



Extraction of radium in the old shed where Marie Curie first obtained the element in the early 1900s. From Pierre Curie by Marie Curie (Macmillan, 1923). The book is turning brittle and is therefore included in the Niels Bohr Library's microfilming project (see p. 7). While examining books to prepare them for filming, library staff flag useful pictures to scan and include in the online Emilio Segrè Visual Archives (see box, p. 12). Photo courtesy AIP Emilio Segrè Visual Archives.

Challenges in Writing the Biography of a Japanese Physicist

by Dong-Won Kim, Korea Advanced Institute of Science and Technology

A number of Japanese physicists made significant contributions to physics during the twentieth century. Until very recently, however, Western historians have not fully appreciated how Japanese physicists fostered the development of physics as a science. One reflection of the Western view of Japanese physicists as “outsiders” is the fact that not a single biography of a Japanese physicist (except a few translations from Japanese) has been published in the English language.

As a historian of science, I set myself the task of writing a biography of Yoshio Nishina (to be published through the Institute of Physics, Bristol, England in the near future). I first became curious about Nishina while examining the Cavendish Laboratory's 1922 annual photograph. As I looked at the image of the young Japanese physicist, I slightly remembered

(continued on page 2)

History Center Begins Project to Document the History of Physics in Industry

This fall the AIP Center for History of Physics launches a projected three-year effort to create a national documentation strategy to preserve the historically valuable records of physicists in industry. Supported by lead funding from the Avenir Foundation and the National Science Foundation, the study represents the first systematic investigation of records-keeping practices and needs in high-tech industry. It is a continuation—in an especially complex area—of the Center's ongoing work to develop strategies for saving hard-to-preserve records in physics and allied fields.

More than one-third of all the physicists in the U.S. today are employed in industry, and the country's economic dominance rests on a brilliant century of corporate research and innovation. Scientists in industry, like their peers in academe and government labs, are proud of their history, but industrial R&D is one of the least documented areas of our society. In contrast to European practices, very few American corporations maintain in-house archives to document their own programs, and perhaps even fewer academic and public archives in the U.S. actively collect and preserve the history of industry.

The lack of adequate documentary sources has discouraged historians and other scholars from exploring industrial research. Poor documentation also means that corporate scientists themselves are not able to profit from their usable past. Further, the transition to electronic records systems in corporate research, as in other aspects of business, is creating a critical need to identify and preserve extant paper records. For the electronic records themselves, front-end appraisal and preservation models are needed. While electronic systems offer the opportunity to preserve important records as they are created, without adequate planning they increase the risks that records will be deleted as soon as they become inactive.

The study's key activities will consist of: 1) question set interviews with records creators, records users, and information professionals at the 15 high-tech corporations we will include in the study; 2) career-length oral history interviews with 15-20 senior industrial physicists; 3) records surveys to identify extant corporate records, laboratory notebooks and other sources,

(continued on page 5)

(Challenges in Writing the Biography of a Japanese Physicist, continued from page 1)

Nishina's name and asked myself, "What was this Japanese researcher doing in this center of experimental physics?" I soon learned, from fragmentary English sources, that Nishina trained under Niels Bohr for several years, that he co-authored the well-known Klein-Nishina formula, and that, during the 1930s and 1940s, he contributed significantly to the development, in Japan, of several branches of physics. Later, after examining Japanese sources commenting on Nishina, I came to believe that Nishina's life and works were worth investigating. Thus I began what I considered at the time to be a "little" research project.

Japanese scientists and historians almost unanimously praise Nishina as Japan's "father of modern physics," a popular description that in 1991 was used as the subtitle of a documentary video celebrating the centenary of Nishina's birth. In the *Dictionary of Scientific Biography*, the distinguished Japanese historian of science, Eri Yagi, concluded that, "without Nishina's return from Europe with the principles of quantum mechanics," Japan's two Nobel laureates in physics, Yukawa and Tomonaga, "might never have developed their potentials to the fullest." In East Asia, such celebrated figures as Nishina traditionally are depicted as "perfect" men, leaders without fault whose mistakes or failures (if any) were the unavoidable results of causes outside themselves. Any sharp criticism of heroes, particularly great *sensei* [teachers], is not permitted.

I soon found that appraising Nishina's role within the international physics community was more difficult than I had anticipated. The literature revealed that the Klein-Nishina formula might be Nishina's only distinguished publication in the West. I struggled for some time to justify why I should study this "less important" physicist. Another difficulty was that there are no systematic analyses of Nishina's role as director of his laboratory at the Riken (the Institute for Physical and Chemical Research) or his role as teacher of the young Japanese physicists who flocked there to study under him. Most seriously, cultural prejudices colored the different views of Nishina held by East Asians and Westerners. The Japanese hailed Nishina as a great star in the physics constellation, while Westerners viewed him as a lesser figure in the intellectual history of science.

Under such circumstances, it seems fair to doubt whether a historian of science who is culturally East Asian such as myself (a South Korean) can construct a reasonably probing appraisal of Nishina's contributions. I do fully agree with my Japanese colleagues that Nishina was a great man. Yet my appreciation of his greatness is based on ideas and opinions somewhat different from those expressed in traditional Japanese scholarship, particularly in areas touching on how and why Nishina's role and contributions became critical to the development of the Japanese physics community. In studying Nishina's life and work, my goal has been to correctly appraise his contributions, and any such evaluation, honestly attempted, runs the risk of containing some criticism. I am perhaps too "Westernized" in my views (as my Japanese colleagues often suggest).

Somewhat ironically, then, my quest for the truth about Nishina has also been hampered by the idea, popular among Western physicists and historians of science, that successes by Japanese physicists since the 1930s have been the exception rather than the rule. Perhaps as a result, Westerners have made little effort to incorporate the work accomplished by Japanese physicists into the larger framework of the history of physics, and Nishina's work on cosmic rays and his construction of two cyclotrons during the late 1930s are not fully appreciated in the West. Worse, when studying the history of science in Japan, Westerners have tended to focus their attention on the transmission of Western science to that country—a practice that has obscured many facts about Japanese physicists, such as Nishina's cooperation with Klein on the calculation of Compton scattering, his role in the introduction into Japan of the infant field of quantum mechanics, and, of course, the construction of the cyclotrons, which was far more than a simple transfer of know-how from Ernest Lawrence of Berkeley, as Nishina's team met and overcame many difficulties.

Although Western scholarship recognizes the merits of some twentieth-century Japanese physicists, the community in which those individuals worked has received scant attention. Westerners have not endeavored to understand the Japanese physics community of the twentieth century within its broader international context. Most fail to appreciate the community's independence and importance. Language barriers surely add another obstacle.

Despite so many difficulties in appraising Nishina, I have loved this task! But even though I am an East Asian with a better understanding of the Japanese people and their culture than most Westerners, I am not quite certain that I will be able to present a well-balanced picture of that culture which will be understandable to Western readers with little knowledge about Japan. After ten years of research, my analysis may satisfy neither Japanese readers nor Western readers, and perhaps may not even satisfy myself. Even so, it will be impossible for me to regret that I enjoyed the special privilege of studying the life and works of such a great and charming figure as Yoshio Nishina.



The Cavendish Laboratory's 1922 annual photograph. Credit: Cavendish Laboratory, University of Cambridge, courtesy AIP Emilio Segrè Visual Archives.

Surprises in Writing a Biography of Max Born

by Nancy Greenspan

Max Born's life was made for chronicling. For one thing, it tells a fascinating story that covers much of western history in the first half of the twentieth century. For another, he and his friends seemingly never threw away any of the thousands of letters they received—nor much else for that matter. That is not to say that the record is complete and available. The dozens of archives I have visited in Germany and Great Britain divulge some wonderful tales, but upheavals from two world wars, government secrecy policies, and the unknown whereabouts of friends' children, ensure that one does not always find the "expected." For the "unexpected," there is only hope—and here I have been very fortunate.

Six years ago, I met Irene Born Newton-John when we were both staying with her daughter in California. Over the course of a long weekend, she described to me her father's role in the discovery of quantum theory, the family's exile from Nazi Germany, and the personalities of her father's many famous students, assistants, and colleagues. She could still see the Mephisto-like eyes of Edward Teller and hear the two-piano concertos performed by her father and Werner Heisenberg. Describing her father's loving nature and brilliant mind, she explained that she deeply regretted that no one had written his biography. With the approval of Irene and Professor Gustav Born, his father's literary executor, I became the biographer. (*But God Does Play Dice: The Life and Science of Max Born* will be published in Fall 2004 by Perseus Publishing.)

I soon found myself at the University of Edinburgh, where Born was a professor of physics for seventeen years and where the family's private archives are housed. These archives are twenty-seven boxes filled with the mundane and the extraordinary. They preserve the artifacts of a person who witnessed aerial dog fights in the Battle of the Somme, discovered the statistical interpretation of the wave function, fled Germany in 1933, and counseled his assistant Klaus Fuchs not to participate in war research. Some of the flotsam is engaging—pearl cufflinks, envelopes of foreign change, a well-used slide rule—and some is disturbing.

An example is a letter I noticed one afternoon, two sentences typed in German, and then a signature boldly penned, but not immediately decipherable. The text was straightforward: a release from official duties and a thank-you for services rendered. But above the signature was "Der Fuehrer und Reichskanzler."

This was a 1935 letter from Adolf Hitler to Max Born. The impact was chilling. Research later found that it was a dismissal form letter, chosen by the Education Ministry, although one with greater civility than most. In the same box, for no particular reason, was a first edition of Lagrange's *Mechanique Analytique* with the name "J. Robert Oppenheimer" written on the inside cover, a present from him after he finished his Ph.D. with Born.



Max Born, circa 1920. Photo courtesy AIP Emilio Segrè Visual Archives, Born Collection.

These uncataloged and unexamined materials are all by definition "unexpected." There is no telling what will show up next or where it will lead. One treasure is a collection of letters, 120 pages bound and typed, sent by Born to his family while he was on his 1925/26 tour of the United States, touting quantum theory à la Göttingen. In one letter from General Electric in Schenectady, New York, he mentions the scientists' constant filming of him with their new movie cameras.

Could these movies still exist? Five minutes on the Internet and two phone calls later, I experienced the thrill of locating 75-year-old movies—and, later, seeing Born "in person." There he is, for just a few seconds, modestly mugging before

the camera, giving a bright smile and slight bow, as he carries skis across a frozen and snowy Lake George.

A few frames later a scientific landmark comes to life—here is Max Born exiting from an ornately grilled door, Niels Bohr animatedly conversing with a natty Erwin Schroedinger, Werner Heisenberg flashing a youthful, cocky grin, a ruffled Albert Einstein nodding in acknowledgment to the anonymous cameraman, and a boyish Louis de Broglie looking about. It is the Solvay Congress, Brussels, 1927. In what appear to be the first days, all are smiling, determinists and non-determinists alike. The last frames of these same men leaving the conference and descending the stairs show a few pinched smiles and many aggravated looks.

Most of the witnesses to these events are gone. I have been fortunate to visit with most that are still here. But memories and perceptions being what they are, they contradicted the written record as much as they clarified it. So with all of the thousands of letters, historical research is still an elusive master, every secret divulged begetting another to solve.



