

Archival Elements

Newsletter of the Society of American Archivists Science, Technology, and Health Care Roundtable

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Summer 2011

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We are excited to invite all of you to attend the Science, Technology, and Healthcare (STHC) Roundtable this year at the 75th Society of American Archivists Annual Conference at the Hyatt Regency Chicago on the Riverwalk. The Roundtable will be meeting from 3:15 to 5:15 p.m. on August 24, 2011 in Grand C/D North. However, as always, please refer to the final on-site program for confirmation of our meeting location.

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STHC is a forum for archivists working at institutions in the natural and social sciences, technology, and the health sciences. The roundtable provides a means for its members to share problems, projects, and products that they have in common. Each year, the roundtable's meeting provides opportunities for members to network, share experiences and successes, and discuss ways for archivists working within scientific, technology, or health care organizations to solve common challenges. However, all interested individuals are most welcome to attend!

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Our annual business meeting, including the election of a new co-chair, will also be conducted during our roundtable session. This year's program will feature three presentations covering all three of our roundtable's foci: science, health care and technology. Please refer to the program below for further details.

**The Patricia Stocking
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We are also pleased to announce that both STHC-endorsed sessions made it into the program this year. Session 508, "Is There an Archivist in the House? How Health Information Technologies are Changing Archival

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Practice,” is scheduled for Saturday, August 27 from 8-9 a.m. and Session 602 "Exploring the Evolution of Access: Classified, Privacy, and Proprietary Restrictions" is scheduled for Saturday, August 27 from 9:30-11 a.m. It is exciting to note that Session 602 was also recognized by the conference's program committee as one of 13 sessions relevant to the 75th anniversary celebrations and invited to publish in an on-line anniversary supplement to Volume 74 of the *American Archivist*. Other STHC-related sessions have been highlighted on our roundtable webpage at: <http://www2.archivists.org/groups/science-technology-and-healthcare-roundtable>

We look forward to seeing you in the Windy City in August for what is sure to be a wonderful celebration of the 75th anniversary of the Society and a remarkable 360 degree overview of where the profession has been and where it will go in the future!

STHC Roundtable 2011 Meeting

**Wednesday, August 24, 3:15 p.m. – 5:15 p.m.
Hyatt Regency Chicago, Grand C/D North**

Agenda

Business Meeting, 3:15-3:45

Welcome and Introductions

Council Representative Announcements

2012 Program Committee Representative

Approval of Minutes

Old Business:

Reports:

- Leadership Activities during 2011
- *Archival Elements*: Liz Phillips
- STHC Website: Polina Ilieva
- STHC listserv
- Steering Committee Membership
- STHC Co-Chair Candidate Report: Judy Weiner
- SAA 2011 Annual Meeting Sessions Proposal Report: Judy Wiener

Open Floor

Program Presentations, 3:45-4:45

This year's program will feature three presentations covering all three of our roundtable's foci, science, health care and technology.

First, Kenneth Thibodeau (retired from NARA) will report on his involvement with the exchange and preservation of electronic health records. There will be an opportunity for this group to volunteer its participation in the WG's ongoing work.

Next, Joan Klein of the University of Virginia Health Sciences Library will present "A History of Cancer Care at the University of Virginia, 1901-2011." Joan will provide a brief overview of this Historical Collections project: its germination, implementation, execution, evolution, completion and public launch. Some of the twists and turns encountered along the way will be highlighted, as will some lessons learned, political discernment employed, successes achieved, and what it meant to a small department to have such a large, multi-year, multi-faceted project under its auspices.

Joan Klein:

Joan is the Alvin V. and Nancy Baird Curator for Historical Collections at the University of Virginia Claude Moore Health Sciences Library. She is also an Assistant Professor for Medical Education in the University of Virginia School of Medicine in the Center for Biomedical Ethics and Humanities. Joan has been the director of Historical Collections at UVa's Health Sciences Library since 1982, the year the position was first created. Before 1982 she worked in Special Collections at the University of Virginia Library. Joan received a B.A. in English from Gettysburg College and an M.S.L.S. from The Catholic University of America. She is active in many regional and national professional organizations. She was the recipient of Society of American Archivist's 2003 Waldo Gifford Leland Award for excellence and usefulness in the field of archival history, theory, or practice. She was a member of the Tuskegee Syphilis Study Legacy Committee (1995-2000), which prompted the apology by President Clinton to survivors of the Study, 16 May 1997. She directed Historical Collections' UVa History of Cancer Care Project, which culminated this year in the publication of a book and creation of a website.

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Finally, Melanie Mueller of the American Institute of Physics will present "From Boxes to Bytes: Digitizing the Papers of Samuel A. Goudsmit." Melanie will give an overview of a two-year journey to digitize the most popular manuscript collection in the Niels Bohr Library & Archives, covering the highs and lows of the grant-funded project and lessons learned along the way.

Melanie Mueller:

Melanie earned her M.L.S. from the University of Maryland in 2005. While at the University of Maryland, she worked at the Library of American Broadcasting and the National Public Broadcasting Archives. She is the Associate Archivist at the Niels Bohr Library & Archives, where she has worked since 2005.

Nominations and election of Co-Chair

Candidate: Danielle Castronovo

Danielle Castronovo is the Archives & Digital Collections Librarian at the California Academy of Sciences in San Francisco. She has been with the Academy since October 2008 and previously was a Project Archivist at the Shubert Archive in New York City. Danielle received her MLS with Archive Certificate in May 2008 from Queens College in New York.

