. Candidates of any nationality may apply for a single term or a full academic year. Scholars may apply for a stipend, but those with sabbatical funding, other grants, retirement funding, or other means are also invited to apply for a non-stipendiary membership. Some short-term visitorships (for less than a full term, and without stipend) are also available on an ad-hoc basis. Open to all fields of historical research, the School of Historical Studies’ principal interests are the history of western, near eastern and Asian civilizations, with particular emphasis upon Greek and Roman civilization, the history of Europe (medieval, early modern, and modern), the Islamic world, East Asian studies, the history of art, the history of science, philosophy, modern international relations, and music studies. Residence in Princeton during term time is required. The only other obligation of Members is to pursue their own research. The Ph.D. (or equivalent) and substantial publications are required. Information and application forms may be found on the School’s web site, www.hs.ias.edu, or contact the School of Historical Studies, Institute for Advanced Study, Einstein Dr., Princeton, N.J. 08540 (E-mail address: mzelazny@ias.edu). Deadline: 1 November 2012.

Recent History of Science Dissertation Abstracts Available

The latest list of recent doctoral dissertations pertaining to the history of science world-wide harvested from the issues of Dissertation Abstracts have been downloaded to the HSLS homepage and can be viewed at: http://www.hsils.pitt.edu/histmed/dissertations.

Science Studies on Dissertation Reviews

The following reviews have been posted in January and February on “Science Studies Dissertation Reviews,” at http://dissertationreviews.org:

- Alistair Marcus Kwan, *Architectures of Astronomical Observation: From Sternwarte Kassel (ca. 1560) to the Radcliffe Observatory (1772)*, reviewed by Rebekah Higgitt.

To contribute a review, or to have your dissertation reviewed, please email dissertationreviews@gmail.com.

International History and Philosophy of Science Teaching Group Newsletter Online

The IHPST newsletter is now available on their website at http://ihpst.net/newsletters/jan2012.pdf.
News from the Profession

Psychology’s Feminist Voices: An Oral History and Online Archive Project

The Psychology’s Feminist Voices Oral History Project was launched in 2004 by Alexandra Rutherford of York University. It is an initiative to document and preserve the voices and stories of feminist psychologists for the historical record and for scholarship, teaching, and advocacy in the social sciences. To date, over 100 interviews with self-identified feminist psychologists have been conducted. In 2010, the Psychology’s Feminist Voices multimedia internet archive was launched: http://www.feministvoices.com. The site features profiles of participants in the oral history project, full transcripts and video excerpts from their interviews, a 40-minute original documentary about the history of feminist psychology in the United States, as well as profiles of women in the history of psychology, timelines, and contemporary and historical resources for students and others interested in women and feminism in psychology.

The project has received funding and support from multiple sources and is carried out by a dedicated team of research assistants, including many graduate students in the History and Theory of Psychology Graduate Program at York University. For more information, contact Alexandra Rutherford: alexr@yorku.ca.

Register & Read (Coming soon!)

Register & Read Beta is a new, experimental program to offer free, read-online access to individual scholars and researchers who register for a MyJSTOR account. Register & Read follows the release of the Early Journal Content (http://about.jstor.org/participate-jstor/individuals/early-journal-content) as the next step in our efforts to find sustainable ways to extend access to JSTOR, specifically to those not affiliated with participating institutions.

How will it work?
- Find an article that’s part of Register & Read, click on a “Get Access” option.
- Register for a free MyJSTOR account, or log into your account if you already have one.
- Add the content to your shelf to read the full-text online. After 14 days, you may remove it and add new items to your shelf.
- PDF versions of some articles will also be available for purchase and download. If you purchase articles from your shelf, the PDF versions may be stored and accessed in your MyJSTOR account at any time.

At launch, Register & Read will include approximately 70 journals from more than 30 publishers, a subset of the content in JSTOR. This includes content from the first volume and issue published for these journals through a recent year (generally 3-5 years ago). We plan to add more titles at a later date.

Register & Read is a beta program, and we expect to adjust aspects of the program as needed. This may include both functionality and the available content.

If you would like to be notified of the launch of Register & Read, you may follow us on Twitter or Facebook.

To view a list of the titles and publishers: http://www.jstor.org/action/showJournals?browseType=publisherInfoPage&

To download a Register & Read handout: http://about.jstor.org/sites/default/files/register-and-read-lib-20120111.pdf

To watch a video about Register & Read: http://about.jstor.org/rr/video

Visit us on Twitter: http://twitter.com/jstor

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Joseph H. Hazen Lecture in the History of Science

Join us for the 2012 Joseph H. Hazen lecture in the history of science, Wednesday, May 16, at 6 p.m. at The New York Academy of Sciences, 7 World Trade Center, followed by a reception with guests. Anne Harrington (Harvard
New Rootenberg Catalogue Available

B & L Rootenberg Rare Books is pleased to announce the forthcoming publication of our new catalogue of rare books and manuscripts in the history of science and medicine. If you are interested in receiving a copy of the printed catalogue, please send your name, address, and collecting interests to:

B & L Rootenberg Rare Books
P.O. Box 5049
Sherman Oaks, CA 91403

HSTM Database Is Moving

On 1 March 2012 OCLC (http://www.oclc.org/) announced the transfer to EBSCO Publishing (EBSCO; http://www.ebscohost.com/) of the rights to publisher-owned databases that are currently available through the OCLC FirstSearch reference service (http://www.oclc.org/us/en/firstsearch/default.htm). This transfer includes the History of Science, Technology and Medicine (HSTM) database to which the HSS Bibliographer contributes. This transfer was not unexpected. OCLC asked HSS to sign a non-disclosure agreement while the negotiations were underway. We had lengthy conversations with both OCLC and EBSCO. Our primary concerns included ongoing smooth access to the database by HSS members and no loss in search functions for the database. We were assured on both counts. We have asked the University of Chicago Press, which controls members’ access to the HSTM database through their website, to start working with EBSCO on the transition.

While discussing the transition, we learned the good news that SHOT is once again contributing to the database, and entries continue to be posted by the Wellcome Institute and by the Museum of the History of Science in Florence, thus providing a rich collection of bibliographic materials for scholars. We are particularly gratified that all HSS members have access to these bibliographies.

New York Exhibit Showcases Jews in the History of Science

A new exhibit at the Yeshiva University Museum in New York City called “Trail of the Magic Bullet: The Jewish Encounter with Modern Medicine, 1860-1960” addresses the emergence of scientific medicine and how it radically shaped the way that Jews lived, and how the development presented new opportunities, new challenges, and new ways for them to engage with modern society. The exhibit will be open until 12 August 2012.
Of Books and Google Books

Anita Guerrini, Horning Professor in the Humanities and Professor of History, Oregon State University

In the summer of 1979, I helped to proofread Never at Rest, the biography of Isaac Newton by my graduate advisor Sam Westfall. Being the meticulous scholar he was (a trait I hope he conveyed to me), he also had me check all of his footnotes. I marveled at the number of archives and libraries he had visited in his quest to see everything Newton wrote; only an obscure library in Geneva had denied him access, and in his preface he “wished them the joy of their possession.” I can hear Sam’s inimitable voice in those words, not that I ever dared to call him Sam until I was safely a Ph.D. That same summer I worked at the Lilly Library at Indiana as a receptionist, a job I held all through graduate school. I learned most of what I know about rare books from Josiah Quincy Bennett, the Lilly’s legendary rare book cataloguer.

In my own research over the past thirty years I’ve visited my share of libraries and archives. But increasingly over the past few years, I’ve also gone to Gallica or Google Books or EEBO or ECCO and downloaded hundreds of PDFs onto my laptop. Were I still working on Newtonian matters, I could go to Rob Iliffe’s or Bill Newman’s excellent websites and read Newton’s manuscripts online. I love Tim Hitchcock’s Old Bailey website. I can read the minutes of the Paris Academy of Sciences in my study in Corvallis, Oregon with my cat in my lap and no jet lag. I can find that stray page number within a few minutes. In one of her books, Natalie Davis thanked a library’s staff for staying open late on a Saturday night so she could squeeze out that last bit of research, and as a parent whose research has often taken place in manic slots of a few days, I find it unimaginably luxurious to have access to so much that was previously locked up far away.

And yet there is something lost in depending on digital copies of my primary sources, and I don’t just mean access to restaurants in Paris. I’ve talked elsewhere about what I see as the limits of “culturomics,” the Google n-gram tool. Culturomics sees books as simply units of text, bricks in an edifice of words. My time at the Lilly made me very conscious of the book as an object and an artifact. Recently Gallica digitized the Paris Academy’s 1671 Mémoires pour servir à l’histoire naturelle des animaux. I have been reading this book for the past decade, in at least four different libraries. I am thrilled to have it so easily accessible. But on the screen, the physical presence of “le grand livre” (as the librarians called it who hauled it out for me in Salle Y at the Bibliothèque nationale) is completely lost. It’s an elephant folio, over two feet high, almost too big to fit in a book cradle. Most of the copies that I have seen have been bound in red morocco with gold tooling at the corners and Louis XIV’s fleur-de-lis in the center of the cover. At the British Library in the summer of 2010 I looked at five copies, all different, including Hans Sloane’s own copy, which was bound in blue cloth. I propped them up side by side on giant book rests, monopolizing two desks in the crowded rare books reading room.

Of course all books don’t have such presence, but recent studies of reading and note taking should remind us that reading and writing in the pre-digital age were deliberate acts that involved a number of physical objects, sometimes now referred to as “paper technologies”: loose sheets, notebooks, ink, pens, books, presses, engravers, later perhaps typewriters and carbon paper. The differences between a broadside and a textbook are not simply in the number of pages but in the quality of the paper, the typeface, the size, even the shape, none of which is conveyed very well by a digital copy. Likewise a manuscript is not only the words on the page but the page itself.

My second concern, one that I find ample evidence to confirm in my students, is that if a book is not digitized it ceases to exist. I fear the increasing loss of the physical book to the electronic copy as library budgets continue to contract; we already can see the wholesale unloading of periodical collections. Wide scale
digitization would, it seems, make a project like *Never at Rest* much easier to do. But I wonder if in fact the opposite might be true, and that by trusting in the digital we increasingly overlook that other world of print and paper, diminishing our range of vision rather than expanding it. Perhaps my concerns are unfounded, and I’m not going to delete all those PDFs from my laptop. But I still go to libraries and archives as often as I can.

**Robert Smith Delivers the 50th Sarton Lecture**

The Sarton Lecturer is chosen by the Executive Committee of the HSS. The Lecture, which is supported by the HSS and the AAAS, provides a rare opportunity for a historian of science to speak to an audience largely comprised of scientists. Since the AAAS conference is the world’s largest general scientific meeting, the lecture gives the HSS an opportunity to reach out to professionals in the sciences and engineering from around the world.

Robert Smith, Professor of History at the University of Alberta, gave the George Sarton Memorial Lecture in the History and Philosophy of Science at the American Association for the Advancement of Science annual meeting this past February in Vancouver, British Columbia. Speaking to a crowd of over 100 scientists, historians, media professionals, and others, Professor Smith explored the concept of large-scale science in his presentation “Making Science Big: From Little Science to Megaprojects.”