Unidentified scientist performing a weather experiment, Yellowstone Field Research Expedition, 1964. Schaefer led ASRC sponsored winter expeditions to Yellowstone Park from 1961 through 1972. The geyser eruptions closely resembled cloud conditions, allowing inexpensive study of cloud composition. Photo by Vincent Schaefer, courtesy Vincent Schaefer Papers, SUNY Albany.

Records of Physics and Atmospheric Physics at the University of Albany, SUNY

by Geoffrey P. Williams, University Archivist

The University Archives is part of the M. E. Grenander Department of Special Collections and Archives of the University Libraries, the University at Albany, SUNY. The mission of the University Archives is to collect and make available the official records of the University, its divisions, centers and faculty. The University at Albany, formerly known as the State University of New York at Albany, was transformed from a college for teachers into a University Center in 1962. Prior to that date very little original scientific research was conducted at the University. One exception to that rule was the physicist **Charles Luther Andrews**, a faculty member at the school from 1944-1977 (.75 cu. ft.), who was engaged in research projects with General Electric in Schenectady, primarily related to X-rays and optics. We hold a small collection of his papers, primarily offprints.

We also hold administrative records of the **Department of Physics**, 1915-1971 (2 cu. ft.), and the former **Department of Astronomy and Space Sciences**, 1967-76 (4 cu. ft.). Two collections address the issue of scientists' relation to larger societal ques-

tions, the **Eugene R. Rabinowitch Papers**, 1923-73 (6 cu. ft.), and the records of the **Center for the Study of Science and Society**, 1967-71 (2 cu. ft.), (headed by Victor Rabinowitch, Eugene's son). Eugene Rabinowitch was professor of biology and chemistry at the State University of New York at Albany from 1968-73, and a senior advisor to the Center for the Study of Science and Society. He is best known for his prominent role in the Concerned Scientists Movement of the 1940s and 1950s, and his long editorship of the *Bulletin of Atomic Scientists*.

The great bulk of the University Archive's collections relate to atmospheric physics, and they are found, with one exception, in the records of our **Atmospheric Sciences Research Center (ASRC)**, headquartered at the University, and in the private papers of the scientists and researchers who worked at the ASRC. Since the ASRC was for many years the preeminent research organization at our University, every effort has been made to collect a full set of ASRC's scientific records in the University Archives.

The bulk of the information about ASRC research programs is found in the personal papers of ASRC scientists and researchers including **Vincent Schaefer**, **Bernard Vonnegut** (shortly to be transferred to the University Archives), **Raymond Falconer**, **Eugene McLaren**, and **Roger Cheng**. ASRC scientists conducted groundbreaking research in cloud physics, atmospheric electricity, solar and alternative sources of energy, air pollution and meteorology. The scientists' papers also document their research at the **General Electric Research Laboratory, Schenectady, NY** (Schaefer, Vonnegut, and Falconer), the **Munitalp Foundation** (Schaefer and Falconer), and **Arthur D. Little Consulting** (Vonnegut). Since Vonnegut's papers (approximately 55 cu. ft.) are not inventoried, they will not be discussed here. We also hold the papers of **Alfred H. Woodcock**, an associate of ASRC scientist Duncan Blanchard. Woodcock's professional career was spent at the Woods Hole Oceanographic Institution and the University of Hawaii, where he studied atmospheric sea salts, air/sea interactions, the physics and chemistry of warm rain, and volcanic "mountain breathing".

The early development of the ASRC can be traced through the ASRC Records, 1961-84 (5 cu. ft. mostly publications), but mainly through private papers of ASRC scientists and researchers, Eugene McLaren, 1959-1987 (3.5 cu. ft.), Raymond Falconer, 1942-1999 (97 cu. ft.), and comprehensively, Vincent Schaefer, 1927-1993 (217 cu. ft.). McLaren, a professor of Chemistry and University administrator during the 1960s, fostered the rapid development of ASRC. Falconer was a meteorologist and early research associate at the ASRC, and his papers document the establishment and research programs of the **Whiteface Mountain Observatory** which he directed, particularly meteorological and pollution studies. The bulk of the files related to the establishment and work of the ASRC, are, however, found in the papers of Schaefer. A founder of the ASRC, its first director of research and subsequently director, Schaefer retained copies of most important communications and studies conducted by the ASRC through the early 1980s.



(L-R) Irving Langmuir, Robert Per-Johansen (?), Katherine Blodgett, and Vincent Schaefer view a recreation of Schaefer's dry ice cold chamber cloud seeding experiment in the GE Research Laboratory, Schenectady, NY, 1946. Credit: Research Information Services, General Electric Research Laboratory, courtesy Vincent Schaefer Papers, SUNY Albany.

Beyond the work of the ASRC, Schaefer and Falconer's Papers contain a complete record of their scientific activities at GE. The Falconer Papers, just acquired, are mostly inaccessible until treated for mold. Falconer's papers document his work at the Mount Washington Observatory, 1942-1946, as head of GE Weather Bureau, 1947-57, including his work on Project Cirrus and long range weather forecasting, and his work at the ASRC's Whiteface Mountain Field Station.

The centerpiece of our atmospheric science holdings are the Schaefer Papers, 1920-1993, which include his research notes, scientific and professional correspondence, 16mm films, and unpublished autobiographies. Schaefer's early work at the GE Research Laboratories in the 1930s on surface chemistry was as a research assistant for Nobel Prize winner Irving Langmuir. During WW II, he worked with Langmuir on gas mask filtration of smoke, the formulation of smoke-generated artificial fog, aircraft icing, ice nuclei and cloud physics. In the summer of 1946, Schaefer developed a laboratory method of seeding super-cooled clouds with dry ice, and conducted a successful field test of cloud seeding that fall. These discoveries led Langmuir to obtain federal funds for Project Cirrus, 1947-53, which experimented with cloud seeding and weather modification. Schaefer left GE in 1954 to become Director of Research for the Munitalp Foundation, a position he held until 1958. During his tenure, Munitalp sponsored atmospheric scientists worldwide carrying out basic research in cloud physics and atmospheric particulates. Schaefer's research interest in these areas continued at ASRC, which he helped found in 1961.

Descriptions of many of these collections can be found online at <http://library.albany.edu/speccoll/list.htm>. For more information about the collections please contact Geoffrey P. Williams, University Archivist, University Libraries LE 356, University at Albany, SUNY, Albany, NY 12222, phone 518-437-3936, e-mail g.williams@albany.edu.

(History Center Begins Project to Document the History of Physics, continued from page 1)

in both paper and electronic form; 4) cataloging of records that we identify in our online International Catalog of Sources (ICOS); and 5) study of existing public and private archival programs that document industry in the U.S. and Europe. The 15 companies in the study will be selected from the 25 major employers of physicists in American industry, to create a stratified sample of current high-tech companies.

We plan to interview three scientists and two R&D managers at each of the companies in the study, plus archivists, records managers and other information professionals. Meanwhile we will conduct on-site records surveys. The project is led by the AIP History Center's Associate Director, Joe Anderson, with help from The Center's Director, Spencer Weart, and three staff archivists (including a specialist in archival automation and electronic systems). Much of the work will be carried out by a full-time Project Historian, Tom Lassman. He completed a Ph.D. in history of science at Johns Hopkins in 2000 with a thesis addressing mid-twentieth-century industrial physics administration. An advisory committee composed of distinguished corporate scientists, archivists and historians will play an active role in advising the staff and shaping the development of the project.

A principle product of the study will be published reports that present our findings and endeavor to outline new frameworks for identifying, appraising, and preserving historically valuable industrial R&D records, both past and present. The recommendations will be broadly applicable to corporate science in general and will place special emphasis on cost-effective approaches that build on existing records-keeping systems. A second main product of the study will be the approximately 100 oral history interviews with senior corporate scientists and science managers. Also useful to future historians will be the online descriptions of extant records that we will identify through the course of the study.

As we get underway, the Center is continuing to work to raise money for the final phase of the study. We are especially grateful to the Avenir Foundation and NSF for providing lead funding.

To an extent rarely appreciated by nonhistorians (who often imagine that the historian is a mere reporter of events), studying the history of ideas—scientific or otherwise—involves a great deal of creative imagination.... This task of reconstruction is utterly impossible unless the historian has a very subtle sense of what kinds of arguments would be plausible in a given situation.

—Larry Laudan

Erd- u. Steinwerke
Flossenbürg



Teilansicht

This is the first page from the photographic report on the Flossenbürg camp, originally a stone working facility (Erd-u. Steinwerke). It shows a partial view (Teilansicht) of the camp located in the mountains of Bavaria. The report was assembled for a proposal to turn the camp into an aircraft assembly facility using slave labor.

Niels Bohr Library Donates Documents on Former Concentration Camp

by Katherine A. Hayes

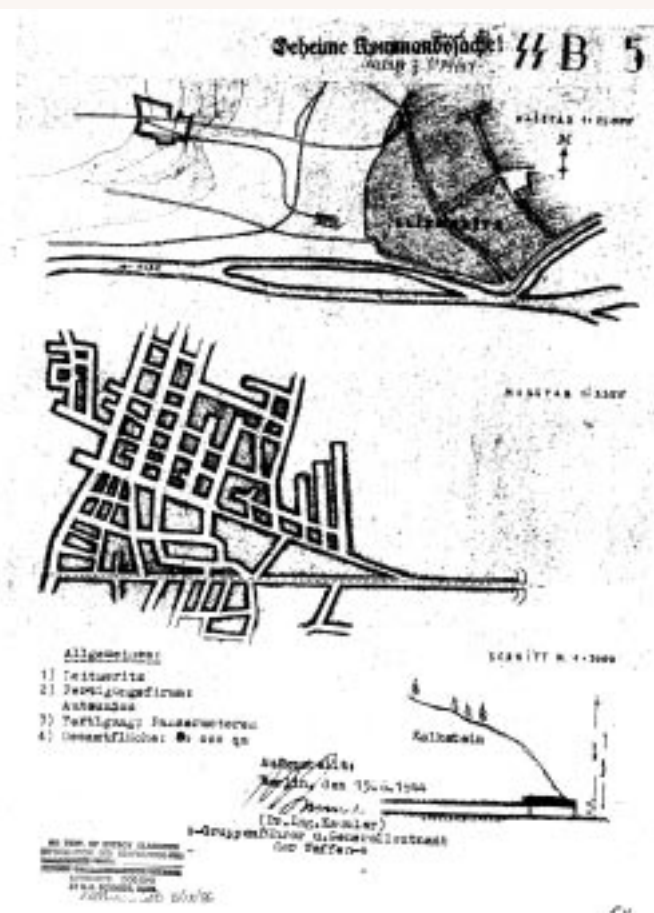
In April the Niels Bohr Library received an e-mail reference request from Germany. This was not unusual, as our Web site is well known to historians around the world. However, this query was unique in that it diverged from the kinds of questions we usually receive. In late February, a German scholar doing research in the Niels Bohr Library had noticed some unusual materials in one of our most heavily used collections. He brought them to the attention of colleagues in Germany, who checked our holdings in the online finding aid. The request began:

Flossenbürg concentration camp memorial site (Northern Bavaria/Germany) is currently enlarging its collection of archival materials related to the history of Flossenbürg concentration camp and its about 100 sub-camps. A German colleague pointed out your collection of the Samuel Goudsmit papers to us. As your excellent finding aid shows, Goudsmit's collection also contains (photographic) material of Flossenbürg.