Call for New Steering Committee members

New Business from the Floor

2012 Session Ideas

Adjourn, 5:15

Our chief concern is to ensure that the STHC Roundtable reflects the interests of its participants. We welcome all suggestions relating to the above topics or concerning any other issues members might like to see addressed at our meetings. Please do not hesitate to get in touch with either of us:

Judith A. Wiener

Co-Chair

Assistant Director for Special Collections and Outreach

The Prior Health Sciences Library

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John P. Rees

Co-Chair

Archivist and Digital Resources Manager History of Medicine Division

National Library of Medicine

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Around and About Archives

Katherine Esau Digital Archive Now Available

**Laurie Hannah
UC Santa Barbara**

The Cheadle Center for Biodiversity and Ecological Restoration at the University of California Santa Barbara has created the Katherine Esau Digital Archive. Katherine Esau was a world-renowned plant anatomist who pioneered the use of the electron microscope for the study of plant viruses.

She also taught generations of college students about plant structure and function and created an abundant body of research. Esau, who left Ukraine with her family in 1918 and arrived in California in 1922, taught plant anatomy at UC Davis for 25 years before moving to UC Santa Barbara to continue her teaching and research.

Researchers can now gather information about her life, career, and topics of research on our web site: www.ccber.ucsb.edu/research/esau. The site was developed with two goals in mind: 1) to interest

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young students in grades 5-8, especially girls, in a science career and provide materials that support state and national science curricula; and 2) to provide a growing array of plant anatomical images from Esau's remarkable body of research for scientists worldwide. Over 350 images of her life and work have been scanned and are available through the Online Archive of California (OAC). A finding guide to her papers is also available through the OAC.



Esau seated at the transmission electron microscope

Embry-Riddle Receives Flight Safety Foundation Library

**Melissa Gottwald
Embry-Riddle Aeronautical University**

The Flight Safety Foundation (FSF) has donated its Jerry Lederer Aviation Safety Library to the Aviation Safety and Security Archives at Embry-Riddle Aeronautical University's Prescott, Arizona campus. In addition to FSF publications documenting the Foundation's work to improve global aviation safety, the Lederer Library contains books and reports on aviation safety topics as well as the Jerome Lederer Papers.

Jerome ("Jerry") Lederer is often called the "father of aviation safety." He began his career as an aeronautical engineer for the U.S. Air Mail Service

in the 1920s prior to becoming chief engineer for Aero Insurance Underwriters, one of the world's largest aviation insurance companies at that time. In addition to assessing aviation risks for the company, Lederer carried out safety audits and educational programs and produced a widely acclaimed safety newsletter. In 1940, Lederer was named director of the newly-created Civil Aeronautics Board Safety Bureau, a forerunner to the National Transportation Safety Board. He left the Safety Bureau in 1942 for a position with the Airlines War Training Institute.

In the aftermath of a Lockheed Constellation accident in 1946, Lederer organized a meeting to discuss ways to disseminate safety information. The Flight Safety Foundation was formed in 1947 as a result of this meeting, and Lederer served as its director until 1967. Lederer was also director of the Cornell-Guggenheim Aviation Safety Center from 1950 to 1967. Upon his retirement from FSF, Lederer was asked to establish an Office of Manned Space Flight Safety for NASA to address safety issues in the Apollo Program following the January 1967 launch-pad fire that killed three astronauts. Lederer retired from NASA in 1972, but continued to be an advocate for aviation safety until his death in 2004 at age 101.

The Lederer Papers contain correspondence, speeches, articles, reports, photographs, news clippings, publications, an oral history interview, and memorabilia spanning Lederer's entire career. Also included in the collection are FSF records and records and reports from Aviation Crash Injury Research (AvCIR). AvCIR (later renamed Aviation Safety Engineering Research or AvSER) was a program started by Hugh DeHaven at Cornell University which operated under the oversight of the Cornell-Guggenheim Aviation Safety Center and later became a subsidiary of the Flight Safety Foundation.

The relocation of the FSF Lederer Aviation Safety Library to Embry-Riddle's Aviation Safety and Security Archives will ensure its continued accessibility for safety researchers, the aviation community, and the public.

Connecting Content

Danielle Castronovo
California Academy of Sciences

The California Academy of Sciences Library was recently awarded a National Leadership Grant from the Institute of Museum and Library Services for our project titled Connecting Content. The goal of this grant is to explore and discover links between field notes, specimens, and the published literature.

Connecting Content is a partnership between the [California Academy of Sciences](#), [Missouri Botanical Garden](#), [Academy of Natural Sciences of Philadelphia](#), [Harvard University Botany Libraries](#), [Harvard Museum of Comparative Zoology Library](#), the [New York Botanical Garden](#), and the [Smithsonian Institution National Museum of Natural History](#). All of the partner institutions are members of the [Biodiversity Heritage Library](#), a biodiversity literature consortium, and bring to this initiative deep knowledge of research needs and expectations, as well as a powerful commitment to open access to scientific literature. There are many obstacles to establishing simple, discoverable, intuitive relationships between field books, specimens, and published literature, and the first is historic lack of access to field books. The project involves the digitization of field notebooks and natural history collections and the generation of metadata for these items. The results of these efforts will be made available for harvesting, reuse, and repurposing without cost. By doing so, we will enable third-parties to develop web applications to best serve diverse user communities. The final deliverables will include an enhanced community [Smithsonian Field Book Registry](#) as well as workflow and procedures so that other institutions may contribute to this project.

Each partner in Connecting Content will execute a pilot project focusing on digitization of field books and in some cases, specimens. The pilot projects involve significant variables, from the different sizes of the partner institutions to varying levels of experience with digitization projects, and they represent a breadth of taxonomic entities across *Plantae* and *Animalia*, geographic variety from New England to the Galápagos Islands, and a time

span from the 1830s to the 1910s. The diversity of these pilot projects allows us to test the flexibility of our model.

The Academy's pilot project involves the digitization of 2,600 field book and ornithology catalog pages as well as 1000 finches from our 1905-1906 Galápagos Expedition. We began the scanning phase of the project in late February and have already created a number of wonderful images, some of which are reproduced here.

