Archival Elements

Newsletter of the Science, Technology, and Healthcare Roundtable of the Society of American Archivists
Summer 2005

Contents

Message from the Co-Chairs

Joe Anderson
American Institute of Physics

Joan Echtenkamp Klein
University of Virginia Health Sciences Library

We cordially invite everyone attending the SAA meeting in New Orleans to come to the Science, Technology, and Health Care (STHC) Roundtable meeting on Thursday, Aug. 18, 4:00-5:30 p.m. The STHC Roundtable provides a lively forum for archivists with interests or holdings in the natural, physical and social sciences, technology, and health care, presenting an opportunity to exchange information, share successes, and solve problems.

We welcome both specialists in STHC and generalists who are responsible for one or a few STHC collections, as well as those who want to learn more about the field. We will be brainstorming proposed sessions for 2006 and want to hear your ideas! We also encourage participants to share news from their repositories and to attend the STHC-sponsored and STHC-themed sessions on the program.

STHC Roundtable Agenda

Welcome and Introductions

Council Representative: Peter Wosh

Program Committee Representative

Diversity Committee Representative: Cheryl Beredo

Program:
Barbara Paulsen, Senior Program Officer, National Endowment for the Humanities (NEH), will describe trends in funding at NEH.

Melissa Gottwald, Collections Archivist, Iowa State University Special Collections, will discuss astronomy as a collecting area at New Mexico State University and her experience and observations in processing the papers of Clyde Tombaugh, discoverer of the planet Pluto.

Paul Theerman, Head of Images and Archives, National Library of Medicine (NLM), will present an overview of disciplinary history centers in science, technology, and medicine. He will look at some of the more prominent models, such as the Center for the History of Physics and the Chemical Heritage Foundation; consider the relationship among collecting, clearinghouse, exhibiting, and research; and then present the work of NLM and its History of Medicine Division.

Business:
Report on 2004-2005 activities

Election of officers: New Co-Chair

STHC Handbook: Jean Deken

STHC Website: Rose Roberto

Archival Elements Newsletter: Ewa Basinska

Brainstorming program ideas for SAA 2006

Roundtable Round Robin: "Hot Topics" from Membership

New business

Adjourment

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:

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Around and About Archives

Distributed Access to Finding Aids in Physics and Allied Fields

Jennifer S. Sullivan
American Institute of Physics

The AIP Center for History of Physics invites you to share your finding aids on the Physics History finding aids Website (PHFAWS). The Website is a subject-based collection of archival finding aids in the history of physics, astronomy, and allied sciences that now includes more than 160 finding aids from 20 science archives. We are actively recruiting new members for PHFAWS (http://www.aip.org/history/ead/index.html), and invite you to contact us if you have finding aids in EAD, HTML, or text documents that you would like to add to the database. The database is a cross-searchable portal; researchers can do targeted searches and obtain clearly defined results. For example, a search for “Feynman” in PHFAWS produces 14 hits, with CalTech's Feynman Papers at the top and other collections listed in order of significance. The same search in Google produces 1,170,000 hits, and CalTech and other archival finding aids are not in the top 20. By including finding aids in PHFAWS as well as on their own servers, repositories enhance access to their resources and make them more available to the history of science community.

PHFAWS grew out of a National Endowment for the Humanities funded project to digitize finding aids, encode them in Encoded Archival Description (EAD), host them on American Institute of Physics server, and make them available on the Web. When that project ended in 2001, we realized that encoding and hosting finding aids from other repositories—the labor and time-consuming part of the process—was too expensive for us to maintain without ongoing outside funding. Working with our own IT department, we envisioned a process using harvesting software to seek out and index both our own finding aids and, with the permission of the other institutions, those from other repositories located on the Web. The harvesting software, Verity Ultraseek, combined with our own java scripts, allows us to add finding aids held at other archives in a relatively quick and easy fashion, as opposed to the very labor-intensive process that we formerly experimented with. This year we have successfully harvested 57 finding aids from repositories including Library of Congress, CalTech, MIT, Berkeley, Scripps and Harvard to our central index. The software allows us to direct the Verity harvester to specific finding aid directories and files on servers located at contributing repositories around the country and add them to our existing index in PHFAWS. When researchers identify relevant hits in the index, they will be directed back to the home archives’ website to view the finding aids.

The advantages of this new approach are that 1) it allows contributing repositories to provide another means of access to their collections, 2) it permits us to add to the database efficiently, and 3) it works with finding aids in a variety of formats (e.g., EAD, XML, HTML, and text documents). And because we are moving from being a finding aid database to being a finding aid portal, we can insure that researchers are accessing the most current information available.

Using Verity Ultraseek, PHFAWS aims to be the standard search portal for historians and other researchers in physics/astronomy/geophysics seeking detailed metadata not available elsewhere. The database is one of the services that AIP provides to the archival and research communities and will remain open to all without charge.

For additional information, please visit the PHFAWS Website (http://www.aip.org/history/ead/index.html) or contact the Center's Automation Archivist, Jennifer Sullivan (jsulliva@aip.org, 301 209-3172), or Library Director, Joe Anderson (janderso@aip.org, 301 209-3183).

May 2005

Processing Grants in Physics, Astronomy, Geophysics, and Allied Fields

Joe Anderson
American Institute of Physics

The Center for History of Physics, American Institute of Physics, is pleased to announce its 2005 Grants to Archives. The deadline for applications is August 1, 2005. The grants are intended to make accessible records, papers, and other primary sources which document the history of modern physics and allied fields (such as astronomy, geophysics, and optics). Grants may be up to $7,500 each and can be used to cover direct expenses connected with preserving, inventorying, arranging, describing, or cataloging appropriate collections. Expenses can include staff salaries/benefits and archival storage materials but not overhead or equipment.

The AIP History Center's mission is to help preserve and make known the history of modern physics, astronomy, and allied sciences, and the grant program is intended to help support significant work to make original sources in these fields accessible to researchers. Accordingly, preference will be given to medium size or larger projects for which the grant will be matched by the parent organization or other funding sources. For grant guidelines check the Center's Web site at http://www.aip.org/history/grntgde.htm or call 301 209-3165. Inquiries are welcome, and sample proposals are available on request. A list of previous recipients is on our Web site.

Deadline for receipt of applications is August 1, 2005.

May 2005

ICA/SUV 2005 Annual Meeting

Portia Vescio
University of Michigan

The International Council on Archives/Section on University and Research Institution Archives 2005 Annual Meeting will be held on September 6-9, 2005 at the Kellogg Hotel and Conference Center in East Lansing, Michigan.