Physicist Samuel Goudsmit led the ALSOS mission in 1944-1945, pushing into Europe just behind the advancing allied

armies. Seeking to discover how far Nazi Germany had gotten in the race to build atomic bombs, the ALSOS team visited a variety of research and industrial sites. After Goudsmit's death, the Niels Bohr Library took in his papers. We do not normally seek the papers of individual scientists, but Goudsmit was never associated with a university that had an archival program, and we took in the papers to be sure they would not be lost to posterity.

Responding to the request, we found a scrapbook with photographs of the buildings at Flossenbürg, exterior and interior. The site was built upon caves, and labels indicated areas devoted to stoneworking and prospective underground aircraft assembly. There were two large maps, one of Flossenbürg itself and one locating it within its region. There were also several folders of photostats of Third Reich documents. In his book *Alsos*, Goudsmit wrote that these documents appeared mysteriously on his desk in Paris. He tried returning them, but no one knew why they had been sent and no one wanted them back. He learned



This map is one of many in the photographed documents that Goudsmit received from an unknown source, donated by the Niels Bohr Library to the Flossenbürg memorial archives. Labelled "Secret" at top with the SS logo, it shows the overall location and top and side views of the tunnels proposed for aircraft assembly. The stamp at lower left is the U.S. Department of Energy's certificate that the document is unclassified.

they were papers of the staff of Nazi SS leader Heinrich Himmler, and document an attempt by the SS to relocate aircraft assembly factories in the caves of Flossenbürg, and to use concentration camp prisoners as a labor force there. (The attempt failed, thanks to infighting among Nazis and German labor and industry.)

The longstanding policy of the Center for History of Physics is to place materials at whatever repository is most appropriate, aiming for the best public and scholarly access. Time and again we have taken in materials that were endangered, only to let them go years later when a more appropriate repository was found. The Flossenbürg materials were clearly more relevant to the memorial and archives of the camp than to the historians of science who are the main users of the Niels Bohr Library. We therefore decided to turn over the originals to the Flossenbürg

archives. We are keeping photocopies of all except the maps (which are large and expensive to copy).

Shortly after the materials were shipped, we heard by e-mail: “We received the scrapbook, map and other documents concerning Flossenbürg today. Thank you very much! Coincidentally, this weekend the annual reunion of former prisoners of Flossenbürg is being celebrated. I already had the opportunity to show the scrapbook to a former prisoner (who now lives in New York) who recognized the place that he was forced to work in. As you can imagine, sources like the ones you donated are very important not only for our scientific efforts but especially for the memories of the former prisoners. Therefore, I once again want to thank you and the AIP for this generous donation.”

Brittle Books Microfilming Project Gets Underway

The Niels Bohr Library’s project to preserve brittle books through microfilming (see this *Newsletter*, Fall 2001) is now in full swing. In July, we shipped our first test batch of books to the microfilm vendor, Preservation Resources, located in Pennsylvania. The project, supported by the Friends of the



Carl Friedrich Gauss and Wilhelm Weber, from The History of the Institution of Electrical Engineers (1871-1931) by Rollo Appleyard, (Electrical Engineers, London 1939). Photo courtesy AIP Emilio Segrè Visual Archives.

Center for History of Physics and a grant from the National Endowment for the Humanities, is the culmination of a nine-year effort to insure the long-term preservation of the Library’s most precious and irreplaceable books. The effort began with the move to a state-of-the-art, climate-controlled facility in 1993, and the development of an in-house book repair program two years later. In preparation for the project we checked every book in the collection and identified 2,875 volumes whose paper is too brittle, because of age and other factors, to repair or preserve by means other than filming.

We are conducting the Brittle Books Project in compliance with national bibliographic conservation standards. This means the final product will be a permanent copy of some of our most important books, available not only to visitors to the Niels Bohr Library but also to other libraries. It means a great deal of painstaking work for the Library staff in selecting and inspecting the books before filming, and inspecting the film frame-by-frame afterwards. We have nearly completed the first step—checking all of our brittle books in the national online catalog of the Research Libraries Information Network (RLIN)—to identify those that have been microfilmed by other libraries. Less than one in ten had been filmed according to modern preservation standards. After eliminating these, we select the most valuable titles for microfilming, since

the funds in hand will only suffice to film about two-thirds of our brittle books. Fortunately many items are different editions or translations of the same book—the Niels Bohr Library prides itself on maintaining a very complete collection, to allow detailed historical study of changes from one edition to another. Thus essentially all of the important books can be filmed in at least one edition. Once a book is selected, we collate it, checking page-by-page for missing or mutilated pages, as well as other irregularities that have to be noted on the microfilm. Where a page is missing, we obtain a duplication from a copy in another library. We are also taking advantage of the collating process to identify prints and photographs in many of the books that we are adding to our Emilio Segrè Visual Archives.

When the project is completed at the end of 2003 we expect to have microfilmed about 1,700 books, representing all of our most historically valuable brittle volumes that are not already on microfilm elsewhere. After the books are filmed, they will be returned to the Library and maintained in their original format, as well as on microfilm.



The D.O. Mills Observatory, Cerro San Cristóbal, Santiago, Chile. From Stellar Motions: with special reference to motions determined by means of the spectrograph, by Willam Wallace Campbell, Yale University Press, 1913. Photo courtesy AIP Emilio Segrè Visual Archives.

New Web Exhibit Shows the Emergence of “Big Physics”

Ernest O. Lawrence is the latest subject of a major new web exhibit offered by the AIP Center for History of Physics. The exhibit follows Lawrence's life



and accomplishments, including his invention of the cyclotron. During World War II, Lawrence and his machines played a key role in the Manhattan

project and building the first atomic bombs. Lawrence also brought together physics and government during the Cold War by spearheading the creation of our National Laboratory system. Two labs, the Lawrence Livermore Lab and the Lawrence Berkeley Lab, still bear his name as a mark of his important contribution to the field of physics.

Lawrence's story is also one of personal triumph. His rise from a small prairie town to fame and power traces the 20th-century rise of American science itself. But it wasn't just his scientific accomplishments that won

Lawrence a place on the Center's Web site alongside other Nobelists like Einstein, Sakharov and Marie Curie. The exhibit aims to help young people and the public see how the physics community changed during Lawrence's life.

Peter Westwick, a historian at the California Institute of Technology, wrote the text for the exhibit, which was reviewed by several leading scholars. In addition to the story of Lawrence's career, the site includes more than 60 illustrations showing Lawrence and his laboratories in the context of their times, from the Great Depression to the Cold War. There are also audio clips of Lawrence talking, and Art Roberts' humorous songs about the physics community in the 1940s. Supplementary text with an animation explains how Lawrence's cyclotron worked, and its place in the progress of discovery in the 1930s. Like other major exhibits by the Center, this comes with a no-pictures version accessible to visually impaired people with text readers.

The exhibit may be seen at:

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

Other News of Interest

■ **Prize in the History of Physics:** The Forum on History of Physics of the American Physical Society has recently announced that it is initiating an award for excellence in the history of physics. For further information, visit the Forum's Web site at <http://www.aps.org/FHP/>.

■ **A Society For The History Of Astronomy is being formed in Britain.** To find out more about the society get in touch with Stuart Williams, e-mail: flamsteed@v21mail.co.uk, or see the Web site at <http://www.historyofastronomy.fsworld.co.uk/>.

■ **Peer Review Materials for Physical Review:** The Physical Review, published by the American Physical Society, has preserved peer review materials, including referee reports, on submitted articles for several decades. Microfilm records go back as far as 1938 and are essentially complete since about 1960. This material is confidential and access is restricted. Individual requests to access material will be considered by the Editor-in-Chief as they are received. Material involving living people will not be released. Requests should be sent to: Editor-in-Chief, American Physical Society, Box 9000, Ridge, NY 11961-9000.

MEETINGS

■ **Second Conference on the History and Heritage of Scientific and Technical Information Systems**, Philadelphia, PA **November 16-17, 2002**. Organized by the Chemical Heritage Foundation and the American Society for Information Science & Technology. For more information, visit <http://www.chemheritage.org/HistoricalServices/2002HHSTIS2.htm>

■ **21st Annual Mephistos Conference**, a graduate student conference on the history, philosophy, and sociology of science, technology, and medicine, Madison, WI, **March 6-8, 2003**. Deadline for submissions: January 15th, 2003. For more information, e-mail tsullivan@wisc.edu, or write Mephistos 2003 Organizing Committee, c/o Department of Philosophy, University of Wisconsin - Madison, 5185 Helen C. White Hall, 600 North Park Street, Madison, WI 53706. Or visit <http://www.hssonline.org/profession/meetings/2003/1009.html>.

■ **Discovering the Nanoscale, March 20-23, 2003** at the University of South Carolina, Columbia, and **October 10-12, 2003** at the Technische Universität, Darmstadt, Germany. The discussions will begin in Columbia, SC and continue six months later in Darmstadt, Germany. Deadline for submissions: **December 1, 2002**. For more information, visit <http://www.cla.sc.edu/Phil/scistud/call.html>.

■ **The Scientific Revolution in Multicultural Perspective**, Norman, OK, **April 6-8, 2003**. For more information, contact Professor F. Jamil Ragep, Department of the History of Science, The University of Oklahoma, 601 Elm, Room 622, Norman, OK 73019. Tel: 405-325-2213; fax: 405-325-2363; email: jragep@ou.edu, or visit <http://www.ou.edu/islamsci/Rockefeller.htm>.

■ **People and Events in Aeronomy, Geomagnetism, and Geophysics: Session of the International Union for Geodesy and Geophysics Meeting, June 30-July 11**, Sapporo, Japan. Organized by: International Union for Geodesy and Geophysics. Deadline for abstracts: **December 2002**. For more information, contact Wilfried Schröder at Geomoppel@t-online.de or visit <http://www.jamstec.go.jp/jamstec-e/iugg/index.html>.

■ The **Kaliningrad Museum of the World Ocean** is inviting papers for the **VII International Congress on the History of Oceanography**, Kaliningrad, Russia, **September 8-14, 2003**. For more information, visit <http://www.vitiaz.ru> or e-mail postmaster@vitiaz.koenig.su.

GRANTS & FELLOWSHIPS

■ The **Center for History of Physics of the American Institute 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 part of the funds for travel and subsistence to use the resources of the Center's Niels Bohr Library in College Park, Maryland (easily accessible from Washington, DC), or to microfilm papers or to tape-record oral history interviews with a copy deposited in the Library. 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 a 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, or phone: 301-209-3174, fax: 301-209-0882 or e-mail sweart@aip.org, or visit <http://www.aip.org/history/web-grnt.htm>.

■ **The Dibner Institute for the History of Science and Technology** invites applications to its two fellowship programs for the academic year 2003-2004. The deadline is **December 31, 2002**. For more information, contact: Trudy Kontoff, Program Coordinator, Dibner Institute for the History of Science and Technology, MIT E56-100, 38 Memorial Drive, Cambridge, Massachusetts 02139. Telephone: 617-253-6989, Facsimile: 617-253-9858, e-mail: dibner@mit.edu, or visit <http://dibinst.mit.edu>.

