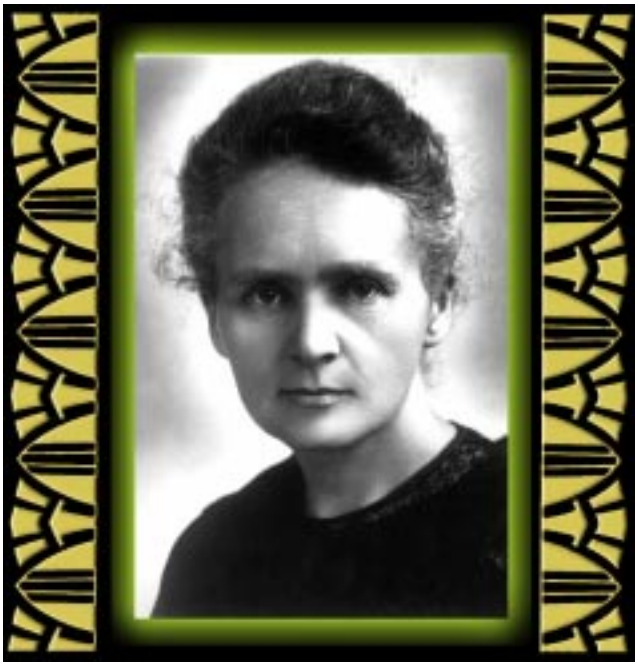
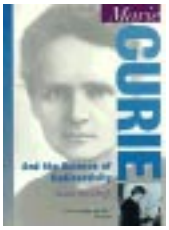


New Web Exhibit on Marie Curie

A major new exhibit has been mounted on the Web to explain the life and work of Marie Curie. "Marie Curie and the Science of Radioactivity" joins the award-winning exhibits on Einstein, Heisenberg, Sakharov and others on the Center for History of Physics Web site. The new exhibit was written by



Naomi Pasachoff, author of a book on Madame Curie aimed at high-school students. While the appeal is universal, it is expected that the largest number of viewers will be young women and girls with an interest in science. This audience is very important to the future of physics. Young women who are making career choices need to see that physics is not a narrowly masculine enterprise, and that one can pursue a world-class research career along with a life richly engaged in both family and the society at large.

The exhibit covers every aspect of Marie Curie's career, including her turbulent youth, her entry into science and the discoveries that won her two Nobel prizes, her marriage and complex emotional life, her creation of medical services at the Front during the First World War, her creation and administration of the Radium Institute as a world scientific center, and her legacy

(continued on page 2)

Finding Aids to Major Collections at Ten Archives Now Online

A consortium of ten institutions led by the AIP Center for History of Physics is pleased to announce a major new resource in the history of physics, astronomy, geophysics and allied fields: a cross-searchable online database of findings aids with detailed information on more than 60 manuscript and archival collections. The Physics History Finding Aids Web site (**www.aip.org/history/ead**) is the largest subject-based consortium of finding aids on the Web. Researchers can use it to get detailed information on a wide variety of important resources in 20th century American science and science policy from major repositories throughout the U.S. The collections cover a broad variety of fields centered around physics, astronomy and geophysics, with information on some of the most significant topics in modern science. They include personal papers of major and also more typical scientists, administrative records, and lab notebooks and other scientific materials.

Some of the collections are well known to historians of science. Others are relatively unfamiliar and little used, either because they haven't been widely publicized or because finding aids haven't been available until recently. The collections contain the personal papers of individuals like William Meggers, George Ellery Hale, Percy Bridgman, and Robert Millikan who helped America enter the world of modern science in the first decades of the 20th century; physicists from the World War II era who "changed the world" and moved America to the forefront in physics and allied fields; and scientists who helped create nuclear physics, astrophysics, geophysics and the other fields that developed after the war. They contain the papers of seven Nobel laureates in physics, including John Bardeen, Richard Feynman, and William A. Fowler, as well as leading lights like James Van Allen and Sydney Chapman. The collections also provide a wealth of institutional records that help portray the growth and development of America's modern scientific infrastructure. In addition to documenting individuals and institutions, the collections reflect the pervasive networks of contacts and collaborations within the scientific community. By searching across the finding aids researchers are able to identify and explore these connections and relationships in ways that have not been possible before.

The finding aids typically contain an introductory essay describing the main features and subjects of the collection and a listing of box and folder contents, sometimes running to hundreds of

(continued on page 2)

(New Web Exhibit on Marie Curie, continued from page 1)

including her daughter Irène, another Nobel-winning scientist. The exhibit is augmented by 90 striking illustrations, English translations of articles by Marie Curie, and supplementary pages explaining the science of radioactivity in simple language. The entire exhibit has been checked and corrected by leading historians of science, with the cooperation of the French Association Curie et Joliot-Curie and the Museum and Archives of the Radium Institute, Paris.

The exhibit may be seen at **www.aip.org/history/curie**. *See also the article on the Web site on Contributions of Women to 20th Century Physics,below.*

Web Site Documents Contributions of 20th Century Women to Physics

Society's awareness of the participation of women in physics has been slight, despite their great productivity during the past century. Their discoveries are documented, but the records are buried in technical journals. The prevailing view of physics as an intrinsically masculine interest is perpetuated in textbooks and teaching. To overcome this misperception, in 1995 Nina Byers, a physicist at the University of California at Los Angeles, began to develop an interactive Web site on women who have made original and important contributions to physics in the 20th century.

Currently the site contains entries on 86 women. One entry point is an annotated photo gallery, with each photo leading to data on the woman pictured. One can also get these data from a list of all the women cited, arranged by field, including not only core fields of physics but also astrophysics, crystallography, geophysics and space physics. There are in addition hyperlinks to various supplementary materials, including essays on scientific and historical topics and full texts of documents not easily found in most libraries. Some of these documents are not to be found in print at all and have been provided because they are of major historical interest. A search engine gives the viewer access to the full texts of all the materials in the site.

When Byers began to compile a list for the site, she posted the project on the Web and provided fill-in forms for colleagues around the world to suggest names. She quickly discovered there were many more women to be included than she had imagined. Help in deciding which women to include, and what data to compile, was provided by a local Steering Committee of colleagues from various fields of physics. It quickly became clear that

(continued on page 3)

(Finding Aids to Major Collections at Ten Archives Now Online, continued from page 1)

pages. They are fully encoded in SGML-EAD format, the emerging archival standard. A search engine allows users to search across the full texts (or, if preferred, only the introductions or other portions) of the entire set of finding aids. Having thus identified a particular finding aid of interest, users can call up its text and search it using their own browser, download and print out parts of interest, or otherwise investigate the contents. Locating collections of interest is not the only use of the site. Historians will appreciate that the finding aids will facilitate advance preparation to make their visits to archives more efficient, and in many cases will allow them to get materials useful for their research by correspondence without the expense of a visit at all.

The Physics History Finding Aids Web site is a continuation and expansion of the Center's International Catalog of Sources for History of Physics and Allied Sciences (ICOS, online at **www.aip.org/history**), which now contains over 7000 summary records from approximately 600 repositories worldwide. The pilot project to create the Web site was supported by a one-year grant from the National Endowment for the Humanities (see the announcement in our Fall 1999 newsletter) and comprises ten institutions: the American Institute of Physics, California Institute of Technology, Harvard University, Massachusetts Institute of Technology, Northwestern University, Rice University, University of Alaska-Fairbanks, University of Illinois Urbana-Champaign, University of Iowa, and University of Texas-Austin. Now that the initial work of creating the database is completed, we're looking forward to expanding its resources by adding new collections and new member institutions to the consortium. We particularly welcome inquiries from archivists with finding aids that should be online at this site. We invite you to search the Physics History Finding Aids Web site itself and explore the related Web pages. Please send us your suggestions and questions by using the Feedback button.

AIP History Center staff members (from bottom to top) Katy Hayes, Clay Redding, and Joe Anderson examine the new Physics History Finding Aids Web site.

(Web Site Documents Contributions of 20th Century Women to Physics, continued from page 2)

extensive archival and bibliographic research was needed, and student assistants were required. The American Physical Society contributed seed money which was matched by UCLA; additional money was provided by the laboratories of the National Institute of Science and Technology, and a major grant was made by the Alfred P. Sloan Foundation.

The Steering Committee established criteria for inclusion, deciding in particular that the site would be limited to women who had made at least one important discovery prior to 1976. To include the many women who contributed since would have overwhelmed the staff. Field Editors helped select candidates and reviewed the information on them. The site has been available for several years as a work in progress, and already has received widespread recognition. It is being used especially by students and teachers. The "Contributions of 20th Century Women to Physics" site may be visited at **www.physics.ucla.edu/~cwp**. Sometime next year it will become part of the UCLA Library Digital Archives. It will then be cataloged and posted on their Web site. (The link will also be found on the AIP Center's links page, **www.aip.org/history/exhibit.htm**.)

An example of uses of the site would be to complement the Center's new Web exhibit on Marie Curie (see the article on page 1). Contrary to what is usually assumed, there were outstanding female physicists working contemporaneously with Curie, including, for example, Hertha Ayrton (1854-1923), Kirstine Meyer (1861-1941), and Agnes Pockels (1862-1935). Ayrton did early work in plasma physics (on the electric arc), Pockels was a precursor in the study of surface films, and Meyer followed van der Waals' work with a study of the equation of state of liquids. References to the papers these women wrote and their other major contributions can be found in the CWP Web site. One simply puts their names in a search box on the homepage.

Preservation of E-mail Addressed by New Studies

by Clay Redding

The Internet has changed the way many of us keep records. As Internet technologies have grown in popularity, so too have the number of e-mails we send. Up to 90 per cent of the 108 million Internet users in the United States cite e-mail as their primary use of the Internet. Recent projections indicate that Americans will send upward of 60 billion e-mails this year alone.

Given this glut, and the fact that e-mail will proliferate at an increasing rate every year, many are unclear as to how they are supposed to manage such quantities of data. There is no easy answer. Archivists and computer scientists have only recently developed preliminary steps to help manage the information overload. Issues surrounding the best practices for e-mail management are currently being developed out of projects focused more broadly on electronic records preservation.