For more information about the conference, including the complete program, visit: http://archives.msu.edu/icasuv/

Michigan State University and East Lansing are proud to welcome the ICA/SUV to our campus during our 150th Anniversary Celebration. This is only the second time since the creation of the ICA/SUV that North America has hosted the annual meeting. Ian Wilson, the Archivist and Librarian of Canada is the opening plenary speaker. Lorenz Mikoletzky, President of the ICA and Archivist of Austria, will make summary remarks at the close of the meeting.

The diverse program includes sessions on digitization projects; science and technology collections; multi-cultural collections; land-grant universities; athletics and universities; and student records. The session on science and technology will examine the experience of institutions with large collections in two scientific and technological areas. This session will illustrate how important, but manageable, such materials are to the mission of twenty-first century university archives.

The SUV section of the ICA is composed of university archives and scientific and research institution archives. The membership composition of scientific archives is predominantly European. The SUV hopes to expand its membership of scientific repositories more globally, particularly from institutions in North America.

June 2005

Recognizing Our Strengths: Science, Technology, and Health Care at the Local Level

Elizabeth Phillips
Institute Archives and Special Collections
Massachusetts Institute of Technology

This spring, I attended my second meeting of the New England Archivists. The last time I had attended a meeting, I was a student; this was the first one I had been to as a practicing archivist. As a student, I attended the meeting primarily to get a sense of who the other area archivists are, what sorts of collections they work on, and what other things are a part of an archivist's day-to-day routine. By that point in my studies, I had had two internships, and I chose to attend panel discussions of institutions' processing and intellectual control projects, which directly addressed what I had just learned. This spring, my focus was different. I have been in the field for about a year, and I was most interested in learning how my colleagues are doing their jobs, learning what directions the archives profession is headed, and in getting a feel for what skills I will need as I go forward in my career. I learned a great deal and thoroughly enjoyed the sessions I attended this spring, but at the same time I missed the focus on collections that characterized my first meeting.

New England Archivists meetings are short. Workshops and tours are conducted during the first day, but the biggest draw is the sessions on the second day. It is a challenge to make one day of panel discussions as useful as possible for the attendees; generally the sessions focus on the topics uppermost in everyone's minds. This spring, for example, sessions addressed concerns such as electronic records, privacy, and strategies for using databases. Other sessions may address archival theory, but always in a way that is grounded in daily practice. This spring's session on appraisal, for instance, consisted of three panelists talking about how their collection development policies inform their acquisition and processing. It was a great way to approach the subject;

considering day-to-day concerns kept the conversation from drifting too far into the abstract. I would love to see a similar conversation about how we approach documentation, particularly documentation of science, technology, and health care. A series of panel discussions on local documentation of science and technology would be a natural fit for a New England professional society; the Boston area alone has an impressive concentration of colleges and universities, hospitals, and high-tech companies. Considering the importance of science, technology, and medicine in all of our lives, I have no doubt that there would be interest in looking at how we document them.

One way to begin the conversation would be by taking stock of what kinds of documentation already exist in our collections. In the course of my work as a project archivist, I have learned that science and technology are not documented solely by manuscript collections; an institution's records also reflect the types of research being done at the institution and how that research is related to the events and political and cultural climate of the time. The wartime projects of the 1940s, the environmental research of the 1970s, and the advances in computing and medicine during the 1980s can all be traced through requests for lab and office space, funding proposals, and general departmental chat about who is working on what. Even in institutions that may not have been conducting research, clipping files and correspondence reflect the community's reactions to new or controversial projects and document the public policy surrounding those projects. A collection that spans the latter half of twentieth century also implicitly documents the technological changes of the time; the collection will have materials that are typewritten, handwritten, produced on and printed from a variety of types of computers, and reproduced by any of several types of copying mechanism. The documentation is there, and it is up to us to recognize the rich resources already in our collections.

Once we have thought about what we have, I imagine the conversation would progress naturally to where we are going. The directions we take in documentation will be highly dependent on what is appropriate for our institutions: for some, active documentation of scientific and technical advances will be crucial, while implicit documentation will remain the best solution for others. Universities and hospitals, for example, would certainly want to solicit donations from faculty and staff active in research, but it would not make sense for a local historical society to seek out the same type of collections. The historical society would most likely want to remain focused on their core subject area and let their collections document science and technology through clippings, photographs, and casual references in letters. A third approach, falling somewhere between the two, might be documentation through community response. A political action group or a local environmental society might have a collection of minutes, pamphlets, newsletters, and correspondence that would be a wonderful resource for anyone studying community response to health- and science-related public policies and issues.

The technological and scientific innovations of the last forty years are changing both the content and the nature of our collections. Every archivist I know is alert to the challenges of the latter (e.g. proliferation of non-print formats), but what about the former? To what extent do the changes in the content reflect evolution of the scientific research methods with time, formation of new disciplines, and ever-increasing interdisciplinary and multi-institutional collaborations? Recognizing the strengths of our collections is the first step in thoroughly and effectively documenting the impact of science, technology, and health care on our lives; I, for one, would love to sit down with colleagues and share what we have discovered. Examining the contents of a collection with an eye to their unusual aspects is something archivists do as a matter of course; why not do it together?

June 2005

Smithsonian's Lemelson Center Seeks Information on Invention-Related Collections

Alison Oswald
Lemelson Center
Smithsonian Institution

The Smithsonian Institution's Jerome and Dorothy Lemelson Center for the Study of Invention and Innovation is seeking submissions to add to our MIND database, which identifies locations and contents of invention-related collections of archival materials in the United States. The database was established as part of the Lemelson Center's Modern Inventors Documentation (MIND) program, an ongoing project to gather and provide information about invention and technology in archives, libraries, historical societies, and museums.

We seek information about inventors (corporate, government, and independent), scientists and industries working in all areas affiliated with invention. We also seek information on records of major institutions such as academic departments and research laboratories. The database contains information from all time periods. If papers are held privately, but available for research, we welcome this information, too. Additionally, if papers of significant inventors have been destroyed we would like to know. The kinds of materials we like to include in the database are: artifacts, objects, parts of invention prototypes, and tools associated with the archival collections, correspondence, course notes, diaries, drawings, financial records, grant applications, instructional materials, logbooks, notebooks, patents, patent applications, photographs, publications, sound recordings, videotapes, and film.

The Smithsonian's Lemelson Center at the National Museum of American History assists in preserving, documenting, and making accessible and known, the history of American invention and technology. Working directly with inventors, the Center's MIND program promotes the advancement and diffusion of knowledge about American inventors; offers advice to inventors seeking to preserve and donate their historical materials; identifies and preserves the papers and other historical materials of living inventors; promotes access to and use of this documentary record by scholars, students and the public; and identifies inventors whose papers and artifacts have particular significance to the research and educational goals of the National Museum of American History.