■ **The Bakken Library and Museum** in Minneapolis offers research fellowships and travel grants. Deadlines are **February 1, 2003** and **July 1, 2003**. For more information, please contact Elizabeth Ihrig, Librarian, The Bakken Library and Museum, 3537 Zenith Avenue South, Minneapolis, MN 55416, or telephone: 612-926-3878, extension 227; fax: 612-927-7265; e-mail: ihrig@thebakken.org; or visit <http://www.thebakken.org>.

■ **The Smithsonian Institution Libraries (SIL)** offers two programs for scholars to use SIL Special Collections. Deadline for applications is **March 1, 2003**. For more information, visit <http://www.sil.si.edu/>, or write to Smithsonian Institution Libraries Resident Scholar Programs, P.O. Box 30712, NMAH 1041 MRC 672, Washington, DC 20013-7012 (tel: 202-357-1568), or e-mail: libmail@sil.si.edu.

■ The **American Philosophical Society Library** in Philadelphia, PA, offers Library Resident Research Fellowships. Deadline for applications is **March 1, 2003**. For more information, Address applications or inquiries to: Library Resident Research Fellowships, American Philosophical Society Library, 105 South Fifth St., Philadelphia, PA 19106-3386. Telephone: (215) 440-3400, or visit <http://www.hssonline.org/profession/grants/1015.html>.

■ The **Beckman Center for the History of Chemistry** is the historical unit of the **Chemical Heritage Foundation**, and offers six 2003-2004 academic year resident fellowships and two summer 2003 resident fellowships. Application deadlines are **January 15, 2003** for academic year fellowships and **February 15, 2003** for summer 2003 fellowships. For more information, please visit <http://www.chemheritage.org>, e-mail fellowships@chemheritage.org, or write: Josh McIlvain, Staff Researcher/Fellowship Coordinator, Beckman Center for the History of Chemistry, Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106, phone 215-925-2178 extension 236, or e-mail JoshM@chemheritage.org.



This mercury vapor lamp turned up in the collection of spectroscopist William F. Meggers, in the Niels Bohr Library's archives. A note in Meggers's hand on the wooden case says it was blessed by Pope Pius XII in 1952. We have donated the lamp, with other artifacts from the Meggers collection, to the archives and museum of the National Institute of Standards and Technology. Meggers was head of the Spectroscopy Division of what was then the National Bureau of Standards from 1919 to 1958. Our Archivist, Katy Hayes, is now completing the archival processing of the Meggers papers. In July she gave a brief presentation on the collection to the Standards Alumni Association. The date inscribed on the wood is 7 Sept. 1952.

Recent Acquisitions of the Niels Bohr Library

MANUSCRIPT MATERIALS

Our large and unique collection of student notebooks grew further when **Gibson Reaves** donated his notebooks of astronomy courses taken 1943-1949 (0.5 lin. ft.). Another constantly growing collection is from the **Gravity Research Foundation** essay contest, for which we now received the 2002 entries (0.5 lin. ft.). **Brenda Winnewisser** donated additional papers of **Hedwig Kohn** from 1886-1936 that she received from **Wilhelm Tappe** (0.25 lin. ft.). Biographical materials on **Klaus Fuchs** from 1943-1989 were sent by **Robert Williams** from his work on a biography of Fuchs (2.5 lin. ft.).

The Niels Bohr Library is the repository for records of many of the Member Societies of the American Institute of Physics. We received from **American Association of Physics Teachers**, **American Journal of Physics** editor's reports from **Bob Romer** (via Bernie Khoury) for the years 1982-2001 (.25 lin. ft.). **Frank Edmondson** and Indiana University transferred the **American Astronomical Society, Office of the Treasurer, Records of Frank K. Edmondson**, 1898-1979 to the Niels Bohr Library (24 lin. ft.). **Kenneth Hardy** donated records for the **American Physical Society, Southeastern Section (SESAPS)** from 1935-1992, including scrapbooks, meeting programs and materials, and correspondence (3.0 lin. ft.). We also received SESAPS records from **Wendell G. Holladay** which includes photocopies of records from the E.A. Jones collection at Vanderbilt University, and photocopies of records belonging to **F.G. Slack**, 1934-1967 (.75 lin. ft.). And of course the Niels Bohr Library is the repository for the **American Institute of Physics** itself. **AIP's Office of the Secretary** deposited **subject files** used for reference from the years 1950-1990 (5.0 lin. ft.). This office also turned over the **Minutes of the AIP Executive Committee and Governing Board** from 1931-2000 which were converted from electronic files directly to microfilm (3 reels).

For our Miscellaneous Physics collection, **Philip Anderson** donated a manuscript copy of the chapter "Superfluidity and superconductivity: The past half-century" which he wrote for the Enciclopedia Italiana's series "History of Science" (2001; 41 pp.). From **Franco Nori** we received some reprints of articles by **Paul Dirac** (1928-1952; 8 pamphlets) and **Erwin Schrödinger** (1930-1954; 16 pamphlets). From **Herbert F. Mataré** we received photocopies of letters written to him by other physicists (1944-1969; 11 pp.). **Frederick Seitz** sent a copy of an essay he wrote on the Bohr-Heisenberg Meeting in 1941 (2002; 9 pp.). An unpublished copy of "Dating recent basalt by the potassium-argon method" by **Thorbjörn Sigurgeirsson** was donated by **G. Brent Dalrymple** (1962-1970; 26 pp.).

MANUSCRIPT BIOGRAPHIES AND INSTITUTIONAL HISTORIES

H. William Koch sent us a copy of autobiographical notes entitled "Ed Condon and the NBS Radiation Physics Laboratory"

(2002; 9 pp.). **Judy Franz** of APS donated a biography of Philip Dalton written by Philip M. Smith (2002; 57 pp.). We received an autobiography by **Byron T. Wright** titled "Clips of my life" (n.d.; 139 pp.). **David Diffenderfer** donated his Recollections of Shockley Semiconductor Laboratory (2002; 7 pp.). **E. Leonard Jossem** donated a copy of an early American Physical Society brochure on fund-raising called "Better fifty years of Europe than a cycle of Cathay" (ca. 1927; 6 pp.). Additional documentation on the history of the AAPT Appalachian Section was contributed by **Folden B. Stumpf**.

FINDING AIDS

Increasingly, archival repositories are providing copies of finding aids to the public on their Web sites. When we get news of a newly published finding aid online, we will print the URL in this column. **Links to the online finding aids of many collections in physics and allied fields can now be found in the record for the collection in our International Catalog of Sources, available at <http://www.aip.org/history>.** However, scholars who have grown expert at exploiting the Web's resources should bear in mind that the Niels Bohr Library also has hundreds of printed finding aids to collections around the world that are not currently accessible online. Staff will be glad to provide photocopies or look up specific items.

McMaster University Library shared with us a copy of their finding aid to the **B. N. Brockhouse** papers. The published finding aid to the Archives of the **International Astronomical Union**, Inventory for the years 1919-1970 by A. Blaauw, has been added to our book collection. A copy of the list of the contents for the papers of **Louis Néel** (in French) from the Académie des Sciences in Paris is now available at the Niels Bohr Library. You can examine the guide to the papers of **Sir Marcus Laurence Oliphant** at the University of Adelaide Library on the Web at <http://www.library.adelaide.edu.au/ual/special/oliphant.html>.

Case Western Reserve, in notifying us of the acquisition of the papers of **William Pendry Bidelman**, also sent us a box list of the contents. Fermilab contributed copies of the inventories to the **Records of FNAL Office of the Director, Records of Peter Limon**, and the **SSCL Special Collection**. The Preliminary Guide to the **Boris Garfinkel Papers** at Yale University is available online at <http://webtext.library.yale.edu/xml2html/mssa.1714.con.html>.

In the last year our archival intern processed and wrote finding aids to the **American Astronomical Society, Office of the Treasurer, Records of Frank K. Edmondson** collection and the **American Institute of Physics, Center for History of Physics, Project on the History of Recent Physics** collection.

PHOTOS

Through the kind aid of **Nancy Greenspan** and **Gustav Born** we obtained copies of over 80 photographs from Max Born's Papers in Edinburgh, including photos of Max Born himself, Otto Hahn, James Franck, Otto Oldenberg, and Chandrasekhar Raman to name a few. (See article, p. 3) Our collection of Nobel Laureates in Physics is still complete, thanks to donations this year from **Eric Cornell**, **Wolfgang Ketterle**, and **Carl Wieman**. We received a substantial collection of photographs from **Kurt Gottfried**, with photographs of such notable physicists as Henry Kendall, Hans Bethe and Richard Feynman. **Martinus Veltman** donated ten photographs of Swiss physicist Baron Stückelberg, who had not been represented in our collection. **Donald Clayton** has also added another good set of images to his already substantial donation of photographs. For donations of one or two photographs we are grateful to **Dieter Brill**, **Virginia Trimble**, **Colin Hines**, **Charles Misner**, **Robert Resnick**, **Per Dahl**, **Katherine Kron**, and **Robert Gould**.

We have continued adding images to the Visual Archives from the Niels Bohr Library's archival collections, mainly the W. F. Meggers Collection, which includes photographs of many of the instruments that Meggers worked with at the National Bureau of Standards during his time there. Physics Today continues to add to the Visual Archives with the donation of photographs submitted for their obituaries.

Please contact our photo librarian at (301) 209-3184 or photos@aip.org if you are interested in donating photographs. We especially appreciate photographs showing scientists working with their equipment and other informal photographs.



James Franck with Gustav Born on his shoulders, and Richard Courant. Photo courtesy AIP Emilio Segrè Visual Archives, Born Collection.

OTHER AUDIO-VISUAL MATERIALS

A note on videotape: The Niels Bohr Library collects recordings of symposia and lectures with significant historical content, especially first-person reminiscences. These are increasingly being recorded on videotape rather than audio tape. This is a problem for long-term preservation, for videotapes may become unreadable within a few decades. Digitization or repeated remastering is beyond the Library's financial means at present. We will try to at least make audio masters (which retain most of the historically valuable information) before the videotapes decay too far, but until our resources expand or digitization becomes much cheaper, the Library will not be able to guarantee permanent preservation.

We received three videocassettes of **The Copenhagen Interpretation: Science and History on Stage**, which was taped at the Smithsonian Institution in 2002 upon the opening of the play "Copenhagen" in Washington DC, from **Brian Schwartz**. The **American Vacuum Society** sent us a videocassette of the **NBS/NIST Centennial Session** from their October 2001 Symposium. **E. Leonard Jossem** donated a videocassette copy of the **Arnold B. Arons Memorial** session from the AAPT Summer 2001 meeting. A set of four videocassettes of some of the **Enrico Fermi Centennial Celebration** held at the Enrico Fermi Institute at the University of Chicago in September 2001 was donated by **James E. Pilcher**.