The talk began with a picture of Vannevar Bush in 1942, pipe clenched in his teeth, holding a large test tube while seated at a lab bench, a personal metaphor for the scientist as lone researcher. Professor Smith then proceeded to outline the received view of big science, a type of science that many trace back to World War II. Hans Bethe was reportedly the first scientist to publicly use the term “big science” in 1958, and Smith described Bethe’s lament that for many scientists big science had closed the door on the golden years of science, those periods in which science came from the ivory towers of pure research. This sentiment of loss resonated with many others, from Alvin Weinberg, who declared in *Science* in 1961 that big science marked a “pathological state,” to Dwight Eisenhower, who in the same year spoke of the solitary inventor, tinkering in his lab, now being overshadowed by task forces of scientists in labs.

Smith then swerved from the received view. After a passing reference to the large-scale projects of Chinese and Islamic astronomers, he described Tycho’s efforts at Uraniborg, with his 30 assistants, wind mill, paper mill, and expensive equipment. He talked about Joseph Banks exploring the world on the *Endeavour* with his team of aides and Darwin’s own voyage and subsequent network of contributors from around the world. But the biggest science of the 19th century was the so-called Magnetic Crusade, followed later by the cooperative efforts engendered by World War I, particularly the efforts involved in chemical warfare.

And it was this “cooperative spirit,” which is so necessary to big science, that was cemented in the physical sciences in World War II. The war forced many scientists to work on large-scale enterprises and one of the byproducts of these cooperative ventures was that some scientists learned the art of coalition building. A good example of coalition building can be found in the Hubble Space Telescope, a scientific instrument that seemed
doomed shortly after launch but was saved, in Smith’s view, by political and managerial feats every bit as impressive as the Hubble’s technical advances. Hubble’s coalition—the US Congress, the White House, NASA, the European Space Agency, the US Department of Defense, the media, members of the public and, of course, scientists and engineers—kept the Hubble alive (cost to date: $20 billion and counting). In contrast, other big-science enterprises, such as the Superconducting Supercollider (SSC), failed because they lacked the political and technical patronage essential for driving these megaprojects forward. Smith advised scientists to learn the lessons from the Hubble and the SSC because if they don’t, Steven Weinberg’s prediction that we will soon see an end to the search for the laws of nature may become more than a warning from Cassandra.

MSNBC’s Jeremy Hsu interviewed Professor Smith at the AAAS meeting in Vancouver, BC. The story, “New space telescope needs ‘big science’ support to succeed,” can be read at http://www.msnbc.msn.com/id/46543899/ns/technology_and_science-space/#.T0zwUHms_g0.

The Isis Bibliography Breaks Another Record

Stephen P. Weldon, HSS Associate Editor

This winter I completed my tenth volume of the Isis Bibliography. At 360 pages, this year’s volume is physically the largest one I have produced. It was another record-breaking year both in terms of size and quality.

Although the bibliography has slightly fewer individually classified items than last year, there was more text on average in each one. The main reason for this is that many more of the edited books included a listing of at least some of the separately authored chapters. While I’ve always added contents lists, this year my assistants were able to find and add more of them than in the past. Those individual chapters—two thousand in all—took up a lot of space, and this lengthened the author index as well.

We picked up works in more obscure places this year. As you may remember, a year ago last December, I issued a call to all members for contributions. That call yielded about three-hundred emails. Each of those emails contained at least one or two items, and prolific authors had many more than that. Some of these citations would have been found through our standard research methods—scanning journals, looking at publisher catalogs and websites, entering book reviews—but we would not have discovered many of them unless someone directed us to the right place.

Little did I imagine how much work it would take to process the submissions. We received so much material from those three-hundred contributors that we were unable to enter it all before the end of the year, which means that we are still working on the last part of it as I write. One reason this has taken so long is that we couldn’t just drop our regular practice of scanning new journals, nor could we allow recently published books to pile up. We had to fit the emails into an already busy schedule.

But the quantity of contributed items was not the main reason it has taken us so long. We discovered as we started working that one chapter out of an edited book would frequently lead us to many other relevant chapters. Also, we were alerted to journals we hadn’t scanned before, and many times, a search of these resources recovered even more articles for the CB. What we learned is that where one historian of science goes, others follow.

Tracking my colleagues through the jungle of scholarship, I frequently find myself in unexpected places. It’s not too surprising to be scanning copies of American Mathematical Monthly or The Coleopterists Bulletin—after all, much history of science still does cater to the interests of scientists themselves. In addition, for people who call themselves historians, journals like Biography and History in Africa don’t raise many eyebrows. But anyone from outside of our discipline would no doubt be perplexed that we publish in the Journal of Folklore Research or White House Studies. There is even a journal called PsycCritiques which has printed material relevant to our field.
Following leads into uncharted waters is what makes this job so interesting. Although my assistants and I can’t spend much time on any one item, we must learn enough about it to know whether it fits in *Isis* at all, and if it does, where it needs to go. That is where the excitement and challenge lies. In my weekly staff meetings, we talk about these issues: what makes a good entry? How do you know when a topic is too far afield? How do you even categorize and index some of these things? A lot of intellectual work goes into trying to understand what this field of ours is all about.

Beyond the production of the bibliography, I’ve been involved in several other projects. First of all, everyone who uses the online database HSTM will be anxious to know about the recent acquisition of that database by EBSCO. (You’ll find more information about that transfer in a separate article in this issue of the *Newsletter.* The contracts have just been signed, so we are at the very early stages. Given the discussions I’ve had so far, I am optimistic that the move will be a good one and offer new opportunities. I’m hopeful that we might see an increase in institutional subscriptions globally. Moreover, EBSCO may be able to provide new functionality for the database. It is too early to give any concrete details about what to expect, but I will keep all of you updated as I work with EBSCO to ensure that they meet our needs.

Promoting bibliographical efforts by others is part of my mission as *Isis* bibliographer. Over the last year, I have begun working with my colleague Suzanne Moon, the current editor of *Technology and Culture.* She and I have been able to restart the SHOT bibliography with help from my software. Because SHOT currently has no bibliographer of their own, their program is driven by a call to membership similar to the one I made a year ago. Moon now has an assistant processing those volunteer contributions for history of technology, and these contributions will soon appear in the HSTM database.

Along similar lines, I have continued to work with an international project called the World History of Science Online (WHSO) in an effort to create an *Isis*-type index for online resources. WHSO ([www.dhst-whso.org](http://www.dhst-whso.org)) is hosted by the University of Melbourne’s e-Scholarship Research Centre in Australia, and it allows users to search by a variety of indexed terms. Last summer, two University of Oklahoma graduate students, Margaret Gaida and Amy Rodgers, collected, described, and indexed about three hundred scholarly websites, and these are now accessible at the WHSO site. The records include detailed information about each website, including languages supported, hosting institutions, and types of resources (full-text archive, bibliography, image gallery, encyclopedia, etc.). WHSO will continue to grow yearly. By the end of this coming summer you can expect to find much more there, and if you would like to suggest resources not yet added, please feel free to contact me directly.

In a year in which the ninety-nine percent are demanding to be heard, HSS should be proud that our bibliography is accessible to more people than ever before. The digital revolution has opened up access to our data. PDFs of individual bibliographies that are over one year old can be retrieved from the History of Science Society’s website for no charge, and the open-access WorldCat.org database contains much *Isis* data as well. (You can find links to these resources at [http://www.hssonline.org/publications/current_bibliography_oclc.html](http://www.hssonline.org/publications/current_bibliography_oclc.html).)

In closing, let me explain why I’ve written most of this article in the first person plural. Much of the credit for this year’s achievement goes to my two graduate assistants, John Stewart and Jared Buss. They deserve special commendation for their hard and careful work. But their achievement is more significant than the numbers alone tell. What is truly impressive to me is that they managed to contribute to this record-breaking volume the same year that each of them became a new father! Despite its large size, the 2011 *Isis Current Bibliography* must properly be called the baby issue. Welcome Madeline and Evie!
**Upcoming Conferences**

*Northwestern University, 4–5 May 2012*

Registration is now open for Acts, Artifacts, and the Politics of Consensus. The keynote speaker is Naomi Oreskes, and panelists include Alex Blanchette, John Carson, Lorraine Daston, Paul Edwards, Joan Fujimura, Fiona Greenland, Christopher Hamlin, Gabrielle Hecht, Susan Ledger, Joseph Masco, Gregg Mitman, Kelly Moore, Tania Munz, Shobita Parthasarathy, Rachel Ponce, and Tom Waidzunas. Registration is free but required. See [http://www.shc.northwestern.edu/events/may2012conference.html](http://www.shc.northwestern.edu/events/may2012conference.html).

**Osiris Special Issue Contributors’ Meeting in Uppsala**

Thanks to the efforts of Hjalmar Fors, one of the contributors to the *Osiris* volume, “Chemical Knowledge in the Early Modern World,” due to appear in 2014, there will be a meeting of the editors and contributors in Uppsala, Sweden, this June. The venue will be the Department for History of Science and Ideas, Uppsala University.

At the meeting, contributors will present drafts of their *Osiris* submissions for discussion and examine general considerations of the nature and conceptual structure of the forthcoming *Osiris* volume.

**History of the Philosophy of Science (HOPOS)**
*Halifax, 21–24 June 2012*

The 9th biennial meeting for the International Society for the History of the Philosophy of Science will take place in Halifax, Nova Scotia this June. The keynote speakers are Ian Hacking, Penelope Madden, and Heinrich von Staden. For full details, see [http://hopos2012.philosophy.dal.ca/](http://hopos2012.philosophy.dal.ca/).

**International Society for the Psychology of Science and Technology Meeting**
*Pittsburgh, 20–22 July 2012*

ISPST will meet in Pittsburgh this July. Keynote speakers include Katy Boerner, Clark Chinn, Iris Tabak, and Paul Thagard. For full details, see the conference website, [http://www.ISPSTonline.org/2012-Conference/Call-for-Submissions/call-for-submissions-for-ISPST2012.html](http://www.ISPSTonline.org/2012-Conference/Call-for-Submissions/call-for-submissions-for-ISPST2012.html).

**Teaching and Researching Big History: Exploring a New Scholarly Field**
*Allendale, Michigan, 2–5 August 2012*

The International Big History Association, dedicated to teaching the integrated history of the cosmos and of humanity, will host its first conference on teaching and research at the Grand Valley State University campus in Allendale, Michigan, 2–5 August 2012. For full details, see the IBHA website, [http://ibhanet.org/](http://ibhanet.org/).

**ICHSTM 2013**
*Manchester, 22–28 July 2013*

The 24th International Congress for the History of Science, Technology and Medicine will be held at the University of Manchester on 22–28 July 2013. The Congress, held every four years, is the world's largest gathering of historians of science, technology and medicine. The theme of the Congress is ‘Knowledge at Work’ and proposals for Symposia (themed panel sessions) can be submitted until [30 April 2012](http://ichstm2013.com/call). From 1 May until 30 November 2012 offers of individual papers can be made. Submissions should be made at [http://ichstm2013.com/call](http://ichstm2013.com/call). Further details about the Congress can be found at [http://ichstm2013.com](http://ichstm2013.com).
**Member News**

**HSS Members at AAAS:** The HSS congratulates the following members for their election as Fellows of the American Association for the Advancement of Science, from Section L (History and Philosophy of Science).