Public Internet access to the database is scheduled for late 2005. For additional information about the database, mail or fax (202-357-4517) to:
Lemelson Center
Smithsonian Institution
National Museum of American History
Room 1016, MRC 604
PO Box 37012
Washington, DC 20013-7012

If you have any questions, please call at 202-633-3726 or email oswalda@si.edu.

Conferences, Meetings, and Workshops

SAA New Orleans, August 2005

The Science, Technology, and Healthcare Roundtable will be meeting on Thursday, August 18, 2005 from 4 - 5:30 p.m. For the agenda see "Message from the Co-Chairs".

For the full SAA program, please see the following:
http://www.archivists.org/conference/neworleans2005/no2005prog.asp

The STHC-sponsored (*) or STHC-themed sessions are listed below:.

101. Three Working Models of Digital Archives
9:45 - 11:15 a.m., Thursday, August 18, 2005

207*. Controlling Human Reproduction: The Challenges of Documenting the Post-WWII Revolution
12:45 - 2:15 p.m., Thursday, August 18, 2005

307*. Hidden Treasures: Strategies for Broadening Archival Access via Visual Materials Depicting Women and Minorities
2:30 - 4:00 p.m., Thursday, August 18, 2005

708*. Beyond the Obvious: Finding Social History in Institutional Records
9:45 - 11:15 a.m., Saturday, August 20, 2005

807*. Documenting the Physical Universe, 1905-2005: Aspects of Physicists and Archivists Since Einstein's Miraculous Year
1:00 - 2:30 p.m., Saturday, August 20, 2005

SAA Science, Technology Health Care Roundtable: Steering Committee Members (2004-2005)		
Dharma Raell Akmon University of Michigan Ann Arbor, MI	R. Joseph Anderson - *Co-Chair* American Institute of Physics College Park, MD	Ewa M. Basinska - *Newsletter Editor* Institute Archives Massachusetts Institute of Technology Cambridge, MA
Jean Deken - *Past-Chair* Stanford Linear Accelerator Center Menlo Park, CA	Juliet Demeter The Bancroft Library University of California, Berkeley	Janice F. Goldblum The National Academies Washington, DC

Joan Echtenkamp Klein - *Co - Chair* Health Sciences Library University of Virginia Health System Charlottesville, VA	Jodi Koste Tompkins-McCaw Library Virginia Commonwealth University Richmond, VA	Lisa Mix Library and Center for Knowledge Management University of California, San Francisco
Stephen E. Novak Augustus C. Long Health Sciences Library Columbia University New York, NY	Alison L. Oswald Smithsonian Institution Washington, DC	Tim L. Pennycuff Lister Hill Library of the Health Sciences University of Alabama at Birmingham Birmingham, AL
Rose Roberto - *Web Liaison* University of Glamorgan Pontypridd, Wales United Kingdom	Paul Theerman National Library of Medicine Bethesda, MD	John Zwicky American Academy of Pediatrics American Society for Clinical Pathology Chicago, IL

Documenting Modern Physics: An Eyewitness Account

Joan Warnow-Blewett
Former Archivist
Center for History of Physics
American Institute of Physics

My report will focus on the projects to document modern physics that I participated in during the 32 years I was at the American Institute of Physics: a general survey of American physicists, studies of several subfields of physics, the Study of DOE National Laboratories, and the Study of Multi-Institutional Collaborations.

When I arrived at the AIP, in January 1965, it was in the midst of its first documentation effort: the Project on Recent Physics in the U.S. This project had resulted from the work of a committee charged to investigate the state of documentation of modern physics and to recommend an appropriate role for the AIP. The committee found a bleak situation: the only collection secured in a repository was the papers of the atomic physicist Enrico Fermi; physicists thought their technical publications offered a sufficient record of their activities and ignored or destroyed their correspondence, notebooks, and other unpublished materials; archival programs, where they existed, avoided dealing with papers and records of modern science; and, only a handful of individuals – all trained as physicists, not historians – were studying the history of twentieth-century physics.

In determining the role of the AIP, this small group of concerned physicists had no models to guide them. (This was before the days of discipline history centers.) But they brought with them significant strengths. The most obvious advantage was their close knowledge of the physics community. More subtle and perhaps more important, they brought from their own research in physics an international perspective of problem solving and the realization that there are no grand, final solutions, but rather evolving understanding of and approaches to addressing basic problems. The committee urged, first of all, that the AIP should limit its activities to those best done by one central organization; we should not do what others should, and could, do. Therefore, the AIP should not collect papers of individuals or records of institutions that best belong at those institutions.

What, then could best be done by a central organization? The committee recommended that the AIP should: play a leadership role in identifying the documentation that should be saved and guiding it to appropriate institutions; maintain a catalog providing information on the location and contents of physicists' papers to foster research; and initiate a newsletter, brochures, and other outreach programs to educate and enlist the long-term cooperation of many institutions and individuals. The AIP should also create documentation – such as oral history interviews – and collect some materials best held in a central location – such as historical photographs. With the acceptance of these recommendations the AIP initiated the first full-fledged documentation strategy and the first discipline history center in the sciences, the AIP Center for History of Physics.

The central task of saving papers of individual physicists has always been to match them with appropriate archives – whenever possible at the physicist's home institution. You cannot (and do not want to) save everything, so the first step in a strategy is to determine the core documentation that should be saved. I need to remind you that the staff of the new Center started off in a state of near ignorance about the physics community. Fortunately, our physicist-advisors were very knowledgeable and were good teachers. In the early 1960s, they helped the Center to issue simple appraisal guidelines that identified the kinds of documents offering the richest evidence of physics research and lives of physicists. Also, they directed the Center in a hard-nosed effort to determine which physicists had made such important contributions to physics or to the physics community that their correspondence, notebooks, and other unpublished materials merited the expense of archiving. Fortunately, these physicists were mostly in academia where there were more archival programs than in any other sector and where the initiation of such programs was on the rise. The archival programs were receptive to our mission.

By the late 1960s the Center was able to save papers of physicists more efficiently by focusing on a series of subfields of physics – such as nuclear physics, solid state physics, and astrophysics. In each case, substantial historical research and interaction with scientists were required at the outset to determine what was needed to provide adequate documentation of the field. The process included identifying individuals whose papers should be saved and those with whom oral history interviews should be conducted.

