



Hideki Yukawa in his house, doing calligraphy, March 1962. AIP Emilio Segrè Visual Archives, Yukawa Collection. Donated by Mrs. Yukawa through Professor Michiji Konuma.

New Web Site Explains Marie Curie's Life for Young People

Marie Curie has long served as an inspiration for young people, and especially girls, who are interested in science. Her example may by itself be a main reason why France has a larger fraction of women physicists than most other nations. In the United States and elsewhere, there is a lower fraction of women in physics than in almost any other profession — a harmful neglect of a social resource and a loss of personal opportunity to thousands of individuals. Studies find that one reason for the shortfall is that girls are often discouraged from entering a career in science in their pre-teen and early teen years. As one small step to address this problem, the AIP Center for History of Physics has mounted a biographical Web exhibit designed explicitly to appeal to young people.

The Center already has a major Web exhibit on “Marie Curie and the Science of Radioactivity,” which is visited by nearly a thousand people a day. Although designed for the high school - to - retired audience, the exhibit has attracted complimentary e-mails

(continued on page 2)

Plans Underway to Designate Historic Physics Sites in the U.S.

A variety of groups designate sites as “historic,” attracting attention to the events commemorated. More important, the publicity and ceremonies attending the announcement of a designation, and a permanent plaque plus other informational materials, can educate the public in the locality or even more widely. With these ends in mind, the chairman of the American Physical Society’s Forum on the History of Physics, Michael Riordan, recently established an **American Physical Society Historic Sites Committee**.

The members of the committee have agreed that “the presence of strategically-placed plaques that identify sites of historical significance to physics will be an effective means to raise public awareness of physics. We also recognize the initiative will benefit physicists by increasing their own awareness of important past scientific advances, hence of their membership in the historic evolution of their profession.”

The committee has recommended that two categories of sites be selected: sites with national or international significance to physics and its history, and sites of more local significance. The committee plans to select a set from potential sites suggested by committee members or from ones formally nominated by American Physical Society (APS) members; a nomination form and a few selection criteria will be posted on the Web. Both categories of sites will carry the imprimatur of the APS and will be given plaques following a standard format. Before APS makes public a selected site, the committee will obtain the endorsement of individuals historically connected to the event being celebrated, and will make an agreement with the local authority administering the site so a plaque can be mounted in public view. Background information about the events commemorated will be posted on a Web site.

Selection criteria are now being developed, drawing on the experience of the National Register of Historic Places of the U.S. National Park Service and other groups that already recognize sites of historical importance. The Historic Sites Committee will seek to launch the program by naming several sites for national recognition during the World Year of Physics 2005 (see article, p. 6).

The initiative has been approved by the APS’s Executive Board, which allocated some initial funds. Committee members are Gordon Baym, Sid Drell, Millie Dresselhaus, Gerald Holton, and John Rigden, chair, with Spencer Weart serving as advisor in his capacity as Director of the AIP Center for History of Physics.

(continued from page 1, *New Website Explains Marie Curie's life...*)

from lower-school teachers, parents and students. A much larger audience in this age group is expected for the new exhibit, titled "Marie Curie in Brief." It has a shorter and more readable text, brighter colors and graphics, many striking illustrations, and interactive "mouseover" activity to sustain interest.

The exhibit is divided into sections titled "From Poland to Paris," "Looking for a Laboratory, Finding Love," "The Discovery of Radium" (supplemented by a section on "The Mystery of the Rays," explaining the basic science), "Honors, Disasters & Renewal," and "Radium Campaigns." The new exhibit includes 14 excerpts from Curie's writings and seven quotes from letters by Marie and her husband Pierre, bringing her experiences vividly to life. Links from the longer exhibit make the excerpts available

as supplementary material, while the longer exhibit itself is linked to "Marie Curie in Brief" for readers who want more information on any topic. The text was written by Naomi Pasachoff, author of five biographies for young people, with layout by Linda Wooliever, an expert Web designer and home-schooling parent. The site editor is Spencer Weart, a historian of physics and author of two children's science books. The exhibit is located at www.aip.org/history/curie/brief.



Project to Document the History of Physicists in Industry Reaches Halfway Mark

by Joe Anderson

The AIP Center for History of Physics' three-year Project to Document the History of Physicists in Industry is now in the middle of its second year and making good progress (see this *Newsletter*, Fall 2003, www.aip.org/history/newsletter/fall2003/industry.htm). Meanwhile we're laying plans to continue work with industrial physicists once the current, grant-funded undertaking ends. The study is designed to develop realistic strategies and approaches for preserving historically valuable records of physicists who work in the corporate sector and, at the same time, create a collection of oral history interviews that helps document their work.

The main work completed so far:

- We completed site visits at nine industrial laboratories (3M, Corning, Eastman Kodak, ExxonMobil, General Electric, IBM, Lucent Technologies, Texas Instruments, and Xerox) out of the fifteen that we're targeting in the study,
- Staff conducted question-set interviews with 54 physicists and R&D managers and 18 information professionals at the companies we have visited,
- We finished the first two of fifteen or more longer autobiographical interviews with eminent industrial physicists,
- We began visits to selected public archives that collect and preserve industrial records, and
- The American Institute of Physics launched a campaign to create a small endowment to continue our work to preserve the history of corporate physicists after the current study is finished.

Although more than half of all physicists work in industry, only some 10% of the physicists represented in the oral histories in the History Center's Niels Bohr Library have had careers centered in industry. We aim to systematically strengthen this collection during the project and beyond. Under the project's grant funds, we will conduct a total of at least 15 career-length autobiographical interviews, and when the en-

dowment is funded it will insure that we can continue to target distinguished industrial physicists in perpetuity. We're currently compiling a master list of significant physicists in industrial R&D with whom we would like to conduct full autobiographical interviews, and we have solicited advice and recommendations from more than 30 distinguished physicists and historians of science. We welcome input from others as well. We have found that, unlike the academic physicists we have mainly dealt with in the past, few industrial physicists have an overview broad enough to identify many leading figures outside their own immediate corporate environment.

Project staff have been editing the transcripts of more than 50 structured, question-set interviews that we have completed so far during the site visits. With the permission of the people interviewed, these will also be added to our oral history collection at the end of the project. Analysis of the interviews using appropriate analytical tools is getting started, and will be a central activity during the second half of the project.

Although we have only begun formal analysis of the interviews, we have an initial impression that the records-keeping patterns in most of the companies that we have visited are highly diverse. In general, we have found little provision for systematically preserving the history of industrial research and development. In addition, all of the firms are grappling with the transformation of communication from paper to electronic form and the accompanying problems of data appraisal, storage, and retrieval. At the same time, the scientists and managers we have met during the site visits generally show interest in preserving the history of their own work and that of their labs. We hope through this study to stimulate their interest and give them guidelines and tools that they can use to take action.