To follow the project please visit our webpage: <http://research.calacademy.org/library/fieldnotes>

Columbia University's Health Sciences Library Purchases George Huntington Papers

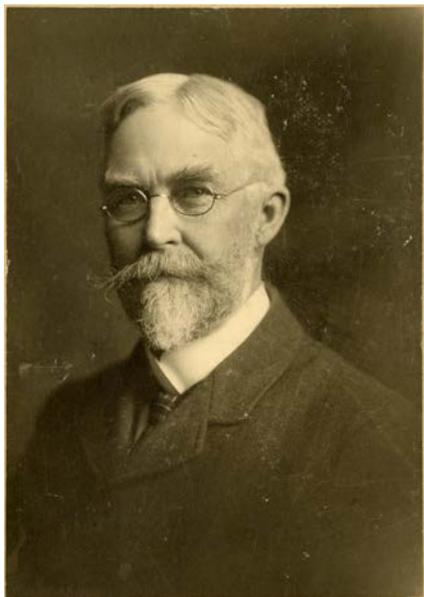
Steven Novak
Columbia University Medical Center

Columbia University's Augustus C. Long Health Sciences Library has purchased an extensive archive of George Huntington (1850-1916), an 1871 graduate of the University's College of Physicians and surgeons for whom Huntington's Disease is named. The collection includes fourteen volumes of Huntington's student notebooks from his time at the College of Physicians and Surgeons; thirteen daybooks and ledgers from his medical practice in Dutchess County, New York; manuscripts of two talks he gave later in life; his medical school graduation thesis; numerous sketches (Huntington was a talented amateur artist); and dozens of photographs of him and other Huntington family members.

In 1872 Huntington, aged twenty-two, published a paper describing a degenerative nervous disease that was prevalent in one family in his hometown of East Hampton, New York. Drawing on the casebooks of his father and grandfather, both physicians in East Hampton, and his own observations, Huntington correctly deduced the hereditary nature of the disease. He noted especially that "when either or both the parents have shown

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manifestations of the disease, and more especially when these manifestations have been of a serious nature, one or more of the offspring almost invariably suffer from the disease, if they live to adult age. But if by any chance these children go through life without it, the thread is broken and the grand-children and great-grandchildren of the original shakers may rest assured that they are free from the disease."



George Huntington

Although others had described the disease before him, Huntington's clinical description of it was so clear, accurate, and concise that the disease soon

became known as "Huntington's chorea" and later "Huntington's disease."

Largely because of chronic ill health, Huntington spent most of his career as a country physician in upstate New York, but he lived to see his article regarded as a medical classic. Sir William Osler commented that "in the history of medicine, there are few instances in which a disease has been more accurately, more graphically, or more briefly described."

Along with the George Huntington papers donated to the Health Sciences Library last year by the Lominska family and known as Jean Ketcham Lominska Collection of George Huntington Family Papers in honor of Huntington's granddaughter who preserved them, this purchase brings together in one place the largest body of papers of George Huntington known to exist.

The papers were purchased from the family of Huntington's great-grandson, the late Charles G. Huntington III, a prominent physician's assistant who at his death in 2009 was Associate Dean for Community and Continuing Education and Assistant Professor in the Dept. of Community Medicine and Health Care at the University of Connecticut School of Medicine.

Conferences, Meetings, and Workshops

The Science, Technology, and Health Care Roundtable will be meeting on Wednesday, August 24, 2011 from 3:15 - 5:15 p.m. in the Hyatt Regency Chicago, Grand C/D North. STHC will host three presentations, the first by Kenneth Thibodeau (NARA, retired), the second by Joan Klein (University of Virginia Health Sciences Library), and the third by Melanie Mueller (American Institute of Physics). For the full agenda see "Message from the Co-Chairs."

Pre-Conference Tours/Open Houses:

For information on pre-conference tours see: <http://www2.archivists.org/conference/2011/chicago/rep-ositary-tours>

For the full SAA program, please see the following: <http://www2.archivists.org/conference/2011/chicago/>

STHC-Themed Programs:

Please be sure to read the abstracts for other sessions, because we might have missed some.

STHC Roundtable Meeting

3:15 – 5:15 p.m., Wednesday, August 24, 2011
Grand C/D North

Session 101. Skeletons in the Closet: Addressing Privacy and Confidentiality Issues for Born-Digital Materials

10:00 a.m. – 11:30 a.m., Thursday, August 25, 2011
Grand E/F

Session 409. Geospatial Preservation: The State of the Landscape

1:00 p.m. – 2:30 p.m., Friday, August 26, 2011
Columbus I/J

Session 507. Never a Straight Road: Three Case Studies Documenting the 20th Century

Development of Archives

8:00 a.m. – 9:00 a.m., Saturday, August 27, 2011,
Columbus E/F

Session 508. Is There an Archivist in the House? How Health Information Technologies are Changing Archival Practice

Changing Archival Practice

8:00 a.m. – 9:00 a.m., Saturday, August 27, 2011
Columbus K/L

Session 602. Exploring the Evolution of Access: Classified, Privacy, and Proprietary Restrictions

9:30 a.m. – 11:00 a.m., Saturday, August 27, 2011
Grand A

Session 702. Return on Investment: Metadata, Metrics, and Management

1:15 p.m. – 2:45 p.m., Saturday, August 27, 2011
Grand A

Articles

Graduate Students and the Archives: Research Instruction in Science, Technology, and Health Care Collections

Stephanie Crowe

Charles Babbage Institute, University of Minnesota

Faculty and advisors in history programs often assume that graduate students in history will have received basic training and experience in archival research by the time they enter graduate school. After their coursework in various historical fields, they are generally expected to turn smoothly towards embedding themselves in dissertation research. At this point, they should have the ability to locate useful collections, interpret finding aids, and analyze archival sources in a variety of formats. Doctoral students in traditional historical fields may in fact have learned all of these skills in their undergraduate programs, whether while writing an honors thesis or in a structured historical writing class.