On the surface, the AIP documentation strategy seemed to be thriving. However, even as our cooperative ties with academic archivists grew, the feeling of comfort that we were doing a good job of documenting postwar physics dimmed. More and more often we were reminded – by the press, meetings of The American Physical Society, and other reports – that some of the most distinguished work was taking place at nonacademic settings. The most spectacular shifts were to government contract laboratories. These were successors to the large weapons development centers – such as Los Alamos – set up during World War II.

Site visits in the mid-1970s to a variety of corporate, government, and government contract laboratories made it clear that this postwar, nonacademic community was so dramatically different that it was impossible to state with any confidence how it ought to be documented. We were able, however, to identify some patterns of problems. There were no archivists at any of the labs; records managers, on the other hand, were everywhere (they had yet to emerge in academia). At government contract laboratories, records officers had additional responsibilities, such as running the lab's cafeteria.

Every lab seemed to have records schedules that determined how long records of a particular type could be retained. We wondered if these schedules were any good. We were learning to be suspicious about records schedules when the laboratory produced federal records. This was because at that time NARA – the National Archives and Records Administration – took the position that you could adequately document an institution by merely saving records at the top of the hierarchy. We were confident that this policy should not be applied to scientific labs, but we lacked hard evidence.

Actually, we were not confident about anything and no one we turned to could shed light on how these institutions might be documented. The AIP seemed in the best position – because of its close links with the physics community – to investigate and break through this ignorance. What was called for was a new kind of research. JCAST – the Joint Committee on Archives of Science and Technology – would later call it documentation research.

We selected as our target government contract laboratories. The most significant of these laboratories creating federal records were – and still are – the national laboratories of the Department of Energy (DOE). Thus, by focusing on DOE national labs – and the National Archives – the ripple effect of our findings could improve record-keeping practices at other government scientific agencies.

The AIP project historian and project archivist spent over eight staff-years on site at the laboratories. We employed extensive historical research and involvement with laboratory scientists. We prepared chronologies of the main events and programs. We talked to the key players – scientists and administrators – about these events and programs and about the records created in the process. With their help, we located the best documentation. We were, for example, able to prove that some of the most valuable records were located far below the top of the hierarchy. To save some of these, we recommended "probes" to locate more complete documentation of selected events, experiments, and research facilities. Through these and other tasks, the AIP Center achieved an understanding of the ways government contract laboratories operate and of the information content of the records they generate. We issued appraisal guidelines and recommendations – the most important of which was that archivists should be employed at each of the national laboratories.

We were now in a position to provide guidance to those responsible for records in government contract labs. And we found that our new understanding applied in many ways to other nonacademic labs.

The DOE Study also drastically altered my perspective of my career as an archivist. While the AIP project staff were at the DOE laboratories, we encountered what was to us a new, awesome, and bewildering sight: groups of researchers from several universities coming to use the laboratory's accelerators to carry out a joint experiment and then returning to their home campuses. The archival problems in documenting these transient institutions were palpable. I may have been awed – but at the same time I felt challenged. It was at this point that I began to admire one of the essential perspectives the physicists gave us at the outset: there are no grand, final solutions, but rather evolving understanding of – and approaches to addressing – basic problems.

We investigated the importance of these collaborative projects to modern physics. We found that – since World War II – the multi-institutional collaboration had increasingly been an important organizational framework for research. Equally significant multi-institutional research was being conducted by teams in other fields of science, in major engineering projects, and in a growing number of other areas of modern society. We also found that the process of large-scale collaborative research had been little studied by historians, sociologists, and other scholars. Nor had scientists, research administrators, and the public made any systematic analysis of this centrally important activity.

In keeping with the AIP Center's mission, we decided to make a broad survey – the first of its kind – into the functioning of research collaborations involving three – and, often, many many more – institutions. For AIP, the first stage of a documentation research project is systematic planning and research aimed at resolving archival problems. The goals are several: first, to identify the most important organizational structures, functions, records creators, and events; next, to understand how and why records are created and used; and, finally, to identify the likely locations of valuable records.

Because of the complexities, we thought the study should cover a number of fields where collaborative research played an important role. The choice of high-energy physics for Phase I was easy: it is the field in which multi-institutional collaborations have grown most dramatically and, in addition, the DOE study had given us familiarity with the functions of accelerator laboratories. We decided that, for Phase II, the field disciplines of space science, geophysics, and oceanography would provide a useful contrast to the laboratory discipline of high-energy physics. In Phase III the study was completed with brief examinations of multi-institutional collaborations employed by a range of other disciplines.

For each discipline under study we had a Working Group of scientists (of the discipline under study), historians, archivists, and sociologists. The scientists helped us select collaborative projects for our case studies and develop standard question sets for use in oral interviews. Interviews were conducted with some 600 scientists on the selected collaborations; these were analyzed for historical-sociological content and for information on archival issues. Reports were issued on our findings, appraisal guidelines, and recommendations to agencies, research laboratories, university archives, and others. Our period under study was from the early 1970s to the early 1990s. Project work was initiated in 1989 and was completed with the publication of its final report in 1999.

In closing I should mention that – after my retirement – the study, Physicists in Industry, was initiated under the direction of my colleague R. Joseph Anderson.

Can we measure the success of the AIP documentation strategy in a concrete fashion? Maybe not – because there are now scores of archivists and historians, as well as countless physicists, helping the AIP Center to succeed in its mission of preserving and making known the history of modern physics. Nevertheless, I feel the AIP Center deserves some credit for these developments. Two examples will have to suffice. Most institutional archivists have to cope with documenting a broad range of disciplines and functions; a number of them have told AIP that its advocacy activities have been very important to them in establishing priorities. Also, the Center's experience has greatly increased our capabilities of capturing subtleties of fields of postwar physics and allied sciences.

<u>Further Readings</u>

Hackman, Larry J. and Warnow-Blewett, Joan, "The Documentation Strategy Process: A Model and a Case Study," *American Archivist*, 50 (Winter 1987), pp. 12-47.

Joint Committee on the Archives of Science and Technology, *Understanding Progress as Process*, edited by Clark Elliott. Final Report of JCAST. Chicago: Society of American Archivists, 1983.

Warnow, Joan N, et al, "A Study of Preservation of Documents at Department of Energy Laboratories; Guidelines for Records Appraisal at Major Research Facilities", "A Selection of Permanent Records of DOE Laboratories: Institutional Management and Policy, and Physics Research;" and, Wolff, Jane, "Files Maintenance and Records Disposition: A Handbook for Secretaries at Department of Energy Contract Laboratories." Final Reports on the AIP Study of DOE National Laboratories. New York: American Institute of Physics, 1982-1985.