For additional information, contact the project director, Joe Anderson (janderso@aip.org, 301-209-3183), or the project historian, Thomas Lassman (tlassman@aip.org, 301-209-3167).

History of Physics in the MIT Institute Archives and Special Collections

by Tom Rosko, Head, MIT Institute Archives and Special Collections

The MIT Institute Archives and Special Collections serves as a “memory” for the Massachusetts Institute of Technology, collecting, preserving, and making accessible records that document MIT’s history and its impact on the world. In addition to being the source for information on the history of MIT, the Archives is one of the premier resources for the study of the history of 20th century science and technology, used by researchers from around the globe. The collections consist of official administrative and academic records of the Institute, personal papers of MIT faculty, staff, alumni, and related organizations, as well as MIT publications and theses. The Institute Archives and Special Collections also houses oral history collections and maintains the MIT rare book collections which include tens of thousands of volumes, many dating from before the 18th century including first editions by Newton and Galileo.

The strength of the MIT Archives is in the combination of the official administrative records of the Institute and the personal papers of faculty, alumni and related organizations. The administrative documentation provides the context, both within the Institute and without, for studying scientific research, professional, societal and related activities.

Along with supporting advances in teaching and research, MIT has been crucial to scientific policy development. The administrative records of former MIT presidents shed light on MIT’s national and world impact in this realm. **Karl Compton** thrust MIT to the forefront of science in the mid-twentieth century. He and **James Killian** were instrumental in shaping post-war national science policy — a role continued by every MIT president since. Other administrative records, such as those of the **School of Science**, address national science policy issues and give insight into MIT’s prominence. Official published records such as the annual **Reports to the President** provide an in-depth overview of the activities across the Institute. **Theses**, increasingly available over the Web in electronic form, showcase the research achievements of graduates.

Personal papers and organizational records related to physics include those of acoustician **Leo Beranek**; **Francis Bitter** and the **National Magnet Laboratory**; national science leader **Vannevar Bush**; atmospheric scientist **Jule Charney**; **Robley Evans** and the **Radioactivity Center**; high-energy physicist **Bernard Feld**; former director of the Lincoln and Draper laboratories **Albert Gordon Hill**; former U.S. Nuclear Regulatory Commission Chair **Shirley Ann Jackson**; nuclear theorist and social activist **Philip Morison**; organizational research theorist

Philip Morse; space physicist **Bruno Rossi**; the **Union of Concerned Scientists**; **Robert Van de Graaff** and the **High Voltage Energy Corporation**; “father” of cybernetics **Norbert Wiener**; high-energy physicist **Victor Weisskopf**; and physicist and education reformer **Jerrold Zacharias**. Oral histories include interviews with **Charles Stark Draper** and **Robert Oppenheimer** and his colleagues; and the Women in Science and Engineering Oral History Collection, includes interviews with **Mildred Dresselhaus** and **Vera Kistiakowsky**. The Archives has continued to make additions to its physics holdings. Thanks to a grant from the AIP Center for History of Physics, several of the above-mentioned collections have finding aids available online.



General view of the Van de Graaff generator. “Progress Report on the M.I.T. High-Voltage Generator at Round Hill” (typescript), by K. T. Compton, L. C. Van Atta, and R. J. Van de Graaff, December 12, 1933. MIT Office of the President records, 1930-1959 (AC 4), box 187, folder 5, “Round Hill, 1932-1933.” Courtesy Institute Archives & Special Collections, MIT Libraries, Cambridge, Massachusetts.

While continuing efforts to collect, preserve, describe and make accessible the records of MIT and the papers of prominent scientists and organizations, the MIT Libraries and Archives are also grappling with issues related to the preservation and access to digital archival information. Our efforts, such as DSpace (an institutional repository for digital research output), provide hope that future historians will continue to find a wealth of valuable material preserved for posterity.

The MIT Institute Archives and Special Collections is open to the public. Researchers are invited to contact us at 617-253-5690, via email at mithistory@mit.edu, or to visit our Web site <http://libraries.mit.edu/archives/>. Our mail address is Institute Archives and Special Collections, MIT Libraries, Building 14N-118, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, MA 02139-4307.

Plans to Preserve and Study the Postwar Physics Archives of Strasbourg University

by Sébastien Soubiran

One year ago the University Louis Pasteur of Strasbourg inaugurated a program for the preservation of the records and the development of historical research on physics in Strasbourg since 1945. It focused mainly on paper archives but also included instruments and all kinds of materials related to the activity of physicists in the University of Strasbourg after the Second World War. The program mobilized numerous people with various kinds of knowledge and know-how: archivists, historians of science and technology, physicists, and curators.

This initiative is certainly unique in France, where no dedicated centralized structure exists to collect scientific archives. The National Archives office, though aware of the special character of the Strasbourg archives and others, has not put in place a national long-term policy for the benefit of this kind of material. Overall, few universities care about the preservation of their archives and at Strasbourg there is no University records department.

Six physics laboratories or institutes have been chosen for the program: the Institute of Physics, the Astronomical Observatory, the Charles Sadron Institute (research on macromolecules), the Institute of Subatomic Research, the Institute of Physics and Chemistry (magnetic and optical properties of materials), and the Laboratory for Complex Fluid Dynamics. These departments represent most of the heritage of research in physics pursued at the University. Along with creating access to historical records of modern physics via the web and other media, the program aims to create a records management plan for physics laboratories attached to the university.

A significant role in the development of French physics

Historically, physics played an important role in the development and the renown of Strasbourg University. This role is partly due to the history of the University under the German state between 1872 and 1918 and again between 1940 and 1944, during which time the university was considered a showcase of German scientific research. Likewise it won support as an exemplar of French scientific research in 1918-1940 and after 1945. The work at Strasbourg made a big contribution to the emergence of new fields in physics in these periods. Famous scientists of both nationalities succeeded one another. For instance, Ferdinand Braun was the first director of the Physics Institute created by the Germans in 1872. He was followed by the famous French physicist Pierre Weiss when Alsace was returned to France. Louis Néel (Nobel prize), Charles Sadron, Serge Gorodesky and Marguerite Perey, all members of the French Academy of Sciences, spent part of their careers in Strasbourg. This heritage imparts to the patrimony of the University of Strasbourg a richness and special character that distinguishes it from other French universities.



Marguerite Perey, French radiochemist. Copyright ULP.

The years just after the Second World War are important for the reconstruction of the university, which was forced to move to another city during the German invasion in 1940. The involvement of the state is strong compared to other French universities at that time. For example, a large laboratory was built for the study of macromolecules, directed by Charles Sadron. The university also took over from the Germans a 1.5 MeV Cockroft-Walton nuclear accelerator. With the help of Frédéric Joliot-Curie, a Nuclear Institute was created in 1947. It was the starting point of the development of nuclear physics and chemistry, one of the main fields of research in Strasbourg.