- **Steven J. Dick** (Retired, NASA): “For distinguished contributions to the history of astronomy and space science, and his leadership at the U.S. Naval Observatory and director of the NASA History Office.”

- **W. Patrick McCray** (University of California, Santa Barbara): “For distinguished contributions to scholarship and education in history of science, technology and instrumentation, particularly of intellectual and social interactions in recent astronomy and physics.”

- **Carolyn Merchant** (University of California, Berkeley): “For distinguished contributions to the field of history and philosophy of science, particularly for the history of the scientific revolution and gender and science.”

- **Helga Nowotny** (European Research Council): “For outstanding leadership in promoting international excellence in and understanding of science, policy, and education, most recently in courageous leadership of the European Research Council.”

- **Rosemary Stevens** (Cornell University): “For original work at the trans-disciplinary boundaries of public health, policy, and historical understanding of their social development, and for exceptional service to the professions.”

- **Wilbur Applebaum**’s (Illinois Institute of Technology) translation of Jeremiah Horrocks’s observation of the transit of Venus, *Venus Seen on the Sun: The First Observation of a Transit of Venus* by Jeremiah Horrocks, has just been published by Brill. The translation is accompanied by commentary.


- **Alex Csizsar** has joined Harvard University’s Department of the History of Science as an assistant professor (tenure track). He specializes in print histories.

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**Helen Curry** (Yale University), who will receive her doctorate this spring, has been appointed University Lecturer in the History of Modern Science and Technology, in the Department of History and Philosophy of Science, University of Cambridge.

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**Joseph Dauben** (City University of New York) was recently awarded the Whitman Prize honoring scholarship in the history of mathematics by the American Mathematical Society at the AMS 2012 annual meeting in Boston. He was recognized for his contributions to the history of Western and Chinese mathematics, and for deepening and broadening the international mathematical community’s awareness and understanding of its history and culture.

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**William de Jong-Lambert** (Columbia University) received a Science, Technology and Society grant from the National Science Foundation to fund the Second International Workshop on Lysenkoism, which will be held at the University of Vienna, 21–23 June 2012. He offers special thanks to Mitchell Ash and Carola Sachse at the University of Vienna for hosting the workshop.
**Dawn Digrius** (Stevens Institute of Technology) spoke at United Nations Headquarters on 5 March 2012, in a Side Event at the UN 56th Commission on the Status of Women (CSW-56). The panel, “Rural Women Think Green and Act Green,” was sponsored by the Mission of Sri Lanka and the International Health Awareness Network. Dirigius’ talk was entitled “Senora Santa’s Challenge: Sustainability and Rural Women in Coastal Lowland Ecuador.” Her project examines the history of agricultural production and water management along the coast of Ecuador and how technology, policy, and ethics played a role in how successful mechanisms for sustainability were implemented in the period between 1958 and 1998.

**Steffen Ducheyne** was appointed Research Professor at the Free University of Brussels (Vrije Universiteit Brussel) for 2011–12 and has just published ‘The main Business of natural Philosophy’: Isaac Newton’s Natural-Philosophical Methodology, in the Springer series Archimedes.

**Johnathon Erlen** (University of Pittsburgh) has been honored with a lecture series named for him by the C. F. Reynolds Medical History Society—the nation’s largest regional history of medicine society. The Jonathon Erlen History of Medicine Lecture will be held each year in February.


**Loren Graham**’s (MIT, Emeritus) book (co-authored with Jean-Michel Kantor) *Naming Infinity* was honored at the 2011 Moscow Non-Fiction Book Fair as one of the ten best books published in the Russian language in 2011. The book was also the major reason that the presidium of the Russian Academy of Sciences reversed its earlier resolution in which it censured, for ideological reasons, the great Russian mathematician Nikolai Luzin, the major figure in the book. Luzin has been restored to full honor as founder of the Moscow School of Mathematics. Graham and Kantor were invited to Russia for a book tour during which they gave 18 lectures on the book in three cities.


**Robert Hicks** (Mütter Museum/College of Physicians of Philadelphia) has just published *Voyage to Jamestown: Practical Navigation in the Age of Discovery*, with the U.S. Naval Institute Press.

After twenty-five years, **Frank James** at the Royal Institution in London has, with the publication earlier this year of the sixth and final volume, completed editing the *Correspondence of Michael Faraday*. In total the volumes contain 5053 letters, of which just over 73% were previously unpublished. Among the major reassessments of Faraday’s life and work brought about by the publication of all his extant letters was the crucial role that he played in the English and colonial lighthouse service. After 1836, 17% of
his letters deal with lighthouse matters including the attempt (ultimately a failure) to electrify lighthouses in the late 1850s and early 1860s.

David Jones (Harvard University) has been appointed as the first Ackerman Professor of the Culture of Medicine in the Department of the History of Science. He will be teaching the history of modern medicine and will be initiating—in cooperation with Harvard Medical School—a new program in the cultural and social aspects of medical practice.

Professor Abdul Nasser Kaadan (Aleppo University, Syria) was nominated by Ibn Sina Academy of Medieval Medicine and Sciences of India to the Nobel Prize in literature (historical studies). Professor Kaadan studies the contributions of Muslim physicians to “Western” medicine. He is the founder and now the president of the International Society for the History of Islamic Medicine (www.ishim.net), and the chief editor of its journal, which is published in English. Also, he is the director of the editorial board of the Prominent Arab Physicians Encyclopedia (www.papencyclopedia.net).

Adrienne Kolb, Fermilab Historian and Archivist, recently received a grant from the American Institute of Physics for the Fermilab Archives to process and prepare an online finding aid for the collection of mid-20th century physicist, John D. Linsley. In 1963, at Volcano Ranch, NM, Linsley detected what were then the highest energy cosmic rays observed on earth. Chicago Archivist Valerie Higgins has joined Fermilab to organize and complete this project, which will be shared with the AIP’s Niels Bohr Library & Archives and the Center for the History of Physics.

Henk Kubbinga (University of Groningen) has edited the first two volumes of The Collected Papers of Frits Zernike (1888-1966), now available from Groningen University Press. These two volumes feature Zernike’s original publications, mostly in French, German and Dutch. An English translation of these papers is in progress, and a planned fifth volume will offer additional biographical and historical analysis of this Nobel Prize winner. Once finished, the Collected Papers of Frits Zernike will provide a panoramic view of developments in physics, especially optics, between 1910 and 1960.

Mark Largent (Michigan State University) is the new Secretary for Section L of the AAAS. The AAAS thanks Jonathan Coopersmith (Texas A&M) for his many years of service as Section L Secretary.

Bruce Lewenstein (Cornell University) is spending the first half of 2012 as the first Presidential Fellow at the Chemical Heritage Foundation in Philadelphia. He is working on public-engagement issues, helping CHF identify relevant opportunities and assessment tools for engaging the public in history of science.
**Member News**

**Paul Lucier** (Independent Scholar) was awarded a National Endowment for the Humanities Fellowship for his project “Exploration and Industry: Science and the History of Mining in the American West.”

**Chandra Mukerji** (University of California San Diego) is co-recipient of this year’s Distinguished Publication Award from the American Sociological Association for her book, *Impossible Engineering: Technology and Territoriality on the Canal du Midi*.

**Sally Newcomb** has won the Geological Society of America’s Mary C. Rabbitt History and Philosophy of Geology Award for 2011 for her *The World in a Crucible: Laboratory Practice and Geological Theory at the Beginning of Geology*, GSA Special Paper 449.

**Donald Opitz** (DePaul University) has co-edited *For Better or for Worse? Collaborative Couples in the Sciences* with Annette Lykknes and Brigitte Van Tiggelen. The volume is part of Springer’s *Science Networks. Historical Studies* series.

**David Orenstein** will be retiring as of 30 June 2012 after teaching mathematics for over a quarter of a century at an inner-city Toronto high school. He looks forward to more time and travel to pursue his research into the history of Canadian science, especially mathematics and astronomy.

**Joanna Radin**, who is completing her doctorate in the History and Sociology of Science at the University of Pennsylvania, has been appointed Assistant Professor of the History of Medicine in the Section for the History of Medicine in the Yale Medical School and will join the faculty of the University’s Program in the History of Science and Medicine.

**Sophia Roosth** has joined Harvard University’s Department of the History of Science as an assistant professor (tenure track). She specializes in the ethnography of scientific practice.

**Carola Sachse** and **Silke Fengler** (University of Vienna, Austria) have co-edited a volume in German on the history of Austrian Nuclear Research (1900-1978). The volume, *Kernforschung in Österreich: Wandlungen eines interdisziplinären Forschungsfeldes, 1900-1978*, was published in January 2012 with the Boehlau Publishing House, Vienna.


**Elizabeth Watkins** has been named Dean of the Graduate Division at the University of California, San Francisco. Her new book, *Prescribed: Writing, Filling, Using, and Abusing the Prescription in Modern America* (co-edited with Jeremy Greene) will be published in April 2012 by Johns Hopkins University Press.
Robert Schofield
1 June 1923—30 December 2011

The History of Science Society thanks the family of Dr. Schofield for allowing us to reprint an edited version of the full obituary, available here.

Robert E. Schofield, also called Bob or Scho, of Montgomery Township, NJ, died at his residence in Milford, Nebraska, Mr. Schofield attended Princeton University on a university scholarship and would have graduated with the Class of 1945. However, because of World War II, he accelerated his coursework and graduated with an A.B. in Physics in the spring of 1944.

After his war service ended, Bob returned to school to continue his graduate studies in physics. He was a teaching assistant at the University of Minnesota in Minneapolis, and then a graduate student and Teaching Fellow in the History of Science and Learning Department at Harvard University from 1951 until earning a Ph.D. in the History of Science in 1955. Concurrently, he was a Fulbright Fellow at University College, London from 1953 to 1954.

Over the next 40 years, Bob continued his teaching in many schools. One of his proudest accomplishments was his teaching. With Dr. Melvin Kranzberg, he created the History of Science and Technology Program at Case Institute of Technology (now Case Western Reserve University) in 1961. In 1980, with Dr. Richard Lowitt, he created the graduate Ph.D. program in History (Technology and Science and Agriculture) at Iowa State University. During his career as a graduate teacher, he was senior director for at least 12 students who obtained their doctorates in the History of Science and/or Technology, most of whom have continued as publishing and teaching scholars.

Author of some 35 articles in journals such as Isis, Annals of Science, Chymia, Technology and Culture and the Journal of the History of Ideas, he also authored the biography of Joseph Priestley for the New Dictionary of National Biography (England) and was editor of two books. His book The Lunar Society of Birmingham: A Social History of Provincial Science and Industry in Eighteenth-Century England for which he received the HSS’s Pfizer Award for best scholarly book in 1964. A collection of essays in his honor, Beyond History of Science (edited by Elizabeth Garber), was published in 1990.

In addition to being a founder of the Midwest Junto for the History of Science (along with Duane H.D. Roller and Robert Siegfried) and now in its 55th year, Dr. Schofield was a member of the History of Science Society, the Society for the History of Technology, the American Society for 18th Century Studies, the Academie Internationale d’Histoiric des Sciences (corresponding), the British Society for the History of Science and a Fellow at both the Royal Society of Arts and the American Physical Society.
HIGHLIGHT: Alain Touwaide is on a mission to unearth lost medicinal knowledge from ancient manuscripts. He tells Curtis Abraham about the healing powers of broccoli, and why shipwrecks may provide the best clues to the medicine chests of antiquity.