Warnow-Blewett, Joan and Joel Genuth and Spencer R. Weart, "AIP Study of Multi-Institutional Collaborations." Phase I: High-Energy Physics (4 vols., 1992); Phase II: Space Science and Geophysics (2 vols., 1995); Phase III: Ground-Based Astronomy, Materials Science, Heavy-Ion and Nuclear Physics, Medical Physics, and Computer-Mediated Collaborations (2 vols., 1999); and Comparisons and Conclusions (2 vols., 1999). Final Reports on the AIP Study of Multi-Institutional Collaborations. New York and College Park: American Institute of Physics, 1992-1999.

June 2005

Boundary Work and Collection Development

Graham Howard
Former Bibliographer
MIT Libraries
Massachussets Institute of Technology

Both bibliographers and archivists are involved in collection development, and must make decisions about what to include in their holdings. In terms of selection and appraisal, libraries and archives have boundaries: anything inside the boundary is a candidate for selection; anything outside the boundary is not considered.

In preservation of primary and secondary materials, "all conservational decisions are contingent, temporary, and culturally self-referential, even self-laudatory: we want to preserve the best of ourselves for those who follow" (Greetham, 1999). Sometimes criteria for selection depend on popularity, as when the British Library chooses only those books that have sold more than fifty copies. It could be argued that it is precisely those titles which are not commercially successful that are in most need of bibliographic conservation. Generally, in libraries, we typically seek what we consider to be the best and most important work in the subject fields for which we are responsible. For example our science collection should include what we consider to be good, accepted science, and not "pseudo-science".

Here, using the case of the boundary between science and non-science, I make the case that boundaries should be seen as human and cultural products, rather than objective entities. If boundaries are seen as social constructions rather than forced upon us by nature, this has consequences for selection.

<u>Popper and the received view of demarcation</u>

Philosophers of science have long been concerned with the boundaries of science and non-science. Where does science end and non-science begin? That is to say, with distinguishing true or real science from those theories and methods which claim to be scientific, but which in fact are not scientific at all, because they are not the result of the application of rigorous scientific method. The usual answer to this question has been in terms of the so-called scientific method. It is said that science has a special method. Historically, the method that separates science from non-science has changed over the centuries: Francis Bacon and John Stuart Mill thought that the scientific method was induction (counting many instances of events and then generalizing to form a general theory). Logical positivists, such as A. J. Ayer (1946), thought that science, and indeed meaningful thought in general, was characterized by empirical verification. According to Ayer's verification principle, any statement that could not be verified was meaningless.

The most influential demarcation principle was formulated by Karl Popper (1989, 2002). Popper challenged the notion that science was distinctive by induction, and thought that science was distinctive by its use of a particular kind of deduction: the hypothetic deductive method. Good science happens when scientists make bold conjectures and then attempt to falsify them by rigorous testing. Thus a scientific theory can never be proved, but only disproved, because we can never tell, even if a theory has so far not been falsified, that some future test may not show the theory to be wrong. Thus, any theories put forward by scientists are tentative. Popper thought that his falsification principle was a sure defense against dogmatism.

It should be noted at the outset that Popper's notion of falsification as a definition of what constitutes "scientific method," and consequently the location of the demarcation line he proposes, is by no means universally accepted, even by those who agree with him that there is a strict demarcation between science and non-science.

Unlike the logical positivists, Popper did not claim that his falsification principle applied to all statements. He did not say that statements that are not falsifiable are meaningless, merely that they are not scientific. Popper's perspective on demarcation has been extremely influential, not only among philosophers of science but also among some scientists (Mulkay and Gilbert 1981).

Despite Popper's influence, even though much has been written by philosophers of science and others on the subject, there has been no general agreement on what constitutes "scientific method." Indeed, this lack of agreement has been the starting point for much of the sociological critique of science summarized below.

The theoretical challenge to Popper began in the 1960s with Kuhn (1996), who brought an element of relativism into the history of science by introducing the notion of a "paradigm shift." Studying the history of science, Kuhn noted that science proceeds for long periods as "normal science," in which scientists do their work using implicitly unchallenged sets of assumptions (paradigms) and in which progress is generally quantitative rather than qualitative. These periods are punctuated every so often by scientific revolutions, in which the paradigm changes. According to Kuhn, paradigms are incommensurable; what is true in one paradigm may not be true in another. Since paradigms shift with time, what is true in one epoch (for example the earth is center of the universe) is not true in another.

Building on Kuhn's work, the sociologists Barnes (1974) and Bloor (1976), the members of what became known as "The Edinburgh School," argued that sociologists need not limit themselves to studying scientists and science only as a social system, as sociologists of science following Merton (1973) had done. Instead, Barnes and Bloor boldly suggested that the content of scientific knowledge could be brought under sociological scrutiny; that sociology could examine and explain scientific theories, discoveries, and facts. This sociology of scientific knowledge approach could be applied to good and "normal" science as much as to bad or bogus science. In other words, ordinary good science is amenable to causal sociological explanation just as much as bad science. The theoretical work of Barnes and Bloor led to a series of ethnographic studies of scientists, beginning with the landmark study by Latour (Latour and Woolgar 1986) of microbiologists at the Salk Institute. The conclusions of these studies directly contradicted Popper's claim that there is a strict demarcation between science and non-science as defined by method. These ethnographic studies are summarized in: Barnes and Edge (1982), Collins and Pinch (1982), Knorr-Cetina and Mulkay (1993), Woolgar (1988), and Collins and Pinch (1993). These studies concluded that scientific facts are constructed rather than discovered, and that there is no one scientific method that demarcates science from non-science. This way of looking at science has become known as "constructivism."

A concise definition of constructivism is given by Golinski (1998), who defines constructivism as a perspective that "regards scientific knowledge primarily as a human product, made with locally situated cultural and material resources, rather than as simply the revelation of a pre-given order of nature" (Golinski 1998, p. ix). Constructivism, as a methodological orientation, draws attention to the notion that scientific knowledge is a human creation made with available cultural and material resources, "rather than the revelation of a natural order, which is pre-given and independent of human action" (Golinski 1998, p. 6).

There is some dispute among constructivists as to whether science is an entirely social construction, or merely a construction that allows for the intrusion of objective reality. For simplicity, here I treat the two terms as synonymous, as the difference does not affect my central argument.

Boundary work as an alternative to demarcation

Following in the tradition of constructivist sociologists of science, Thomas Gieryn (1999) has proposed that the demarcation between science and non-science is a form of boundary work. Rather than being a natural boundary between science and non-science, demarcation criteria such as falsification are constructions by scientists, philosophers of science and others to provide boundaries between different activities for reasons of political and/or economic self-interest.