Physics archives at the University Louis Pasteur

A general inventory was made in the six physics departments chosen for the program in order to measure the quantity of historical archives that have survived. Although the quantity found is not big (approximately 150 linear feet), a year's experience showed that lots of valuable papers are certainly still in hiding or in private hands. The historical archives that were discovered consisted of various types of materials. Most of the archives had been stored without particular care, which means that their original organization has often been lost. The general condition of the archives is bad and it will be necessary to move most of them into a more appropriate storage place.

A precise inventory has yet to be completed; however a pilot study was started with the archives of Marguerite Perey, a famous French radiochemist whose archives were about to be destroyed. Like most of the archives found so far, they had been put away in the basement. Unfortunately, the archives of the nuclear chemistry laboratory met the usual fate a few months ago: they were destroyed when it was decided to clear the basement for security reasons (a common argument). Luckily the papers related to Marguerite Perey were preserved thanks to Mr. and Mrs Adloff, who worked with Miss Perey, and managed to create a small museum to preserve her memory. The museum was dismantled a long time ago when Mr. Adloff retired but the archives and the instruments he had collected were unexpectedly preserved. These archives have now been processed and an inventory was made. We expect the finding aid will be printed and made available online by the end of 2004.

More broadly, those connected with the program hope to organize all the data and other information and make it available on a Web site, step by step, in order to provide both scientific information for academics and instruction for a wider public. These are a few first steps in a revival of France's physics heritage. For information please contact

Sébastien Soubiran, Archives scientifiques, Mission culture scientifique et technique de l'Université Louis Pasteur, 7 rue de l'Université, 67000 Strasbourg, France; phone: +33 (0) 3 90 24 06 16, Fax: +33 (0) 3 90 24 06 26, E-mail: Sebastien.Soubiran@adm-ulp.u-strasbg.fr



Research laboratory, Nuclear Institute, Strasbourg, 1954. Copyright ULP.

How to Use the Online International Catalog of Sources

by Jennifer S. Sullivan

A new Web interface makes it easier to exploit the rich resources of the *International Catalog of Sources for History of Physics and Allied Sciences (ICOS)*. This online database, created through international collaboration and maintained by the AIP Center for History of Physics, contains more than 7,000 records for archival collections located at more than 500 repositories worldwide, including the AIP's own Niels Bohr Library. ICOS is the single richest tool for researchers who want to identify original source materials in physics, astronomy, geophysics and allied fields. The kinds of materials you will find cataloged include institutional records, personal papers, oral history interviews, unpublished biographies, audio and videotapes, and other unpublished sources. AIP staff usually add 100 or more new collections each year, mainly through semiannual surveys of approximately 200 archives that collect science records, but also through special national projects. Newly added collections are reported in this *Newsletter* (see p.21).

To use ICOS click on the "*International Archival Catalog (ICOS)*" link under the Catalogs heading on the History Center's homepage www.aip.org/history or go directly to www.aip.org/history/icos. This brings you to a search page where you can do either Browse or Keyword searches in a variety of ways, including by Author, Title, Subject or other options. Browse searches produce an alphabetical listing of material in both the ICOS and the Niels Bohr Library book

catalogs. Keyword searches confine the results to material in ICOS.

A good way to narrow and refine your search is to select Keyword and use the Limits function, which allows you to specify the location, type, or format of materials you seek. For example, if you are planning to visit the Niels Bohr Library in College Park, MD, you will want to find collections of interest that are held here and not somewhere else. You can restrict your search to these by selecting "Archival material held at AIP." Limits can also be used to confine searches by type of material — audio/visual, oral history interviews, etc. — or by languages, just to name a few possibilities. A "Sort" function lets you sort the search results by title, author, media type or publication date (this last is found especially useful by scholars searching the book catalog). Just like using limits, you can apply "Sort" either before executing a search or on the results page. A "Help" button provides information specific to your point in your search. For users with more complex needs, "power search" options with logical operators and a "search history" are available. Details may be found in a "FAQ" (Frequently Asked Questions) page, but please feel free to ask the staff for help.

For help in using ICOS, call the Library at (301) 209-3177 between 8:30 am and 5:00 pm Eastern Time on working days to talk with an Archivist/Librarian, or e-mail us at nbl@aip.org.



The Bibliotheca Alexandrina in Alexandria, Egypt will host one of the major World Year of Physics symposia celebrating Einstein in 2005. The Library has already opened to the public an extensive poster exhibit on Einstein's life. The posters, created by the AIP Center for History of Physics in 1979, are also the basis for the Web exhibit www.aip.org/history/einstein. The entire exhibit can now be downloaded in PDF format and printed out.

Year of Physics 2005 Gets Underway

In June 2004 the General Assembly of the United Nations adopted Resolution 58/293, noting that “the year 2005 is the centenary of seminal scientific discoveries by Albert Einstein” and proclaiming 2005 the “International Year of Physics.” Notwithstanding, many of the organizations that were already deeply involved in preparations are continuing to call it the “World Year of Physics” (see this *Newsletter* Spring 2004, p. 1, also online at www.aip.org/history/newsletter/spring2004/wyp2005.htm). Along with dozens of planning meetings, organizers have already begun to hold public events celebrating Einstein and the accomplishments of modern physics. When centenaries loom, magazines often try to publish their special issues ahead of others, before public interest is saturated. *Discover* magazine won the early-bird prize with a splendidly illustrated special Einstein issue of September 2004.

The 2005 international launch conference will take place in Paris

January 13-15, supported by the International Union of Pure and Applied Physics, the European Physical Society, the United Nations Educational, Scientific and Cultural Organisation (UNESCO), and other organizations and foundations. Nobel Prize Laureates and leaders from science, industry and politics will come together with young physics students from all over the world to share their vision of “Physics for Tomorrow.”

A random sample of planned events: a truck with physics experiments to tour Austria; a WYP2005 poster and tee-shirts to be produced for university students in Brazil; a WYP2005 calendar to be distributed to Canadian high schools; an Asia Physics Olympiad to be held in Riau, Indonesia, with participation by 20 countries; the inauguration of a Tanzania Physical Society, synchronized with WYP, to assemble secondary school physics teachers at the University of Dar-es-Salaam; oral histories of ethnic Chinese physicists to be collected in Taiwan; a “Measure the Earth with Shadows” event to coordinate students around the United States who will determine the Earth’s diameter in the manner of the ancient Greek Eratosthenes.... For these and the many other events and activities planned, please check periodically the Web site www.wyp2005.org and also the (mainly American) Web site www.physics2005.org.

It is not too late for physicists, historians of science and science archivists to take advantage of this unique opportunity to improve public understanding of science through its historical context by planning local events. A list of ideas may be found at www.physics2005.org/events/ideas.html. Among other services, in North America you can request a speaker through the WYP Speakers Program, at www.physics2005.org/events/speakers/ggr.html.