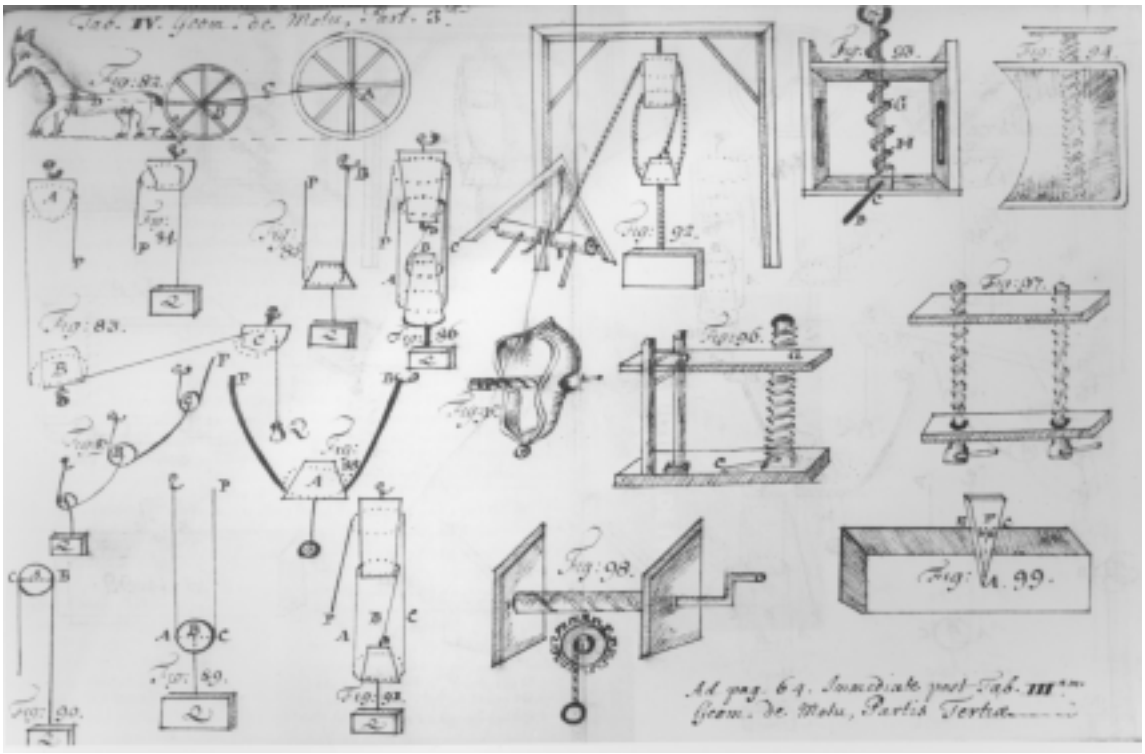
The National Archives and Records Administration (NARA) has addressed issues surrounding electronic recordkeeping since the 1970s; however, their initial answer to preserving e-mail records was to print them out. This held true until 1997, when journalists, historians, and librarians challenged their practices in court (*Public Citizen v. Carlin*). The judge decreed that NARA's practices were flawed, and the only way to legally maintain electronic records–especially e-mail–was to preserve them electronically along with their metadata (data which provides technical information relating to record creation and dissemination). This decision forced archivists to rethink how e-mail should be managed, and served as the springboard for the development of current electronic records research projects.

Today, NARA is actively involved in several important projects focusing on electronic preservation. In its work with the San Diego Supercomputer Center project, researchers are striving for "persistent object preservation." The idea is to store the characteristics of an electronic document or image in an open-source, standardized format that ensures its use with any software or platform in the future. NARA is also participating in the InterPARES project, an international effort which aims to ensure long-term preservation of electronic records through the use of archival methodology and theory. Outside of these efforts, Australian archivists have made important contributions relating to file formats through the Victorian Electronic Records Strategy.

For everyday users interested in archiving their e-mail, the best advice for storage and preservation is to keep the mail in its original format on the server. Both searching capabilities and data storage are rapidly becoming so cheap that within a few years even a large volume of e-mail should pose no problem. Meanwhile, if the lack of storage space becomes an issue, users should contact their systems administrators or Internet service providers to recommend a temporary solution (printing out is not the answer, however). One alternative is to save and compress the data onto optical disks or magnetic tape. Otherwise, users may have to simply purchase additional storage space.

Those using proprietary e-mail software packages should make certain to migrate their e-mail to newer versions of the software as it is released. In addition, it is advisable to ask your systems administrator or Internet service provider about the environmental conditions in which the mail servers and backup tapes are stored. Ideally, servers and tapes should be maintained at a temperature of 60° to 70° F, and at a 20% to 40% relative humidity.

Until the aforementioned projects' solutions hit the mainstream, users should stay the course. Those who face difficulties with electronic preservation may contact us at credding@aip.org to receive advice regarding their e-mail preservation dilemmas.



This Photograph was taken from the David Gregory Collection. The original drawing was done by a student, Francis Pringle, in 1694, as part of a series of lecture notes that he took down at Oxford University (whilst Gregory held the Chair of Astronomy), and is taken from Gregory's work Geometria de Motu, *relating specifically to mechanics. Photo courtesy of Edinburgh University Library, Special Collections.*

The NAHSTE Project: Navigational Aids for the History of Science, Technology and the Environment

by Andrew Thomson

Edinburgh University Library is leading a research project using Internet technology to provide access to scientific archives. Archivists from the Navigational Aids for the History of Science, Technology and the Environment (NAHSTE) project are collaborating with colleagues from the University of Glasgow and Heriot-Watt University to catalog materials held by each institution relating to the project's themes. The final on-line compilations of descriptions and records will allow seamless searching across the partner institutions through chronological and subject-based navigational aids. Cross-linkages to the wider Scottish scientific historical records, held by collaborators outside the Higher Education community, will also be provided. The work is funded by the Research Support Libraries Programme.

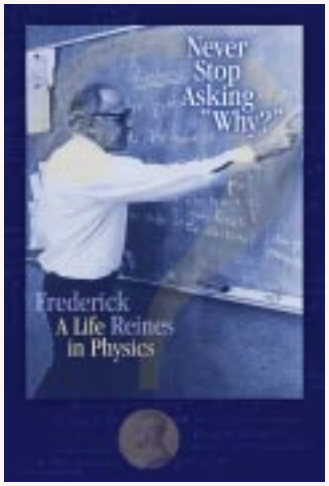
In the first few months of the project, much time has been spent researching and creating collection-level cataloging entries for the archives named in the original proposal, so that they conform with the General International Standard of Archival Description ISAD(G). This process has unearthed a host of manuscript treasures, some of which are a "well-kept secret," particularly those from the period of the Enlightenment.

The papers of John Robison form one such collection. Robison was professor of natural philosophy at Edinburgh University from 1774-1805. The University Archive holds some 40 volumes of his lecture notes, which cover a broad range of scientific subjects including mechanics, hydrodynamics, astronomy, optics, electricity and magnetism. The intellectual developments that took place during the Scottish Enlightenment are also documented in correspondence between Robison and other prominent scientists of the period, such as the chemist Joseph Black. Robison's writings were varied and influential. From 1793 to 1801 he contributed well over forty articles to the Encyclopaedia Britannica. In 1804 he brought out his Elements of Mechanical Philosophy, of which, however, only the first volume, on Dynamics and Astronomy, was completed.

Early science teaching is represented by another impressive body of scientific material, the papers of David Gregory, who was professor of mathematics and astronomy at Edinburgh University from 1683-1691. Among the papers are several manuscripts of his works, including Lectiones mechanicae sive geometria de motu,1689-1690; Notae in Isaaci Newtoni principia philosophiae, 1693, and treatises on mathematics and astronomy, 1683-1694.

Scientific developments in the 20th century relating particularly to physics and astronomy are characterized by a set of compact disc recordings of interviews with the physicist and astronomer Sir Bernard Lovell, which reveal his work on cosmic rays in 1930s with Patrick Blackett, and his invaluable research on radar during the second World War; and from the Archives of the University of Glasgow, the administrative, financial, staff and production records created by the company Barr and Stroud Ltd, Optical Instrument engineers.

Additional information on the project can be found on the Web at **www.nahste.ac.uk**



Poster for an exhibit at the UC-Irvine Main and Science Libraries, January - May 2000, celebrating the opening of the Frederick Reines Papers. The processing of the Reines papers was partly supported by an AIP History Center Grant.

Grants to Archives Program Makes Important Collections Accessible

In 1998 the AIP Center for History of Physics created a Grants to Archives program, earmarking $30,000 in income from the endowment fund of the Friends of the Center to support the arrangement and description of collections in physics and allied fields at archives around the world. We received 17 applications during the first year, and because of the strength of the proposals and the need that they demonstrated for support, we've continued and expanded the program with the help of an anonymous New York foundation. In 1999 and 2000 we awarded $60,000 annually, with grants ranging up to $10,000 each. The grants are competitive and require matching funds; the grants that we funded in 1999 had a total of $300,000 in promised or anticipated matches.

The Center's modest investment has had important consequences for science historians and archivists. A number of important collections are now processed and available to researchers many years earlier than might otherwise have been possible. Another result is that some archives have been able to begin cleaning up some of their backlogs and to work more actively to take in new collections. Thanks to the generosity of Friends who have built up our endowment, the program can continue in future years so long as a strong need persists. For current program guidelines see our Web site at **www.aip.org/history/grntgde.htm** or contact us at chp@aip.org (301-209-3165).

Grants Awarded, 2000

INSTITUTION	AMOUNT	PROJECT
Georgia Tech Research Corporation	$ 5,862	Joseph Ford Papers
National Cataloguing Unit for the Archives of Contemporary Scientists (United Kingdom)	$10,000	S. Keith Runcorn Papers
National Center for Atmospheric Research	$ 6,473	Philip D. Thompson Papers
Russian Academy of Science	$ 9,932	Papers of D.I. Blokhintsev, N.N. Bogoliubov, V.I. Goldansky, B.M. Pontekorvo, D.V. Skobeltsyn and Ya.B Zeldovich
University of Aarhus (Denmark)	$ 8,600	Bengt Strömgren Papers
University of Minnesota	$10,000	Papers of Alfred O.C. Nier, Phyllis Freier and Edward Ney
Woods Hole Oceanographic Institution	$10,000	Papers of Columbus O'D. Iselin, John B. Hersey, John M. Hunt, Nicholas P. Fofonoff, Raymond B. Montgomery, Charles D. Hollister and William S. von Arx

Grants Awarded, 1999

INSTITUTION	AMOUNT	PROJECT
California Institute of Technology	$ 3,103	Robert Leighton, Robert Walker Papers
Niels Bohr Archive (Denmark)	$10,000	Aage Bohr, Allan Mackintosh Papers
Princeton University	$10,000	Survey & organize physics collections
Smithsonian Institution Archives	$10,000	Riccardo Giacconi Papers
Stanford University (SLAC)	$10,000	Burton Richter Papers
University of Alaska, Fairbanks	$10,000	Sydney Chapman Papers
University of California, Berkeley	$10,000	Exploratorium Records
University of California, San Diego	$10,000	Edward Allan Frieman Papers

Grants Awarded, 1998

INSTITUTION	AMOUNT	PROJECT
California Institute of Technology	$ 8,325	William A. Fowler Papers
Russian Academy of Science	$ 9,200	Anatoly Aleksandrov, Yakov Zel'dovich, V.V. Shuleykin, etc. Papers
University of California, Irvine	$10,000	Frederick Reines Papers

President Kennedy delivering remarks in front of the Model Lunar Lander. This photo was taken in Houston, Texas, at the NASA Rich Building on 12 September 1962 . Also shown are Vice President Lyndon B. Johnson, NASA Administrator James E. Webb, Dr. Robert Gilruth, Director of the Manned Space Program, and others. Photo courtesy of John F. Kennedy Presidential Library.

History of Science in the John F. Kennedy Presidential Library

by Maura Porter

Although President John F. Kennedy was not personally a student of science, many collections in his Presidential Library offer a unique and important view into the scientific issues of the early 1960's. Two distinct subject areas comprise a majority of the science holdings. The first is directly related to the Cold War, specifically nuclear arms/arms control and atomic energy issues. The second is the exploration of space and the beginnings of the space program.

The two core collections of the President's papers are the President's Office Files (POF) and the National Security Files (NSF). The POF was maintained by the President's Personal Secretary, so the documents in this collection were routed to and read by President Kennedy. In the POF researchers will find the Departments and Agencies series particularly useful: this includes materials from the Atomic Energy Commission, FAA-Supersonic Transport, Office of Science and Technology and the President's Science Advisory Committee. The National Security Files was the working file of McGeorge Bundy and the National Security staff, and therefore tends to have more reports, drafts and background materials than one finds in the POF. Within the NSF, researchers will again find the Departments and Agencies series pertinent. Also valuable are the NSF Subject series files on Nuclear Weapons, Space Activities and Supersonic Transport, the Carl Kaysen series folders on nuclear energy and the Meetings and Memoranda series materials on nuclear weapons testing, atomic energy and atmospheric testing.