However, graduate students in the fields of history of science, technology, and medicine (HSTM) often do not fit this mold. Although some come from

history backgrounds, others have bachelor's or master's degrees in a scientific field with little to no prior training in the study of history. However, early-career training in historical writing and research methods in HSTM doctoral programs often does not appear to reflect the students' lack of a background in the study of history. While it is possible that some HSTM doctoral programs make a structured effort to train their early-career graduate students in archival research and analysis, there is no archival or historical literature describing graduate-level archival research training (in HSTM or other fields). Thus, it appears that many students in HSTM programs conduct their first serious historical research without any sort of specific understanding of how to locate materials or appropriately analyze historical sources.

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Research training for graduate students in the HSTM program at the University of Minnesota, where I work, has generally followed this model: the students are required to take a Research Methods class in their first year, but the class has usually consisted of a whirlwind of "one-off" introductions to research in various local repositories followed by the students being given time to conduct research and write a final paper. This is a trial by fire approach that does not always yield high-caliber results.

The professor who was scheduled to teach the Research Methods course in Spring 2011 is the director of the Charles Babbage Institute, where I am employed as the archivist. He spoke with me prior to the semester about collaborating on a new design for the course. In this article, I will describe our collaboration to design and pilot a Research Methods course that was deeply embedded in the archives and was intended to provide the students with the basic archival research training they would need for their future careers as historians.

The first step in the design process was for the professor to identify specific learning outcomes that he wanted the students to be able to take away from the class. For the in-the-archives class component, which would last five weeks, the learning outcomes included the following: understanding archival procedures and their rationale; the ability to map citations in published historical articles to the original documents; the ability to use a finding aid to identify potential items of interest; the ability to analyze and interpret historical documents (alternatively referred to as primary sources) for purposes unintended by their creators; and the ability to evaluate the strengths and weaknesses of the ways in which historians have used specific historical documents to support their arguments. My role at this point was to begin planning class activities that would map to the intended outcomes. I planned, with input from the faculty member, several more sophisticated variations of a hands-on document workshop exercise that I regularly do with undergraduate students. The basic exercise consists of the students handling archival documents and using them to answer a variety of questions that are intended to guide the students in the interpretive process. For undergraduates, the questions are at a very simple level: Who is the

author or creator? When was it written, and why? Who was the intended audience? What do the contents tell you about the historical time period in which the document was written? What else would you like to learn about this issue, and where might you find that information?

We decided that the class sessions with the graduate students would follow this basic model, with each session building on the last one and becoming progressively more complex. Moreover, each week's set of documents would be tied to at least one secondary source article or chapter that the students would be assigned to read prior to the class session. I also spoke with archivists who work with other HSTM-related collections at the University of Minnesota to solicit their participation. The Charles Babbage Institute focuses on the history of information technology; the University of Minnesota Archives and Social Welfare History Archives were able to bring in collections in science and medicine as well. Archivists from these collections each led one of the sessions.

Since the HSTM program is small, only five students were registered for the class, which allowed for an intimate and focused atmosphere. For the first session, as an assessment of the students' experience with historical analysis, I designed a document workshop that was very similar to the one I conduct with undergraduates. The questions were framed in a more sophisticated manner, but the students were essentially responding to the same issues. The professor and I selected a variety of document formats to introduce students to the different information and perspectives that you might gain from, for instance, an oral history as compared to a piece of correspondence.

After that first day's exercise, the students worked with four different collections on successive weeks to build on their analytical and historical research skills. In the first week, I led a session using the Frances Holberton Papers, a Charles Babbage Institute collection that speaks to important issues of gender, status, and skill in the computing industry. Prior to the session, the students read three different scholarly articles providing a variety of perspectives on this topic. I selected three individual

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documents from the collection that the students used to find evidence, as a group, to support or refute the perspectives of the three different historians. This exercise gave the students practice in evaluating historical sources and provided the students with first-hand knowledge that documents can be used to support a variety of hypotheses; historical evidence is rarely cut-and-dried.

The second session explored the Association for Voluntary Sterilization Records in the Social Welfare History Archives. The students read chapters before the class session from two scholarly books that both cited materials in this collection. This session introduced the students to the process of requesting their own boxes and folders, which they were requested to do prior to the class, based on referencing the footnotes in the two chapters. The archivist also pulled some documents in advance that could be used for analysis in the class as backup in case the students' box requests were inappropriate. This session allowed students to learn how different historians might use the same records in different ways. It built on the previous session in that this time we did not hand-select the documents ourselves, and students were also for the first time not given a worksheet to help guide them through the activity.

The third session was a brief interlude in the progression. The students spent this session learning about possible ways to find information on a topic when there are no obvious archival sources for them to use. Prior to the class, the students used historical issues of *Technolog*, the student magazine for the University of Minnesota College of Science and Engineering, to identify some interesting possible research topics (for example, historical race relations among the college's students). During the session, students worked with an archivist from the university archives and essentially acted out a reference transaction on the topic that they found

(e.g., where might I find related materials in the archives on race relations). The session helped students gain essential knowledge about how one might go about developing a research topic and how one can work with a reference archivist to locate sources that are not readily apparent.

The final archives class session again was based around the university archives. It was the final and most sophisticated version of the document workshop, and it involved what we referred to during our planning as a "lesson in reality." Students were given an article about technology transfer in open-heart surgery and instructed to use the footnotes to request documents from the Department of Surgery Records, which the author used in the article. The students were also instructed to look at the records' finding aid, which is online. However, the footnotes are very poorly constructed, and it was consequently very difficult for students to request any particular materials. The "reality lesson" was a real-life testament to the importance of detailed and correct citations. In the class session itself, the students used the material they had selected to discuss a) whether the author fairly interpreted the archival sources and b) if alternative interpretations would have been possible, thereby reinforcing messages from earlier class sessions about the interpretive malleability of historical documents.