Endowment Fund for SUNY Buffalo Archives

A Moti Lal Rustgi endowment fund has been established at the State University of New York at Buffalo to support the archival processing of papers of physicists at the University. Rustgi was born in Delhi, India and received his Ph.D. from Louisiana State University. He came to SUNY Buffalo as an Associate Professor in 1966 and was promoted to full Professor in 1968. He published more than 145 articles before his death in 1992, chiefly in atomic and nuclear physics. His favorite topic was the photodisintegration of the deuteron, a subject he returned to again and again and on which he was considered an expert.

Rustgi’s professional papers were donated to the University Archives in 2003, and in 2004 Professor Rustgi’s sons Dr. Anil K. Rustgi and Dr. Vinod K. Rustgi established the Moti Lal Rustgi Archive Fund. Along with the processing of the papers of Rustgi and other physicists, the endowment will support a display of the Rustgi papers in conjunction with the annual Moti Lal Rustgi Memorial Symposium.

Records of Bristol University's Cosmic Rays and Solid State Research Preserved

by Peter Harper

Cosmic Rays and the Solid State: Bristol Physics in the Twentieth Century: that is the title of a project completed earlier this year to catalog the archives of six Bristol physicists and add the catalogs to the national online Access to Archives (A2A) database hosted by The National Archives in London (www.a2a.org.uk).

The National Cataloguing Unit for the Archives of Contemporary Scientists (NCUACS) at the University of Bath, UK, in its work in locating, cataloging and finding places of deposit for the archives of contemporary British scientists has long had an interest in the University of Bristol, as one of the most important centers of physics research in Britain. Likewise it has been very keen to support national developments in the online provision of information about archives including full-text catalogs. In Phase One of the development of A2A (2000-2002) the NCUACS was successful in securing funding from the UK Heritage Lottery Fund (HLF) to secure the retroconversion of its paper catalogs and their incorporation in the database. The announcement of Phase Two (to run 2002-2004) coincided with the availability of the six Bristol physics archives, and the NCUACS was again successful in securing funding from the HLF for processing and online access via A2A.

The physicists were Cecil Powell, Nevill Mott, Peter Fowler, Charles Frank, Andrew Keller and Alec Merrison. **Powell**, who came to Bristol in 1928, developed the photographic emulsion technique for recording cosmic ray events and was awarded the 1950 Nobel Prize for the technique and the discoveries made with it. The project papers — the third group of Powell papers processed by the NCUACS since 1973 — were found in a locked filing cabinet in the physics laboratory over 30 years after he died. **Mott** opened up solid state physics worldwide in the years after his arrival in Bristol in 1933 and subsequently shared the 1977 Nobel Prize for fundamental theoretical investigations of the electronic structure of magnetic and disordered systems. The project papers are almost entirely his correspondence with his parents from school days to Cavendish Professor of Physics in Cambridge in 1954. **Peter Fowler** was the son of Ralph Fowler and the grandson of Lord Rutherford. After undergraduate studies at Bristol, he joined Powell's cosmic rays research group, which he subsequently led. **Frank** came to Bristol after wartime work in scientific intelligence with his friend R. V. Jones. His archive documents an enormous breadth of interests, though he is perhaps best known for his work on dislocations in crystal structure. **Keller** was a postwar refugee from Hungary who came to Bristol in 1955 at the invitation of Frank and pioneered polymer physics, which is documented in an especially comprehensive scientific correspondence. **Merrison's** scientific career included periods at Harwell, Liverpool and CERN, but he came to Bristol as Vice-Chancellor, 1969-1984, which is the period



Balloons were at the heart of Cecil Powell and Peter Fowler's cosmic ray research, here launched from the top of the Bristol University Physics Building. Photo courtesy University of Bristol.

principally documented in his archive. All the archives are deposited in Bristol University Library, with the exception of the Mott papers, which are in Cambridge University Library.

The Heritage Lottery Fund is a major supporter of archival projects, especially where widening public access can be demonstrated by such means as the Internet. Partnership funding is required, and other supporters of the Bristol physics project included the Institute of Physics, the Macro Group UK and the Polymer Physics Group. A2A is the English strand of the UK archives database. It aims to create a virtual national archives catalog bringing together a critical mass of information about the national archival heritage and making that information available globally from one site via the World Wide Web. It works best as a searchable database but it is possible to access the full text catalogs, and currently the NCUACS is adding links from its own site (www.bath.ac.uk/ncuacs/home.htm) to the catalogs it has compiled.

For information please contact:

Peter Harper, Director, National Cataloguing Unit for the Archives of Contemporary Scientists, University Library, University of Bath, Claverton Down, Bath, Somerset BA2 7AY
Phone: +44 1225 385241

Grants and Meetings

For grants, meetings and other news items, visit the History of Science Society's Web site to see their very comprehensive list. View Grants & Prizes, Conferences and Colloquia, Jobs & Fellowships, and News, at www.hssonline.org/profession. There are also resources available at the American Physical Society's Forum on the History of Physics Web site at www.aps.org/units/fhp. Click on 'Newsletter' for information on grants, meetings, and other history of science community news.

Recent Acquisitions of the Niels Bohr Library

ORAL HISTORY INTERVIEWS

Kai-Henrik Barth interviewed the distinguished physicist **Marshall Rosenbluth** shortly before Rosenbluth's untimely death. A group of physicists aware of the historical value of Rosenbluth's recollections had arranged for the just-in-time interviewing; the project was funded by the Princeton Plasma Physics Laboratory and administered by the AIP Center for History of Physics. Another project, organized by volunteers, has tape-recorded the recollections of the remarkable scientist and educator **Philip J. Morrison**; interviews by Owen Gingerich and by Robert Norris were received in 2002-2003. Yet another special effort by the Center was the organization of a variety of interviews conducted over the years with **Philip W. Anderson** by various individuals. Anderson, who generously helped with the editing, is an author in five of the top 100 papers, ranked by citation impact, published in the *Physical Review* since its foundation.*

Many oral history interviews were acquired in 2003 as part of the Physicists in Industry Project (see article, p. 2). These were structured interviews of 1-2 hours, built around questions about the administrative organization and record-keeping practices of industrial research laboratories, but including a variety of interesting personal and historical information. Those interviewed were: **Doug Allen, Charlie Bennett, David Bishop, Steve Bolte, Dick Chapman, Peter Crean, Mark Debe, Bob Doering, Bijan Dorri, Charlie Duke, Ed Furlani, Thomas Halsey, David Lohse, Dan Nolan, John Schenk, Bernie Silbernagel, Tom Theis, and J. Anthony Tyson**, all interviewed by Joe Anderson, and **Tom Anthony, Tom Aton, Badri Badrinarayan, Gary Boyd, Dennis Buss, Praveen Chaudhari, Sanjay Correa, Alan Evans, Gil Hawkins, Dan Hays, John Huizinga, Eric Isaacs, Donald Keck, Mark Ketchen, Robert Lorentz, Joe McPherson, Jim Milch, Howard Mizes, Cherry Murray, Loren Pheiffer, Phil Platzman, Harry Ringermacher, John Spoonhower, James Stoffel, Hans Stork, and Alice White**, all interviewed by Tom Lassman.