Conducting research in the scientific fields can be frustrating since many of the files still remain security classified. Researchers who discover closed records in the POF and NSF will often then proceed to the White House Central Subject File. The WHCSF was maintained by the Executive Office staff of the White House and these files are predominantly open to research use. The science holdings of the WHCSF include folders on various departments and agencies, scientific organizations, space research vehicles and budget issues.

In addition to the President's papers, there are several collections of personal papers and White House staff files directly related to the science issues of the time. In particular, researchers have found helpful the papers of Roswell Gilpatric, Glenn Seaborg, James Webb, Edward Welsh and Adam Yarmolinsky. Lastly, the Library has microfilmed records of agencies such as the Atomic Energy Commission, Bureau of the Budget, FAA, National Science Foundation, NASA, the National Aeronautics and Space Council and the Office of Science and Technology; again please note that many of these agency records are security restricted. The OST material, for example, is often requested, but unfortunately at present only 20 of the total 73 rolls of microfilm are open and available for research. In addition, the papers of Jerome Wiesner, which contain the official chronological and subject files for his years as Director of OST, remain classified and closed. However, researchers interested in Jerome Wiesner can find material in the open OST microfilm and in other open collections.

For more detailed information on these collections, possible restrictions, or any other holdings, we invite scholars to contact the Library staff. As an initial step we also suggest reviewing our Web site at **www.jfklibrary.org** where one can read our guide to holdings and various finding aids. The staff of the Research Room has also compiled a "Science and Technology Research Guide" which lists collections at the folder title level. We will gladly send a copy of this guide to any prospective researchers. The Research Room email address is library@kennedy.nara.gov, our phone number is 617-929-4534 and our address is JFK Library, Research Room, Columbia Point, Boston, MA 02125.

At the time of his death, while Kennedy was still not a man of science, he had certainly gained greater insight and appreciation for scientists and the power of science. As he stated in October 1963: "I can imagine no period in the long history of the world where it would be more exciting and rewarding than in the field today of scientific exploration. I recognize with each door that we unlock we see perhaps 10 doors that we never dreamed existed and, therefore, we have to keep working forward."

I work and live in the country of physics, but history is the place that I love to visit as a tourist.

—Steven Weinberg

Major Expansion of Russian-language Materials in the Niels Bohr Library

In keeping with the international nature of science, the Niels Bohr Library aspires to have a comprehensive collection for modern physics and allied fields in all the major scientific languages. Over the last couple of years the Library has had special success in building up its collection of Russian-language publications. A main impetus has been the Russian background of our postdoctoral historian for the past three years, Alexei Kojevnikov (who leaves us this fall for a professorship at the University of Georgia). Dr. Kojevnikov bought many books for us during trips to Moscow, and has been a great help in selecting and cataloging others. Particularly important was a generous gift from Valerie Sukhina in Toronto, over 140 volumes from the private library of her father, the late Yuri Sukhin.

Sukhin's books are mostly physics monographs and textbooks printed between 1955 and 1985, a period in which a vigorous Soviet publishing program provided a foundation for a high standard of physics education and research. Among the authors are Bogoliubov, Landau, Tamm, Abrikosov, Leontovich, Ginzburg, Veksler, Letokhov, Akhiezer, and others. The collection also included many books on computers and information processing, which we have donated to our sister center, the Charles Babbage Institute for the History of Information Processing in Minneapolis.

Other newly acquired physics books include the latest edition of Fizicheskaia Entsiklopedia (1988-1998) and classic editions and collected works of Lomonosov, Lobachevsky, Lenz, Tsiolkovsky, Vernadsky, Kurchatov, Vavilov, Pomeranchuk, I.M. Lifshits, Zel'dovich and Pontecorvo. The Library also bought or was given individual monographs by Stoletov, Frenkel, Andronov, Blokhintsev and other famous scientists.

Newly acquired Russian publications in the history of science include the seminal two-volume collection of recently declassified documents on the history of the Soviet atomic project (a gift from Igor Drovenikov of the Institute for History of Science and Technology in Moscow), M.I. Kaganov's book of recollections about Landau and his school (gift of the author), a biography of N.N. Bogoliubov (gift of the Joint Institute for Nuclear Research, Dubna) and several dozen other titles. The Niels Bohr Library subscribes to the main Russian journal on the history and philosophy of science, *Voprosy Istorii Estestvoznaniia i Tekhniki*, and has assembled relatively complete sets of the yearbooks on the history of astronomy and on the history of physics and mechanics published by the Institute for History of Science and Technology. We are also lucky to have rare copies of the collection of physics folklore, *Fiziki prodolzhaiut shutit'*, (1968) and of the history of the physicists' amateur opera troupe, Arkhimed, written by one of its founders, V.V.Kaner.

Besides published sources, the library has received from the Archives of the Russian Academy of Sciences copies of finding aids to several collections which have recently been cataloged, partially supported by grants from the Center for History of Physics (personal collections of physicists A.P. Aleksandrov, A.I. Berg, A.N. Frumkin, I.V. Obreimov, A.I. Shal'nikov, V.V. Shuleikin and S.A. Vekshinskii).

This drawing in a book among those recently donated to the Niels Bohr Library tells the story of "Archimedes' Birthday," an annual tradition at the Physics Department of Moscow State University. The practice started in 1960 when students at a Komsomol conference resolved to establish May 7th as the birthday of the great ancient physicist, and it continues today despite a temporary period of underground existence in the late Soviet years due to conflicts with the administration. The tradition included a popular show on the stairs in front of the Department and an evening performance of an amateur opera on physics themes. The book includes the libretto and scores of the most famous of these operas, also called "Archimedes," which tells the story of a young ancient physicist choosing his calling despite the temptations of other available career paths symbolized, correspondingly, by Venus, Mars, Bacchus, and Apollo.

Recent Acquisitions of the Niels Bohr Library

The following report describes the rich variety of historical materials preserved during the past year in the Niels Bohr Library. But this is not all that the AIP History Center helps to preserve, nor even the most important part. Center staff continually work to place records and papers of important scientists at their home institution's archives or another appropriate repository.

Oral History Interviews

Staff have been kept busy processing interviews—arranging for transcription, editing, retyping and indexing, and meanwhile keeping track of the whereabouts of transcripts at each stage. In the first place this means interviews conducted by our Postdoctoral Historian, Alexei Kojevnikov, who conducted interviews this past year with **Sam Schweber**, **Dmitry Ryutov**, **Conyers Herring** and **Moisey Kaganov**. We have also been processing interviews conducted with support of funds provided as grants-in-aid from the Friends of the Center; these include **Joanne Simpson** interviewed by Kristine Harper; **Francis Low** and **Sidney Wolff** by Patrick McCray; **Isaac Khalatnikov** by Anne Fitzpatrick; and **Brian Gardiner**, **Joseph Farman**, **Jon Shanklin**, **Richard McPeters**, **P.K. Bhartia** and **Charlie Jackman**, all by Steve Norton.

Historians of science recognize that our Niels Bohr Library is the premier repository for interviews of physicists, astronomers and geophysicists conducted in connection with other projects, and deposit copies here. In some cases we provide additional assistance ranging from transcription to cataloging. Such interviews received by the Center in the past year include **Robert Gales** conducted by D. Lubman; **David Pines** by Lillian Hoddeson; **J. Bell-Burnell** by David DeVorkin; **Fred Decker** by Ron Doel; **Joseph Smagorinsky** by John Young; **Ed Lorenz** and **Phil Thompson** by Nancy Gauss; and **Klaus Wyrtki** by H. von Storch, J. Sündermann and L. Magaard (this last was published by GKSS-Forschungszentrum Geesthacht GmbH).

Photographs

The Emilio Segrè Visual Archives's online searchable database now contains approximately 2,000 images of physicists from our collection of over 25,000, with more being added every month.

Brenda P. Winnewisser donated about 260 photographs originally held by **Hedwig Kohn**. Most of them came to her from **Wilhelm Tappe**, who was a postdoctoral student with Kohn at the time of her death in 1964. (There are two photos from this collection on page 12.)

Donald Clayton, Clemson University Centennial Professor of Physics and Astronomy, has donated well over 100 photographs of pioneers in **nuclear astrophysics**. Most of these images can be found now at Clayton's own Web site, **http://photon.phys.clemson.edu/wwwpages/PhotoArchive/index.html**. They will all eventually be available on AIP's site as well.

We are also grateful to the following people from whom we received photographs during the past year: **Paul H. E. Meijer; Fred Bucheit; Kenneth R. Hogstrom; Ivan A. Sellin; Ruth Howes; James Langer; Bert M. Coursey; Howard Pettersen; Connie Chidester; Raymond Davis; Masatoshi Koshiba; Gerardus t'Hooft; Ahmed H. Zewail; Paul Forman; Hugh Logan; Young Kim; Theodore Geballe; Donat Wentzel; C. Sharp Cook.**

Other Audio-Visual Materials

The Niels Bohr Library received a number of new and interesting audio-visual donations in the last year. **Jean Kumagai** sent us a videotape recording, "**The Long Walk of Fred Young**," the story of **Fred Begay**, a Navajo physicist. Following the recent success of the play Copenhagen on Broadway, **Brian Schwartz** and **Harry Lustig** donated three videotapes of the symposium "**Creating Copenhagen**," held at the Graduate Center of the CUNY on March 27, 2000. From **Thomas Ott** we received a copy of the segment from the PBS American Experience series on "**The Race for the Superbomb.**"

Gennady Gorelik donated an audio tape recording of excerpts of **Andrei Sakharov**'s "Science and Freedom" speeches, delivered on his receipt of the Einstein Foundation's Peace Prize at Lyon, France in 1989 (a clip may be heard in the Center's Web exhibit on Sakharov). We were also given a recording of **James Franck**'s talk "**Reminiscences of a Physicist**, " from the APS Southeast Section meeting on April 5, 1962 in Tallahassee, Florida, thanks to **Frank von Hippel**.

The Library also added two CD-ROMs to its collection, "**Cosmic Cabaret**" and "**Maxwell's Equations**, " an entertaining multimedia presentations on science and technology subjects from Science Entertainment and Lynda Williams.

Book Donations

As usual the Niels Bohr Library purchased hundreds of books, including old texts in physics and allied fields and virtually every significant newly published book on the history of the field. The funds come from Friends donations, plus money earned by selling donated books that duplicated items we already held. The Library's holdings in its fields of interest are so complete that a large part of any donated collection is likely to contain such duplicates. We retain whichever copy is in best condition; we sell the other to a dealer in used scientific books, so it is likely to wind up in a library where it is wanted.

This year the number of Russian titles in the collection grew remarkably thanks to several generous donations (see article, p.7). Two other large donations were received from **Martin Nisenoff**, who donated four boxes of books, and **Eric Stusnick**, who donated about 400 technical and scientific books. We are also grateful for donations received from **Nicolaas Bloembergen**, **John Rigden**, **A. A. Bartlett**, **Ralph B. Baldwin** and **Ruth H. Howes**.