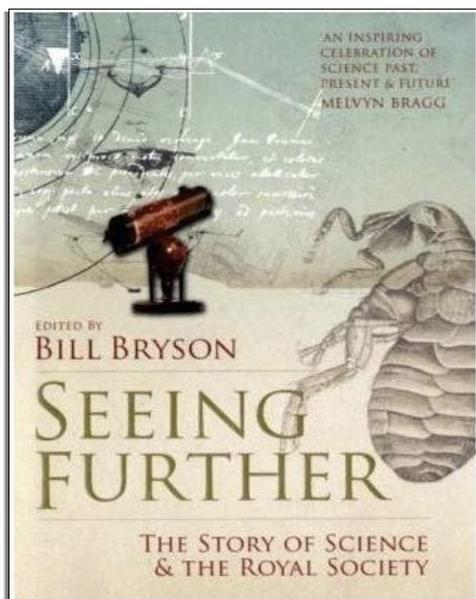
It remains to be seen whether the participating students agree about the usefulness of such an approach to the class, and it will be even longer before we can determine whether the class has prepared the students well for their dissertation projects. Overall, however, the professor, the other archivists, and I believe that embedding the History of Science, Technology, and Medicine Research Methods class in the archives this semester was a successful experiment.

Book Review: *Seeing Further: The Story of Science and the Royal Society*

Edited by Bill Bryson

Rose Roberto

University of Leeds, Leeds, UK



Hardcover: 496 pages

Publisher: HarperPress; 1st. Edition
(7 Jan 2010)

Language English

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ISBN-13: 978-0007302567

Much is made about the global flavor of science today: projects have collaborators on different continents; using technology allows rapid communication of inventive ideas, and deep curiosity unites far-flung partners in pursuit of discovering the intricacies of nature. But are those characteristics of science really anything new? According to Bill Bryson, and twenty-one other contemporary writers who contributed to *Seeing Further*, it's impossible to separate modern science from its international, collaborative, and sometimes wacky origins. Throughout this volume, old and new stories are skillfully woven together, combining gadgets, technical toys, and anything that can possibly explode. The scope of this book's

inventiveness can be illustrated by the pictures at the beginning, including among them Antoni van Leeuwenhoek (the man who discovered sperm by looking at his semen through a microscope), and a key image in the last chapter, the iPhone. There is personal drama too, of course. You can't escape that when reading about people whose thoughts, discoveries, and fixations changed the planet around them. Some are known, such as the case of Newton versus Leibniz over who discovered/invented calculus first. Some are not so well known, as in the case of Joseph Banks and the aeronauts. (Benjamin Franklin even got involved, vigorously encouraging Banks and the rest of the English to get off their lazy arses and beat those French balloonists in the sky). The history of science, told in the pages of this volume, threads narratives through astrophysics and biodiversity, engineering and chemistry, and pure mathematics with most things we do in the 21st century and casually take for granted. It is a fascinating read, and a wonderful tribute for the Royal Society's 350th anniversary.

Throughout the volume, high-resolution archival documents, lush works of art, and color photos illustrate the twenty-plus sections arranged by topic, following a rough chronology of the Society's history and the development of science itself. The first five chapters deal with the origins of the Royal Society before it became a national academy of science that would influence the rest of the world's national science academies. In the hands of these well-known authors, we see the experiments that the early men of science concocted in order to better understand the world around them. We see their world against the backdrop of political upheaval and continual war, and the outbreak of the Great Plague followed by the Great Fire, which leveled London. These were the times when people on the street believed in witchcraft, watched public executions, and didn't understand basic hygiene.

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With science came the understanding of micro-organisms and disease, the ability to understand weather and tides, and ultimately to better navigate and explore the world further.

The early chapters address the social and cultural implications of scientific discoveries. They explore the ways world views and views of the place of humans in the universe have shifted, and are still continuing to shift because of scientific discoveries. As the growth of science developed, so did the view of those who study science. For instance, the stereotype of the scientist is also examined by writer Margaret Atwood. Atwood wonders where the madness of “mad” scientists comes from and whisks readers through fictions depicting them from Jonathan Swift and Mary Shelly through B-movies in the mid- 20th century.

Benjamin Franklin comes up frequently in the book, which as an American I found pleasingly surprising. I shouldn't have been surprised; Franklin was a diplomat based all over Europe, and all the learned men communicated with each other. Franklin was also a member of the Royal Society and the Society archives are full of his letters, as well as the letters of other foreign correspondents with an avid interest in what we call applied and pure research. The distinctions between the two types of research were very fuzzy 300 years ago. Some may argue that outside of modern academia and the big grant-funding cycle, they still are. The term “useful” was thrown around frequently, although then, as now, it is subjective.

The 18th and 19th centuries overlap in the last ten or so chapters due to their themes, and often there are bridges to the 21st century. A typical example is “The Archives of Life: Science and Collections,” a chapter written by Richard Fortey from the Natural

History Museum in London. His essay provides rich detail on the people who built specimen collections over several hundred years in Paris, London, and Uppsala. Fortey explains why comparative anatomy was so crucial in the past when people generally were not able to travel to far off places and observe organisms in their native ecosystems. Having built up robust specimen collections through the centuries as a record of life on the planet, the national collections are still useful, today enabling researchers do comparative anatomy at the genetic and molecular level.

Ian Stewart asks: “how important is mathematics in today's world?” “Well, very,” his chapter replies. Opening with recent Rover missions to Mars, Stewart dissects everything that was required to make those missions happen and traces the history of their development. Without calculus, discovered by Leibniz and Newton, it would not be possible 300 years later to calculate planetary orbits and plan their re-entry trajectories. Without algebraic rules and logic discovered by Boole in the 19th century, we would not be able to send our robots to other planets and communicate with them here on Earth. Computers are basically logic engines, and the labor mathematicians poured into them before silicon was manufactured commercially seemed abstract, impractical, and had no clear purpose. But use of mathematics is ubiquitous in a way we frequently take for granted. CDs, DVDs, mobile phones, iPods, SatNav, and computing technology in general would not be around today without it. Drawing heavily from archives of the Royal Society, the contributors have provided a history of science, technology and medicine that is interesting on so many levels. The grand narrative unfolding in these pages is enlightening, relevant, and engaging. It is a hefty book, but it is also a page-turner.