* S. Redner, "Citation Statistics from More than a Century of *Physical Review*," online at www.arxiv.org/abs/physics/0407137 v1 27 July 2004.

This past year Patrick McCray (formerly on the History Center staff and now at U. California Santa Barbara), interviewed **A.G. W. Cameron, Peter Goldreich, G.D. Preston, W.L.W. Sargent and Joseph Taylor**. Other interviews received this year were: **Hélène Langevin-Joliot** conducted by Azam Niroomand-Rad, **Dudley R. Herschbach** and **Robert Vivian Pound** by John Rigden, **Chester M. McKinney** by David T. Blackstock, **J.A. Westphal** by David DeVorkin, **Philip W. Mange** by Ron Doel, **G. Toraldo di Francia** by Olival Freire, **William O. Baker** by R. Cargill Hall, and **Douglas D. Osheroff, A.M. Prokhorov** and **D.V. Shirkov** by Alexei Kojevnikov. Oral history interviews acquired in 2002 and not previously listed were conducted of **Robert Furman** by Finn Aaserud, **Michael A. Horne** and **Abner Shimony** by Joan Bromberg, **David Beckler** and **Leon Lederman** by Ron Doel, **Margaret Geller, James Houck** and **John P. Huchra** by Patrick McCray, and **A.D. Linde** by Christopher Smeenk.

BOOK DONATIONS

The Niels Bohr Library received a number of important donations from generous contributors, giving Library staff much to do. First, each book must be evaluated to be sure it's appropriate for the collection. If we already have a copy, we keep the best one and sell the duplicate to a used book dealer, so that it may find a good home, and bring us some funds to buy additional books. If the book is fragile, this is entered in a database for scheduled conservation. A call number must be assigned, and finally the book is cataloged in the Library's online catalog and the national RLIN books database.

Sally Morris contributed close to 800 books from the library of **Cabell Arnold Pearse**. **Milton Katz** and **Martin J. Klein** each donated books from their libraries, and **Richard Hanau** gave us a number of physics texts as well as two autobiographical papers. **Virginia Trimble** gave us pre-conference manuscripts from the 5th of the *Triennial Symposia on General Relativity and Gravitation*, held in 1968, from the library of the late Joseph Weber. The **U.S. Naval Observatory** contributed several duplicates from their collection to augment our astronomy books. **David Roberts** made several separate donations. The Niels Bohr Library was also fortunate to receive Edward Teller's copy of Werner Heisenberg's *Einführung in die einheitliche Feldtheorie der Elementarteilichen* (1967) from **Glen E. Bugos**. Finally, **Ben Stein** of the American Institute of Physics Media and Government Relations department donated a number of recent books

Resources and Links

This *Newsletter* no longer lists the good Web sites dealing with history of physics and allied fields that appear each year. Instead, we post them on our links page www.aip.org/history/web-link.htm, which is updated around the same time this *Newsletter* appears. Visit the page to find what's new! (Note that you can sign up for our e-mail list, which will notify you when we do this semiannual update. You can sign up for our this list by filling out the form on the back page of this *Newsletter*, and also update your subscription.)

on popular science that will not only be used in the Library's in-house loan collection, but will contribute to the overall collection as well.

MANUSCRIPT MATERIALS

As usual, some unusual manuscript collections found a home in the Niels Bohr Library this past year. **Robert Romer** donated a typescript of **Herbert Goldstein's** *Classical Mechanics* (preliminary edition) from 1949 — a textbook studied by practically every physicist of the postwar generations (0.25 lin. ft.). **Jeff Hecht** contributed interview materials including notes and transcripts for his recent book *City of Light: The Story of Fiber Optics*, 1994-1996 (1.5 lin. ft.). Scholarly work published on the Web is threatened by impermanence; **Spencer Weart** donated a text printout of his Web essays on “**The Discovery of Global Warming**” as a “record copy,” 2003 (0.5 lin. ft.). We received some additional materials for the **Thomas C. Mendenhall** collection (1851-1936) from the **State Historical Society of Wisconsin** (1.0 lin. ft.), containing photographs and other materials from Mendenhall's time in Japan, where he helped introduce modern physics instruction. The annual addition of the 2004 entries to the **Gravity Research Foundation's** Essay Contest were sent by **George Rideout** (0.5 lin. ft.).

Our member societies continue to add documentation of their activities to the archives. Copies of the four-volume set *Powerful Ideas in Physics Science* (2nd ed.), 1996, arrived courtesy of the **American Association of Physics Teachers** (1.0 lin. ft.). The volumes include *Light and Color*, *Electricity*, *Heat and Conservation of Energy*, and *Nature of Matter*. **Arlo Landolt**, outgoing Secretary of the **American Astronomical Society**, is in the process of donating all his records from that office, from about 1961-2003 (ca. 50 lin. ft.). We received some **Annual Meeting Posters** for the **American Physical Society, Division of Fluid Dynamics** from **Russell J. Donnelly**. These give general historical information on the annual meetings, including photographs of locations, officers and executive committee members from 1948 up to 1997 (1.0 lin. ft.). Some of the **records relating to AIP's move to Maryland** (1990-1993) came from AIP's **Office of the Director** (0.5 lin. ft.). AIP's **Office of the Secretary** donated records from 1965-1985 on the **Meggers Award** (0.25 lin. ft.).

The number of our small manuscript collections continues to grow. **Joseph Reader** has donated photocopies of letters to National Bureau of Standards staff on *Atomic Energy Levels* from the years 1949-1971 (6 pp.). These include letters to staff at NBS from **Samuel Goudsmit**, **I. I. Rabi**, **Linus Pauling** and **Niels Bohr**. We received a photocopy of a **biographical index** from *Monthly Notes of the Astronomical Society of Southern Africa*, Vol. 62 for 2003 from **Roy H. Garstang** (10 pp.). From **Lila Landé** we received some copies of letters, postcards and photographs from noted physicists to her father, **Alfred Landé**, from the years 1919-1973 (31 pp.). **A. Ravi Prakash Rau** donated photocopies and originals of handwritten notes from a **1978 NASA Astrophysics Workshop** he attended in Aspen, Colorado; the workshop was held to formulate NASA's projects in satellites and space explo-

ration (18 pp.). An essay on “**A Discovery and its Uses: the Story of Particle Tracks in Solids**” (1975) by **Roland W. Schmitt** was received from the author (101 pp.).