Gieryn suggests that essentialist characterisations of science, such as demarcation, are a reflection of the way that scientists themselves distinguish their profession and activities from other professions and activities. In other words, they are methods of legitimation. Gieryn's thesis is supported in a study done by Mulkay and Gilbert (1981), who found that many scientists see Popper's thesis as an accurate reflection of what they do. Popper, like philosophers of science before him, saw demarcation criteria as being "natural" and based on "objective criteria." But rather than being "objective" or "natural," such characterizations are used by scientists as a political resource. In contrast to demarcation, the concept of boundary work is a sociological one that points directly to social processes by which demarcations, or boundaries, are constructed. The notion of boundary work theory has the advantage of highlighting the historical and sociological activities of scientists, and explains how demarcations (boundaries) can change over time.

An exemplary case study of how boundaries can change such to allow a non-science to be considered a science is SETI (Search for Extra Terrestrial Intelligence). In the twentieth century, up until the 1950s, SETI projects, searching for intelligent life on other planets, were the province of science fiction. The discovery of planets outside the solar system and changing scientific culture have validated SETI as a perfectly acceptable scientific activity. The transformation of SETI from non-science to science can be traced back to the landmark paper in Nature that suggested the feasibility of using radio telescopes to search for messages from technically advanced civilizations (Cocconi and Morrison 1959). The first search was initiated one year later, in 1960, by Frank Drake at the Green Bank Observatory in West Virginia. Since then, the discovery of extra-solar planets has made SETI seem an ever more reasonable proposition. Over the last few years many such searches have been done, and at least one is ongoing at time of writing. The introduction of new techniques, in this case more powerful and sophisticated radio telescopes, and new astronomical knowledge, especially the discovery of extra-solar planets, caused a paradigm shift which brought SETI into the fold of legitimate astronomical research. The change is not clear-cut, however. There are still astronomers who think that SETI is a waste of time, but it is no longer generally regarded as non-science. Thus in a time span of only a few years SETI went from the realm of non-science to science proper.

The case of SETI suggests that Gieryn and other sociologists and ethnographers have a point in suggesting that the boundary between science and non-science is not rigid and immutable. Constructivism implies that any argument claiming a rigid demarcation between authoritative science on the one hand, and non-authoritative non-science on the other, should be regarded with suspicion. A crude interpretation of the constructivist approach to science is that works commonly regarded as non-science should be treated in the same way as those in accepted mainstream science. However, the proposition that the demarcation between science and non-science is a construction does not imply that it does not exist. A social construction has a different ontological status from an objective demarcation line, but the fact that it is made by humans does not mean that we should ignore it. Constructivism implies that boundaries constituting the demarcation between science and non-science are fluid, changing, uncertain and fuzzy, rather than sharp, rigid and fixed in time.

Implications for selection

The constructivist argument as outlined here has implications for developing collections policies in both libraries and archives. It has special implications for those libraries and special collections serving science and technology studies (STS) programs. Science bibliographers will of course continue to buy works supporting traditional science curricula, but in STS, social constructivism comes into play. Amongst other problems, STS attempts to answer the question "What is science?" This question cannot be answered without studying the whole gamut of what is and has been regarded as science, as what is regarded as science has changed over time. For example, astronomy and astrology were once regarded as equally respectable forms of knowledge. The understanding of science is enhanced by contrasting it with forms of knowledge that were once thought scientific, but which are now regarded as non-science. The STS students will be able to understand science better by comparing what is regarded as acceptable science with what is regarded as non-science. Constructivism has been the dominant mode of thought for at least twenty years in many STS departments, so it is reasonable that the bibliographer use it to select material for such departments.

Moreover, the bibliographer typically lacks the time or the expertise to make a sound judgement about the scientific merits of a particular monograph. Using constructivism as a selection tool, we can have a more open mind when it comes to borderline cases. Constructivism tells us that in such borderline cases, where someone challenges orthodoxy, we may want to err towards selecting an item which some may regard as non-science for the sake of enriching the collection.

Constructivism as an approach to science is open to the charge of relativism, by which the critic usually means that constructivism says, “all views are of equal value.” There are, however, at least four types of relativism: moral, cultural, epistemic (or cognitive) and aesthetic. Critics of constructivism often conflate two or more of these types of relativism, and often reduce relativism to just the moral type. Constructivism as an approach to science has nothing to do with moral or aesthetic relativism. However, constructivism in this context does assume a certain cultural relativism: it says that science is part of culture and that science is a product of particular cultures in particular times and places. This type of relativism should not be controversial. Indeed, much of social science, especially sociology, would not be possible without it. More controversially, constructivism in science does imply a certain epistemological, or cognitive relativism. That is to say, it implies that no one set of epistemic norms is metaphysically privileged over any other. As previously argued, this view has some support from the history of science, which, as Kuhn has shown, tells us that what is true in one epoch may not be true in another. Epistemic relativism is thus grounded in the history of science. Cognitive relativism implies neither a naivety about non-science nor a rejection of science. It merely brings science down from its pedestal and suggests that we should apply a healthy skepticism to science in the same way that we would to any other human and social activity.

If there is no rigid, objective boundary between science and non-science, then libraries and archives cannot select material based on such a boundary. Moreover, if there is no objective boundary between science and non-science, any talk of a “balance” between the two is meaningless, and what counts as science is, to a great extent, “up for grabs.” The practical implication of such an approach is that the bibliographer may want to pay more attention to demand for materials commonly regarded as non-science than he or she would otherwise have done had demarcation been regarded as objective. The resulting collection may not be much different from a collection created by bibliographers who accept the Popperian notion of demarcation, but the reasons for buying (what is regarded as) non-science materials might be different. The difference between the resulting collections will be at the margins, but that marginal difference can be important. Thus a social constructivist approach leads to a more inclusive selection policy. It also asserts that in the absence of universalistic criteria of demarcation, scientific knowledge is formulated within specific social contexts. This implies that decisions should be made not on the basis of abstract, rigid principles (such as demarcation), but instead they should rely on local conditions analysed in context.

References

Ayer, A. J. (1946). Language, Truth, and Logic. London: Gollancz.

Barnes, Barry. (1974). Scientific Knowledge and Sociological Theory. London: Routledge and Kegan Paul.

Barnes, Barry and Edge, David, eds. (1982). Science in Context: Readings in the Sociology of Science. Cambridge, Mass.: MIT Press.

Bloor, David. (1976). Knowledge and Social Imagery. London: Routledge and Kegan Paul.

Cocconi, Giuseppe, and Morrison, Philip. (1959). Searching for Interstellar Communications. Nature 184 (4690): 844- 846.