Steven M. Kahn kindly contributed eight audio cassettes with talks from the **Enrico Fermi and the Beginnings of Nuclear Fission Centennial Conference** held in November, 2001. We received an audiocassette copy of **Richard Garwin's** talk on National Public Radio in April 2001, "Reconsidering the paternity of the H-bomb," from **Patrick McCray**. An interview of **Jack S. Kilby** done in 2001 by **James M. Lafferty** was donated by the interviewer. An anonymous donor turned over an unusual recording (on 7-inch green flexible 33.3 RPM vinyl disks!) of **J. Robert Oppenheimer** giving a speech at the 1945 meeting of the Association of Los Alamos Scientists.

Patrick McCray and the Bancroft Library at UCLA gave us three CD-ROMs with audio clips of **Ernest O. Lawrence** that were used for the History Center's Web exhibit on Lawrence. From **David Stern** we received copies of three of his Web exhibits on CD-ROM: "From Stargazers to Starships" (<http://www-istp.gsfc.nasa.gov/stargaze/Sintro.htm>); "The Great Magnet, the Earth" (<http://www-istp.gsfc.nasa.gov/>

earthmag/demagint.htm) and “Exploration of the Earth’s Magnetosphere” (<http://www-istp.gsfc.nasa.gov/Education/Intro.html>). We received a copy of a talk titled “Religion in an age of science” given by **Harlow Shapley** at Vanderbilt University in 1958 on CD-ROM, recorded by **Robert H. Hardie** and **Michael S. Snowden**.

BOOKS

Virginia Trimble, the wife of late **Joseph Weber**, added to her previous donation of several hundred books from his collection few hundred more that were at another location. Cataloging is underway; so far, we have added 273 books from this generous gift to our collection.

This year we are especially grateful to have received copies of books from their authors. Such donations included: **Eri Yagi’s** *A Historical Approach to Entropy* and the supplement, with her collected papers, **Dong-won Kim’s** *Leadership and Creativity: a History of the Cavendish Laboratory, 1871-1919*, and **Hiro Tawara’s** *Pioneers of Physics in the Early Days of Japan*. The Library also received donations from the **Carnegie Institution of Washington** (*Good Seeing: A Century of Science at the Carnegie Institution of Washington, 1902-2002*). For other book donations, we would like to express our gratitude to **Shaun J. Hardy**, **John Vesel**, **Guy Emery**, **Edward V. Lee**, **Elroy O. LaCasce**, **Herbert F. Matare**, and **Peter Reppert**. Our library would not have its large collection of important books without generous donations from such people.

In addition, as always, we have purchased a number of new and used books with the aid of funds donated by our Friends, in particular a generous endowment from the **Brodsky Foundation**.

ORAL HISTORY INTERVIEWS

The historians who conduct interviews with the help of grants-in-aid from the Friends of the Center have been active. We are especially grateful to Christopher Smeenk, who has been conducting a project on the history of modern cosmology. This past year he deposited interviews with **John Barrow**, **Jeremiah Ostriker**, **Jim Peebles**, **Martin Rees**, **Bill Saslaw**, **Paul Steinhardt** and **Neil Turok**. This project is done in collaboration with the Center’s Postdoctoral Historian, Patrick McCray, who is also interviewing astronomers, both for general preservation purposes and in connection with a forthcoming book on the construction of large modern telescopes. He has also conducted some interviews with people who have made administrative contributions to physics societies and the community, an important group that historians have rarely addressed. This past year McCray interviewed **Sandra Faber**, **Roderick Grant**, **James Houck**, **John Huchra**, **Leonard Jossem**, **Robert Kraft**, **Christopher McKee**, **Brian Schwartz**, **Malcolm Smith**, **Harvey Tananbaum**, and **Scott Tremaine**.

A fine collection of over 40 interviews of astronomers and others associated with the **Smithsonian Astrophysical Observa-**

tory, conducted in the years 1975-1999, was donated by David DeVorkin of the National Air & Space Museum. Those interviewed include **Robert Frosch**, **Thomas Gold**, **Martin Harwit**, **Walter Roberts**, **Fred Singer**, **Lyman Spitzer**, **Richard Tousey**, **James Westphal**, and **many others**. Other interviews received this year, both old and new, were: **Katherine Harris** by Fredericka Bell-Berti; **Richard Lyons** by Robert Fricke; **Hurt Hoheremser** by Gerhard Rammer; **Leo Beranek** by Joseph Leary; **Rudolf Peierls** and **Eugene Wigner** by Patricia Rife; **William Baker** and 2 sessions with **David Beckler** by Ron Doel; **L. Goodfriend** and **Eric Ungar** by Richard Peppin; **Oleg Vaisberg** by David Stern; **John Clauser** by Joan Bromberg; and **Philip Abelson** by Amy Crumpton.

Some of these interviews are fully transcribed and available for use, while others are still being processed (in some cases, formal permission for access has yet to be obtained). When an interview is ready to be used, it is recorded in our International Catalog of Sources (available on our homepage, <http://www.aip.org/history>), but scholars may inquire about special permission for access to interviews being processed.

New Format: Emilio Segrè Visual Archives

The Emilio Segrè Visual Archives announces a **new and improved online photo store**, which now gives Web access to over 4,000 historical images (mostly, but not entirely, portraits) for physics, astronomy, geophysics and allied fields. The new system makes it easier for customers to place and track orders, which may now be paid for online with a credit card. The system integrates photo purchasing with other products sold by the AIP, so that users need not repeatedly re-enter address and other information. <http://www.aip.org/history/esva>



Walter Selove and Norton Hintz, Harvard Physics Picnic, Ipswich, MA, 1950. Photo courtesy AIP Emilio Segrè Visual Archives, Hintz Collection.

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. For books, see the annual bibliography inserted in the middle of this issue. 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 (<http://www.aip.org/history>). You can specify to search the entire AIP site or the History Center only.

Annals of Science, vol. **59**, no. 1 (January 2002) includes Robert H. Kargon and Scott G. Knowles, "Knowledge for Use: Science, Higher Learning, and America's New Industrial Heartland, 1880-1915," 1-20. Vol. **59**, no. 2 (April 2002) features David Philip Miller, "'Distributing Discovery' between Watt and Cavendish: a Reassessment of the Nineteenth-Century 'Water Controversy'," 149-178. Vol. **59**, no. 3 (July 2002) includes Bruno Carazza and Nadia Robotti, "Explaining Atomic Spectra within Classical Physics: 1897-1913," 299-320.

Astronomy, vol. **30**, no. 1 (January 2002) features Tony Ortega, "Red Scare at Harvard," 42-47; and Lucy Jago, "The Making of an Aurora," 72-77. Vol. **30**, no. 4 (April 2002) includes Steve Nadis, "Cosmic Inflation Comes of Age," 27-32. Vol. **30**, no. 7 (July 2002) includes C. Renée James, "Edward [Pickering] and Mina [Fleming]," 46-50. Vol. **30**, no. 9 (September 2002) features David J. Eicher, "Beyond Cosmos," 34-39.

Astronomy & Geophysics, vol. **42**, no. 4 (August 2001) includes Ragbir Bhathal, "Women Astronomers in Australia," 29-30. Vol. **43**, no. 1 (February 2002) features John McFarland, "Dreyer's Sesquicentennial," 22. Vol. **43**, no. 4 (August 2002) features John D. Barrow, "Cosmology: A Matter of All and Nothing," 8-15.

Bulletin of the Atomic Scientists, vol. **58**, no. 2 (March/April 2002) includes Duane Bratt, "Canada's Nuclear Schizophrenia," 44-50. Vol. **58**, no. 3 (May/June 2002) features William Sweet, "The Bohr Letters: No More Uncertainty," 20-27.

CERN Courier, vol. **42**, no. 1 (January/February 2002) includes Elisabetta Durante Romano, "The INFN Marks Half a Century of Research," 26-28. Vol. **42**, no. 3 (April 2002) features Gordon Fraser, "How U.S. Physicists First Came to Work at CERN," 13-15. Vol. **42**, no. 4 (May 2002) features Gordon Fraser, "How CERN Became Popular with U.S. Physicists," 15-17. Vol. **42**, no. 5 (June 2002) includes Wolfgang Kummer, "Victor Weisskopf: Looking Back on a Distinguished Career," 28-31. Vol. **42**, no. 6 (July/August 2002) features Gordon Fraser, "The Biology of Physics," 13-14.



*From our brittle book collection. Sir Frederick William Herschel, from *The Herschels and Modern Astronomy*, by Agnes M. Clerke, The Macmillan Co., 1895. Photo courtesy AIP Emilio Segrè Visual Archives.*

Historical Studies in the Physical and Biological Sciences, vol. **32**, part 1 (2001) includes Robert P. Crease, "Anxious History: The High Flux Beam Reactor and Brookhaven National Laboratory," 41-56; John Krige, "Felix Bloch and the Creation of a 'Scientific Spirit' at CERN," 57-69; Stuart W. Leslie, "Blue Collar Science: Bringing the Transistor to Life in the Lehigh Valley," 71-113; Ulf Von Rauchhaupt, "Colorful Clouds and Unruly Rockets: Early Research Programs at the Max Planck Institute for Extraterrestrial Physics," 115-124; Michael Riordan, "A Tale of Two Cultures: Building the Superconducting Super Collider, 1988-1993," 125-144; Robert W. Seidel, "The National Laboratories of the Atomic Energy Commission in the Early Cold War," 145-162; and Catherine Westfall, "Collaborating Together: The Stories of TPC, UA1, CDF, and CLAS," 163-178.

History and Technology, vol. **17**, no. 3 (2001) includes Sylvia Katharine Kraemer, "Federal Intellectual Property Policy and the History of Technology: The Case of NASA Patents," 183-216; and Helen M. Rozwadowski, "Technology and Ocean-Scape: Defining the Deep Sea in Mid-Nineteenth Century," 217-247. Vol. **18**, no. 1 (March 2002) features Joanna S. Ploeger, "The Art of Science at Fermi National Accelerator Laboratory: The Rhetoric of Aesthetics and Humanism in the National Laboratory System in the Late 1960s," 23-49. Vol. **18**, no. 2 (June 2002) includes Sabine Höhler, "Depth Records and Ocean Volumes: Ocean Profiling by Sounding Technology, 1850-1930," 119-154.

ISIS, vol. **93**, no. 1 (March 2002) features Jacob Darwin Hamblin, "The Navy's 'Sophisticated' Pursuit of Science: Un-

Stay Updated Through Our New E-Mail List

Would you like to hear when new exhibits are added to our Web site? Sign up to receive e-mail notifications. Visit us at <http://www.aip.org/history/web-news.htm> and sign up online, or send an e-mail to hrucco@aip.org. Notices will always be brief and to-the-point and your e-mail address will never be shared outside the History Center. You can also let us know of an address change, request a new subscription or cancel your current subscription.

dersea Warfare, the Limits of Internationalism, and the Utility of Basic Research, 1945-1956," 1-27. Vol. **93**, no. 2 (June 2002) includes David Kaiser, "Nuclear Democracy: Political Engagement, Pedagogical Reform, and Particle Physics in Postwar America," 229-268.