MANUSCRIPT BIOGRAPHIES, INSTITUTIONAL HISTORIES, AND ARCHIVAL FINDING AIDS

Richard G. Brewer sent us a bound copy of his “**Memoirs**” (2003) as well as PDF copy on CD-ROM (262 pp.). We received another memoir, this one by **Ella Ryndina**, niece of Lev Landau, called “**Lines to the Portrait of Lev Landau**” (43 pp.) from **Arthur Gill** via Steve Benka at *Physics Today*. A “**Technical Biography of Albert Wattenberg**” (2003) came to us from the author, **Albert Wattenberg** (32 pp.). And **J. Lamar Worzel** donated a self-published copy of his “**Autobiography**” from 2001 (325 pp.). **Folden B. Stumpf** provided us with new materials as well as an updated history of the **AAPT Appalachian Section History** from 2002-2004 (10 pp., newsletters, pamphlet). Finally, **James R. Heitzler** sent us a collection of reminiscences called “**Early Lamont**” (2002) that he collected from colleagues who worked at Lamont from its early days in the 1950s as the Lamont Geological Observatory to its present incarnation as the Lamont-Doherty Earth Observatory (194 pp.).

The Académie des Sciences, Archives et Patrimoine historique, Paris, France has sent us the finding aids for two of their collec-



Luis Alvarez after the first flight at Mach 2, 1963. Ernest Orlando Lawrence Berkeley National Laboratory, courtesy AIP Emilio Segrè Visual Archives. Donated by Peter Trower.

tions: the **Papers of Francis Perrin**, 1917-1973 and the **Jean Perrin Papers**, 1887-1942. We also have received information on a half-dozen other finding aids that have been made available on the Web: see box below.

PHOTOS AND OTHER AUDIO-VISUAL MATERIALS

We continue to maintain a complete set, thanks to donations, of portraits received from the **AIP Member Society Presidents**, **physicist Nobel Prize winners**, and the *Physics Today* **Obituary files**. This year we also are grateful for donations of collections of photographs from **Peter Trower** of **Luis Alvarez**; Wolf Prize recipient **François Englert** of himself; **Ken Ford** of himself; **Charlotte F. Fischer** of **Douglas Hartree**; **Dr. and Mrs. John F. Kielkopf** with **John R. Hale** of **Edwin Hubble**; **Ellen Ryndina** of **Lev Landau**; **Keith MacAdam** of his father and former Optical Society of America president **David MacAdam**, and **Emmanuel Rashba** of various **Russian physicists**. We also received donations of one or two photographs from **Alice Calaprice**, **Warren Washington** and **John Howard**.

The number of our audio-visual accessions is rapidly growing as these forms of media become increasingly common. **Margaret Wiley** of the **AIP Director's Office** gave us a VHS copy of "**The Beauty and Complexity of the Mandelbrot Set**" (1989), a presentation by **Science Television** with **John H. Hubbard**. A videotape of a colloquium in 2004 at NIST by **I. M. Khalatnikov** titled "**Spark of a Life in Physics**" on the life of **Lev Landau** was donated by **Florence G. Parkhill** of the NIST Physics Laboratory. **Patrick McCray** donated a video copy of a **Smithsonian Institution** film, "**So Many Galaxies . . . So Little Time**". We also received a copy on CD-ROM of the **American Institute of Physics** multimedia program "**Physics: It Moves & Speaks**" from 2003. A DVD copy of **Philip Morrison's** lecture at James Madison University in 1987, "**Nuclear War: Waking from the Nightmare**" was donated by **William H. Ingham**.



The Orion Nebula, as shown in the Atlas of Joh. Müller's Lehrbuch der Kosmischen Physik (5th ed., 1894), a recent addition to the Niels Bohr Library. At the time the Atlas was published, photographic reproductions of very bright objects like the Moon were starting to replace drawings of objects that could not yet be captured with photography — which included not only pale nebulae like this but even solar prominences and the planets.

Finding Aids Available Online

We have learned of several finding aids, with detailed descriptions of archival collections, that have recently been made available online. Hyperlinks (URLs) for the following are posted on our Web site at www.aip.org/history/newsletter/fall2004/findaid.htm.

New postings: The *Albert Einstein Archives at the Jewish National & University Library*, *The Hebrew University of Jerusalem*, and the *Einstein Papers Project at the California Institute of Technology* have collaborated to electronically publish a finding aid for the **Albert Einstein** papers. New information on five collections from the *University of North Carolina at Chapel Hill* are available electronically. They are: a student notebook of **Thomas Glaskins**, 1830-1831; a letter by **Albert Einstein**; the Papers of **John Joseph Montgomery**, 1885-1947; the **Lewis E. Percival** Papers,

1903-1925; and the **Henry W. Barrow** Papers, 1871-1872. *Princeton University* has one new finding aid available: the **David T. Wilkinson** Papers, 1957-2002 (bulk 1961-2001). The **AIP Center for History of Physics** has posted a finding aid for the records of AIP's *Study of Multi-Institutional Collaborations*.

The International Catalog of Sources (ICOS) provides links to many more online finding aids of collections in physics and allied fields, at www.aip.org/history/icos (see article, p. 5). Researchers should be aware that the Niels Bohr Library also has hundreds of printed finding aids to collections around the world that are not currently accessible online. Reference staff can provide finding aid photocopies or research specific reference questions.

Recent Publications on the History of Physics

A supplement to the Newsletter of The Center for History of Physics/Niels Bohr Library
and The Forum for History of Physics, American Physical Society

Compiled by Per and Eleanor Dahl

■ BOOKS

This list is the eleventh of an annual series. It includes books on the history of modern physics and related topics (including astronomy, geophysics, and physics in medicine) published in 2003 or later. (See earlier lists for details on how the list is prepared.) Articles in journals are listed elsewhere in the *Newsletter*.

For more comprehensive coverage of publications on the history of science, consult the annual Current Bibliography in *Isis* (published by the University of Chicago Press for the History of Science Society). Publications on the history of astronomy are listed in the *Journal of Astronomical History and Heritage*.

We suggest that you use this list to recommend books for your institution's library; ISBN numbers are given, when available, for this purpose. Prices (which are for hardcover editions unless otherwise indicated) are subject to change by the publisher.

Permission is hereby granted to copy freely all or part of this list for any educational purpose. More extensive versions of this and the eight previous lists are available on the Center's Web site at:

www.aip.org/history/web-news.htm#bibl

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PHILOSOPHY OF SCIENCE

Banks, Erik C. **Ernst Mach's** World Elements: A Study in Natural Philosophy. 304 pp. The Western Ontario Series in Philosophy of Science. Dordrecht: Kluwer Academic Publishers, 2003. ISBN 140201662X (hc) \$127.00.