What would the ancient Greek physician Hippocrates have used to treat, say, a bad headache?
A cataplasm—or poultice; made of iris mixed with vinegar and rose perfume. And for a chronic headache, squirting cucumber.

What if he had a stomach ailment?
Dates, a hen’s broth and cultivated lettuce.

What is the most memorable remedy you’ve come across?
Spiders’ webs. Amazingly, I found spiders’ webs and many other *materia medica* mentioned in the ancient literature when my wife and I visited the shop of a traditional healer in the Turkish city of Konya. We felt as if we had travelled back in time 2000 years.

How do you find out about these remedies?
I search for them in ancient manuscripts from libraries all over the world—the British Library in London, the Vatican Library or in the many collections housed in the monasteries on the Athos peninsula in Greece. It’s what I call my fieldwork. But many manuscripts are also in smaller libraries scattered all through Europe. I also follow the antiquarian book market.

I specialise in the ancient medico-pharmaceutical literature based on Mediterranean flora, and I study the texts in their original language—Greek, Latin, Arabic.

In the hunt for new plant-based medicines, broccoli is a popular target. Has it been used as a medicine in the past?
We have discovered a wealth of data on broccoli in the ancient literature. Originally it was mainly used to treat gynaecological disorders. Then from the 3rd century BC it was also used for digestive troubles, tetanus and possibly dropsy. In the 1st century AD, skin infections were the most important illnesses treated with broccoli, followed by troubles of the digestive system.

The ancient Roman Cato felt all Roman citizens should grow broccoli in their orchard to use as a sort of all-purpose medicine, and the Greek physician Galen prescribed broccoli to treat a medical condition that was most probably colon cancer.

Are there other plants mentioned in classical texts that have potential as new medicines?
Walnut, and the herbs black horehound and white horehound. These plants are credited with a disinfectant and anti-inflammatory action in the ancient literature. They appear to be active against the bacterium *Staphylococcus aureus*, even drug-resistant strains. And red raspberry (*Rubus idaeus*) is recommended for treating inflammation in ancient literature. In modern-day tests it appears to be active against superficial skin inflammation.

Have any new medicines come out from studying ancient ones?
The best example is artemisin—the malaria treatment derived from the *Artemisia* plant. Malaria plagued the ancient world, and we have found more than 70 agents to treat it in the Greek medical literature of the classical period, from the 5th century BC to 3rd century AD—including *Artemisia*. It was identified quite recently by Chinese pharmacologists on the basis of their ancient literature.

Currently, we have quite a range of plants on our databases that should be tested for the treatment of malaria.

Have you managed to get hold of some of these ancient medicines, rather than just written accounts of them?
Ships often traded natural substances across the Mediterranean, including medicinal plants, so shipwrecks and their cargo are a precious
reservoir of material for us. As early as 2002, I suspected that shipwrecks could be a source of information not available anywhere else. Shortly afterwards we heard about what seemed to be medicines, recovered from the wreck of a ship called Relitto del Pozzino, dating from 140 to 120 BC. We’ve been lucky enough to receive fragments of these archaeological remains. With DNA analysis we identified the plant components of these medicines: carrot, parsley, onion and sunflower.

We have recently received material from the famous Casa del chirurgo or House of the surgeon in Rimini, Italy, but we haven’t analysed this yet.

**What have you learned about the way ancient cultures used medicinal plants?**

Their medicines were based on a core of 45 plants, which were cultivated in the orchard close to the homes of the patients to be treated.

What is striking from the writings attributed to Hippocrates is that the plants mentioned are very common: hellebore, garlic, mercurialis, celery, leek, flax, anise, beet, and cabbage among others. This list is significant because it shows that food and medicines are just two faces of the same coin, and that the best medicine is preventive medicine. Myrrh was also used as an antisepctic, antibiotic agent. If you have a disinfectant and a good range of basic substances with which to treat a broad range of illnesses, you have quite a good therapeutic arsenal at your disposal.

**Does your work shed any light on the diseases that were prevalent many years ago?**

From the literature we’ve found that the most important group of diseases were skin infections, followed by those of the digestive system, the urinary tract and gynaecological ailments. We don’t have explicit data about the epidemiology of the populations we’re working on, but we can reconstruct it hypothetically on the basis of texts and human remains.

**Do any of the ancient texts contain the sort of case studies we find in modern medical literature?**

Yes. We can even consider some of the ancient texts as a series of reports put together like a clinical folder. I remember a description of heart failure in a 12th-century treatise, which is the Greek translation of a work originally written in Arabic. Since the ancient physicians didn’t have an overarching notion of heart failure, they fragmented the description into a series of symptoms, each of which was considered as an independent entity, for example, acute pain in the thorax and the back, a feeling of radiating heat. Reading ancient texts requires you to be in a high state of alert because few things indicate clearly what condition is being described. It’s up to the reader to be able to translate the description, starting from one key sign and then deciphering further from the rest of the description.

**Your work focuses on the Mediterranean regions. Have you looked into the ancient Chinese medical literature?**

No. I don’t work on Chinese medicine—this is another universe. However, we’ve started a new research programme on the diffusion of Greek medicine into China, through the Arabic world and India, and, conversely, the trade of medicinal plants from China to the west as far as the Mediterranean. Going with this trade, there was also knowledge.

**Have you been tempted to try any of the ancient remedies that you study?**

No. I wouldn’t practise self-medication! Studying these ancient remedies is a scientific activity for me, not a lifestyle “quest”.

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Alain Touwaide is scientific director of the Institute for the Preservation of Medical Traditions at the Smithsonian Institution in Washington DC. Proficient in 12 languages, he has a Ph.D. in classics from the Catholic University of Louvain (UCL) in Belgium and is currently compiling a database of medicinal plants of antiquity.
History of Science on Stage: Experiences and Reflections

Robert Marc Friedman, University of Oslo & Tromsø, Johns Hopkins University

Values and emotions are of course constitutive of the world of science. To explore such issues, I dramatize the history of science. Although my turn to theatre was highly personal, I learned quickly the value of such efforts for diffusing insight from research to various publics and for entering into dialogue with them.

In 1999, at the first of two seminars on Michael Frayn’s play *Copenhagen* arranged by Dr. Finn Aaserud, Director of the Niels Bohr Archives, I thanked Frayn for reviving my belief in a theatre of ideas. Many decades earlier, I had abandoned thoughts of becoming a playwright when, as an impressionable drama student in New York, I heard during the intermission of a Harold Pinter play, the following: Wife: “Harry, what did that mean?” Harry: “I dunno, but at 20 bucks an hour for parking, let’s get the hell out of here.” This anecdote both reveals my earlier cowardice/prudence, which resulted in my turning to history of science, and reminds us that a play must be able to attract, and hold, an audience.

To use drama as a means to educate and entertain obviously requires adopting a bit of modesty towards the task. I decided to begin with one-act plays based on episodes analyzed in my book *The Politics of Excellence: Behind the Nobel Prize in Science* (2001). The Nobel medallion is etched with human frailties, but can the noble and ignoble efforts of committee members to fulfill their difficult task be transformed into theatre? Popularizing through drama should not mean trivializing history, but rather crafting narratives with different conventions than those used in scholarly texts. Writing a play serves as an extension of historical analysis, a process for examining riddles that even after many years of research remain unresolved.

One of the plays focused on why the Nobel committees refused to acknowledge physicist Lise Meitner’s contributions to the discovery of nuclear fission. I had not come very far when Swedish actors who had performed *Copenhagen* invited me to write just such a play for the Gothenburg International Science Festival. I accepted.

*Remembering Miss Meitner* is set in the theatrical present. Using recent historical scholarship, the play brings Lise Meitner, Otto Hahn, and Manne Siegbahn back to life, where they confront the revelations portrayed in academic works such as Ruth Sime’s excellent biography and my own study of the Nobels. In more recent productions, these characters are summoned to a staged reading of a full-length play, and, while waiting for others to arrive, they begin to discuss what Siegbahn and Hahn consider a scandalous play that absolutely must not be produced. Their increasingly heated exchanges about the intended play bring them into confrontation about the past.

Meitner devoted herself to physics. She understood that the world of science had its share of social imperfections, but that did not stop her from embarking on a memorable career. Nazi persecution stripped her of her possessions and employment; in 1938, she fled from Berlin to Sweden. Three injustices that followed brought further sorrow. Despite having led the team that included chemists Hahn and Fritz Strassmann and having secretly remained in contact with Hahn after fleeing Berlin, she was denied credit in the discovery of nuclear fission. After the war, Hahn refused to acknowledge her role during the crucial months after she
had left. He also conveniently forgot his own confusion and misconceptions while ‘discovering’ fission. In Stockholm, as an internationally prominent nuclear physicist, Meitner was, to her mind, shabbily treated and hindered from continuing her research. Her reluctant host, Manne Siegbahn, guarded his authority and the resources of his Nobel institute for experimental physics jealously. The Nobel committees for both physics and chemistry subsequently chose to ignore Meitner’s contributions to the discovery and explanation of fission. In 1945 Hahn—“the good German”—alone received the 1944 Nobel chemistry prize. He had been nominated and promoted largely by members of the Nobel chemistry committee themselves. The physicists refused to acknowledge fission with a prize. Siegbahn and others relied on the secrecy of Nobel proceedings to bury their biased and faulty evaluations. Meitner remained silent; history now suggests why and how these events happened.

In April 2002, after the first performance, the stage darkened to enthusiastic applause. Soon, however, other tones emerged. A discussion revealed that the play was capable of provoking debate. Defensiveness over the Nobel institution and Manne Siegbahn came to the fore. Subsequent events show that such plays offer opportunities for constructive dialogue among scientists, the general public, historians, and theatre artists. Wherever the play has been staged, it prompted lively discussion and raised both scientists’ and non-scientists’ awareness of discrimination in science as well as the importance of values other than lusting after prizes or personal and institutional self-promotion at any cost.

I am now preparing to publish the play along with historical background materials. Responses to my other plays, “Becoming Albert Einstein” (2005) and most recently “Amundsen vs Nansen” reinforce my belief that we historians should be more active in reclaiming terrain occupied in recent decades by popular science writers. We have much to contribute to the public understanding of science and to raising the consciousness of academics more generally. Historians of science should acquire skills that can allow us to use different media to reach new audiences. Of course, we need department chairs and deans to appreciate that such work is worthy of support.
It takes a while for Canadians to get used to the mid-December heat when they step off the plane in southwest India, but it’s easy to acclimatize to the beautiful country, rich culture, and warm people.

In December 2011, leading Canadian scholars in Science and Technology Studies joined those from India, Singapore, and Australia for a three-day workshop, “Sciences and Narratives of Nature: East and West.” The workshop took place at Manipal University’s Centre for Philosophy and Humanities in the small but bustling town of Manipal, near the west coast of India. The workshop marked the second stage in a series of collaborations between Canadian, Indian, and Southeast-Asian scholars in the fields of Science and Technology Studies (STS) and History and Philosophy of Science (HPS). It followed the “Circulating Knowledge, East and West” international workshop held at the University of King’s College in Halifax, Nova Scotia in July 2010, and the “Intersections: New Approaches to Science and Technology in 20th-Century China and India” workshop at York University in Spring 2011. The Manipal event adopted a comparative approach, examining the place of science and concepts of nature in the “East” and the “West.” This approach was fostered by representatives of the various lead institutions, including the Vice Chancellor of Manipal University, K. Ramnarayan, the Director of the Manipal Centre for Philosophy and Humanities, Sundar Sarukkai, and the Director of the Situating Science Strategic Knowledge Cluster in Canada, Gordon McOuat.