Collins, Harry and Pinch, Trevor. (1982). Frames of Meaning: The Social Construction of Ordinary Science. Routledge and Kegan Paul.

Collins, Harry, and Pinch, Trevor. (1993). The Golem: What Everyone Should Know About Science. New York: Cambridge University Press.

Donnelly, F.K. (1984). “Non-science and the Librarian.” Canadian Library Journal. 41 (2): 81-83.

Gieryn, Thomas. (1999). Cultural Boundaries in Science: Credibility on the Line. Chicago: University of Chicago Press.

Golinski, Jan.(1998) Making Natural Knowledge: Constructivism and the History of Science. New York: Cambridge University Press.

Greetham, David. (1999). “Who’s In, Who’s Out: The Cultural Politics of Archival Exclusion.” Studies in the Literary Imagination 32 (1): 1-28.

Knorr-Cetina, Karin and Mulkay, Michael. (1993) Science Observed: Perspectives on the Social Study of Science. London: Sage Publications.

Kruk, M. (2001). The Superstitions in Public Libraries. Australian Library Journal. 50 (4): 349-363.

Kuhn, Thomas. (1996) The Structure of Scientific Revolutions. Chicago: University of Chicago Press.

Latour, Bruno. (2002) The Science Wars: A Dialogue. Common Knowledge. 8 (1): 71-79.

Latour, Bruno, and Woolgar, Steve. (1986). Laboratory Life: The Construction of Scientific Facts. Princeton: University of Princeton Press.

Merton, Robert. (1973). Sociology of Science: Theoretical and Empirical Explorations. Chicago: Chicago University Press.

Mulkay, Michael, and Gilbert, Nigel. (1981). Putting Philosophy to Work: Karl Popper’s Influence on Scientific Practice. Philosophy of the Social Sciences 11 (3): 389-407.

Popper, Karl. (2002). The Logic of Scientific Discovery. London: Routledge.

Popper, Karl. (1989). Conjectures and Refutations: the Growth of Scientific Knowledge. London: Routledge.

Woolgar, Steve. (1988). Science: The Very Idea. New York: Tavistock Publications.

July 2005

Breastfeeding and the American Academy of Pediatrics

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Traditionally, women breastfed their infants. However, when this was not possible or if the mother did not wish to breastfeed her child, the family turned the infant over to a wet nurse. This was especially the case among the wealthy. Many wealthy families also fed the child by artificial means. The American Academy of Pediatrics has a large collection of infant feeding devices developed for that purpose. (1)

During the 18th and 19th centuries, mass production of infant feeding devices, which gradually evolved into the baby bottles of today, reduced the cost to the point where middle class families and then even working class families could afford them. Women who worked outside the home were especially inclined to use baby bottles rather than breastfeed their babies. By the early 20th century, many women still breastfed their babies, but many others preferred baby bottles, which they considered more modern. Pediatricians were divided. Many, such as Abraham Jacobi, preferred breastfeeding. Others, such as Thomas Morgan Rotch, thought that artificial formulas were an acceptable substitute.   By the 1920's, women overwhelmingly abandoned breastfeeding in favor of bottle feeding, either with formula or with pasteurized milk. (2)

The American Academy of Pediatrics was founded in June, 1930. Although the Academy took no formal stand on breastfeeding in its early years, there were articles regarding breastfeeding in *The Journal of Pediatrics,* then the official journal of the Academy. One such article described a way to preserve and feed it to an infant at a later time. (3) In 1940, the Academy established a Committee on Mother's Milk Bureaus to work with such Bureaus in major cities. The Committee sought to establish standards for preserving human milk. (4)

The Committee published its standards in *The Journal of Pediatrics* in 1944 and also urged that "the Academy should use very opportunity to encourage breastfeeding of infants." (5) The Committee and the Mother's Milk Bureaus that it worked with sought to encourage women who had more milk than their babies could consume to express it and sell it to Mother's Milk Bureaus which could then provide it to sick babies who had no other source of breast milk. However, they could not find mothers who were able and willing to express breast milk. The Committee found it could make no progress if mothers were resistant to breastfeeding and undertook to encourage breastfeeding. The Executive Board saw a lack of demand for breast milk and finally "sunset" the Committee in 1949 and transferred its functions to the Academy's Committee on Nutrition and its Committee on Fetus and Newborn. (6)

Even so, the Academy did not abandon its position that breastfeeding was the preferred option of feeding infants. During World War II, a government agency, the Childrens Bureau, prepared a book on the hospital care of infants. Several members of the Academy were involved in writing the book. After the war, the Academy took it over and in 1948 published the first edition of Standards and Recommendations on the Hospital Care of Newborn Infants. One of its recommendations was that "efforts be made to have every mother of a full-term infant nurse him." (7) This recommendation stood throughout later editions of the book, despite society's preference for the bottle.

During the fifties and sixties, many pediatricians either went along with the rest of society or simply left it up to the mother whether to breastfeed their baby or use the bottle. At that time, there was little research into the benefits of breastfeeding and advocates had little to go on except the benefits of bonding between infant and mother. However, there were women who still chose to breastfeed. The La Leche League, founded in the fifties by a group of suburban women, popularized breastfeeding. When the sixties brought the counterculture movement, La Leche was already there and many young women breastfed their infants. (8)

The Academy's Committee on Nutrition meanwhile continued to study breast milk as a source of infant nutrition. In the late fifties, it noted the lack of knowledge of the composition of breast milk and undertook its own studies. In the late sixties, it studied the presence of fluoride in breast milk and concluded that it had no ill effects on the infant. In 1974, it noted recent evidence suggesting immunologic benefits and other effects of breast milk and suggested that breast milk may be superior to other forms of infant nutrition at least for the first week or so of life. In 1976, it published a Commentary in the Academy's journal, *Pediatrics*, urging breastfeeding. In 1980, it issued a statement strongly endorsing breastfeeding of infants and urged pediatricians to recommend it to mothers of newborns. Early in 1981, Academy representatives met with the World Health Organization and discussed means of promoting breastfeeding in Third World nations. Soon afterward, the Academy established a task force to promote breastfeeding, especially in Third World countries. It issued its statement in 1982 encouraging breastfeeding in Third World countries but also urging that pediatricians, obstetricians and family physicians in this country encourage mothers of newborns to breastfeed their infants. In 1988, the Academy Executive Board issued a policy statement regarding the Women Infants and Children Supplemental Feeding Program (WIC) in which it urged that breastfeeding be aggressively promoted among WIC recipients because of its exceptional nutritional value and its cost savings to the program. (9)