Dewitt, Richard. Worldviews: An Introduction to the History and Philosophy of Science. xii + 326 pp., chapter notes, index. Malden, MA: Blackwell Publishing, 2004. ISBN 140511620x (pb) \$29.95.

Shermer, Michael. The Science of Good and Evil. xii + 350 pp., illus., notes, bibl., index. New York: Henry Holt & Co., 2004. ISBN 0-8050-7520-8 (hc) \$26.00.

SCIENCE AND SOCIETY

Darian, Steven. Understanding the Language of Science. xi + 248 pp., bibl., index. Austin: University of Texas Press, 2003. ISBN 0-292-71618-4 (hc) \$60; (pb) \$27.95.

Dierig, Sven; Lachmund, Jens; Mendelsohn, Andrew (eds.) Osiris, vol. 18. Science and the City. 325 pp., index. Chicago: The University of Chicago Press, 2003. ISBN 0-226-14838-6 (hc) \$50.00; (pb) \$33.00.

Lightman, Alan; Sarewitz, Daniel; Dessler, Christina (eds.) Living With the Genie: Essays on Technology and the Quest for Human Mastery. 355 pp. Washington, D.C.: Island Press, 2003. ISBN 1-55963-419-7 (hc) \$27.00.

SCIENCE AND ART, ARCHITECTURE, AND MUSIC

Ashton, Anthony. Harmonograph: A visual Guide to the Mathematics of Music. 64 pp., illus., apps. New York: Walker & Company, 2003. ISBN 0-8027-1409-9 (hc) \$10.00.

Penz, Francois; Radick, Gregory; Howell, Robert. Space in Science, Art and Society. v + 206 pp., illus., figs., bibl., notes on contributors, index. New York: Cambridge University Press, 2004. ISBN 0521823765 (hc) \$45.00.

SCIENCE AND THE MILITARY; ATOMIC WEAPONS

Cornell, John. **Hitler's** Scientists: Science, War, and the Devil's Pact. xvi + 535 pp., photos, notes, bibl., index. New York: Viking Press, 2003. ISBN 0-670-03075-9 (hc) \$29.95.

Eden, Lynn. Whole World on Fire: Organizations, Knowledge, and Nuclear Weapons Devastation. xiv + 365 pp., index. New York: Cornell University Press, 2004. ISBN 0801435781 (hc) \$32.50.

Gusterson, Hugh. People of the Bomb: Portraits of America's Nuclear Complex. 328 pp. Minnesota: University of Minnesota Press, 2004. ISBN 081663859 (hc) \$59.95.

Hartcup, Guy. The Effect of Science on the Second World War. Foreword by **Sir Bernard Lovell.** xv + 214 pp., index. Palgrave Macmillan, 2003. ISBN 1403906432 (pb) \$26.95.

Kruglov, Arkadii. History of the Soviet Atomic Industry. Translated from Russian by **Andrei Lokhov.** 282 pp. New York: Taylor & Francis, 2002. ISBN 0-415-26970-9 (hc) \$95.00.

Van DeMark, Brian. Pandora's Keepers: Nine Men and the Atomic Bomb. xii + 399 pp., illus., notes, bibl., index. Boston/New York/London: Little, Brown and Company, 2003. ISBN 0-316-73833-6 (hc) \$26.95.

SCIENCE AND TECHNOLOGY – ENERGY, EFFECTS ON ENVIRONMENT

Rees, Martin. Our Final Hour: A Scientist's Warning: How Terror, Error, and Environmental Disaster Threaten Humankind's Future in this Century-on Earth and Beyond. viii + 228pp., index. Basic Books, 2003. ISBN 0-465-06862-6 (hc) \$25.00.

Smil, Vaclav. *Energy at the Crossroads: Global Perspectives and Uncertainties.* 443 pp., illus. Cambridge, Massachusetts: MIT Press, 2003. ISBN 0-262-19492-9 (hc) \$34.95.

Weart, Spencer R. *The Discovery of Global Warming.* x + 228 pp., illus., notes, index. Cambridge, Massachusetts/London, England: Harvard University Press, 2003. ISBN 0-674-01157-0 (hc) \$24.95.

SCIENCE AND GOVERNMENT; PUBLIC POLICY

Andrews, James T. *Science for the Masses: The Bolshevik State, Public Science, and the Popular Imagination in Soviet Russia, 1917-1934.* 256 pp., illus., bibl., index. College Station, TX: Texas A&M University Press, 2003. ISBN 1-58544-247-X (hc) \$45.00.

Segal, Sanford L. *Mathematicians under the Nazis.* xxii + 530 pp., bibl., index. Princeton: Princeton University Press, 2003. ISBN 0-691-00451-X (hc) \$79.50.

INSTITUTIONAL DEVELOPMENT OF SCIENCE

Bilstein, Roger E. *Testing Aircraft, Exploring Space: An Illustrated History of NACA and NASA.* xv + 218 pp., index. Baltimore: The Johns Hopkins University Press, 2003. ISBN 0-8018-7158-1 (hc) \$42.95.

Hashagen, Ulf. Walther von Dyck (1856-1934): *Mathematik, Technik und Wissenschaftsorganisation an der TH München.* vi + 802 pp., bibl., index. Stuttgart: Franz Steiner Verlag, 2003. ISBN 3515083596.

Meynell, Guy. *The French Academy of Sciences, 1666-91: A Reassessment of the French Académie Royale des Sciences Under Colbert (1666-83) and Louvois (1683-91).* Dover, UK: Haven House, 2002.

Peterson, T. F. *Nightwork: A History of Hacks and Pranks at MIT.* Foreword by **Jane Pickering.** Published in association with the MIT Museum. xi + 178 pp., illus., gloss., sources. Cambridge, Massachusetts: The MIT Press, 2003. ISBN 0-262-66137-3 (pb) \$19.95.

Simha, Robert O. *MIT Campus Planning 1960-2000: An Annotated Chronology.* 160 pp., illus. Cambridge, Massachusetts: The MIT Press, 2003. ISBN 0-262-69264-5 (pb) \$29.95.

Thackray, John C. (ed.) *To See the Fellows Fight: Eye Witness Accounts of Meetings of the Geological Society of London and its Club, 1822-1868.* BSHS Monograph 12. xviii + 243 pp., bibl., index. The British Society for the History of Science, 2003. ISBN 0906450144 (pb) \$26.00.

HISTORY OF SCIENCE

Atkins, Peter. *Galileo's Finger: The Ten Great Ideas of Science.* viii + 380 pp., illus., bibl., index. Oxford: Oxford University Press, 2003. ISBN 0-19-860664-8 (hc) \$30.00.

Bryson, Bill. *A Short History of Nearly Everything.* ix + 544 pp., notes, bibl., index. New York: Broadway Books, 2003. ISBN 0-7679-0817-1 (hc) \$27.50.