Several years ago, Drs. Sundar Sarukkai and Gordon McOuat began discussing the need to build an alliance between Canadian and Indian researchers in STS and HPS. “Given the fact that there is a great diversity in the views about nature in different cultural and intellectual traditions,” explained Dr. Sarukkai, “and because science, as an enterprise, is aimed at studying nature, it is important to have an international network that studies science and technology.”

The workshop program was ambitious and wide-ranging. With Western presenters either hot (literally) off the tarmac or bravely fighting through jet lag, the first day of sessions explored ancient Western theories of generation, the history of Eastern and Western mathematics, Victorian materialism, Indian traditions of
A Dialogue in December: Building a Canadian-Indian Partnership, cont.

Astronomy and language, early modern mapping, and the exchange of knowledge between the East and the West. After a rejuvenating dinner in the backwaters of Kadekar, participants returned on the second day to compare their perspectives on gender and science, environmentalism, thought experiments, and medical and religious traditions. Presenters rounded off the last day with comparisons between philosophies of modern science, trends in contemporary STS, and relations between sciences and nationhood. The papers from the Manipal workshop will be brought together for publication, as was done with the proceedings of the “Circulating Knowledge” workshop in Halifax. (B. Lightman, G. McOuat, and L. Stewart, eds., Circulating Knowledge: East and West. Brill, 2012.)

While experiencing their own East/West cultural encounter, newcomers were a little anxious. Any concern about the coordination of the workshop, however, was quickly dispelled; the helpful army of volunteer students from the Manipal Centre—staying on during their December break—moved things right along and made participants feel welcome. Updates on the quirky student blog, Barefoot Philosophers, kept readers abreast of the phenomenology of workshop activities.

The energy and excitement were palpable in conversations between presenters and attendees who mingled and exchanged ideas during breaks and discussions. A young faculty member from St. Stephen’s College in Delhi remarked on the effect of the event: “The [workshop] helped me channel my otherwise distracted gut feelings, initiated me into newer fields of inquiry and introduced me to some fine minds in the field.”

Lingering apprehensions were addressed during an open strategy session on the final day. The session opened the floor to students, presenters and attendees. From this session, the event’s organizers and participants took away several suggestions and plans for further collaboration. “Canada has some of the best scholars in the field of Science and Technology Studies,” noted Dr. Sarukkai. “The new generation of Indian scholars in humanities and social sciences who are interested in science and technology will benefit a lot from such a collaborative effort.”

What of fundamental concerns about possible incommensurabilities and insurmountable cultural divides? This question informed Dr. McOuat’s evening lecture, “Orientalism in Science Studies: Should We Worry?” In the lecture, Dr. McOuat addressed those concerns: “We have often spoken of dichotomies, of centre and peripheries, and incommensurabilities. Our own field has seen its many solitudes. It’s time to get over that...As we have discovered in our dialogues here and our previous collaborations, the ‘sciences’ and pre- and post-colonial narratives of nature have always been in a mode of exchange, translation and circulation. It’s time for STS and HPS scholars to follow.”

With partners keen to explore more ways to build long-term collaborations on these foundations, this relationship has a promising future. The sponsoring parties in Canada, India and South East Asia are now working to establish a more permanent partnership between the regions, benefiting teaching, research and the culture of STS and HPS in both communities and globally.

More information on the workshop, including program and abstracts, is available at the Situating Science Strategic Knowledge Cluster website: www.situsci.ca. This event was supported by the Social Sciences and Humanities Research Council of Canada (SSHRC)’s Aid to Research Workshops and Conferences grant and Manipal University as well as the Indian Council of Philosophical Research, Asia Research Institute at the National University of Singapore, the University of New South Wales, the Shastri Indo-Canadian Institute Scholar Travel Subsidy Grant and the Situating Science Strategic Knowledge Cluster. Dr. Stephen Bocking (Trent University) kept a blog on the event, which may be read here: http://niche-canada.org/node/10267.

Jobin Mathew is a doctoral candidate at the Manipal Centre for Philosophy and Humanities, Manipal University in Manipal, India. Emily Tector is Project Coordinator for the Situating Science Strategic Knowledge Cluster in Canada, which is based in Halifax, Nova Scotia (www.situsci.ca).
Teach 3.11 Project Update: One Year after the Triple Disasters in Eastern Japan

Lisa Onaga

Following the disasters in eastern Japan on 11 March 2011, social media and news outlets carried videos of the earthquake’s devastation and the horrifying tsunami that followed it. Instant replays of an explosion at the Fukushima Daiichi nuclear power plant heightened concerns about the events unfolding. How prepared were teachers around the world to talk about this event in classrooms? How ready were historians of science, technology, the environment, and medicine to offer analysis during this period of crisis? The multilingual educational project Teach 3.11 (http://teach311.wordpress.com), conceptualized a little over a week after the earthquake struck, responded to these concerns. The project aims to make it easier for students, teachers, and the public to learn about the historical and social issues related to the earthquake, tsunami, and ongoing nuclear disaster. It also taps the collective wisdom of scholars working, in various languages, at the intersections of history of science and technology and Asia.

Teach 3.11 launched its website in the spirit of international cooperation and solidarity under the auspices of the Forum for the History of Science in Asia, a special interest group of the HSS, on 14 April 2011. Teach 3.11 features resources to “teach the disaster” through the lens of the history of science, technology, and medicine in global East Asia. The site, a simple blog, publishes brief, lay summaries of pertinent books, articles, films, and other works. These annotated citations help teachers choose material for their classrooms. The site’s content comes from students and scholars from different universities, colleges, and countries who volunteer their time, expertise, and language abilities. Multilingual volunteer editors work with contributors to edit annotations and undertake translations in order to ensure the international accessibility of each work. Teach 3.11 volunteers represent multiple fields, including East Asian studies, science studies, political science, film studies, communication, and architecture, in addition to the history of science, technology, and medicine.

One year after its launch, the project has continued to grow, gaining momentum after the co-located HSS/SHOT/4S meetings in Cleveland. New annotations appear weekly during the academic year, and the site has received 11,000 hits to date, with recent months averaging 300 hits per week. Twitter helps the project reach broader audiences (@Teach_311). The project’s more intangible successes stem from the flexibility of its online format, which has made it possible for readers around the world to find new uses for Teach 3.11. For example, two students in Japan created much-needed English subtitles for a 1985 TEPCO documentary about the construction of Fukushima Daiichi. Graduate students who have contributed to the project have found that annotating books and articles is a rewarding way to progress through their reading lists. Faculty have informed us that they perused the site to seek inspiration for course assignments and syllabi. Other scholars peruse the site as part of their research activities, or to let us know of relevant titles, or take translation assignments. Many volunteers have simply wanted to help the victims—somehow—and to regain hope.

Not all of Teach 3.11’s posts focus on Japan, however. Fully understanding the historical context of the triple disaster in Japan requires an engagement with all of East Asia, and with disasters more generally. As Teach 3.11 commits to a second year, adding new content and increasing translations of existing content in Japanese, Chinese, and Korean remain important goals. These new postings add to an already-vibrant online resource: a multilingual, multimedia annotated bibliography that people with various disciplinary interests may continue to find useful.

Though Teach 3.11 is a young project and the occasion of this one-year anniversary is too soon to forecast the next step for its volunteers, the project will likely play a role in remembrance of...
Teach 3.11 Update, cont.
Lisa Onaga

the triple disaster, fostering collaboration among scholars, teachers, students, and others who want a greater and more nuanced understanding of the earthquake, tsunami, and ongoing nuclear disaster. Teach 3.11 cordially invites HSS members to volunteer to write short annotations (and translations of existing annotations) in English, Japanese, Korean, or Chinese. Students as well as faculty are invited to contribute through the webpage at http://teach311.wordpress.com/forthcoming/for-volunteers/.

For more information, to volunteer, or to send the Teach 3.11 team feedback about how you have used the resources on the website, please email teach3eleven@gmail.com or “follow” @Teach_311 on Twitter.

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This newsletter entry is adapted in part from a longer essay first published in EASTS (Lisa Onaga, “Teach 3.11: Participatory Educational Project Puts the Kanto-Tōhoku Disaster into Historical Context,” East Asian Science, Technology and Society 5.3 (2011): 417-422.). Lisa Onaga is a co-founder, managing editor of Teach 3.11, and a postdoctoral fellow of the D. Kim Foundation for the History of Science and Technology of East Asia, in residence at the Institute for Society and Genetics at UCLA.

Caucus and Interest Group Update
A Letter from the Women’s Caucus: New Website, Blog

We are writing to announce a new Women’s Caucus website: http://hsswc.weebly.com/.

At the annual Friday morning breakfast in Cleveland, during the HSS conference, we had discussed creating a centralized website where members could post resources useful for teaching. Thank you for all of your work this past academic year in supplying the syllabi and resources that now comprise the bulk of the material presented on the site. Without you, none of this would have been possible. We hope that the new website is a helpful step in the direction of collaboration.

You will also notice the presence of a “blog” on the page. This is intended to be a space where members of the community can post short summaries of a teaching resource(s) they would like to share with others and to begin conversations about these sources. Each post should be 200-300 words long and, for the moment, emailed to Erika Milam at milam@umd.edu. If you have never written a blog post before, no worries! A few brave souls, Georgina Montgomery and Susan Rensing, have posted blog entries as examples.

We welcome your submissions, comments, and suggestions for other material to include on the site!

With best wishes,

Your Women’s Caucus co-chairs

Erika Milam
University of Maryland

Georgina Montgomery
Michigan State University
Spotlight on Washington
The History of Science in Policy

The following articles are excerpted from the website of the Coalition for History http://historycoalition.org/, an organization promoting the teaching of history in the United States. Links to the full versions of each article appear below. Since the HSS is an international society, members who reside outside the U.S. are requested to send education and policy news from their respective countries.

Teachinghistory.org Releases Updated Report on State of History Education

Teachinghistory.org recently announced that an addendum to the 2010 Report on the State of History Education is now available. This supplement tracks policy changes regarding the teaching of U.S. history between August 2008 and September 2010 in all fifty states and the District of Columbia.

Findings include the following:

• Common Core State Standards, President Obama's Race to the Top initiative, state finances, the creation of the Social Studies Assessment, Curriculum and Instruction program, and the Consortium for a Well-Rounded Education have impacted state standards and policy.

• Between September 2008 and August 2010, twelve states and the District of Columbia revised their history/social studies state standards. Iowa remains the only state without any history/social studies standards, preferring local control of the curriculum.

• World history trails U.S. history in state requirements: thirty-nine states and the District of Columbia require a course in U.S. history for graduation, while only twenty-two states and the District of Columbia require a course in world history. Out of twenty-six states that require history testing, twenty-four include American history content, while only 15 require world history assessment.