Journal for the History of Astronomy, vol. **33**, no. 110 (February 2002) includes Michael Hoskin, "The Leviathan of Parsontown [Rosse's reflecting telescope]: Ambitions and Achievements," 57-70. Vol. **33**, no. 111 (May 2002) is a special issue commemorating Donald H. Menzel. Articles in this issue include Donald E. Osterbrock, "Young Don Menzel's Amazing Adventures at Lick Observatory," 95-118; David DeVorkin, "Menzel at Princeton," 119-131; David Layzer, "Atoms, Stars, and Nebulae: Remembering Donald H. Menzel," 133-138; Jay M. Pasachoff, "Menzel and Eclipses," 139-156; Thomas J. Bogdan, "Donald Menzel and the Beginnings of the High Altitude Observatory," 157-192; and Ruth Prelowski Liebowitz, "Donald Menzel and the Creation of the Sacramento Peak Observatory," 193-211.

Journal of Astronomical History and Heritage, vol. **5**, no. 1 (June 2002) features Wayne Orchiston and Bruce Slee, "Ingenuity and Initiative in Australian Radio Astronomy: The Dover Heights 'Hole-in-the-Ground' Antenna," 21-34; and Adrián Brunini and Octavio Ismael Miloni, "The Contribution of José Luis Sérsic to Celestial Mechanics," 35-40.

Mercury, vol. **30**, no. 5 (September/October 2001) includes Marcia Bartusiak, "Pas de Deux [binary neutron stars]," 17-22. Vol. **31**, no. 4 (July/August 2002) features Donald E. Osterbrock, "Walter Baade: Master Observer," 32-41.

Notes and Records of the Royal Society of London, vol. **56**, no. 1 (January 2002) features B. Bleaney, "Two Oxford Science Professors, F. Soddy and J.S.E. Townsend," 83-88; J.N. Murrell and N. Grobert, "The Centenary of Einstein's First Scientific Paper," 89-94; and P. Day, "Molecular Magnets: The Prehistory," 95-103. Vol. **56**, no. 2 (May 2002) includes R. Sharp, "Some Final Thoughts of Sir John Herschel, F.R.S.," 183-186; and G.V.R. Born, "The Wide-Ranging Family History of Max Born," 219-262.

Osiris, vol. **16** (2001) is entitled *Science in Theistic Contexts*. Articles in this issue include Michael J. Crowe, "Astronomy and Religion (1780-1915): Four Case Studies Involving Ideas of Extraterrestrial Life," 209-226; and Bernard Lightman, "Victorian Sciences and Religions: Discordant Harmonies," 343-366.

Perspectives on Science, vol. **9**, no. 1 (Spring 2001) includes Kelly Hamilton, "Some Philosophical Consequences of Wittgenstein's Aeronautical Research," 1-37. Vol. **9**, no. 2 (Summer 2001) features Christoph Hoffmann, "The Design of Disturbance: Physics Institutes and Physics Research in Germany, 1870-1910," 173-195.

Physics in Perspective, vol. **4**, no. 1 (February 2002) features E. McMullin, "The Origins of the Field Concept in Physics," 13-39; A. Franklin, "William Wilson and the Absorption of Beta Rays," 40-77; and R. Jackiw and A. Shimony, "The Depth and Breadth of John Bell's Physics," 78-116. Vol. **4**, no. 2 (May 2002) includes C.A. Gearhart, "Planck, the Quantum, and the Historians," 170-215; and S. D'Agostino, "From Rational Numbers to Dirac's Bra and Ket: Symbolic Representation of Physical Laws," 216-229.

Physics Today, vol. **55**, no. 6 (June 2002) is a special issue entitled *Portraits of Fermi*. Articles in this issue include Hans A. Bethe with Henry Bethe, "Enrico Fermi in Rome, 1931-32," 28-29; Silvan S. Schweber, "Enrico Fermi and Quantum Electrodynamics, 1929-32," 31-36; Valentine L. Telegdi, "Enrico Fermi in America," 38-43; and Roy Glauber, "An Excursion with Enrico Fermi, 14 July 1954," 44-46. Vol. **55**, no. 8 (August 2002) features Eugen Merzbacher, "The Early History of Quantum Tunneling," 44-49.

Physics-USpekhi, vol. **45**, no. 1 (January 2002) features I.I. Sobel'man, "On the Theory of Light Scattering in Gases," 75-80; and E.L. Feenberg, "The Forefather (About Leonid Isaakovich Mandelstam)," 81-100. Vol. **45**, no. 4 (April 2002) is a special issue celebrating the 40th anniversary of the discovery of high-density silica (stishovite). Included in this issue is S. M. Stishov, "The Discovery Story," 433-435.

Physics World, vol. **15**, no. 1 (January 2002) includes Jacques Flouquet and Alexandre Buzdin, "Ferromagnetic Superconductors," 41-46. Vol. **15**, no. 5 (May 2002) features Hitoshi Murayama, "The Origin of Neutrino Mass," 35-39. Vol. **15**, no. 6 (June 2002) features Alexei Kojevnikov, "Lev Landau: Physicist and Revolutionary," 35-39. Vol. **15**, no. 8 (August 2002) includes Helge Kragh, "Paul Dirac: Seeking Beauty," 27-31; and Robert Marc Friedman, "Quantum Theory and the Nobel Prize," 33-38.

Science in Context, vol. **14**, no. 3 (Autumn 2001) includes Jutta Schickore, "The Task of Explaining Sight – Helmholtz's Writings on Vision as a Test Case for Models of Science Popularization," 397-417; David Jalal Hyder, "Physiological Optics and

Physical Geometry,” 419-456; and Gerhard Heinzmann, “The Foundations of Geometry and the Concept of Motion: Helmholtz and Poincaré,” 457-470.

Studies in History and Philosophy of Modern Physics, vol. **33B**, no. 1 (March 2002) features Katherine A. Brading, “Which Symmetry? Noether, Weyl, and Conservation of Electric Charge,” 3-22; Asher Peres, “Karl Popper and the Copenhagen Interpretation,” 23-34; and Helge Kragh and Simon Rebsdorf, “Before Cosmophysics: E.A. Milne on Mathematics and Physics,” 35-50. Vol. **33B**, no. 2 (June 2002) includes Jeroen Van Dongen, “Einstein and the Kaluza-Klein Particle,” 185-210; Laurie M. Brown, “The Compton Effect as One Path to QED,” 211-249; and Alexander Pechenkin, “The Concept of Self-Oscillations and the Rise of Synergetics Ideas in the Theory of Nonlinear Oscillations,” 269-295.

VIET: Voprosy Istorii Estestvoznaniia i Tekhniki [Problems in the History of Science and Technology] [in Russian] no. 1 (2001) features M. Walker (*translated by I.A. Belozerova, afterword by E.I. Kolchinskii*), “Science under National Socialism,” 3-30; I.S. Dmitriev, “Scientific Discovery in *Statu Nascendi*: The Case of Mendeleev’s Periodic Law,” 31-82; and A.A. Kas’ian and S.M. Ponomarev, “Provincial Echo of Great Disturbances: The Case of G.S. Gorelik at Gorky State University,” 97-110.

Others: Ioannis E. Antoniou, “Caratheodory and the Foundations of Thermodynamics and Statistical Physics,” **Foundations of Physics**, vol. **32**, no. 4 (April 2002): 627-641; David Berlinski, “Einstein and Gödel,” **Discover**, vol. **23**, no. 3 (March 2002): 38-43; Cathryn Carson and Michael Gubser, “Science Advising and Science Policy in Post-War West Germany: The Example of the Deutscher Forschungsrat,” **Minerva**, vol. **40**, no. 2 (2002): 147-179; O. Darrigol, “Between Hydrodynamics and Elasticity Theory: The First Five Births of the Navier-Stokes Equation,” **Archive for History of Exact Sciences**, vol. **56**, no. 2 (January 2002): 95-150; Phillip Deery, “Scientific Freedom and Post-war Politics: Australia, 1945-55,” **Historical Records of Australian Science**, vol. **13**, no. 1 (2000): 1-18; Kostas Gavroglu and Ana Simões, “Preparing the Ground for Quantum Chemistry in Great Britain: The Work of the Physicist R.H. Fowler and the Chemist N.V. Sidgwick,” **British Journal for the History of Science**, vol. **35**, no. 125 (June 2002): 187-212; Salvatore Matteo Giacomuzzi, Gerhard Holzmüller, and Gerhard Huemer, “Ettore Majorana (1906-1938). Eine Bestandsaufnahme 64 Jahre nach seinem Verschwinden,” **Berichte zur Wissenschafts-Geschichte**, vol. **25**, no. 2 (June



Richard and Nina Courant with Max Born, Winter 1956. Photo courtesy AIP Emilio Segrè Visual Archives.

2002): 137-148; Peter Groenewegen and Lois Peters, “The Emergence and Change of Materials Science and Engineering in the United States,” **Science, Technology, & Human Values**, vol. **27**, no. 1 (Winter 2002): 112-133; Allyn Jackson, “The IAS School of Mathematics,” **Notices of the American Mathematical Society**, vol. **49**, no. 8 (September 2002): 896-904; Andreas Kitzmann, “Pioneer Spirits and the Lure of Technology: Vannevar Bush’s Desk, Theodor Nelson’s World,” **Configurations**, vol. **9**, no. 3 (Fall 2001): 441-459; John Perlin, “Solar Power: The Slow Revolution,” **American Heritage of Invention & Technology**, vol. **18**, no. 1 (Summer 2002): 20-25; Binyamin Pinkus, “Atomic Power to Israel’s Rescue: French-Israeli Nuclear Cooperation, 1949-1957,” **Israel Studies**, vol. **7**, no. 1 (Spring 2002): 104-138; William Sheehan and Thomas A. Dobbins, “Lowell and the Spokes of Venus,” **Sky & Telescope**, vol. **104**, no. 1 (July 2002): 99-103; Ruth Lewin Sime, “Lise Meitner: A 20th Century Life in Physics,” **Endeavour**, vol. **26**, no. 1 (March 2002): 27-31; Rajinder Singh, “Sir C.V. Raman and His Contacts with Hungarian Scientists,” **Indian Journal of History of Science**, vol. **37**, no. 2 (June 2002): 175-191; Hugh R. Slotten, “Satellite Communications, Globalization, and the Cold War,” **Technology and Culture**, vol. **43**, no. 2 (April 2002): 315-350; Steven Weinberg, “La physique peut-elle tout expliquer?,” **La Recherche**, no. **349** (January 2002): 25-31; C.M.W. Wilson, “Meteorologist’s Profile—Balfour Stewart, FRS,” **Weather**, vol. **57**, no. 4 (April 2002): 139-143; Haruyo Yoshida, “Aikitu Tanakadate and the Controversy over Vertical Electrical Currents in Geomagnetic Research,” **Earth Sciences History**, vol. **20**, no. 2 (2001): 156-177.

History of science... protects scientists from the sins of dogma—the arrogant belief that science is infallible, unchallenged and final.... It encourages young scientists not to worship what is already known but to question it.

—Pangratios Papacosta

Documentation Preserved

Compiled by Katherine Hayes

This is our regular survey of archives and other repositories with information for 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. Please contact the repository for information on restrictions to access.

All the information here is entered in our online International Catalog of Sources for History of Physics and Allied Sciences. PLEASE NOTE: sometimes more information on a collection is given online than is printed here. Visit <http://www.aip.org/history/icos>.