Manuscript Materials

The Center tries to help place important papers in the most suitable repository, which is usually not its own Niels Bohr Library. One class of papers for which we are often the most suitable home is the records of societies (whether or not they are Member Socieities of the American Institute of Physics) and international organizations. The **International Union of Geodesy and Geophysics** and its Secretary-General, **JoAnn Joselyn** have deposited in the Niels Bohr Library their historical records dating from 1919 to the mid-1990s (approximately 40 lin. ft.).

Additional copies of the Executive Committee minutes, Annual Business Meeting and Board of Director meetings of the **American Association of Physicists in Medicine**, dating from 1971-1999 were received from **Farhana R. Khan** (.5 lin. ft.). Editorial files from the American Journal of Physics (1972-1985) were added to the records of the **American Association of Physics Teachers** by **Bernard Khoury**. Additional records of the **American Vacuum Society** sent by **Yvonne R. Towse** included one lin. ft. of records from 1999, plus exhibit materials and photographs (1962-1971). **Nancy Passemante** of the **American Physical Society, Washington Office** contributed correspondence, reports, articles and press releases from the APS's Directed Energy Weapons (DEW) study, 1983-1988 (2 lin. ft.). **David DeVorkin** of the **American Astronomical Society, Historical Astronomy Division** sent 5 lin. ft. of divisional records spanning the years 1898-1998. These include photos, correspondence, manuscripts, oral history transcripts, notes and production materials for their Centennial Book published in 1998.

The records of the American Institute of Physics itself are of course among our responsibilities. The **American Institute of Physics, Physics Today Division** donated 5 lin. ft. of records from **Irwin Goodwin** who has reported on many physics events out of his office in Washington, DC. The files accessioned contain information on the Superconducting Super Collider (SSC), CEBAF (Continuous Electron Beam Accelerator Facility), and "Star Wars"/Strategic Defense Initiative (SDI) dating from 1983-1993.

There were a few noteworthy additions to the small physics collections. These included some papers of **Hedwig Kohn** and **Rudolf Ladenburg** donated by **Brenda Winnewisser**, containing correspondence, typescripts, booklets, school records, and clippings from 1885-1950. **Alex Harvey** donated 128 pp. of letters, manuscripts and reprints (1960-1973) he received from other physicists, including notables in the field of relativity. Finally, further additions to the papers of **Homer Levi Dodge** in the form of correspondence (1957-1994) were received from **Alice Dodge Wallace** (11 pp.).

Manuscript Biographies and Institutional Histories

We received a brief autobiography from **William W. Kellogg** in response to our recent History of Geophysics survey. Also from that survey, **Jack Oliver** donated his autobiographical "Shakespeare got it wrong. It's not 'to be', it's 'to do'!" (244 pp.). **Jeremy C. Marwell** sent us a copy of his thesis from Yale University about **Gregory Breit** entitled "Dogs that did not bark: Nuclear fission, scientific self-censorship, and the specter of a Nazi bomb," 1999, (58 pp.). **David Hawkins** contributed "In the Shadow of the Bomb: **Robert Oppenheimer** and **Niels Bohr**," his story of their attitude towards the development of the atomic bomb at Los Alamos (19 pp.). From **Alexei Kojevnikov** we received a samizdat copy of **Kora Landau-Drobantseva's** "Memoirs of a private life of **Lev Landau**", in Russian (252 pp.). Some recent newsletters and an updated history of the **AAPT Appalachian Section**, 1999-2000 were sent by **Folden B. Stumpf**.

Finding Aids

Finding aids to archival collections are a basic tool of historical research, and in the past year the Center has completed a major effort to make important ones widely available online (see article, p. 1). Meanwhile the Library's collection of finding aids received significant additions from both sides of the Atlantic. The University of Toronto in Canada sent the finding aid to **Helen (Battles) Sawyer Hogg papers**. The Niedersächsische Staats- und Universitätsbibliothek in Göttingen, Germany contributed the finding aid to the **Friedrich Hund papers**. The description of records of the **International Astronomical Union** was sent by the Kapteyn Institute in the Netherlands. We received from the Russian Academy of Sciences in Moscow the guides to the papers of: **Anatolii Petrovich Aleksandrov, Aksel Ivanovich Berg, Aleksandr Naumovich Frumkin, Ivan Vasilevich Obreimov, Aleksandr Iosifovich Shalnikov, Vasilii Vladimirovich Shuleikin,** and **Sergei Arkadevich Vekshinskii**, which were processed under one of our archival grants-in-aid (see article, p. 5). The University of Edinburgh in Scotland furnished the guide to the interviews collected as part of **The use of mosaic arrays in infrared astronomy** project.

In the United States, the California Institute of Technology sent us finding aids to the papers of **Robert B. Leighton** and **R. L. Walker**. From the Carnegie Institution of Washington we received the finding aid to the **Philip H. Abelson papers**; from Iowa State University, the papers of **John V. Atanasoff**; from Stanford Linear Accelerator Center the papers of **Burton Richter**. Washington University in St. Louis contributed guides to the papers of **Dan Bolef** and **Office of Chancellor, Records of Arthur Holly Compton**. From Woods Hole Oceanographic Institution we received the finding aid to the **Raymond B. Montgomery papers**; University of California-San Diego, Scripps Institution of Oceanography's **Robert Sinclair Dietz papers**; the papers of **William Whithill Rand** from U-C Santa Barbara; the **Alfred O. Nier papers** from the University of Minnesota, and the **Carl L. Kober papers** from the University of Wyoming, American Heritage Center.

The study of the history of science seems to provide the only feasible method for bridging the widening gap between the men of science on the one hand and the men of letters on the other.

—George Sarton, 1924

Recent Publications of Interest

Compiled by Martha Keyes

This is our usual compilation of some (by no means all) recently published articles on the history of modern physics, astronomy, geophysics and allied fields. Note that these bibliographies have been posted on our Web site since 1994, and you can search the full text of all of them (along with our annual book bibliography, recent Catalog of Sources entries, exhibit materials, etc.) by clicking on the "Search" icon on our Home page (**www.aip.org/history**). You can specify to search the entire AIP site or the History Center only.

American Journal of Physics, vol. **68,** no. 7 (July 2000) includes Harry Lustig, "To Advance and Diffuse the Knowledge of Physics: An Account of the One-Hundred-Year History of the American Physical Society," 595-636. Vol. **68,** no. 8 (August 2000) includes Alex Harvey and Engelbert Schucking, "Einstein's Mistake and the Cosmological Constant," 723-727.

Annalen der Physik, vol. **9,** nos. 3-5 (2000) features R. Kerner, "Tribute to André Lichnerowicz," 169-177; and M. Demiański, "History of the Cosmological Constant," 278-287.

Astronomy, vol. **28,** no. 8 (August 2000) includes Rex Graham, "A Century of Comets," 58-62. Vol. **28,** no. 10 (October 2000) features Marcia Bartusiak, "Catch a Gravity Wave," 54-59.

Astrophysics and Space Science, vol. **267,** nos. 1-4 (1999) is a special issue on stellar populations. Articles in this volume include O. Gingerich, "Report on the Progress in Stellar Evolution to 1950," 3-21; D. E. Osterbrock, "Walter Baade's Discovery of the Two Stellar Populations," 23-35; N. G. Roman, "The Discovery of the Chemical Composition-Kinematics Connection in the 1950's," 37-44; and A. Blaauw, "Stellar Evolution and the Population Concept after 1950; The Vatican Conference," 45-54.

Bulletin of the Atomic Scientists, vol. **56,** no. 3 (May/June 2000) includes George Perkovich, "Bhabha's Quest for the Bomb," 54-63. Vol. **56,** no. 5 (September/October 2000) features Jeffrey T. Richelson, "Shooting for the Moon," 22-27.

CERN Courier, vol. **40,** no. 2 (March 2000) features Al Silverman, "The Magician: Robert Rathbun Wilson 1914-2000," 13-16. Vol. **40,** no. 4 (May 2000) includes Sven Kullander, "Swedish Accelerators Take a Look at the Past," 20-22.

Endeavour, vol. **23,** no. 1 (1999) includes Cathryn Carson, "A Scientist in Public: Werner Heisenberg after 1945," 31-34. Vol. **23,** no. 3 (1999) includes David I. Harvie, "The Radium Century," 100-105. Vol. **23,** no. 4 (1999) includes Mary Jo Nye, "What Price Politics? Scientists and Political Controversy," 148-154.

EOS, vol. **81,** no. 18 (May 2, 2000) features Dale F. Leipper and John M. Lewis, "Letter Exchange Documents 50 Years of Progress in Oceanography," 198, 201. Vol. **81,** no. 33 (August 15, 2000) includes Walter A. Lyons, Russell A. Armstrong, E. A. Bering, III, and Earle R. Williams, "The Hundred Year Hunt for the Sprite," 373-74, 376-77.

Historia Scientiarum, vol. **9,** no. 2 (November 1999) features Haruo Hayashi, "The Influence of Fourier on W. Thomson," 165-180. Vol. **9,** no. 3 (March 2000) includes Yoshiyuki Kikuchi, "Redefining Academic Chemistry: Jōji Sakurai and the Introduction of Physical Chemistry into Meiji Japan," 215-256; and H. Kenji Yoshihara, "Ogawa's Discovery of Nipponium and Its Re-evaluation," 257-269.

Historical Records of Australian Science, vol. **12,** no. 4 (December 1999) is a special issue on the history of radar at The University of Sydney from 1939 to 1945. Articles include Roy MacLeod, "Introduction: Revisiting Australia's Wartime Radar Programme," 411-418; Harry Minnett, "The Radiophysics Laboratory at The University of Sydney," 419-427; Harry Minnett et al., "Radar and the Bombing of Darwin," 429-455; Harry Minnett et al., "Light-Weight Air Warning Radar," 457-467; and Walter Fielder-Gill et al., "The 'Bailey Boys': The University of Sydney and the Training of Radar Officers," 469-477. Vol. **13,** no. 1 (June 2000) features Phillip Deery, "Scientific Freedom and Post-war Politics: Australia, 1945-55," 1-18.

Historical Studies in the Physical and Biological Sciences, vol. **29,** part 2 (1999) includes Olivier Darrigol, "From Organ Pipes to Atmospheric Motions: Helmholtz on Fluid Mechanics," 1-54; Robert Fox and Anna Guagnini, "Laboratories, Workshops, and Sites. Concepts and Practices of Research in Industrial Europe, 1800-1914," 55-140; and Lucia Orlando, "Physics in the 1930s: Jewish Physicists' Contributions to the Realization of the 'New Tasks' of Physics in Italy," 141-182. Vol. **30,** part 1 (1999) features Finn Aaserud, "The Scientist and the Statesman: Niels Bohr's Political Crusade during World War II," 1-47; James H. Williams, "Fang Lizhi's Big Bang: A Physicist and the State in China," 49-87; H. Lyman Miller, "Xu Liangying and He Zuoxiu: Divergent Responses to Physics and Politics in the Post-Mao Period," 89-114; Cathryn Carson, "New Models for Science in Politics: Heisenberg in West Germany," 115-171; David Holloway, "Physics, the State, and Civil Society in the Soviet Union," 173-192; Morris Low, "Science and Civil Society in Japan: Physicists as Public Men and Policymakers," 193-225; Alexei Kojevnikov, "Dialogues about Knowledge and Power in Totalitarian Political Culture," 227-247; Zuoyue Wang, "U.S.-China Scientific Exchange: A Case Study of State-Sponsored Scientific Internationalism during the Cold War and Beyond," 249-277; and Jessica Wang, "Merton's Shadow: Perspectives on Science and Democracy since 1940," 279-306. Vol. **30,** part 2 (2000) includes Barton Hacker, "Military Patronage and the Geophysical Sciences in the United States: An Introduction," 309-313; James Rodger Fleming, "Storms, Strikes, and Surveillance: The U.S. Army Signal Office, 1861-1891," 315-332; Martin Levitt, "The Development and Politicization of the American Helium Industry, 1917-1940,"

Hendrik Brugt Gerhard Casimir, 1909-2000. Photo courtesy of AIP Emilio Segrè Visual Archives

333-347; Ronald Rainger, "Science at the Crossroads: The Navy, Bikini Atoll, and American Oceanography in the 1940s," 349-371; Naomi Oreskes, "Laissez-tomber: Military Patronage and Women's Work in Mid-20th-Century Oceanography," 373-392; Deborah Warner, "From Tallahassee to Timbuktu: Cold War Efforts to Measure Intercontinental Distances," 393-415; and Nils Roll-Hansen, "The Application of Complementarity to Biology: From Niels Bohr to Max Delbrück," 417-442.