• Social Studies/History testing included more constructed responses such as essays or short answers in 2010 than in past years. Of the twenty-six states that required history/social studies testing in 2010, half required some kind of constructed response as opposed to 42% (11 out of 25) in 2008.

To complement the report addendum, Teachinghistory.org has also updated its database of state standards to reflect changes since 2008. This is the only comprehensive compilation of state standards available online.

It is fully searchable by state and grade. http://historycoalition.org/2012/03/01/teachinghistory-org-releases-updated-report-on-state-of-history-education-2/#more-4702

U.S. House of Representative Panel Passes Resolution Cutting K-12 History Funds

On February 28, the U.S. House Committee on Education and the Workforce approved two pieces of legislation to rewrite the Elementary and Secondary Education Act (ESEA). One bill, the “Encouraging Innovation and Effective Teachers Act” includes earlier legislation (H.R. 1891) that would eliminate more than 70 Department of Education programs including Teaching American History grants.

http://historycoalition.org/2012/03/01/house-panel-passes-two-k-12-education-reform-bills/#more-4730

Fulbright-Hays Group Projects Abroad Program Application Period Open

The Fulbright-Hays Group Projects Abroad Program for 2012, is accepting applications until 23 April 2012. This U.S. program “provides grants to support overseas projects in training, research, and curriculum development in modern foreign languages and area studies.
Spotlight on Washington: The History of Science in Policy, cont.

for teachers, students, and faculty engaged in a common endeavor.”
http://historycoalition.org/2012/03/01/fulbright-hays-group-projects-abroad-program-application-period-open/#more-4720

National Humanities Alliance Executive Director Jessica Irons Stepping Down

In January, U.S. National Humanities Alliance (NHA) Executive Director Jessica Jones Irons announced that she was stepping down effective 1 February 2012.
http://historycoalition.org/2012/03/01/national-humanities-alliance-executive-director-jessica-irons-stepping-down/#more-4691

Report Calls for Greater Emphasis on Civic Learning in Higher Education

A report from the U.S. National Task Force on Civic Learning and Democratic Engagement, A Crucible Moment: College Learning and Democracy’s Future, urges educators and public leaders to advance a 21st century vision of college learning for all students—a vision with civic learning and democratic engagement an expected part of every student’s college education.
http://historycoalition.org/2012/03/01/report-calls-for-greater-emphasis-on-civic-learning-in-higher-education/#more-4678

NARA Seeks Input on “Managing Government Records” Presidential Directive

The U.S. National Archives and Records Administration recently announced the start of a public information gathering effort related to the Presidential Memorandum on Managing Government Records. The Memorandum was issued on 28 November 2011 and directs agencies to develop a 21st-century framework for records management.
http://historycoalition.org/2012/03/01/nara-seeks-input-on-managing-government-records-presidential-directive/#more-4714

NEH Names Wendell E. Berry to Deliver 2012 Jefferson Lecture

Wendell E. Berry, noted poet, essayist, novelist, farmer, and conservationist, will deliver the 2012 Jefferson Lecture in the Humanities. The annual lecture, sponsored by the U.S. National Endowment for the Humanities (NEH), is the most prestigious honor the federal government bestows for distinguished intellectual achievement in the humanities.
http://historycoalition.org/2012/03/01/neh-names-wendell-e-berry-to-deliver-2012-jefferson-lecture/#more-4672

AHA Initiates Nationwide Project to Define “Core of Historical Study”

The American Historical Association (AHA) is initiating a nationwide, faculty-led project (the history “Tuning” initiative) to articulate the core of historical study and to identify what a student should understand and be able to do at the completion of a history degree program. http://historycoalition.org/2012/03/01/aha-initiates-nationwide-project-to-define-core-of-historical-study/#more-4665

NEH Announces “Digging Into Data” Challenge Grant Awardees

The National Endowment for the Humanities (NEH) and seven global partners recently awarded approximately $4.8 million to international research teams investigating how computational techniques may be applied to “big data”—the massive multi-source datasets made possible by modern technology. http://historycoalition.org/2012/03/01/neh-announces-digging-into-data-challenge-grant-awardees/#more-4661
Preliminary Program for the 7th Joint Meeting of the HSS, the British Society for the History of Science, and the Canadian Society for the History and Philosophy of Science

(Please note that this preliminary program will change. Updated versions will be posted on the 3-Society meeting site: http://www.hssonline.org/Meeting/3_Society.html. Many sessions still require chairs (indicated by TBD) and we welcome volunteers (please contact info@hssonline.org to volunteer).

Registration is required for all participants and registration will open in late April. All sessions, except for the opening lecture and opening reception, will be held on the campus of the University of Pennsylvania.

We wish to thank the Philadelphia Area Center for the History of Science (PACHS) for its support of this conference, especially the University of Pennsylvania, the Chemical Heritage Foundation, and the American Philosophical Society.

*indicates organizer

**WEDNESDAY, July 11**

**Opening Keynote Lecture**
5:00 pm–6:00 pm
(refreshments served prior to the lecture)

Into All the World: Expanding the History of Science and Religion beyond the Abrahamic Faiths
Ronald L. Numbers, Hilldale Professor of the History of Science and Medicine, University of Wisconsin, Madison

**Opening Reception**
6:00 pm–7:30 pm

Chemical Heritage Foundation (hosted by CHF)

3. “The Epstein-Barr Virus, Burkitt’s Lymphoma, and the Development of the Herpes Heuristic,” Brendan Clarke, University College London

**THURSDAY, July 12**

9:00 am–11:45 am
(coffee break 10:00-10:15 am)

**A Century of Viruses and Cancer**
*Chair: Robin Scheffler, Yale University

1. “Plutarchian Parallels in Research Lives of Cancer Viruses and Bacteriophages,” *Neeraja Sankaran, Yonsei University

3. “Transferring the Ether Concept in the USA: Herbert’s E. Ives’ Theory and His Opposition to Relativity,” Roberto Lalli, MIT
THURSDAY, July 12, cont.

9:00 AM–11:45 AM, cont.
(coffee break 10:00-10:15 am)

History of the Human Sciences
Chair: TBD
1. “The Man With Too Many Qualities: The Afterlives of Adolphe Quetelet’s Average Man,” Kevin Donnelly, Alvernia University
3. “Race, Caste, and Class: Analogical Thinking in the Human Sciences During the Mid-Twentieth Century,” Sebastián Gil-Riaño, University of Toronto

Science and Technology in History
Chair: Fumikazu Saito, Pontifical Catholic University of São Paulo
2. “Music and Technē: Distinctions on the Natural and the Artificial,” Carla Bromberg, Pontifical Catholic University of São Paulo
3. “A Long-Standing Antecedent of Laurent Joubert’s Erreurs Populaires,” Vera Cecilia Machline, Pontifical Catholic University of São Paulo
4. “Ars et Scientia: The Role of Apparatus and Devices in Della Porta’s Natural Magic,” Fumikazo Saito, Pontifical Catholic University of São Paulo
5. “Women’s Secrets and their Sources: Marie Meurdrac and Andrè le Fournier Cosmetics,” Lais Dos Santos Pinto Traindade and Maria Helena Roxo Beltran, Pontifical Catholic University of São Paulo

Science in Public Culture
Chair: Bruce Lewenstein, Cornell University
1. “Playing with the History of Science,” Iwan Rhys Morus, Aberystwyth University
2. “Model Students and Ambassador Users: The Role of the Public for the Global Marketing and Distribution of Nineteenth-Century Anatomical Models,” Anna Maerker, King’s College London
3. “Joe Trenaman’s Investigation of BBC Listeners’ Understanding of Science,” Allan Jones

Was the Modern Synthesis Actually a Synthesis, and in What Sense?
Chair: Jean Gayon, IHPST, Paris
2. “If the Synthesis Ended How Would We Know It?,” David Depew, University of Iowa
5. “Evolutionary Syntheses, Modern and Extended: Shifting from Product(s) to Processes,” Alan C. Love, University of Minnesota

Lunch
11:45 AM–1:30 PM
Preliminary Program for the 7th Joint Meeting of the HSS, the BSHS, and the CSHPS

THURSDAY, July 12, cont.

1:30 PM–3:30 PM
(coffee break 3:30–4:00 pm)

Dusty Disciplines: Blackboards as Material and Culture in Science and Mathematics
Chair: Caitlin D. Wylie, University of Cambridge
Commentator: Peggy Aldrich Kidwell, National Museum of American History, Smithsonian Institution
1. “Soldiers and Scholars: The Blackboard at West Point,” Christopher J. Phillips, Harvard University
3. “Board into Their Minds: Sketching the Mathematical Blackboard in Anecdotal Memory,” *Michael J. Barany, Princeton University

Models and Materiality
Chair: Ruthann Dyer, York University
1. “‘Resembling as Near as Possible’: Botanical Models and Botany Instruction in the Nineteenth Century,” *Ellery Foutch, University of Wisconsin-Madison
2. “Materializing the ‘Atomic’: Iconography at the Interface of Molecular Models and Design in Post-War Britain,” Emily Candela, The Science Museum, London & Royal College of Art
3. “Logics and Materialities of Air Resistance: Étienne-Jules Marey’s Insect Automata,” Enrique Ramirez, The University of Texas at Austin

Genetics, Race, and Anthropology
Chair: TBD
3. “Occupying Europe: How West German Volkskundler Claimed Europäische Ethnologie,” Amanda Randall, University of Texas at Austin

Nuclear Scientists and the Dangers of the Nuclear Age
Chair: Mark Walker, Union College, Schenectady, NY
Commentator: Carola Sachse, University of Vienna
1. “Knowing the Atom: The IAEA and International Scientific Exchange,” Elisabeth Röhrlich, University of Vienna
2. “‘Fallout’ in the Fifties: Scientists Divided, Pugwash United?,” Alison Kraft, University of Exeter
3. “‘Experts Between War and Peace’—Austrian and West German Experts and the International Pugwash Movement,” *Silke Fengler, University of Vienna

Science and Colonialism
Chair: TBD
1. “A Science Out of Place: Early Modern Colonialism and the Making of Garcia de Orta’s Colóquios,” Hugh Glenn Cagle
2. “Colonial Madness: Creating Practical Spaces to Be Insane in Nineteenth-Century India,” Anouska Bhattacharyya, Harvard University
3. “An Imperial Epidemiology: Epidemiological Practices in Britain and Abroad, 1865–1914,” Jacob Steere-Williams, University of Minnesota
THURSDAY, July 12, cont.