Meeting User Expectations in the Digital Age: Improving Access at the National Center for Atmospheric Research Archives

Kate Legg

National Center for Atmospheric Research

At the National Center for Atmospheric Research (NCAR) Library and Archives, we are striving to meet the challenges of fulfilling our users' expectations in the digital age. NCAR is a federally funded research and development center devoted to service, research, and education in the atmospheric and related sciences. The NCAR Archives is part of the Library and works to preserve institutional memory by acquiring, preserving, and making accessible collections that document the broad spectrum of activities undertaken by NCAR.

The ultimate vision for the NCAR Archives is that a wide-ranging audience, from professional scholars to schoolchildren, can easily use its rich resources that document the history and development of the atmospheric sciences. We hope to provide an optimal user experience that allows people to access and use the archives in the way they want: online, any time. This is the vision that is driving our approach to meeting user expectations and broadening access to our collections in the twenty-first century, and it requires collaboration outside the Archives, including the assistance of a web developer, software engineer, and metadata librarian.

One of our flagship collections is the Warren Washington Papers. Dr. Washington is a renowned NCAR climate scientist who was recently awarded the National Medal of Science. His career at NCAR spans forty years and includes service as the Chair of the National Science Board and advising five U.S. presidents. He is also well known for his dedication to mentoring the next generation of atmospheric scientists. Dr. Washington's papers document his extensive scientific, professional, and advisory activities, as well as his contributions to diversity issues. The collection includes a variety of formats: paper, 16mm film, photographic prints and slides, and digital files. We chose the Warren Washington Papers for a pilot project with the goal of developing a strategy for building a digital

archive. We considered the ways the digital age is altering users' expectations of how to access primary source materials and what we need to do to stay relevant.

Traditional access to archival materials is typically defined by the standalone finding aid and the visit to a brick-and-mortar repository. This type of access is not what today's users expect and it may hinder use of our collections. People want to find the entirety of a repository's holdings online, to be able to use a keyword search to identify all relevant materials, and to access those items using the digital device of their choice. How could we meet these user expectations and provide an experience that revealed the Warren Washington Papers and our other "hidden" archival collections -- the materials tucked away in the basement or sitting on a flash drive? We wanted to preserve the scholarly practice of using our archives while still working toward greater accessibility for different and non-traditional users.

Our solution to meeting user expectations was to provide various ways to discover and use the archives online through access points that target different types of users. There are three user experiences for search and discovery of the Warren Washington Papers: through the Archives website; through a digital exhibit; and through NCAR's institutional repository, OpenSky.

The Warren Washington Papers were processed according to traditional archival methodology. An EAD finding aid was created and made available through Archon, an open source collection management tool for archives.¹ The EAD finding aid is central for both physical and intellectual control of the materials and has been used by

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¹<https://nldr.library.ucar.edu/archon/?p=collections/controlcard&id=4>

scholars to access the collection; using Archon in tandem with EAD improves discoverability of the collection through Google and other search engines. Archon performs keyword searches across all of the Archives' finding aids, so a user who is unfamiliar with Warren Washington can use terms such as "climate" or "diversity" and be pointed toward the collection. Giving a user online access and keyword search capabilities to the finding aid was an improvement, but still focused more on those users who would likely be familiar with conducting traditional archival research. We wanted to create relevance beyond a small audience of scholars doing work in the history of science. What other users might be interested in the materials and how could we present the collection in a way that those unfamiliar with archives and primary source research could find it?

The Warren Washington Special Collection is an online exhibit offering a summary of Dr. Washington's career and accomplishments told through documents, photographs, and video from his archival collection.² It is the second user experience created for this collection. Most of the materials were digitized from analog versions, but the newer materials, especially those related to the National Medal of Science, are born-digital. This exhibit is a place where we have successfully presented the array of formats in the collection as a coherent whole. By presenting selections from the collection online with commentary, we offered resources to a user group that typically does not use our archives: K-12 students. Students seeking information about Dr. Washington's career and research for school projects frequently contact him. This digital exhibit gives students the information they need to complete their assignments while exposing them to primary sources. The exhibit also serves as a starting point for the professional researcher or scholar, as they can browse the exhibit to determine if a physical visit to the Archives to use the entire collection is warranted.

A third user experience for the Warren Washington Papers is through NCAR's institutional repository, OpenSky.³ Launched in September 2010, OpenSky holds all of the digital assets from the Archives as well as published NCAR scholarship and grey literature. These diverse resources are managed and stored together as part of a digital preservation strategy, but also as a way to reveal hidden archival collections. Search results yield published papers, posters, and presentations, and also primary source materials from the Archives. A user searching for one of Dr. Washington's papers may also find a series of correspondence related to the research and collaborations leading up to that publication. The back-story to the published science is available alongside the peer-reviewed article in an integrated and seamless user experience that is not hindered by organizational boundaries. Everything is in one place; access is unfettered by organizational structure wherein one would have to visit the Library, then the Archives, then OpenSky.

At the NCAR Archives, meeting user expectations means being a trusted resource that is easily used by a wide-ranging audience. We aim to provide a user experience that directs people to our collections from a variety of interfaces and provides a level of service users expect: easy online access to collections and resources. We are currently building and providing multiple access points to other digital collections. Gone are the barriers to access such as calling the archivist, traveling to the physical repository, and taking detailed notes on what you saw there: we are transitioning from traditional means of archival access to the digital age and in the process we are expanding utility and improving access to create relevancy beyond our traditional users.