History and Technology, vol. **16,** no. 4 (2000) includes Reinhard W. Serchinger, "*Wirtschaftswunder* in Pretzfeld, Upper Franconia: Interactions between Science, Technology, and Corporate Strategies in Siemens Semiconductor Rectifier Research & Development, 1945-1956," 335-381. Vol. **17,** no. 1 (2000) features Chris Eldridge, "Electronic Eyes for the Allies: Anglo-American Cooperation on Radar Development during World War II," 1-20.

IEEE Annals of the History of Computing, vol. **22,** no. 1 (January-March 2000) includes John A. N. Lee, "Howard Aiken's Third Machine: The Harvard Mark III Calculator or Aiken-Dahlgren Electronic Calculator," 62-81. Vol. **22,** no. 2 (April-June 2000) features Gerald Estrin, "Computer Network-Based Scientific Collaboration in the Energy Research Community, 1973-1977: A Memoir," 42-52. Vol. **22,** no. 3 (July-September 2000) includes John A. N. Lee, Colin Burke, and Deborah Anderson, "The U.S. Bombes, NCR, Joseph Desch, and 600 WAVES: The First Reunion of the U.S. Naval Computing Machine Laboratory," 27-41; and William Aspray, "Was Early Entry a Competitive Advantage? U.S. Universities That Entered Computing in the 1940s," 42-87.

Journal for the History of Astronomy, vol. **31,** no. 103 (May 2000) includes William Sheehan and Donald E. Osterbrock, "Hale's 'Little Elf': The Mental Breakdowns of George Ellery Hale," 93-114. Vol. **31,** no. 104 (August 2000) features Horace A. Smith, "Bailey, Shapley, and Variable Stars in Globular Clusters," 185-201; and Barbara J. Becker, "Priority, Persuasion, and the Virtue of Perseverance: William Huggins's Efforts to Photograph the Solar Corona Without an Eclipse," 223-243.

Journal of Astronomical History and Heritage, vol. **3,** no. 1 (June 2000) features Herbert Gursky, "Technology and the Emergence of X-Ray Astronomy," 1-12; Martin Beech and David W. Hughes, "Seeing the Impossible: Meteors in the Moon," 13-22; Wayne Orchiston, Tom Love, and Steven J. Dick, "Refining the Astronomical Unit: Queenstown and the 1874 Transit of Venus," 23-44; and Bambang Hidayat, "Under a Tropical Sky: A History of Astronomy in Indonesia," 45-58.

Nonproliferation Review, vol. **7,** no. 1 (Spring 2000) includes Jacques E. C. Hymans, "Isotopes and Identity: Australia and the Nuclear Weapons Option, 1949-1999," 1-23. Vol. **7,** no. 2 (Summer 2000) features Pavel V. Oleynikov, "German Scientists in the Soviet Atomic Project," 1-30; and Robert M. Cornejo, "When Sukarno Sought the Bomb: Indonesian Nuclear Aspirations in the Mid-1960s," 31-43.

Notes and Records of the Royal Society of London, vol. **54,** no. 1 (January 2000) features D.C.V. Mallik, "The Raman Effect and Krishnan's Diary," 67-83; and G.E. Fogg, "The Royal Society and the Antarctic," 85-98. Vol. **54,** no. 2 (May 2000) includes Wilfried Schröder and Karl-Heinrich Wiederkehr, "Johann Kiessling, the Krakatoa Event and the Development of Atmospheric Optics After 1883," 249-258.

Osiris, vol. **14** (1999) is entitled *Commemorative Practices in Science: Historical Perspectives on the Politics of Collective Memory*. Articles in this volume include Joy Harvey, "A Focal Point for Feminism, Politics, and Science in France: The Clémence Royer Centennial Celebration of 1930," 86-101; Dieter Hoffmann, "The Divided Centennial: The 1958 Max Planck Celebration(s) in Berlin," 138-149; Clark A. Elliott, "The Tercentenary of Harvard University in 1936: The Scientific Dimension," 153-175; Stanley Goldberg, "The *Enola Gay* Affair: What Evidence Counts When We Commemorate Historical Events?," 176-186; Robert W. Seidel, "The Golden Jubilees of Lawrence Berkeley and Los Alamos National Laboratories," 187-202; Dominique Pestre, "Commemorative Practices at CERN: Between Physicists' Memories and Historians' Narratives," 203-216; and Mara Beller, "Jocular Commemorations: The Copenhagen Spirit," 252-273.

Physics Education, vol. **34,** no. 4 (July 1999) features K. Dobson, "Making Use of Nothing," 199-204; and P. I. P. Kalmus, "Empty Matter and the Full Physical Vacuum," 205-208. Vol. **35,** no. 1 (January 2000) includes A. J. Makowski, "A Century of the Planck Constant," 49-54.

Physics in Perspective, vol. **2,** no. 1 (March 2000) features H. A. Bethe, "Sommerfeld's Seminar," 3-5; E. N. Hiebert, "Common Frontiers of the Exact Sciences and the Humanities," 6-29; D. Goodstein and J. Goodstein, "Richard Feynman and the History of Superconductivity," 30-47; R. L. Sime, "The Search for Transuranium Elements and the Discovery of Nuclear Fission," 48-62; and N. S. Kipnis, "The Window of Opportunity: Logic and Chance in Becquerel's Discovery of Radioactivity," 63-99. Vol. **2,** no. 2 (June 2000) includes R. Torretti, "Gravity as Spacetime Curvature," 118-134; H. R. Crane, "How We Happened to Measure *g*-2: A Tale of Serendipity," 135-140; R. R. Wilson, "From Frontiersman to Physicist [Robert R. Wilson]," 141-203; and G. Careri, "Lars [Onsager], the Oracle," 204-210.

Physics Today, vol. **53,** no. 5 (May 2000) features Michael P. Brenner and Howard A. Stone, "Modern Classical Physics through the Work of G. I. Taylor," 30-35; and Sidney D. Drell, "Andrei Sakharov and the Nuclear Danger," 37-41. Vol. **53,** no. 7 (July 2000) is a special issue on the play *Copenhagen*. Articles in this issue include David C. Cassidy, "A Historical Perspective on *Copenhagen*," 28-32; Hans A. Bethe, "The German Uranium Project," 34-36; and Gerald Holton, "Werner Heisenberg and Albert Einstein," 38-42.

Physics–Uspekhi, vol. **43,** no. 1 (January 2000) features I. L. Fabelinskiĭ, "The Prediction and Discovery of Rayleigh Line Fine Structure," 89-103; and B. V. Novikov, "On the Experimental Discovery of Mandelstam-Brillouin Scattering," 105-107. Vol. **43,** no. 2 (February 2000) includes G. Veneziano, "An Evolving Look at Pomeranchuk Scattering," 177-180.

Physics World, vol. **12,** no. 12 (December 1999) includes Matin Durrani and Peter Rodgers, "Physics: Past, Present and Future," 7-13; Michael Rowan-Robinson, "Astrophysics and Cosmology: The Golden Age," 25-29; Robert Crease, "The Manhattan Project: An Enduring Legacy," 59-63; and Joseph Rotblat, "The Social Conscience of Scientists," 65-68. Vol. **13,** no. 7 (July 2000) features Jeff Hughes, "1932: The *Annus Mirabilis* of Nuclear Physics?," 43-48.

Public Understanding of Science, vol. **9,** no. 1 (January 2000) includes V. Kiernan, "The Mars Meteorite: A Case Study in Controls on Dissemination of Science News," 15-41. Vol. **9,** no. 2 (April 2000) features S. C. Zehr, "Public Representations of Scientific Uncertainty about Global Climate Change," 85-103.

La Recherche, no. **329** (March 2000) includes Etienne Klein, "La part d'ombre de Wolfgang Pauli," 62-63. No. **332** (June 2000) includes Etienne Klein, "Georges Gamow, le savoir facétieux," 60-61.

Science and Culture, vol. **65,** nos. 1-2 (January-February 1999) includes N. K. Ganguly, "Some Aspects of the Development of Nuclear Devices and Sociology of Science," 14-24. Vol. **65,** nos. 3-4 (March-April 1999) features Chandana Roy Chowdhury, "Dr. Mahendralal Sircar and the Advancement of Science in India," 68-71; and M. K. Das Gupta, "Professor Satisranjan Khastgir (1898-1973)," 72-75. Vol. **65,** nos. 5-6 (May-June 1999) includes Rajinder Singh and Falk Riess, "M. N. Saha and His Two Chances for the Nobel Prize," 146-151.

American Astronomical Society, 19th meeting, Sproul Observatory, Swathmore, 1916.

Photo courtesy of AIP Emilio Segrè Visual Archives.

Science, Technology, & Human Values, vol. **25,** no. 1 (Winter 2000) includes Gordon R. Mitchell, "Whose Shoe Fits Best? Dubious Physics and Power Politics in the TMD Footprint Controversy," 52-86. Vol. **25,** no. 3 (Summer 2000) features Hugh Gusterson, "How Not to Construct a Radioactive Waste Incinerator," 332-347.

Sky & Telescope, vol. **99,** no. 4 (April 2000) features Robert W. Smith, "Ten Years and Counting: HST in Orbit," 28-34. Vol. **99,** no. 5 (May 2000) features Bradley E. Schaefer, "Conjunctions that Changed the World," 28-34; and Gregory D. Bothun, "Beyond the Hubble Sequence," 36-43. Vol. **100,** no. 1 (July 2000) includes Sun Kwok, "What Is the Real Shape of the Ring Nebula?," 32-37; and Peter J.T. Leonard & Christopher Wanjek, "Compton's Legacy: Highlights from the Gamma Ray Observatory," 48-54. Vol. **100,** no. 2 (August 2000) includes P. K. Chen, "Telescopes: Coming of Age in the 20th Century," 43-51. Vol. **100,** no. 4 (October 2000) is a special issue on gravitational waves. Articles include Daniel Kennefick, "Gravitational Waves: A Prehistory," 58-64.