1:30 pm–3:30 pm, cont.
(coffee break 3:30–4:00 pm)

Scientific Correspondents
Chair: TBD

1. “‘Almost Out of a Woman’s Natural Thinking’: Considering Science and Gender through Charles Darwin’s Private Correspondence,” Philippa Hardman, University of Cambridge
3. “Science, Ideology, and Worldview: John C. Greene’s Long Correspondence with Theodosius Dobzhansky and Ernst Mayr,” Stewart Kreitzer, University of Florida
4. “‘As Good a Laboratory as Can Be Desired’: The Chymical Correspondence of William and Thomas Molyneux,” Sue Hemmens, Marsh’s Library, Dublin

Training and Transmission in Chemistry
Chair: TBD

1. “Transmission & Reception: The Case of Bunsen’s American Students,” Christine Nawa, Universität Regensburg / Chemical Heritage Foundation
3. “‘In One’s Way of Seeing Lies One’s Way of Action’: Science and Art in Alfred Stieglitz’s Photographic Experimentation,” Chiara Ambrosio, University College London
4. “Emil Fischer and the Methodical Production of Genius,” Catherine Jackson, Chemical Heritage Foundation

4:00 pm–6:00 pm

Fighting Technologies: Military Confrontations with Telecommunications Systems, 1876-1918
Chair: Graeme Gooday, University of Leeds

2. “Phone Lines on Front Lines: The Victorian Army and the Telephone,” Michael Kay, University of Leeds
3. “Monopoly Games: The US Navy and Domestic Wireless during World War One,” Elizabeth Cregan, Monmouth University

Flows of Chemical Knowledge
Chair: TBD

1. “Chymistry and Censorship at the Early French Academy and Royal Society,” Victor Boantza, University of Sydney
2. “Alchemists in the United Kingdom in the 16th-18th Centuries: Social Networks and Transmission of Knowledge,” Hsiao-Yun Cheng, National Tsing-Hua University, Hsinchu, Taiwan
3. “‘Strictly Chemical from Beginning to End’: The Credibility of Chemistry in Treatises on Brewing across the Nineteenth Century,” James Sumner, University of Manchester

Genetics, Plant Breeding, and Institution Building: International Perspectives from Britain, New Zealand and Italy
Chair: *Berris Charnley, University of Exeter

1. “State Patronage of Science: British Agricultural Science and the Development Commission, 1889–1919,” Dominic Berry, University of Leeds
3. “Agricultural Genetics in Italy: Nazareno Strampelli (1866–1942),” Luca Iori, University of Bologna
THURSDAY, July 12, cont.

4:00 PM–6:00 PM, cont.

Historical Displays and Disciplinary Identity
Chair: Anna Maerker, King’s College London
3. “Mapping Out A Science: Joseph Needham’s ‘A Chart to Illustrate the History of Biochemistry and Physiology’ (Cambridge, c.1924),” Anna Kathryn Schoefert, University of Cambridge

Novelty in Medicine
Chair: TBD
2. “Serotherapy in Lyon: The Local Reception of Innovation,” Jonathan Simon, University of Lyon
3. “Inquests into a Surgical Procedure: Creating Public and Professional Trust in Aural Surgery, 1830-1845,” Jaipreet Virdi, University of Toronto

Science, States, and Space
Chair: TBD
1. “The View from Somewhere: 19th Century Western Scientific Practice as Seen from the Greek Space,” Kostas Tampakis, University of Princeton
3. “Prospecting Algeria: Oil Geophysics and Diplomacy,” Roberto Cantoni, University of Manchester

FRIDAY, July 13

9:00 AM–11:45 AM
(coffee break 10:00-10:15 am)

Experimenting in the Baconian Style
Chair: Carin Berkowitz, Chemical Heritage Foundation
Commentator: Daniel Garber, Princeton University
1. “Bacon’s Sylva sylvarum and the Practice of the Great Instauration,” Peter Dear, Cornell University
2. “The Hunt of Pan: The Creative and Heuristic Role of Experiments in Francis Bacon’s Natural Histories,” Dana Jalobeanu, University of Bucharest
4. “The Baconian Experiment as Probatio,” Cesare Pastorino, University of Sussex
FRIDAY, July 13, cont.

9:00 AM–11:45 AM, cont.
(coffee break 10:00–10:15 am)

Material Culture
Chair: TBD
4. “Natural History Collections and Teaching Practices in Portugal during the 19th and 20th Centuries,” Inês Gomes, CIUHCT—Centro Inter-Universitário de História da Ciência e Tecnologia / Museu de Ciência da Universidade de Lisboa

Scientific Ethos and Epistemology in the Long Nineteenth Century
Chair: *Elise Lipkowitz, University of Michigan
Commentator: TBD
1. “France's European Empire and the Eclipse of Cosmopolitan Science,” Elise Lipkowitz, University of Michigan
2. “The Glory of the Corps of Roads and Bridges’: Augustin Fresnel and the Ethos of Civil Engineering in Restoration France,” Theresa Levitt, University of Mississippi
3. “Cultures of Discovery and Priorities of Publication in 1840s France and Britain,” Alex Csiszar, Harvard University

Toward a Global/International/Transnational History of Spaceflight
Chair/Commentator: Roger D. Launius, National Air and Space Museum, Smithsonian Institution
1. “Cold War Science at the Last Frontier: Messing with and Measuring the Magnetosphere,” Gregory Good, Center for History of Physics
2. “Starfish, International Law, and Human Rights,” Linda Richards
3. Title TBD, Audra Wolfe, Independent Scholar
5. “The Dilemmas of the Biological Philosopher: Herbert Spencer Jennings and the Personae of Public Engagement,” Judy Johns Schloegel

Seeing and Believing: The Importance of Mechanisms in Human and Medical Genetics
Chair/Commentator: Susan Lindee, University of Pennsylvania
1. “Genetics without Sex: Going Molecular in Human Genetics,” Nathaniel Comfort, Johns Hopkins University
3. “Science Fiction to Science Fact: The Role of a Biological Mechanism in Validating Genetic Anticipation,” *Judith Friedman, National Institutes of Health
4. “Collective History as a Mechanism to Explain Genetic Risk of Breast Cancer among High-Risk Ashkenazi Jewish Women,” Jessica Mozersky, University of Pennsylvania
FRIDAY, July 13, cont.

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<td>What is the Object of the History of Chemistry?</td>
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**What is the Object of the History of Chemistry?**

**Chair:** Carin Berkowitz, Chemical Heritage Foundation

**Commentator:** TBD

1. “‘Theory’ and ‘Practice’ in the Historiography of Chemistry,” John G McEvoy, University of Cincinnati
2. “Stabilizing Chemical Objects,” Mi Gyung Kim, North Carolina State University
3. “Historiography and Disciplinary Identity: The Case of Humphry Davy,” Jan Golinski, University of New Hampshire

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**Chair:** TBD

2. “Ptolemy’s Visual Theory Applied to Astronomy,” Elizabeth Hamm, Saint Mary’s College of California
3. “Exploring the Archaeology of Light in Roman Britain,” Zena Kamash, University of Oxford

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**Ancient Science and Technology**

**Chair:** TBD

2. “‘Forecasting’ Flu: The Moral and Political Economy of Global Influenza Control,” Michael Bresalier, University of Manchester

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<td>Public Health from Bacteriology to Genomics</td>
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**Chair:** TBD

2. “That Was Decided for Me’: Science Graduates and the British State from World War II to the early 1960s,” Sally Horrocks, University of Leicester
3. “Geology and Governance: Surveying the North Sea in the Cold War,” Leucha Veneer, University of Manchester

In the Library

**Chair:** Ann E. Robinson, University of Massachusetts, Amherst

4. “Problems Posed,” Jemma Lorenat, Simon Fraser University

Scientists and the British State

**Chair:** TBD

2. “That Was Decided for Me’: Science Graduates and the British State from World War II to the early 1960s,” Sally Horrocks, University of Leicester
3. “Geology and Governance: Surveying the North Sea in the Cold War,” Leucha Veneer, University of Manchester
FRIDAY, July 13, cont.

1:30 pm–3:30 pm, cont. (coffee break 3:30–4:00 pm)

**Technical Drawing and the Political Context of Science and Technology**
*Chair: Alan Rocke, Case Western Reserve University*

1. “The Invention and Contentious Social Setting of Linear Drawing in France, 1815–1828,” *Andrew J. Butrica, Research Historians Group*
2. “Delineating a Rational Profession: Engineers and Draughtsmen as Visual Technicians in Early Nineteenth Century Britain,” *Frances Robertson*

**Tempo and Mode in Mid-Twentieth-Century Genetics**
*Chair/Commentator: Susan Lindee, University of Pennsylvania*

1. “Latent Life: Intersections between Cryobiology and Human Genetics in the Mid-20th Century,” *Joanna Radin, University of Pennsylvania*
3. “Skulls from the Dead, Blood from the Living: Studying Human Heredity and Race in Interwar Britain,” *Jenny Bangham, University of Cambridge*

**John Tyndall and His Correspondences**
*Chair/Commentator: Graeme Gooday, University of Leeds*

2. “Reconciling God with Nature: John Tyndall’s Science and the Philosophies of Carlyle, Emerson, and Goethe, as Seen through his Correspondence with Thomas Hirst,” *Ursula DeYoung*
3. “John Tyndall and the Public(s) Communication of Science,” *Geoffrey Belknap*

**Correspondence, Manuscripts, and Digitalization**
*Chair: TBD*

1. “Editing Joseph Black’s Correspondence,” *Robert Anderson, University of Cambridge*
2. “A Scientific News Service in Late-Eighteenth-Century London,” *Roderick Home, University of Melbourne*
3. “The Role of Editing Manuscripts in Post-1945 History of Science,” *Frank James*

**Enlightening the World**
*Chair: TBD*

1. “The Starry Sky above Me’: The Role of Paradoxes in Kant’s Cosmology and Theoretical Philosophy,” *Silvia De Bianchi, University of Rome ‘La Sapienza’*
2. Émilie Du Châtelet on Gravity and the Nature of Matter,” *Karen Detlefsen, University of Pennsylvania, and Andrew Janiak, Duke University*
3. “The Enlightenment, the Pacific Laboratory and Natural History,” *John Gascoigne, University of New South Wales*

**Instruments and Measurement**
*Chair: TBD*

1. “The Accuracy of the Timeball and the Development of Electrical Timekeeping in Liverpool, 1850–1870,” *Yuto Ishibashi, Japan Society for the Promotion of Science*
4. “The Pod: A Centrifuge that Made the World’s Head Spin,” *Slawomir Lotysz, University of Zielona Gora*
Jewish Scientists in Interwar Vienna  

Chair: Sabine Brauckmann, Tallinn University

1. “Weiss’ Resonance Inside Vienna’s Academia,” Sabine Brauckmann, Tallinn University
2. “Jewishness and the Inheritance of Acquired Characteristics in Interwar Vienna,” Cheryl Logan, University of North Carolina Greensboro
3. “Julius Bauer’s Fight with Mendelian Enthusiasts Concerning Human Genetics,” Veronika Hofer, University of Vienna

Rethinking Spencer: Science and Philosophy circa 1900  

Chair: *Chris Renwick, University of York

Commentator: Gregory Radick, University of Leeds

2. “Evolution in the Metaphysical Club: Wright and Fiske on Darwin and Spencer,” Trevor Pearce, University of Wisconsin-Madison

Transatlantic Reactions: Translating Chemistry between Continents  

Chair: Seymour Mauskopf, Duke University

1. “Colonial Chymistry: The Case of John Allin, Minister-Physician in Woodbridge, New Jersey (1680–1683),” Donna Bilak, Bard Graduate Center
2. “Laboratory Instruction in American Land-Grant Colleges: A German Import in a New World (1870–1914),” Stephen Weininger, Worcester Polytechnic Institute
4. “Chemical Control in the Atlantic Sugar Trade,” David Singerman, MIT