UNIVERSITY OF ADELAIDE. BARR SMITH LIBRARY. SPECIAL COLLECTIONS. ADELAIDE, SA 5001 AUSTRALIA (CONTACT: SUSAN WOODBURN)

Additions to the papers of **Sir Mark Oliphant, 1901-2000**. Director, Research School of Physical Sciences, Australian National University (ANU), Canberra, (1950-1963); professor, Australian National University (1964-1967); and Governor of South Australia (1971-1976). Collection includes correspondence, speeches, articles, personal documents, and working papers, photographs, newspaper cuttings, awards and degree certificates of Sir Mark Oliphant, and copies of papers by other scientists and academics; also notebooks, reprints and correspondence of Lord Rutherford and articles about him collected by Oliphant. Also includes records relating to Oliphant's period at Cambridge and his war-time work on radar, but principally documents his career as Director of the School of Physical Sciences, A.N.U. (1950-1963), as Governor of South Australia (1971-1976) and subsequent to his retirement from public office. Additional papers were donated after Sir Mark's death which comprised correspondence, speeches and addresses, largely dating from 1984 but also including some earlier material retained by Sir Mark after depositing the original collection (1927-1983). Some files or items from Series 2 and Series 3 have been restricted. Contact repository for further information. Access will be provided to all records except those specifically closed or restricted on approval of an application on the prescribed form. Some items may be supplied only as copies, in order to protect the originals. Contact repository for further information. Ca. 15 meters.

MCMASTER UNIVERSITY. UNIVERSITY LIBRARY. DIVISION OF SPECIAL COLLECTIONS. 1280 MAIN STREET, WEST, HAMILTON, ON L8S 4L6 CANADA (CONTACT: ARCHIVIST)

Papers of **B. N. Brockhouse**. Physicist (solid state physics). Research officer, Atomic Energy of Canada Limited, 1950-1962; professor of physics, McMaster University, 1962-1984. Nobel prize in 1994 with Clifford G. Shull for their studies of solids and liquids by neutron scattering. Textual records, graphic material, and moving images. Includes correspondence; reprints;



Louis Rosen (Los Alamos) and Minnesota Emperor Tandem, at dedication of J.H. Williams Laboratory of Nuclear Structure, May 3, 1966. Photo courtesy AIP Emilio Segrè Visual Archives, Hintz Collection.

photographs; biographical materials; course notes; documents and minutes of meetings relating to the McMaster University Department of Physics; correspondence, notes, programs, etc. relating to many scientific conferences and meetings, 1959-1983; files regarding honors and awards including the Nobel Prize. 1950-1997. 4.7 m.

UNIVERSITY OF HELSINKI. OBSERVATORY LIBRARY. P.O. BOX 14. 00014 UNIVERSITY OF HELSINKI, HELSINKI, FINLAND (CONTACT: EVA ISAKSSON)

Correspondence of **Anders Severin Donner, 1854-1938**. Professor of astronomy and director, University of Helsinki Observatory, 1883-1915. He initiated and led the Helsinki participation in the international "Carte du Ciel" program. The photographic work for the Helsinki zone of the catalog was started in 1890, and the last volume of the catalog was printed in 1937. The Helsinki catalog includes exact magnitudes and coordinates for about 285,000 stars. Contains: A. Letters; B. Carte du Ciel program, Helsinki University Observatory; C. Very many correspondents, predominantly well-known astronomers (J.C. Kapteyn, Elis Strömngren, etc.). 1879-1931. Available for researchers by prior arrangement with the librarian. 10 boxes (ca. 2500 letters).

ACADÉMIE DES SCIENCES. ARCHIVES ET PATRIMOINE HISTORIQUE. 23 QUAI DE CONTI, 75006 PARIS, FRANCE (CONTACT: FLORENCE GREFFE)

Papers of **Louis Néel, 1904-2000**. French geophysicist specializing in magnetism. Contains notes, speeches, interviews and congratulatory material for Nobel Prize won in 1970; correspondence; teaching activities; photographs; speeches for colloquia. 1934-1999. Classified documents in boxes 52-59 are restricted. 7 lin. meters (62 boxes).

OBSERVATOIRE DE LA CÔTE D'AZUR, BP 4229, 06304, NICE, FRANCE
(CONTACT: ARCHIVIST)

Records of the **Observatory of Nice**. Archives include observations notebooks (14 lin. m.) and meteorological observations, card files for a star catalog, calculations, photographs, drawings and architectural plans, administrative files, and a variety of miscellaneous materials. The Observatoire de Nice was founded in 1881 by Raphaël Bischoffsheim; observations began in 1884 with a 38 cm lens, the world's largest at the time. In 1906 the Observatory was annexed to the University of Paris. Directors included Joseph Perrotin (1845-1904, director 1884-1904), Léon Bassot (1841-1917, director 1904-1917), Gaston Fayet (1874-1967, director 1917-1962), and Jean-Claude Pecker (1923-). In 1988 the Observatory was joined with the nearby Centre d'Etudes et de Recherches Géodynamiques et Astrophysiques (founded 1974) and the Observatoire Mont-Gros in Nice, forming the Observatoire de la Côte d'Azur. Ca. 1845-1974. Mostly uncataloged.

RIJKSARCHIEF IN NOORD-HOLLAND, KLEINE HOUTWEG 18, HAARLEM,
NETHERLANDS (CONTACT: ARCHIVIST)

Papers of **H. B. G. (Hendrik Brugt Gerhard) Casimir, 1909-2000**. Physicist. Studied in Leiden, The Netherlands from 1926 to 1931. Obtained his Ph.D. in 1931, with Paul Ehrenfest. Worked with Niels Bohr in Copenhagen and with Wolfgang Pauli in Zürich. Worked at the physics laboratory (Nat Lab) of the Philips Company in Eindhoven from 1942, and became its director in 1946. Retired in 1972. From 1939 to 1977 was professor at Leiden University. Contains correspondence and manuscripts of articles and lectures from the early 1970s to 2000. Contains a number of older documents, notably correspondence with renowned scientists, conducted between 1940 and the early 1970s, and scientific notes dating from the 1920s and 1930s. Topics include history of science and connections between science and industry. Correspondents include: C. J. Bakker, F. Bloch, W. L. Bragg, N. Bohr, J. D. Cockcroft, G. H. Dieke, O. S. Duffendack, G. Gamow, C. J. Gorter, W. J. de Haas, W. Heisenberg, W. H. Keesom, E. Labin,

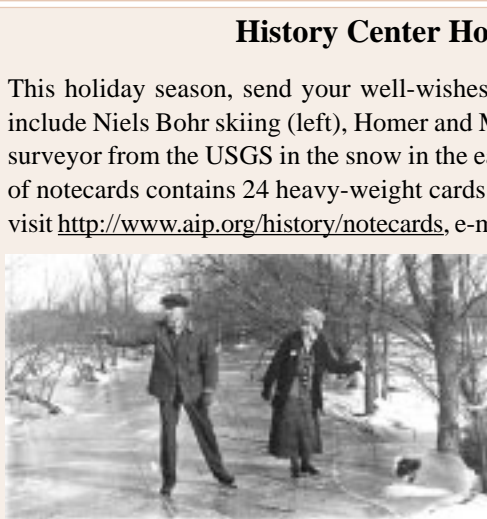
J. H. Oort, W. Pauli, F. Simon, G. 't Hooft, and J. H. Van Vleck. Ca. 1929-2000. Ca. 3 meters.

CERN. SCIENTIFIC INFORMATION SERVICE. CH-1211 GENEVA, SWITZERLAND (CONTACT: ANITA HOLLIER)

Files of **Carlo Rubbia, Director-General of CERN, 1989-1993**. The European Organization for Nuclear Research (CERN) was established in Geneva, Switzerland in 1954 to coordinate and perform research on fundamental particles. Carlo Rubbia, an Italian physicist, was a senior physicist at CERN from 1961, and was Director-General from 1989-1993. In 1984 he was awarded the Nobel Prize for Physics, together with Simon van der Meer, for the work he had done as Head of the UA1 Collaboration. From 1970-1988 he spent one semester per year at Harvard University as Higgins Professor of Physics. Documents represent the filing system of Carlo Rubbia during his period as Director-General of CERN. During his tenure, the inauguration of LEP (Large Electron Positron) Collider took place; the four LEP experiments (ALEPH, DELPHI, L3 and OPAL) gave their first important scientific results; and development of the LHC (Large Hadron Collider) Project continued. The papers include: correspondence, meetings of Directorate, Management Board, official visits, interviews for the CERN post, inaugurations of LEP and Microcosm, Seminars, Conferences, Committees of LHC, ECFA, ICFA, SPSC, notes of meetings. 1980-1993. Users must contact the Archivist to gain access to the CERN archives. 56 lin. meters. (504 Boxes).

BRADLEY UNIVERSITY. SPECIAL COLLECTIONS CENTER, CULLOM-DAVIS LIBRARY. 1511 WEST BRADLEY AVENUE, PEORIA, IL 61625, USA (CONTACT: CHARLES FREY)

Papers of **Ernest Ising, 1900-1998**. Physicist (solid state physics, ferromagnetism). Born in Cologne, Germany, Ernst Ising received his Doctorate of Natural Sciences from the University of Hamburg in 1924. His thesis proposed what became known as the Ising Model, a ground-breaking theory explaining transitions from one phase to another, specifically applied to ferro-



History Center Holiday Notecards

This holiday season, send your well-wishes with our unique wintry cards. Cards include Niels Bohr skiing (left), Homer and Margaret Dodge ice skating (middle), a surveyor from the USGS in the snow in the early 1900s (right), and more. Each box of notecards contains 24 heavy-weight cards and envelopes. For more information, visit <http://www.aip.org/history/notecards>, e-mail chp@aip.org, or call 301-209-3006.



Max Born, Paul Dirac, and Fritz Zwicke, at the 6th Meeting of Nobel Laureates in Lindau, 1956, Lake Constance, Germany. Photo courtesy AIP Emilio Segrè Visual Archives, Born Collection.

magnetism. Ising was Jewish but his wife was not. He curtailed his career and was persecuted with the rise of National Socialism, while his wife saved him from the camps. After emigrating to the United States in 1947, Ernst Ising developed a reputation as an exemplary teacher and concentrated his efforts in that area rather than in research. Professor, Bradley University from 1948. Includes newspaper clippings, correspondence, photographs, and offprints. 1915-1998. 3 lin. ft.

CASE WESTERN RESERVE UNIVERSITY. KELVIN SMITH LIBRARY. SPECIAL COLLECTIONS. 11055 EUCLID AVE., CLEVELAND, OH 44106-7151, USA (CONTACT: DENNIS HARRISON)

Papers of **William Pendry Bidelman, 1910-**. Professor emeritus, astronomy. Contains mostly correspondence; also includes speeches, unpublished papers, and theses. Topics covered are primarily research, scholarship, and teaching. 1964-1986. Papers are unprocessed. 2.5 lin. ft.