² <http://library.ucar.edu/collections/washington/>

³ <http://opensky.library.ucar.edu/>

The Patricia Stocking Brown Papers: A Case Study in the Use of Digital Exhibits for Representing Women Scientists

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Introduction

This article describes the creation of a digital exhibit for the papers of Patricia Stocking Brown (hereafter referred to as Stocking Brown), a woman scientist in the Albany, New York region. I first started working with Stocking Brown's papers as a processing assignment for an archival representation course through the Information Science program at State University of New York at Albany (UAlbany). In the course of arranging the collection, I identified ways in which Stocking Brown's historical research reflected her personal and professional lives. Examination of Stocking Brown's life revealed innovative use of education in advocating feminist social justice and breast cancer awareness. One of the methods by which Stocking Brown educated the public about her causes was through the use of visual exhibitions. An exhibit of some kind therefore seemed appropriate for sharing key points about Stocking Brown's life with the general community. That women were not common subjects of the few archival exhibits at UAlbany and that new digital exhibits had not been created in recent years were additional motivations for designing an exhibit about Stocking Brown. Since the UAlbany library does not have any staff solely responsible for creating either physical or digital exhibits, I applied for and received a grant from the Patricia Stocking Brown Fund for Feminist Social Justice Research in University Libraries to design both physical and digital exhibits about Stocking Brown using her papers. Director Brian Keough, Curator of Digital Collections Mark Wolfe, and Project Archivist Jodi Boyle at the UAlbany archives supervised the project from February to December 2010.

About the Collection

Patricia Stocking Brown is an important historical figure for her contributions to science, feminism in the United States, and mentorship of women scientists. She was born on April 25, 1942 in Cadillac, Michigan and received her BS, MS, and Ph.D. degrees in Zoology from the University of Michigan between 1963 and 1968. Stocking Brown moved to Albany, New York in 1968 with her husband Stephen C. Brown and worked as a Research Associate for the University at Albany before joining Siena College's Department of Biology as Assistant Professor in 1969. Besides her scientific research in ichthyology and herpetology, Stocking Brown conducted historical research on notable American and European women scientists of the 19th and 20th centuries. One of the major projects resulting from such work was a manuscript and exhibit of the lives of married scientist couples such as Rosa and Carl Engemann. This work reflected on her own life and career as a female scientist and served as one form of educational feminist activism. Later on in life, Stocking Brown was diagnosed with breast cancer. She used her scientific background to advocate for breast cancer awareness through her classroom and by co-founding CRAAB! (Capital Region Action Against Breast Cancer!). Stocking Brown died of breast cancer in 2004.

The Stocking Brown papers were donated by Stocking Brown's husband Stephen C. Brown and friend Bonnie Spanier, both professors emeriti of UAlbany. The donors and the UAlbany Libraries established and named a research grant after Stocking Brown in 2006 to sponsor students' use of collections in the UAlbany Special Collections and Archives for the study of feminist justice. However,

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there was no official published source informing prospective candidates for such funds about the life and achievements of Stocking Brown.

Other Digital Exhibits

Before designing the Stocking Brown digital exhibit, I reviewed similar collections at other institutional archives. At least ten academic and non-profit institutions in the United States currently maintain both physical collections regarding women in science or medicine in various forms, and online digital representations of these collections, including a total of eleven digital exhibits. Of these institutions, only one created a set of digital exhibits devoted specifically to one woman as the subject. The other exhibits are either mixed groupings of collections or photography galleries presenting multiple subjects. Three of the institutions have finding aids available to users, nine exhibits presented discrete biographies for each subject, and eight of the exhibits have portraits of their subjects that were separate from finding aids.

Based on the websites that were surveyed, I formulated a list of key concepts to consider when creating a digital exhibit about women scientists:

1. The exhibit should attract the public while providing useful information about the exhibit subject.
2. The objectives and purpose of the exhibit should be clearly communicated to visitors through the display contents, tailoring the visual design to the target audience.
3. Interactive elements should be incorporated into the exhibit to engage individuals in the viewing experience.
4. Biographies, subject portraits, and finding aids are useful elements when creating a digital exhibit.

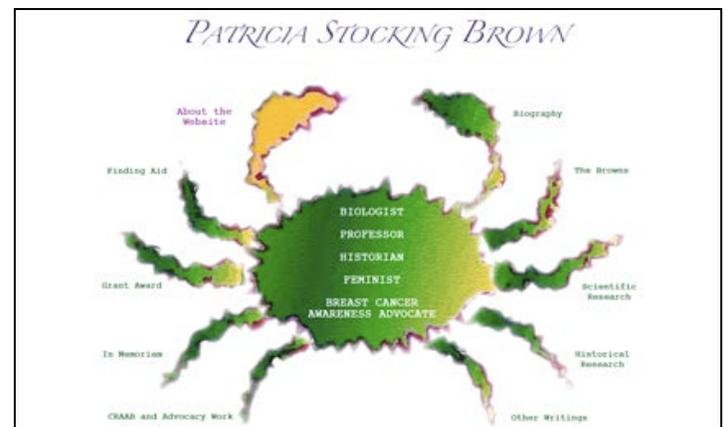
I then used and modified these concepts for the Stocking Brown digital exhibit.

Exhibit Design

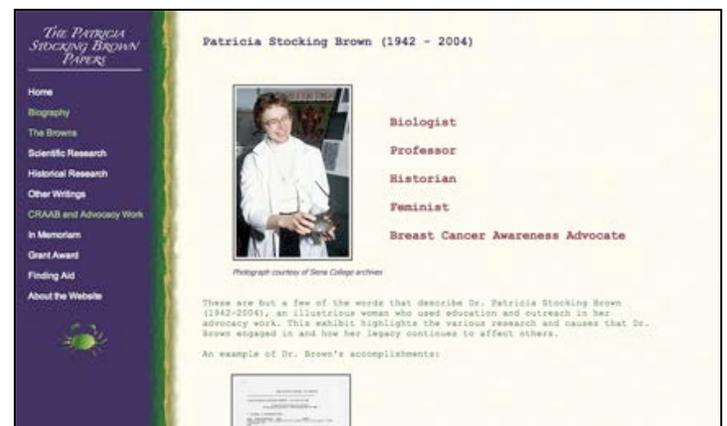
Stocking Brown's papers were donated to the UAlbany archives completely unprocessed. The collection was initially divided into categories of historical research, scientific research, and

advocacy work. In the course of processing the papers, I designated images for digitization. Since the UAlbany archives displays replicas of items from collections, the digital images of select documents served a dual purpose in that they were used for both the physical and digital exhibits. The digital exhibit planning was based on the design of a corresponding physical exhibit and started while the physical exhibit was still being assembled.