Transmission of Science and Medicine in East Asia  

Chair: TBD

1. “The Quest for the ‘West’: Empire(s), Western Knowledge, and Korea,” Eun Jeong Ma, Pohang University of Science and Technology
2. “Chinese Mathematics in Vietnam: Transmission and Adaptation,” Alexei Volkov, National Tsing Hua University, Hsinchu, Taiwan
3. “Evolution and Religion in China: 1870s–1930s,” Haiyan Yang, National Tsing-Hua University, Hsinchu, Taiwan

American Religion and Science  

Chair: *Edward B. Davis, Messiah College

Commentator: Ronald L. Numbers, University of Wisconsin-Madison

1. “Shelving the Science-Religion Question: The Uses of Paley’s Natural Theology in the Early American Republic,” Adam Shapiro, University of Wisconsin-Madison
2. “Altruism and the Administration of the Universe: Kirtley Fletcher Mather on Science and Values,” *Edward B. Davis, Messiah College
3. “Calling for the ‘New Prophet’: A Skeptical Scientist Argues for the Importance of Religion in the Cold War,” Matthew Shindell, University of California, San Diego
Beyond Transmutation: The Goals of Early Modern Alchemy

Chair: Margaret Garber, California State University

Commentator: TBD

1. “Medicine and the Pursuits of Alchemy,” Jennifer Rampling (organizer for SHAC), University of Cambridge

Botany and Natural History

Chair: TBD

1. “Mary Somerset, First Duchess of Beaufort, and Stories of Science from Badminton House,” Julie Davies, University of Melbourne
3. “Collecting Slave Traders: James Petiver, Natural History, and Slavery in the British Atlantic,” Kate Murphy, California Polytechnic
4. “Have Miss Martin Do It’: Women at Work in the Boston Society of Natural History and Harvard’s Museum of Comparative Zoology, 1870–1910,” Jenna Tonn, Harvard University
5. “Collecting Assyria: Biblical Discovery as Natural History in the Mid-Nineteenth Century,” Eleanor Robson, University of Cambridge

Death Under the Microscope: Histories and Mechanisms of Apoptosis Research

Chair: *Andrew Reynolds, Cape Breton University

Commentator: Jane Maienschein, Arizona State University

1. “From Mechanism Schemas to Mathematical Models: Elucidating the Quantitative-Dynamic Aspects of Molecular Mechanisms,” Tudor M. Baetu, Konrad Lorenz Institute
3. “Alexis Carrel’s Tissue Culture: Cell Death, Experimental Failure, and Surgical Imperatives,” Hyung Wook Park, Ulsan National Institute of Science and Technology

Meet the Author: Margaret W. Rossiter and Her 3rd Volume “Beyond Affirmative Action: Women Scientists in America, 1972-2000”

Chair: Sally G. Kohlstedt, University of Minnesota

Commentator: Ruth Schwartz Cowan, University of Pennsylvania

1. “Gender in Science, 18th to 20th Centuries, and Its Connection to Rossiter’s Trilogy,” Ludi Jordanova, University of London
SATURDAY, July 14 cont.

The Sense of Things: Perception as Practice in Educational Settings
Chair/Commentator: Lynn K. Nyhart, University of Wisconsin

2. “The Surgeon’s Seeing Hand: Teaching Anatomy to the Senses in Britain, 1750–1830,” *Carin Berkowitz (co-organizer), Chemical Heritage Foundation

Lunch
11:45 AM–1:30 PM

Defining the Instrumental: Navigation, Longitude and Science at Sea in the 18th Century
Chair/Commentator: Robert D. Hicks, Mütter Museum, Philadelphia

1. “Longitude Inscrib’d: Early Pamphlet Solutions to the Longitude Problem,” Katy Barrett, University of Cambridge
2. “‘Precision’, ‘Perfection’ and the Reality of Eighteenth-Century Instruments at Sea,” *Alexi Baker (co-organizer), University of Cambridge

Experiments of the Experiential
Chair: *Andrew M. Fearnley, Edge Hill University
Commentator: Henrika Kuklick, University of Pennsylvania

1. “Science, Literature, and the ‘Mirror of Nature’: Metaphors of Knowing in the United States at the Turn of the Twentieth Century,” Robin Vandom, University of Nottingham
2. “From Subjective Experience to Experimental Subjects: Test Pilots in the Weimar Republic,” Daniela Helbig, Harvard University

Method and Discovery: Connections between Anatomy and Philosophy in the Early Modern Period
Chair: Charles Wolfe, University of Ghent

1. “Philosophical Anatomy: Teleology in Harvey’s De Motu Cordis,” Peter Distelzweig, University of Pittsburgh
3. “Cosmology and the Crystalline Humor: Color Theory in Natural Philosophy and Anatomy in Late Sixteenth-Century Padua,” Tawrin Baker, Indiana University
SATURDAY, July 14 cont.

1:30 PM–3:30 PM
(coffee break 3:30–4:00 pm)

Science and Art in the American South
Chair: Nancy Hoffmann, Independent Scholar
Commentator: Ann Shteir, York University
1. “To See the Moving Pencil; Display a Sort of Paper Creation, Which May Endure for Ages: William Bartram as a Natural History Artist,” Joel Fry, Bartram’s Gardens, Philadelphia
2. “Philip Henry Gosse: English Naturalist-Artist in Alabama, 1838,” Gary Mullen, Auburn University (emeritus)
3. “Contextualizing Creativity: Maria Martin, Natural History Illustrator,” Debra Lindsay, University of New Brunswick

Science in the Public Sphere
Chair/Commentator: Jeffrey Hughes, University of Manchester
3. “Selling—and Selling Short—Silent Spring: Environmentalism, Economics, and the Public Sphere,” David Hecht, Bowdoin College

Tools of Science, Tools of Politics: Radioactive Contamination in Historical Perspective
Chair/Commentator: Audra Wolfe, Independent Scholar
1. “Same Data, Different Conclusions: Radioactive Fallout, the U.S. and British Scientific Committees, and the Diverging Role of Expertise in Public Affairs,” Toshihiro Higuchi, Stanford University

“Improving” the Climate in the Early-Modern North Atlantic World
Chair: Jennifer Steenshorne, Columbia University
1. “Writing the Wilderness in the Early-Modern English Atlantic,” Keith Pluymers, University of Southern California

Mechanism, Life, and Embodiment in Early Modern Science
Chair: Charles T. Wolfe, University of Ghent
Commentator: Peter Distelzweig, University of Pittsburgh
1. “The Fire without Light: The Non-Mechanical Foundation of Descartes’ Mechanical Physiology,” Barnaby Hutchins, University of Ghent
2. “Descartes on the Heartbeat: The Leuven Controversy,” Lucian Petrescu, University of Ghent
3. “Bloody Analogical Reasoning. The Role of Analogical Reasoning in William Harvey’s Discoveries,” Dagmar Provijn, University of Ghent
SATURDAY, July 14, cont.

Ownership and Invention of Medical Technologies
Chair/Commentator: Iwan Rhys Morus, Aberystwyth University

1. “‘A Barrier to Medical Treatment’? British Medical Practitioners and the Patent Controversy, 1880–1920,” Claire Jones, University of Warwick
2. “Hearing Aids at the Historical Nexus of Patenting, Prosthetics, Physics and Physiology,” Graeme Gooday, University of Leeds

Recasting 20th Century Physics
Chair: TBD

4. “‘...A Cleanly Cut Piece of Solid Light’: Spectroscopic Study of Radium Glow by William and Margaret Huggins,” Barbara Becker, University of California, Irvine

Science and Government in the Cold War
Chair: TBD

2. “They Do It in a Different Way: Personal Experiences of Transatlantic Cooperation in Science and Engineering in the Cold War,” Thomas Lean, The British Library
4. “The National Science Foundation Confronts Segregation: Discrimination at the Teachers’ Institutes,” Marc Rothenberg, National Science Foundation

Textbooks
Chair: TBD


Plenary Session
6:30 PM–8:00 PM

State of the Profession Roundtable
This session will reflect on the current state of the profession and discipline of the history of science, in transatlantic perspective. One of the joys of the Three Societies meetings is the opportunity to step outside our usual national communities. This session will create a forum for a reflexive look at ourselves as a community of academics. Recent research on academic disciplines, institutions and professional communities has used approaches that will be familiar to any sociologically-inclined historian of science who has investigated the membership, behavioral norms, reward schemes, career structures and reputation of past communities of scientists. Why not apply the same techniques to ourselves? Tony Becher described academics as belonging to ‘tribes’ and having ‘territories’: what sort of a tribe are historians of science, what is our territory, and what struggles do we face to maintain our authority over that territory? Each of the three speakers will give a short talk engaging with these issues from their own personal, disciplinary and national contexts. The floor will then be open for what ought to be a vigorous audience discussion.

Chair: Bernard Lightman, York University
1. *Aileen Fyfe, University of St. Andrews
2. Peter Dear, Cornell University
3. Gordon McOuat, University of King’s College, Halifax

8:00 PM–10:00 PM

Closing Banquet on the Penn Campus
Ticketed event.
The Max Planck Institute for the History of Science, Berlin

(Dept. II, Director: Prof. Lorraine Daston), seeks an outstanding scholar for the position of Research Scholar

(TVÖD E 13 or E 14, roughly comparable to assistant professor/associate professor). Candidates from all areas within the history of science are welcome to apply, but current research interests should be relevant to ongoing projects in Department II (directed by Lorraine Daston, details of current projects at http://www.mpiwg-berlin.mpg.de/en/research/projects/department2).

Candidates should have a doctorate in the history of science or related discipline, a strong publication record, and show evidence of intellectual versatility, in keeping with the broad range of departmental projects.

The MPIWG is an international, interdisciplinary institute. International experience is highly desirable. There are no formal teaching obligations. Administrative responsibilities are decided in consultation with the Director and shared with other members of the scholarly staff. The MPIWG provides excellent support for research, including travel funds and the possibility of organizing conferences on topics related to the Research Scholar’s interests. Salaries are commensurate with academic experience and qualifications.

The position is for three years, with the possibility of renewal for an additional three years. The ideal starting date would be 1 September 2012 but may be negotiated if individual circumstances so dictate.

The colloquium language is English; it is expected that candidates will be able to present their own work and discuss that of others fluently in that language. Applications may however be submitted in German, English, or French.

They should include:

- Curriculum vitae
- List of publications (designating the five most significant ones)
- Writing sample (article, book chapter; maximum 10,000 words)
- Description of current research (maximum 1000 words)
- Three letters of reference (to be sent separately)

Applications should be submitted in electronic form (verwaltungsleitung@mpiwg-berlin.mpg.de) or be sent to:

Max Planck Institute for the History of Science Administration
WIMI Dept. II
Boltzmannstraße 22
14195 Berlin
Germany

No later than 30 April 2012.

For questions concerning the research project and Department II, please contact Prof. Lorraine Daston (ldaston@mpiwg-berlin.mpg.de) or Dr. Fernando Vidal (vidal@mpiwg-berlin.mpg.de); for administrative questions concerning the position and the Institute, please contact Ms. Claudia Paaß, Head of Administration (verwaltungsleitung@mpiwg-berlin.mpg.de), or Mr. Jochen Schneider, Research Coordinator (jsr@mpiwg-berlin.mpg.de). Scholars of all nationalities are welcome to apply; applications from women are especially welcomed. The Max Planck Society is committed to employing more handicapped individuals and encourages them to apply.