FERMILAB. MILTON G. WHITE HISTORY OF ACCELERATORS ROOM, WH-3SE AND ARCHIVES. PO BOX 500, BATAVIA, IL 60510, USA (CONTACT: ADRIENNE KOLB)

Records of **Fermi National Accelerator Laboratory, Office of the Director**. Includes: Universities Research Association (URA) Council of Presidents Minutes (1965-1980); URA By-laws and membership lists; general correspondence, Council of Presidents and Board of Trustees meetings and Visiting Committee Reports, 1980-1995; DOE Reviews, 1987-1995; High Energy Physics Advisory Panel meeting minutes, correspondence and reports, 1977-1995; correspondence and documents relating to the International Committee on Future Accelerators (ICFA), 1970-1995; SAG minutes, 1978-1990; documents and correspondence of John Peoples; awards, colloquia. Correspondents include the National Academy of Sciences, National Science Foundation, State of Illinois, other Dept. of Energy

Laboratories, American Physical Society. 1965-1999. Contact repository for information on access. 22.5 lin. ft. (55 boxes).

Records of **Peter Limon, SSC Central Design Group**. Peter Limon was with the SSC Central Design Group at Lawrence Berkeley Laboratory, also in Dallas, and then back at Fermi Lab. Collection consists of some of Peter Limon's Superconducting Super Collider (SSC) Central Design Group working papers. 1980-1990. Contact repository. 3 lin. ft. (6 boxes).

SSCL Special Collection, Superconducting Super Collider Laboratory. Materials received at the time of termination of the Superconducting Super Collider in 1993. Includes the termination plan, Congressional statements, reports, newsletters, press releases, speeches. 1985-1995. Contact repository. 2 lin. ft. (3 boxes).

GRAND VALLEY STATE UNIVERSITY. LIBRARY. ALLENDALE, MICHIGAN 49401, USA (CONTACT: ROBERT BEASECKER)

Papers of **Ralph Belknap Baldwin, 1912-**. Astrophysics. Senior physicist, Applied Physics Laboratory, Johns Hopkins University, 1942-1946; astronomy consultant, Boeing Company, Chance-Vought Corp., Rand Corp., Grumman, Aeronautical Chart and Information Center (NASA), U. S. Air Force moon-mapping project; product manager through chairman of the board, Oliver Machinery Company, 1947-1984. Includes technical correspondence, primarily astronomical; correspondence concerning the publication of the book, "The Deadly Fuze;" general correspondence; speeches; and an autobiography called "The Life of Ralph Baldwin," for which supplements are added every year or so. 1949-1992. 3.7 lin. ft.

OHIO STATE UNIVERSITY. UNIVERSITY ARCHIVES 2700 KENNY ROAD, COLUMBUS, OH 43210, USA (CONTACT: RAIMUND GOERLER)

Oral history interviews with geoscientists, physicists and astronomers involved in polar research in the 1950s through 1980s: **Syun-Ichi Akasofu, Stephen N. Barnes, John C. Behrendt, Carl S. Benson, Henry Brecher, Colin Bull, Gordon Cartwright, George Cvijanovich, Joseph O. Fletcher, Nathaniel C. Gerson, Eugene LaFond, Arlo Landolt, Harold Leinbach, William E. Long, J. McKim Malville, Martin A. Pomerantz, Alan H. Shapley, Norbert Untersteiner, James Van Allen, and John Weihaupt**. Topics covered include Arctic and Antarctic research in ionospheric physics, airglow and aurorae, as well as aspects of glaciology, geology, meteorology, oceanography, and astronomy, the development of the International Geophysical Year, the Ohio State University Institute of Polar Studies, the University of Alaska Fairbanks Geophysical Institute, and other polar research projects and institutions, and personal biography and experiences. Most of the interviews were conducted by Brian Shoemaker, with some by Karen

Brewster, Raimund E. Goerler or Laura Kissel. Transcripts. 1999-2001. Interviews conducted through the Byrd Polar Research Center Archival Program.

PRINCETON UNIVERSITY. DEPT. OF RARE BOOKS AND SPECIAL COLLECTIONS, ONE WASHINGTON ROAD, PRINCETON, NJ 08544, USA (CONTACT: DON SKEMER)

Papers of **Robert H. (Robert Henry) Dicke, 1916-1997**. Physicist, educator, and author. Highly respected for his contributions to the study of physics, astrophysics, and cosmology, Dicke was an early believer in the Big Bang theory of the creation of the universe and postulated that an echo of that event could still be detected through radio waves. A longtime professor at Princeton University, Dicke conducted numerous experiments in gravity and in his unsuccessful challenge of Albert Einstein's general theory of relativity. Dicke held approximately fifty patents for his discoveries, many of them pertaining to the development of radar. He was named the Albert Einstein University Professor of Science at Princeton University in 1975, becoming emeritus in 1984. His books include *An Introduction to Quantum Mechanics* (1960), *The Theoretical Significance of Experimental Relativity* (1964), and *Gravitation and the Universe* (1970). Consists for the most part of professional correspondence and working papers. In addition, there are his research/subject files concerning the Office of Naval Research, NASA, the National Science Board, and the National Science Foundation, as well as many other topics. 1939-1996. 17.5 lin. ft. (30 archival boxes, 3 record center cartons).

SMITHSONIAN INSTITUTION. NATIONAL AIR AND SPACE MUSEUM. ARCHIVES. WASHINGTON, D.C., 20560, USA (CONTACT: TOM SOAPES)

Files of the **Hopkins Ultraviolet Telescope Project**. The Hopkins Ultraviolet Telescope (HUT) project was conceived, designed, and built by astronomers and engineers at Johns Hopkins University to perform astronomical observations in the far-ultraviolet portion of the electromagnetic spectrum. HUT's primary purpose was to observe wavelengths of light that are too short to be seen with the Hubble Space Telescope, although overlap was provided to allow direct comparison. The telescope flew twice aboard the space shuttle, once in December 1990 and again in March 1995. HUT has been used to observe hundreds of objects, including stars, planets, and quasars. The HUT was donated to the National Air and Space Museum in 2001, and is currently part of the "Explore the Universe" Exhibition. This collection consists of the central file for the HUT and documents the technical history of the construction of this actual flight artifact. Includes drawings, as well as project outlines, progress and status reports, memorandums, summaries, schedules, and proposals. Ca. 1980-1989. 6 cu. ft.

UNITED STATES NAVAL OBSERVATORY. LIBRARY. 3450 MASSACHUSETTS AVE., N. W., WASHINGTON, D. C. 20392-5420, USA (CONTACT: BRENDA CORBIN)

Oral history interviews with astronomers and astrophysicists associated with the United States Naval Observatory: **William**

M. Browne, Harry E. Crull, Jr., Suzanne Débarbat, Robert S. Harrington, Edward S. Jackson, William Markowitz, Dennis Robinson, Paul Kenneth Seidelmann, Clayton Albert Smith, Gart Westerhout, and Charles Edmund Worley. Interviews conducted by Steven J. Dick. Transcripts. 1986-2000. Forms part of the United States Naval Observatory Oral History Project.

UNIVERSITY OF CALIFORNIA AT SANTA CRUZ. MARY LEA SHANE ARCHIVES OF THE LICK OBSERVATORY. UNIVERSITY LIBRARY, ROOM 359, SANTA CRUZ, CALIF. 95064, USA (CONTACT: DOROTHY SCHAUMBERG)

Correspondence and papers of **S. M. (Sandra M.) Faber**. Astronomer. University of California, Santa Cruz. Collection unprocessed. Contact repository. 23 boxes.

Correspondence, papers, and photographs of **Joel Stebbins, 1878-1966**. Astronomer; professor of astronomy at the University of Illinois, 1903-1922; professor, University of Wisconsin and Director of Washburn Observatory, 1922-1948; research associate at Lick Observatory from 1948. Ca. 1934-1959. Collection partially processed. Contact repository. 2 lin. ft.

Research notes of **Helen Wright (1914-)** for her book, *James Lick's monument: the saga of Captain Richard Floyd and the building of the Lick Observatory*. Astronomer and author. Ca. 1850-1950. Collection unprocessed. Contact repository. 12 binders, 4 packages, 27 folders of correspondence, notes and papers.

YALE UNIVERSITY LIBRARY. MANUSCRIPTS AND ARCHIVES. BOX 208240, NEW HAVEN, CT 06520-8240, USA (CONTACT: DIANE KAPLAN)

Papers of **Boris Garfinkel, 1904-**. Boris Garfinkel was born in Rjev, Russia on November 18, 1904. He earned a Ph.D. in astronomy from Yale University in 1943. From 1946 to 1967 he worked in the Ballistic Research Laboratories at the Aberdeen Proving Ground in Maryland, then taught at Yale University as a senior research astronomer specializing in celestial mechanics. Includes correspondence, writings, and research notes, which document Boris Garfinkel's research and publications in astronomy. Topics covered include Aberdeen Proving Ground, Yale University Department of Astronomy, ballistics, and celestial mechanics. 1941-1992. Part of Manuscript Group 1714; includes Accession 1999-M-117. 8.5 lin. ft. (6 boxes).



In our last issue (Spring 2002), we incorrectly identified this photo. Shown left to right: Brian Schwartz, Gil Nussbaum, and Richard Frankel demonstrating in Washington, DC,

April 30, 1969. Photo courtesy AIP Emilio Segrè Visual Archives, Schwartz Collection. This photo is also online at <http://www.aip.org/history/newsletter/spring2002/pic-schwartz.htm>.

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 (<http://www.aip.org/history/friends.htm>). The *Newsletter* is posted on the Web at <http://www.aip.org/history/web-news.htm>.

Spencer R. Weart, *Director*; R. Joseph Anderson, *Assistant Director & Head, Niels Bohr Library*; Joan Warnow Blewett, *Archivist Emeritus*; Rachel Carter, *Senior Secretary*; Katherine A. Hayes, *Assistant Archivist*; Sandra Johnson, *Assistant Archivist*; Clay Redding, *Automation/Systems Archivist*; Patrick McCray, *Postdoctoral Historian*; Barbara Allen, *Library Assistant*; Nancy Honeyford, *Library Assistant*; Heather Lindsay, *Photo Librarian*; Julie Gass, *Photo Archives Assistant*; Holly Russo, *Web/Publications*; Niem Dang, *Web Assistant*.

Center for History of Physics Newsletter

Volume XXXIV, No. 2

Fall 2002

TABLE OF CONTENTS

Challenges in Writing the Biography of a Japanese Physicist..	1
History Center Begins Project to Document the History of Physics in Industry.....	1
Surprises in Writing a Biography of Max Born.....	3
Records of Physics and Atmospheric Physics at the University of Albany, SUNY.....	4
Niels Bohr Library Donates Documents on Former Concentration Camp.....	6
Brittle Books Microfilming Project Gets Underway.....	7
New Web Exhibit Shows the Emergence of "Big Physics"	8
Other News of Interest.....	8
Recent Acquisitions of the Niels Bohr Library.....	10
New Format: Emilio Segrè Visual Archives	12
Recent Publications of Interest.....	13
Supplement: Friends of the Center for History of Physics.....	insert
Supplement: Bibliography.....	insert
Stay Updated Through Our New E-Mail List.....	14
Documentation Preserved.....	16
History Center Holiday Notecards.....	17

Center for History of Physics
 American Institute of Physics
 One Physics Ellipse
 College Park, MD 20740-3843

Non-Profit Org. U.S. POSTAGE PAID College Park, MD Permit No. 2321