In May, 1993, Academy representatives met with officials of the United States Department of Agriculture to discuss a campaign to promote breastfeeding. The Academy joined in the campaign. Later that year, the Academy sponsored a workshop for physicians to promote breastfeeding. Then in October, the Academy established a Work Group to consider a new statement on breastfeeding and to promote breastfeeding. The Work Group on Breastfeeding soon set to work and in 1997 issued a policy statement declaring that "epidemiologic research shows that human milk and breastfeeding of infants provide advantages with regard to general health, growth, and development, while significantly decreasing risk for a large number of acute and chronic diseases."(10) The Work Group continued to meet and to popularize breastfeeding. In July, 2000, the Academy established a Provisional Section on Breastfeeding and the Work Group became its Executive Committee. The Section now numbers over 600 members and continues its work of promotion of breastfeeding and describing its benefits to pediatricians and parents. Early in 2005, the Section published a revised statement of the 1997 statement *Breastfeeding and the Use of Human Milk*. In addition, the Academy maintains a program to promote breastfeeding, now housed in the Academy's Department of Community Pediatrics. The Academy also maintains a relationship with La Leche League, with whom it co-sponsors workshops on breastfeeding. Some Academy committees address nutritional aspects of breastfeeding as well as hazards such as the presence of drugs in breast milk. (11)

In 1997, the Academy's Department of Community Pediatrics partnered with the U.S. Department of Health and Human Services Maternal and Child Health Bureau to launch the Breastfeeding Promotion in Pediatric Office Practices Program. Its primary goal was to train pediatricians to encourage mothers to breastfeed their infants. In 2001, the Academy expanded the program to include obstetricians, family practice physicians and public health representatives with special emphasis on promoting breastfeeding in racially and ethnically diverse populations. In 2004, the program expanded again to include nurses, lactation consultants, lay breastfeeding personnel and residency program directors in pediatrics, obstetrics, and family medicine. As we move further into the new century, the Academy remains committed to breastfeeding, perhaps now more than ever in its history. (12)

References

1. Harvey Levenstein, "'Best for Babies,' or 'Preventable Infanticide'? The Controversy over Artificial Feeding of Infants in America, 1880-1920," *Journal of American History*, 70, (June, 1983) 75-76.

2. Levenstein, "'Best for Babies,'" 77-92.

3. See for example: Paul W. Emerson, MD, and Washington Platt, "The Preservation of Human Milk," *Journal of Pediatrics*, 2 (April, 1933), 472-477.

4. Minutes, Executive Board, American Academy of Pediatrics, Meeting, November 17, 1940, 3; Proceedings, General Meeting, American Academy of Pediatrics, November 19, 1940, 19-20;

5. Report of Committee on Mothers Milk Bureaus, Minutes, Executive Board, American Academy of Pediatrics, Meeting, June 5, 1943, *Journal of Pediatrics*, 23 (July, 1943), 108. For the full report on standards, see "Recommended Standards for the Operation of Mothers Milk Bureaus," *The Journal of Pediatrics*, 23 (July, 1943), 112-128.

6. Report of Committee on Mother's Milk Bureaus, Minutes, Executive Board, Meeting, American Academy of Pediatrics, June 7-8, 1946, p. 173; Report of the Committee on Mother's Milk Bureaus, Minutes, Executive Board, American Academy of Pediatrics, Meeting, July 7-8, 1947, pp. 70-71; Report of the Committee on Mother's Milk Bureaus, Minutes, Executive Board, American Academy of Pediatrics, Meeting, December 5-7, 1947, 77; Minutes, Executive Board, American Academy of Pediatrics, Meeting, November 11-16, 1949, Volume II, pp. 239-240.

7. Committee on Fetus and Newborn, American Academy of Pediatrics, *Standards and Recommendations for Hospital Care of Newborn Infants, Full-Term and Premature*, 23. The prior history of this report may be found in the Foreward to the report. This publication was replaced in 1983 by *Guidelines for Perinatal Care*, which naturally recommends breastfeeding.

8. Weiner, Lynn Y., "Reconstructing Motherhood: The La Leche League in Postwar America," *The Journal of American History*, 80 (March, 1994), 1357-1381.

9. Committee on Nutrition, American Academy of Pediatrics, Annual Report, October, 1958, Annual Reports of Committees, 58; Committee on Nutrition, American Academy of Pediatrics, Minutes, Meeting, May 24, 1967, 7-12; Committee on Nutrition, American Academy of Pediatrics, Minutes, Meeting, November 13-15, 1974, 3; Committee on Nutrition, American Academy of Pediatrics, Commentary, *Pediatrics*, 57 (February, 1976), 278; Committee on Nutrition, American Academy of Pediatrics, Policy Statement, "Encouraging Breastfeeding," *Pediatrics*, 65 (March, 1980), 657-658.; Executive Board, American Academy of Pediatrics, Minutes, Meeting, April 1-3, 1981, 16-17; Task Force on Breastfeeding, American Academy of Pediatrics, Policy Statement, "The Promotion of Breastfeeding," *Pediatrics*, 69 (May, 1982), 654-661; "Policy Statement, WIC Program," *AAP News*, June, 1988, 7.

10. Work Group on Breastfeeding, American Academy of Pediatrics, Policy Statement, "Breastfeeding and the Use of Human Milk," *Pediatrics*, 100 (December, 1997), 1035.

11. Executive Committee, American Academy of Pediatrics, Minutes, Meeting, June 14, 1993, p. 3, agenda item 4 with attachments; Executive Committee, American Academy of Pediatrics, Minutes, Conference Call, October 7, 1993, 2, 4, attachments; Executive Committee, American Academy of Pediatrics, Minutes, Conference Call, October 19, 1993, 5; Work Group on Breastfeeding, Policy Statement, "Breastfeeding and the Use of Human Milk," *Pediatrics*, 100 (December, 1997), 1035-1039; Provisional Section on Breastfeeding, American Academy of Pediatrics, Annual Report, 2000-2001; Section on Breastfeeding, American Academy of Pediatrics, Policy Statement, "Breastfeeding and the Use of Human Milk," *Pediatrics*, 115 (February, 2005), 496-501.

12. Personal Communication from Betty Crase, Breastfeeding Coordinator, American Academy of Pediatrics, Department of Community Pediatrics, April 21, 2005.

April 2005

Archival Elements is produced annually in the Summer of each year. It is the official newsletter of the Science, Technology, and Health Care Roundtable of the Society of American Archivists. Please consider submitting an article to *Archival Elements*. For more information on submitting information or an article, please contact Ewa Basinska (MIT).