I decided to use web technology to provide an interactive user experience that would emulate the experience of looking at a physical exhibit. In order to do so, I created a "splash" homepage for a website employing an artistic aesthetic rather than an institutional design approach. This homepage was intended to give a customized feel for each user and reflect the personality of the subject as well as generate curiosity.

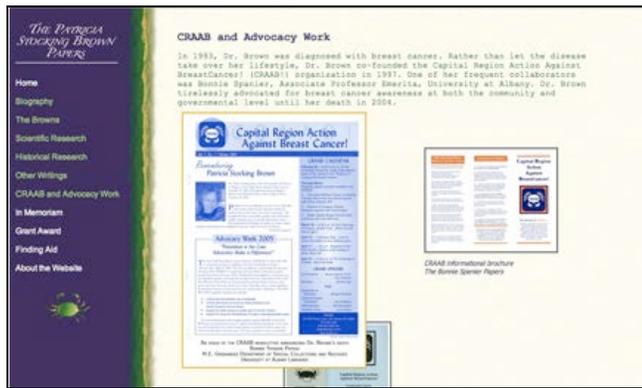


Homepage for the digital exhibit. The links are the crab legs, which turn golden when moused-over and clicked on.



Example of a content page

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When an image is moused-over, the image enlarges for easier viewing.

Each visual element of the website was selected to reflect an aspect of Stocking Brown's multi-faceted life: scientist, historian, innovator, etc. The content consisted of the images from the physical exhibit and an additional set of scanned materials not in the collection. The greatest difficulty was in maintaining the essence of the physical exhibit while keeping the digital presentation from being overwhelmed by unnecessary features. Digital exhibit software such as Omeka would have also been useful for depositing images and metadata and grouping objects by manipulating programming code. The UAlbany archives use a Luna software-based digital asset management system to maintain their digital images, which would have worked well with digital exhibit software.

Conclusion

Exhibits of any kind can be beneficial outreach tools for archives but clearly require investments of time and other resources that may not be feasible for a busy archive with minimal staffing. The immediate value of the Stocking Brown exhibits is that they will continue the legacy of a woman well respected in the local Albany area community as well as attract applicants for the UAlbany research grant. Promoting collections with ties to both local and academic community members encourages participation in the exhibit process as volunteers. In this case, not only was the collection processed by a student volunteer, but also became a curated exhibit due to personal interest in the connections between Stocking Brown and UAlbany. This interest also gave the UAlbany archives an opportunity to provide a new set of physical and digital exhibits to attract a new audience. I hope that by highlighting items in a narrative manner, future visitors will feel

as though they have learned something valuable about Stocking Brown and be inspired by her work.

Patricia Stocking Brown exhibit:

<http://library.albany.edu/speccoll/stockingbrown>

M.E. Grenander Department of Special Collections and Archives: <http://library.albany.edu/speccoll/>

Appendix: Exhibits of Women in Science

Iowa State University – *Archives of Women in Science and Engineering*:

<http://www.lib.iastate.edu/spcl/wise/wise.html>

Iowa State University - *"Today's Seeds for Tomorrow's Harvest: The impact of women nutritionists"*:

http://www.lib.iastate.edu/spcl/exhibits/Seeds/home_index.html

UCLA – *Contributions of 20th Century Women to Physics*: <http://cwp.library.ucla.edu/>

The Smithsonian Institute – *Women in Science*:

<http://www.flickr.com/photos/smithsonian/sets/72157614810586267/>

National Library of Medicine – *Profiles in Science*:

<http://profiles.nlm.nih.gov/>

American Institute of Physics:

The Niels Bohr Library & Archives:

<http://www.aip.org/history/nbl/>

Marie Curie and the Science of Radioactivity:

<http://www.aip.org/history/curie/>

Marie Curie: Her Life in Brief

<http://www.aip.org/history/curie/brief/>

Australian Science and Technology Heritage Centre – *Where are the WOMEN in Australian Science?*

<http://www.austehc.unimelb.edu.au/wisa/>

Drexel University College of Medicine – *Women Physicians*:

<http://xdl.drexelmed.edu/womanmd.php>

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Duke University – *Women in Duke Medicine*:
http://digitaldukemed.mc.duke.edu/med_women/index.php

Dickinson College – *Women’s Experiences at Dickinson College*:
<http://itech.dickinson.edu/coeducation>

Rockefeller Archives Center – *Women in the Rockefeller Archives Center*:
<http://www.rockarch.org/exhibits/women/>

About the Authors

Stephanie Crowe is the archivist at the Charles Babbage Institute at the University of Minnesota; the Babbage Institute documents the history of computing and information technology. She began working at CBI in 2007 after receiving an MA in Public History from North Carolina State University and an MLIS from the University of North Carolina-Chapel Hill.

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Rose Roberto is a Faculty Librarian for the University of Leeds with collection responsibility for Design, Fine Arts & Cultural Studies and serves on the Library’s Collections and Management Care Committee. Previously, Rose worked at the University of Oxford, Westminster Libraries & Archives, the Natural History Museum in London, and the NASA/Jet Propulsion Laboratory. She received an MLIS from UCLA in 2001 and moved to the UK in 2003. Rose is currently a co-editor of *ARC Magazine*, the monthly publication of the UK’s Archives & Records Association. She has also recently edited the *Art Researchers’ Guide to Leeds*, published by ARLIS UK/Ireland.

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