Studies in History and Philosophy of Modern Physics, vol. **31B,** no. 1 (March 2000) features Fritz Rohrlich, "Causality and the Arrow of Classical Time," 1-13; Galina Granek, "Poincaré's Contributions to Relativistic Dynamics," 15-48; and Daniela M. Bailer-Jones, "Modelling Extended Extragalactic Radio Sources," 49-74. Vol. **31B,** no. 2 (June 2000) is a special issue on relativity. Articles include John D. Norton, "'Nature is the Realisation of the Simplest Conceivable Mathematical Ideas': Einstein and the Canon of Mathematical Simplicity," 135-170; Roberto Torretti, "Spacetime Models for the World," 171-186; and Carl Hoefer, "Energy Conservation in GTR," 187-199. Vol. **31B,** no. 3 (September 2000) is a special issue on geophysics. Articles in this issue include Gregory A. Good, "The Assembly of Geophysics: Scientific Disciplines as Frameworks of Consensus," 259-292; James R. Fleming, "T. C. Chamberlin, Climate Change, and Cosmogony," 293-308; Naomi Oreskes and Ronald Rainger, "Science and Security before the Atomic Bomb: The Loyalty Case of Harald U. Sverdrup," 309-369; and John Cloud, "Crossing the Olentangy River: The Figure of the Earth and the Military-Industrial-Academic-Complex, 1947-1972," 371-404.

Weather, vol. **55,** no. 6 (June 2000) includes A. Persson, "Back to Basics: Coriolis: Part 2 – The Coriolis Force According to Coriolis," 182-188; and R. J. Ogden, "Meteorologist's Profile–John Harding," 206-209. Vol. **55,** no. 8 (August 2000) features J. Insley, "'Instruments Well Adapted to the Work': Meteorological Instruments in 1850 and Since," 254-262.

Others—Physics and Geophysics:

P. David and E. Martin, "Le laboratoire du col de Porte pour l'étude de la neige; histoire et climatologie," **La Météorologie**, vol. **8,** no. 28 (December 1999): 23-34; Alex R. Dzierba, Curtis A. Meyer, and Eric S. Swanson, "The Search for QCD Exotics," **American Scientist,** vol. **88,** no. 5 (September-October 2000): 406-415; Vladimir Fortov, "Science and War," **Science in Russia,** no. **3** (May-June 2000): 4-10; Benoît Godin and Yves Gingras, "Impact of Collaborative Research on Academic Science," **Science and Public Policy,** vol. **27,** no. 1 (February 2000): 65-73; Joanne Abel Goldman, "National Science in the Nation's Heartland: The Ames Laboratory and Iowa State University, 1942-1965," **Technology and Culture,** vol. **41,** no. 3 (July 2000): 435-459; Klaus Hentschel and Gerhard Rammer, "Kein Neuanfang: Physiker an der Universitäet Göttingen, 1945-1955," **Zeitschrift füer Geschichtswissenschaft**, vol. **48** (2000): 718-741; Arne Hessenbruch, "Calibration and Work in the X-Ray Economy, 1896-1928," **Social Studies of Science,** vol. **30,** no. 3 (June 2000): 397-420; F. E. Irons, "An Atomistic Interpretation of Planck's 1900 Derivation of His Radiation Law," **Australian Journal of Physics,** vol. **53,** no. 2 (2000): 193-216; Henry Krips, "Catachresis, Quantum Mechanics, and the Letter of Lacan," **Configurations,** vol. **7,** no. 1 (Winter 1999): 43-60; J. Mertens, "The Development of the Dry Battery: Prelude to a Mass Consumption Article (1882-1908)," **Centaurus,** vol. **42,** no. 2 (2000): 109-134; R. L. Mössbauer, "The Discovery of the Mössbauer Effect," **Hyperfine Interactions,** vol. **126,** nos. 1-4 (2000): 1-12; Mansoor Niaz, "From Cathode Rays to Alpha Particles to Quantum of Action: A Rational Reconstruction of Structure of the Atom and Its Implications for Chemistry Textbooks," **Science Education,** vol. **82** (1998): 527-552; Mansoor Niaz, "The Oil Drop Experiment: A Rational Reconstruction of the Millikan–Ehrenhaft Controversy and Its Implications for Chemistry Textbooks," **Journal of Research in Science Teaching,** vol. **37,** no. 5 (2000): 480-508; Gregor Tanner, Klaus Richter and Jan-Michael Rost, "The Theory of Two-Electron Atoms: Between Ground State and Complete Fragmentation," **Reviews of Modern Physics,** vol. **72,** no. 2 (April 2000): 497-544; Arnold Thackray and Minor Myers, Jr., "Arnold O. Beckman: A Scientist in the Making," **Chemical Heritage**, vol. **18,** no. 1 (February 2000): 4-9; T. E. Van Zandt, "A Brief History of the Development of Wind-Profiling or MST Radars," **Annales Geophysicae,** vol. **18,** no. 7 (July 2000): 740-749; Burghard Weiss, "Die Megavolt-Röntgenanlage des Allgemeinen Krankenhauses Hamburg-Barmbek (1938-1945): Vom Therapiegerät zur Strahlenwaffe," **Medizin Historisches Journal,** vol. **35** (2000): 55-84.

Others—Astronomy and Space Sciences:

Gibor Basri, "The Discovery of Brown Dwarfs," **Scientific American,** vol. **282,** no. 4 (April 2000): 76-83; Frank K. Edmondson, "Daniel Kirkwood—'Dean of American Astronomers'," **Mercury,** vol. **29,** no. 3 (May/June 2000): 26-33; M. Leone and N. Robotti, "Stellar, Solar and Laboratory Spectra: The History of Lockyer's Protoelements," **Annals of Science,** vol. **57,** no. 3 (July 2000): 241-266; Oliver Morton, "The Computable Cosmos of David Deutsch," **American Scholar,** vol. **69,** no. 3 (Summer 2000): 51-67; Marilyn Bailey Ogilvie, "Obligatory Amateurs: Annie Maunder (1868-1947) and British Women Astronomers at the Dawn of Professional Astronomy," **British Journal for the History of Science**, vol. **33,** no. 116 (March 2000) : 67-84.

Research on Electricity, Magnetism and the Life Sciences Resumes at the Bakken

By Kathleen Klehr

An expansion and renovation project at the Bakken Library and Museum in Minneapolis has brought improvements that have significantly enhanced library and museum storage, access, and services. Completed in 1999, the $6 million project doubled the total size of the Bakken and included the construction of two new classrooms, an education workshop, three exhibit galleries and an aquarium for electric fish. A beautiful new reading room was added to the south end of the original building, and two existing adjacent library rooms were also renovated and rearranged. Together with the new reading room, they constitute a quieter, better organized library suite that for the first time permits direct access of researchers to the entire secondary and reference collections. A photocopy machine has also been added for more convenient duplication services.

The focus of the Bakken's collections is the history of electricity and magnetism and their applications in the life sciences and medicine. Related materials include mesmerism and animal magnetism, 19th-century ephemera concerning alternative electromedical therapies, miscellaneous scientists' letters, and trade catalogs. The instruments include electrostatic generators, magneto-electric generators, induction coils, physiological instruments, recording devices, and accessories. The Bakken offers Visiting Research Fellowships for the purpose of facilitating research in its collection of over 11,000 books, journals, manuscripts, and prints, as well as more than 2,000 scientific instruments.

A catalog of books and manuscripts, as well as information on research fellowships may be found on the Bakken's Web site, or at no charge by contacting our Librarian. For information about conducting research at the Bakken, contact Elizabeth Ihrig, Librarian, at ihrig@thebakken.org. Or you may call 612-926-3878, ext. 227, or send your request, along with your name and mailing address to: Elizabeth Ihrig, The Bakken Library and Museum, 3537 Zenith Avenue South, Minneapolis, MN 55416-4623. Appointments are recommended in order to ensure the best service.

Other News of Interest

■ **Important News for NSF Grantseekers:** The National Science Foundation REQUIRES (with some minor exceptions) that ALL proposals prepared for NSF consideration MUST be submitted via FastLane, NSF's Web-based document handling system. For further information about FastLane and this requirement, please consult the FastLane Web site at **www.fastlane.nsf.gov**, or Gail Williams of NSF's Division of Information Services (gwilliam@nsf.gov); or Philip Johnson, SBE Computer Specialist (pxjohnso@nsf.gov). For information about the programs themselves, please contact the SDEST Program Director Rachelle Hollander (rholland@nsf.gov) or the STS Program Director Bruce Seely (bseely@nsf.gov).

Meetings

■ **Symposium International Galileo 2001**: **February 2001**, Tenerife, Spain. For more information, contact the Fundación Canaria Orotava de Historia de la Ciencia, C/ Calvarion 17, 383000 La Orotava, Tenerife. Tel: 922322761, Fax: 922322513, e-mail: s_orotava@redestb.es.

■ **Savannah River Plant Conference**, South Carolina, **March 23-24, 2001**, Aiken and Augusta. Prospective participants are invited to send a brief abstract of their proposals to Eric Emerson, South Carolina Historical Society, Charleston, SC 29401. E-mail emersoncc@msn.com.Tel: 843-723-3225, Fax: 843-723-8584.

■ **IXth Convention of the History of Physics branch of the German Physical Society** (Fachverband Physikgeschichte der Deutschen Physikalischen Gesellschaft), **March 26-28, 2001**. Depictions, illustrations, and diagrams in the History of Physics. Main conference language will be German, but talks in English are also welcome. Please send talk notices, with a one-page abstract or inquiries about the conference (also by those interested in attending), along with full name and address (including E-mail or Fax no.) to: Dr. Klaus Hentschel, Institute for History of Science, University of Göttingen, Humboldtallee 11, Göttingen D-37073, Germany. E-mail: khentsc@gwdg.de. Deadline: October 15, 2000.

■ **Laboratory History Conference, April 19-21, 2001**. The second in a series of conferences on laboratory history will be held at Jefferson Laboratory in Newport News, VA. For information, contact Catherine Westfall: cwestfall@nscl.msu.edu or fax to 517-347-3286.

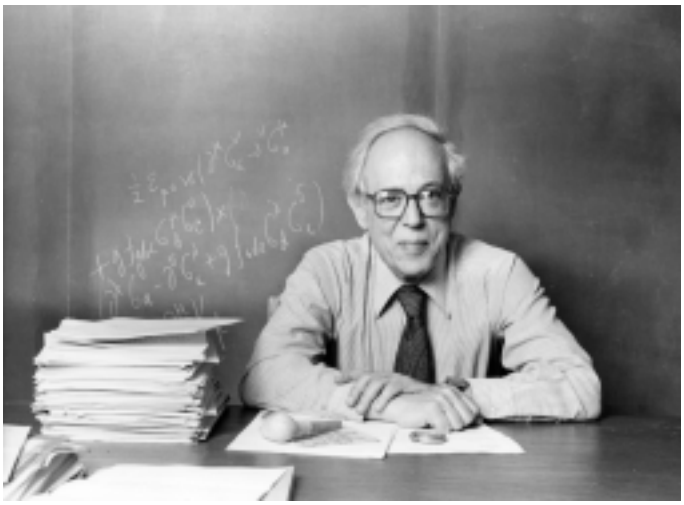
■ **Inaugaral Symposium of the Commission on History of Meteorology**, **IUHPS**, **July 8-14, 2001**. "International Perspectives on the History of Meteorology: Science and Culteral Diversity." Papers are requested on international aspects of the history of meteorology, broadly construed to include scientific, environmental, social, political and cultural issues. For more information, contact Prof. James R. Fleming, President, Commission on History of Meteorology, STS Program, 5881 Mayflower Hill, Colby College, Waterville, ME 04901, e-mail: jrflemin@colby.edu or view the Web site at www.smhct.org/default.htm.

■ **History of Geomagnetics, Solar-Terrestial Physics and Space Physics** and related disciplines. **August 2001**, Hanoi, Vietnam. For further information, contact: Dr. Wilfried Schroder, Hechelstrasse 8, D-28777, Bremen, Germany.

■ **Maury III: Third Biennial Conference on the History of Oceanography, June 20-24, 2001**, Monterey Bay Aquarium Research Institute, Monterey, California. Previous Maury conferences have examined the role of patronage in the history of oceanography, the history of oceanography as an interdisciplinary science, and the history of international cooperation in oceanography. For more information, contact: Dr. David K. van Keuren, History Office, Naval Research Laboratory, Washington, D.C. 20375, 202-767-4263, dvk@ccf.nrl.navy.mil, or Dr. Gary E. Weir, Contemporary History Branch, Naval Historical Center, Washington Navy Yard, Bldg. 57, Washington, D.C. 20374, 202-433-9767, or Dr. Keith R. Benson, College Studies, Box 354330, University of Washington, Seattle, WA 98195.

Grants and Fellowships

■ The **AIP Center for History of Physics** has a program of **grants-in-aid for research in the history of modern physics** and **allied sciences** (such as **astronomy**, **geophysics**, and **optics**) and their **social interactions**. Grants can be up to $2500 each. They can be used only to reimburse direct expenses connected with the work. Preference will be given to those who need funds for travel and subsistence to use the resources of the Center's Niels Bohr Library (near Washington, D.C.), or to microfilm papers or to tape-record oral history interviews with a copy deposited in the Library. Applicants should name the persons they would interview or papers they would microfilm, or the collections at the Library they need to see; you can consult the online catalog at our web site, www.aip.org/history, and please feel free to make inquiries about the Library's holdings. Applicants should either be working toward a graduate degree in the history of science (in which case they should include a letter of reference from their thesis adviser), or show a record of publication in the field. To apply, send vitae, a letter of no more than two pages describing your research project, and a brief budget showing the expenses for which support is requested to: Spencer Weart, Center for History of Physics, American Institute of Physics, One Physics Ellipse, College Park, MD 20740; phone: 301-209-3174, Fax: 301-209-0882, e-mail: sweart@aip.org. Deadlines for receipt of applications are **June 30 and December 31** of each year.



Abraham Pais, 1918-2000. Photo by Ingbert Grüttner, Rockefeller University, courtesy of AIP Emilio Segrè Visual Archives.

> *Physics becomes in those years the greatest collective work of art of the twentieth century.*
>
> *—Jacob Bronowski*

■ **The Bakken Library and Museum** in Minneapolis offers visiting research fellowships for the purpose of facilitating scholarly research in its collection of books, journals, manuscripts, prints, and instruments. The focus of the Bakken's collection is on the history of electricity and magnetism and their applications in the life sciences and medicine. Related materials include mesmerism and animal magnetism, 19th-century ephemera concerning alternative electromedical therapies, letters of various scientists, and trade catalogs. The fellowship is a maximum of $1,300 and is to be used to help defray the expenses of travel, subsistence, and other direct costs of conducting research at The Bakken. The minimum period of residence is one week. The next deadline is **February 1, 2001**. For further details contact: David J. Rhees, Executive Director, The Bakken Library and Museum, 3537 Zenith Avenue South Minneapolis, MN 55416 USA (telephone: 612-926-3878, extension 213; Fax: 612-927-7265; e-mail: rhees@thebakken.org; www.thebakken.org).

■ **Dibner Institute for the History of Science and Technology Fellows Program 2001-2002** invites applicants for the academic year 2001-2002, for both the Senior Fellows program and the Postdoctoral Fellows program. Candidates for Senior Fellowships should have advanced degrees in disciplines relevant to their research and show evidence of substantial scholarly accomplishment and professional experience. Senior fellows may apply for a second fellowship appointment five years after their first successful application. Scholars may apply for the Fall (Term 1, August 1 to December 31), Spring (Term 2, January 1 to May 31) or both. At the time of application, Term 1 candidates may request an arrival date in August; Term 2 candidates may request an extension into June. The Institute prefers that senior fellows apply for a two-term, full-year residency if possible. Postdoctoral Fellowships are awarded to outstanding scholars of diverse countries of origin who have received the Ph.D. or equivalent within the previous five years. Postdoctoral Fellowships run for one year, from September 1 through August 31, and may be extended for a second and final year at the discretion of the Dibner Institute. The deadline for applications is **December 31, 2000**. For more information, contact Trudy Kontoff, Program Coordinator, Dibner Institute for the History of Science and Technology, MIT E56-100, 38 Memorial Drive, Cambridge, MA 02139. Phone: 617-253-6989, Fax: 617-253-9858, Web site: http://dibinst.mit.edu, e-mail: dibner@mit.edu

Documentation Preserved

This is our regular survey of archives and other repositories that gives information on materials of interest to historians and others. Many of these are new deposits not yet processed, but we also include collections that were accessioned years ago but not previously reported here. Some have restricted access. Please contact the repository for further information.

Items published in this Newsletter since 1994 are posted on our Web site, where you can search the full text of all of them (along with our book and journal bibliographies, exhibit materials, etc.) by clicking on the "Search" icon on our Home page (**www.aip.org/history**). You can specify whether to search the entire AIP site or the History Center only.

Niedersächsische Staats-und Universitätsbibliothek Göttingen. Abteilung für Handschriften und seltene Drucke. Papendiek 14, D-3703, Göttingen, Germany (contact: Baerbel Mund)

Papers of **Friedrich Hund**. Major affiliations include: Georg-August Universität Göttingen, Germany, 1920-1926, 1956; Universität Leipzig, Germany, 1929-1946; and Johann Wolfgang Goethe Universität Frankfurt, Frankfurt-am-Main, W. Germany, 1951-1956. Died 1997. Includes scientific notebooks, early manuscripts, lecture notes, talks, seminars, manuscripts for publications. Topics include quantum mechanics, quantum theory, and history of physics. 11 boxes.

Russian Academy of Sciences. Moscow Branch. Archive. Ul. Novocheremushkinskaia, 34, Moscow 117218, Russia (contact: Elena Curapova)

Papers of **Aleksandr Naumovich Frumkin**. Physical chemist. Died 1976. Collection includes scientific manuscripts (1940-1979); reprints of Frumkin's works in physical chemistry and electrical chemistry; biographical documents (1945-1976); and two letters from V. A. Kuznetsov. Papers open for research. 1940-1979. 22 folders.

Papers of **Ivan Vasilevich Obreimov, 1894-1981**. Spectroscopy and molecular physics, nuclear physics. Organizer and the first director of the Kharkov Physico-Technical Institute (1929-1932). Papers include scientific manuscripts and correspondence. Collection includes: 1) Scientific manuscripts (1943-1960). Topics include spectroscopy and molecular physics. 2) Biographical documents (1933-1970s), some photographs. 3) Correspondence, including with D.S. Rozhdestvenskii, N. E. Alekseevskii, A. I. Brodskii, S. I. Vavilov, I.M. Lifshitz, A. I. Preisfrend (his wife). Papers open for research. 1933-1976. 55 folders.

Papers of **Aleksandr Iosifovich Shalnikov, 1905-1986**. Physicist (low temperature physics, superconductivity). Discovered intermediate state of superconductors in 1941. Born in St. Petersburg. Graduated from the Leningrad Polytechnic Institute in 1928. Worked at the Leningrad-Physico-Technical Institute (1923-1935) and at the Institute of Physical Problems, Moscow (1935-1986). Since 1938, professor at Moscow State University. Founded (1955) and edited the journal *Experimental in-*

Right: *Portrait of Hedwig Kohn, circa 1952.*

Far Right: *Hedwig Kohn, in Italy, 1931. " Lago maggiore."*

Kohn's will decreed that her papers and correspondence be destroyed, but it also said that her co-workers and colleagues at Duke University should have the opportunity to select some mementos from her belongings. In this way her collection of photographs was saved from destruction, and eventually came to us. Photo courtesy of AIP Emilio Segrè Visual Archives, Kohn Photo Collection.

struments and technology (*Pribory i tekhnika eksperimenta*). Experimental researches in physical chemistry, low temperature physics, scientific instruments. Stalin Prizes (1948, 1949, 1953). Corresponding member (1946) and full member (1979) of the USSR Academy of Sciences. Papers in the Archive of the Russian Academy of Sciences in Moscow include: 1) Scientific papers (1932-1985), patents, manuscripts, reports, laboratory notebooks. 2) Biographical documents (1928-1990), school diploma, bibliography, autobiography, photographs with colleagues and pupils, newspaper clippings. 3) Administrative activities (1937-1986), correspondence with the USSR Academy of Sciences , ministries and plants, mostly regarding the manufacturing of scientific and medical instruments. Editorial correspondence. Pedagogical activities. 4) Correspondence (1934-1985) with, among others, A. F. Ioffe, L. D. Landau, I. L. Andronikov, B. M. Vul, P. L. Kapitza. 5) Scientific manuscripts by other colleagues, with pupils and relatives, including L.G. Kvasha (volcanology), A.N. Zavaritsky (geology and crystallography). 6) Papers of his wife's sister Lidia Gaigor'evna Kvasha, a geophysicist (1901-1997); and papers of his wife, O. G. Kvasha (1937-1976). Topics include experimental (primarily low-temperature) physics and superconductivity. Papers open for research. 1920s-1990s. 137 folders.

Auburn University. Ralph B. Draughon Library, Department of Archives. Auburn, AL 36849, USA (contact: Dwayne Cox)

Class notebooks and lectures of **Eugene Thompson**. Thompson was a student at University of Georgia in 1875. Collection consists of two handwritten notebooks, one each for physics and chemistry, taken of classroom lectures at University of Georgia. Physics lectures delivered by W. LeRoy Broun, later president of Alabama Agricultural and Mechanical College (now Auburn University). Chemistry lectures delivered by H. C. White. 1875. 2 file folders.

Cornell University. Division of Rare and Manuscript Collections, University Archives. Carl A. Kroch Library, Ithaca, NY 14853, USA (contact: Librarian)

Papers of **Barbara Hope Cooper, 1953-1999**. Cornell Class of 1976, graduated Magna Cum Laude in Physics; then attended graduate school at the California Institute of Technology until June 1982 when she received a Ph.D. in Physics. She returned to Cornell as an Assistant Professor of Physics in 1983 and became an Associate Professor of Physics (1989) and full Professor (1995). Her main research interests as an experimental physicist and a leader in surface science were: 1) The use of low energy ion beams to probe particle surface interactions and the structural and electronic features of clean and adsorbate covered metal surfaces, 2) Atomic scale scanning tunneling microscopy studies of mass transport and stability of nanoscale structures on ion bombarded metal surfaces, 3) In situ studies of surface roughening during bombardment using synchrotron x-rays. The collection includes correspondence, notes, calculations, materials for talks, data collection information, publication drafts and reprints, and course materials from student years as well as outlines, exams, and lab manuals used in teaching. 1974-1999. 6.2 cu. ft.

George Mason University. Special Collections and Archives. Fairfax, VA 22030-4444, USA (contact: Robert L. Vay)

Papers of **Eugenie V. Mielczarek**. Contains materials relating to the scientific and academic career of Mielczarek in the area of physics, primarily at George Mason University (GMU). Items include scientific data and research results, conference information, grant proposals, speaking engagements, presentations, correspondence, and publications. Prominent is information relating to national and local organizations of women scientists, including material about women scientists at GMU. 1966. 12 cu. ft.

National Radio Astronomy Observatory. Library. 520 Edgemont Road, Charlottesville, VA 22903, USA (contact: Kenneth Kellermann)

Papers of **Grote Reber, 1911-**. Reber laid the foundation for postwar development of radio astronomy. Collection includes scientific and personal correspondence, original scientific records, logbooks, manuscripts, lecture notes, technical reports, photographs, family records and other personal memorabilia. 5 lin. ft.

Smithsonian Institution. National Air and Space Museum. Archives. Washington, D.C. 20560, USA (contact: Thomas Soapes or Patricia Williams)

Papers of **Caldwell C. Johnson**. Caldwell C. Johnson was a manned spacecraft designer for NASA and contributed greatly to the Mercury, Apollo, and Apollo-Soyuz projects. Collection consists of 34 items of manned space flight memorabilia, including pencil and ink drawings by Caldwell Johnson from Mercury, Apollo, and the Apollo-Soyuz projects. Collection also contains papers, reports, and brochures on these three projects, along with design studies for other spacecraft and related equipment. 1950s-1970s. 0.4 lin. ft.

Papers of **Apollo Milton Olin Smith, 1911-1997**, an aircraft designer and engineer known as 'AMO' for most of his life, was born in Columbia, Missouri. Collection consists of the significant writings of Smith, including writings relating to his contributions to boundary layer theory. The collection also includes Smith's notebooks and related photographs of his post-World War II onsite appraisal of Nazi aeronautical developments. 1935-1981. 1.1 lin. ft.

Records of **Space Acceleration Measurement Unit System** (SAMS). An acceleration measurement and data acquisition instrument, not a classical microgravity research experiment. SAMS consists of a main unit and up to three remotely positioned triaxial sensor heads. The data are used to provide investigators with a time history of this environment to improve for future experiment design. This instrument was flown on the Space Shuttle and Mir Space Station, from 1994 to 1998. Collection consists of the following types of documentation relating to SAMS: test plans and reports; drawings; maintenance logs; and memoranda and correspondence. This collection also contains optical discs from the SAMS/MIR project, which contain the raw data. 1990s. 2.9 lin. ft.

Albert Einstein and Rudolf Ladenburg, Princeton Symposium, on the occasion of Ladenburg's retirement, May 28, 1950. Hedwig Kohn is in the background on the left. Photo courtesy of AIP Emilio Segrè Visual Archives.

SMITHSONIAN INSTITUTION. NATIONAL MUSEUM OF AMERICAN HISTORY (U.S.). ARCHIVES CENTER. MRC 601, 12TH STREET AND CONSTITUTION AVENUE, N.W., WASHINGTON, D.C. 20560, USA (CONTACT: ALISON OSWALD)

Papers of **F. C. (Fay Cluff) Brown, 1881-**. Inventor, physicist and director, New York Museum of Science and Industry. Documents the career of Brown, an inventor, museum director, and physicist. Brown focused his research on the properties of selenium, particularly selenium in crystal form and the photoconductivity of selenium. The papers document Brown's professional career and consist of correspondence, photographs, scrapbooks, invention notebooks, and ephemera. 1902-1964. 4.5 cu. ft.

STATE HISTORICAL SOCIETY OF WISCONSIN. ARCHIVES DIVISION. 816 STATE STREET, MADISON, WI 53706, USA (CONTACT: HAROLD L. MILLER)

Gibbs family papers. Papers, chiefly correspondence, of a Rhode Island, Connecticut, and New York family, a number of whose members were prominent in commercial, political, and intellectual fields. Of note, Oliver Wolcott Gibbs (1822-1908), chemist and physicist, represented in the collection mainly by a group of letters he wrote while a student in Europe, 1845-1847, to his immediate family and to his cousin and fellow scientist William F. Channing. Included are detailed impressions of European scientists Jöns Jakob Berzelius, Justus von Liebig, and Heinrich Rose, and commentary on science. 1763-1918. 1.6 cu. ft. (4 archives boxes), 3 reels of microfilm (35mm), and photographs.

STATE HISTORICAL SOCIETY OF WISCONSIN. ARCHIVES DIVISION. UNIVERSITY OF WISCONSIN-RIVER FALLS. AREA RESEARCH CENTER, RIVER FALLS, WI 54002, USA (CONTACT: ARCHIVIST)

Class papers of **James Peter Jacobson**. Class notes and papers prepared by Jacobson while a student in University of Wisconsin physics courses; Jacobson later was chairman of the Physics Department, Wisconsin State University, River Falls. 1911-1912. 1 folder.

Reminiscences of **Rudolph Andrew Karges, 1881-**. Reminiscences by Karges, discussing mainly his family, his education at Whitewater (Wis.) Normal School (1899-1901) and the University of Wisconsin (1904-06), and his experiences as professor of physics and chemistry at River Falls (Wis.) State College (1908-52). 1961. 1 folder.

School notebooks of **William Sanford**. Notebooks kept by Sanford, a student and member of the football team at River Falls Normal School, River Falls, Wis., class of 1911, for classes in physics, physical geography, and chemistry. ca. 1911. 1 folder.

UNIVERSITY OF CALIFORNIA, BERKELEY. BANCROFT LIBRARY. BERKELEY, CA 94720, USA (CONTACT: DAVID FARRELL)

Papers of **Kinsey Amor Anderson, 1926-.** Professor of Physics and Director Emeritus, Space Sciences Laboratory, University of California, Berkeley. Includes correspondence, grant proposals and final reports, photographs and other graphic images. 6.3 lin. ft.

Additions to papers of **Raymond T. (Thayer) Birge**, Professor of physics and chairman of the Physics Dept., University of California, Berkeley. Letters written to him and copies of letters by him; manuscripts and reprints of his articles and papers; speeches; research data including notebooks; lecture notes, course descriptions, exams and other University-related material; papers (minutes of meetings, programs, etc.) relating to professional organizations, including American Association for the Advancement of Science, American Institute of Physics, American Physical Society and National Academy of Sciences. Covers his research on band spectra and physical constants as well as his academic career. Addition includes reprints, offprints, and miscellaneous publications. Advance notice required for use. 1909-1969. 42 boxes, 25 cartons and 7 oversize folders (ca. 45.5 lin. ft.) + addition (23.7 lin. ft.).

Papers of **John W. Gofman**. Born in 1918; Professor of medical physics, Donner Laboratory, Division of Medical Physics, University of California, Berkeley. Correspondence, research notes, manuscripts of writings and speeches primarily related to his extensive research on the hazards of radiation; includes files of correspondence with various government agencies, as well as committee reports and typescripts of hearings related to radiation exposure and occupational hazards in the nuclear industry; also includes audio and video tapes of interviews with Gofman. Unprocessed; advance notice required for use. Ca. 1930-1970. 32 cartons (40 lin. ft.).

Much of the history of science, like the history of religion, is a history of struggles driven by power and money. And yet this is not the whole story. Genuine saints occasionally play an important role, both in religion and in science.

—Freeman Dyson

Historians rarely "talk shop" at lunch or other social occasions; physicists will take advantage of the slightest opportunity to give an enthusiastic discourse on their latest experiment or calculation.... Perhaps history will always be a discipline in which the major achievements are book-length syntheses rather than brief papers. Yet it should be possible for historians [like physicists] to engage in vigorous debate with each other on specific questions of fact and interpretation and, more importantly, to change their conclusions as a result of such debate.

—Stephen Brush

Papers of **William E. Siri**. Biophysicist at Donner Laboratory, Division of Medical Physics, University of California, Berkeley. Correspondence, financial reports and files, and writings concerning the first American Mount Everest Expedition in 1963. Advance notice required for use. Ca. 1961-1966. 8 cartons.

Additions to the records of the **Department of Astronomy, University of California, Berkeley**. Includes records from the chairmanships of A.O. Leuschner, R. Tracy Crawford, Sturla Einarsson, Otto Struve, and Leland Cunningham. Administrative files, correspondence, and research files primarily on comets and minor planets. 1882-1960. 42 boxes, 1 volume, 2 oversize folders (53 lin. ft.)

University of California, Santa Barbara. Library. Dept. of Special Collections. Santa Barbara, CA 93106, USA
(contact: David Tambo)

Papers of **William Whithill Rand, 1902-1988.** Geologist, engineer, and petroleum prospector. Collection includes documents, maps and some artifacts related to Rand's career in geology, marine engineering, and the oil industry. The maps are all scientific, and some include offshore sounding data. Most are maps of the coast of California, particularly in Santa Barbara, Ventura and Los Angeles counties. The records of his company, Submarex, its subsidiaries, and the ships used, make up the bulk of this collection. These include financial records as well as correspondence regarding work contracts and labor relations. This company, based in Santa Barbara, was heavily involved in the transformation of Santa Barbara from a relatively unknown area (geologically) to a productive oil province between 1947 and 1960. Contains correspondence, meeting minutes, journal articles, newspaper clippings, reports, log books, catalogs, and project files on deep sea drilling and ocean exploration. Unprocessed. 1920s-1960s. 61 boxes.

University of Minnesota. Charles Babbage Institute, University of Minnesota Libraries. Minneapolis, MN 55455, USA
(contact: Elisabeth Kaplan)

Oral history interview with **Sidney Michel Rubens**, conducted by Arthur L. Norberg. Physics professor and computer engineer, Rubens first worked on magnetic techniques for computer storage as part of the Goldberg project, under the direction of John Coombs and C. B. Tompkins. Rubens discusses the magnetic tape equipment he used and also discusses his contacts with the University of Minnesota Computer Center. Jan. 6 and 15, 1986. Five (60 min. each) sound cassettes; 155 pp. transcript.

University of Nebraska – Lincoln. University Archives. Room 308, Love Library, Lincoln, NE 68588-0410, USA
(contact: Carmella Garman)

Papers of **James A. R. Sampson**. Professor of physics at the University of Nebraska-Lincoln. Collection includes lecture material, miscellaneous research files, research proposals, reprints of articles authored by Sampson, etc. Unprocessed. 1980s-1990s. 6.5 cu. ft.

Woods Hole Oceanographic Institution. Archives. Mail Stop 8, Woods Hole, MA 02543-1539, USA
(contact: Margot Garritt)

Papers of **Charles Davis Hollister, 1936-1999**. Oceanographer. Collection includes: 1) Manuscript material relating to the book, *Face of the Deep*; 2) Material on Russian nuclear contamination, conference material (1990s); files on seabed disposal of radioactive waste (1980s); 3) Material relating to cruise for which Hollister was co-chief scientist: leg 35 of D/V Glomar Challenger for the Deep Sea Drilling Project (1970s). Unprocessed. Ca. 1970s-1990s. 10 boxes.

Portrait of A.M. Prokhorov from the book Kvantovaia Elektronika, Izierannie Trudi, *Izdat, Moscow, 1996. Photo courtesy of AIP Emilio Segrè Visual Archives.*

This *Newsletter* is a biannual publication of the Center for History of Physics, American Institute of Physics, One Physics Ellipse, College Park, MD 20740; phone 301-209-3165; Fax 301-209-0882; e-mail chp@aip.org or nbl@aip.org. Editor: Spencer R. Weart. The *Newsletter* reports activities of the Center and Niels Bohr Library, and other information on work in the history of physics and allied fields. Any opinions expressed herein do not necessarily represent the views of the American Institute of Physics or its Member Societies. This *Newsletter* is available on request without charge, but we welcome donations (tax-deductible) to the Friends of the AIP Center for History of Physics. The *Newsletter* is posted on the World Wide Web at **www.aip.org/history/web-news.htm**.

Center for History of Physics Newsletter

Volume XXXII, No. 2 Fall 2000

TABLE OF CONTENTS

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