Cahan, David (ed.) *From Natural Philosophy to the Sciences: Writing the History of Nineteenth-Century Science.* xi + 456 pp., bibl., index. Chicago: The University of Chicago Press, 2003. ISBN 0-226-08927-4 (hc) \$85.00.

Dewdney, A. K. *Beyond Reason: 8 Great Problems that Reveal the Limits of Science.* v + 224 pp., illus., refs., index. Hoboken, N.J.: John Wiley & Sons, 2004. ISBN 0-471-01398-6 (hc) \$27.95.

Ede, Andrew; Cormack, Lesley B. *A History of Science From Philosophy to Utility.* 458 pp., illus., bibl., index. New York: Broadview Press, 2004. ISBN 15111335 (pb) \$32.95.

Galison, Peter. *Einstein's Clocks, Poincare's Maps: Empires of Time.* 389 pp., illus., bibl., notes. New York: W. W. Norton, 2003. ISBN 0-393-02001-0 (pb) \$23.95.

Garwin, Laura; Lincoln, Tim (eds.) *A Century of Nature: Twenty-One Discoveries that Changed Science*. Foreword by **Steven Weinberg**. xviii + 360 pp., illus., index. Chicago/London: The University of Chicago Press, 2003. ISBN 0-226-28415-8 (pb) \$25.00.

Jonkers, A. R. T. *Earth's Magnetism in the Age of Sail*. xvii + 300 pp., figs., index. Baltimore: The Johns Hopkins University Press, 2003. ISBN 0-8018-7132-8 (hc) \$45.00.

Lefevre, Wolfgang; Renn, Jürgen; Schoepflin, Urs (eds.) *The Power of Images in Early Modern Science*. ix + 308 pp., illus., figs. Basel/Boston/Berlin: Birkhäuser Verlag, 2003. ISBN 3-7643-2434-1 (pb) 118.00 Euro.

McCarthy, Wil. *Hacking Matter: Levitating Chairs, Quantum Mirages, and the Infinite Weirdness of Programmable Atoms*. vi + 224 pp., illus., apps., index. New York: Basic Books, 2003. ISBN 0-465-04429-8 (pb) \$16.00.

Marshall, Stephanie Pace; Scheppler, Judith A.; Palmisano, Michael J. (eds.) *Science Literacy for the Twenty-First Century*. Epilogue by Nobel Laureate **Leon Lederman**. 321 pp., illus., table, bibl. Amherst, N.Y.: Prometheus Books, 2003. ISBN 1-59102-020-4 (hc) \$29.00.

Pancaldi, Giuliano. Volta: *Science and Culture in the Age of Enlightenment*. xv + 381 pp., illus., bibl., index. Princeton, N.J.: Princeton University Press, 2003. (hc) \$35.00.

Parker, Barry. *The Isaac Newton School of Driving: Physics & Your Car*. 250 pp., illus., bibl., index. Baltimore/London: The Johns Hopkins University Press, 2003. ISBN 0-8018-7417-3 (hc) \$26.95.

Parsons, Keith (ed.) *The Science Wars: Debating Scientific Knowledge and Technology*. 325 pp. Amherst, New York: Prometheus Books, 2003. ISBN 1-57392-994-8 (pb) \$21.00.

Philbin, Tom. *The 100 Greatest Inventions of All Time*. viii + 294 pp., illus., index. New York: Citadell Press, 2003. ISBN 0-8065-2403-0 (hc) \$29.95.

Raymo, Chet. *The Path: A One-Mile Walk Through the Universe*. viii + 197 pp., notes, index. New York: Walker & Co., 2003. ISBN 0-8027-1402-1 (hc) \$21.00.

Rothman, Tony. *Everything's Relative and Other Fables From Science and Technology*. xvi + 272 pp., notes, index. Hoboken, N.J.: John Wiley & Sons, 2003. ISBN 0-471-20257-6 (hc) \$24.95.

Stanton, J. Linden. *The Alchemy Reader: From Hermes Trismegistus to Isaac Newton*. xi + 260 pp., illus., gloss., bibl., index. New York: Cambridge University Press, 2003. ISBN 0521796628 (hc) \$65.00.

Taub, Liba. *Ancient Meteorology. Sciences of Antiquity*. xiv + 271 pp., illus., bibl., index. London/New York: Routledge Taylor & Francis Group, 2003. ISBN 0415161967 (pb) \$28.95.

Tobias, Michael; Timmers, Teun; Wright, Gill (eds.) *A Parliament of Science: Science for the 21st Century*. vii + 171 pp., illus., index. State University of New York Press, 2003. ISBN 0791458148 (pb) \$18.95.

Wall, Byron. *Glimpses of Reality: Episodes in the History of Science*. 512 pp., ills., index. Dayton/Toronto: Wall & Emerson, 2003. ISBN 0-921332-52-1 (hc) \$29.50.

Waller, John. *Einstein's Luck: The Truth Behind Some of the Greatest Scientific Discoveries*. xi + 308 pp., index. Oxford: Oxford University Press, 2003. ISBN 0-19-860719-9 (hc) \$ 30.00.

HISTORY OF PHYSICS

Barr, Stephen M. *Modern Physics and Ancient Faith*. ix + 312 pp., figs., index. Notre Dame, Indiana: University of Notre Dame Press, 2003. ISBN 0-268-03471-0 (hc) \$30.00.

Dolling, Lisa M.; Gianelli, Arthur F.; Statile, Glenn N. (eds.) *The Tests of Time: Readings in the Development of Physical Theory*. xii + 716 pp., figs., tables, index. Princeton: Princeton University Press, 2003. ISBN 0-691-09085-8 (pb) \$36.95.

Fara, Patricia. An Entertainment for Angels: Electricity in the Enlightenment. iv + 177 pp., bibl., illus., index. New York: Columbia University Press, 2003. ISBN 0231131488 (hc) \$19.50.

Ghirardi, GianCarlo. Sneaking a Look at God's Cards: Unraveling the Mysteries of Quantum Mechanics. 496 pp., illus., tables. Princeton: Princeton University Press, 2004. ISBN 0691049343 (hc) \$35.00.

Havil, Julian. Gamma: Exploring Euler's Constant. Foreword by **Freeman Dyson**. 376 pp., illus., bibl., index. Princeton: Princeton University Press, 2003. ISBN 0-691-09983-9 (hc) \$29.95.

Hebra, Alex. Measure for Measure: The Story of Imperial, Metric, and Other Units. xiv + 215 pp., figs., bibl., index. Baltimore: The Johns Hopkins University Press, 2003. ISBN 0-8018-7072-0 (hc) \$24.95.

Kubbinga, Henk. L'Histoire du Concept de "Molécule." Three volumes. 1890 pp., bibl., name index, subject index. Paris: Springer Verlag, 2001-2003. ISBN 2-287-59703-4 (hc) \$177.15.

Laidler, Keith J. Energy and the Unexpected. xiii + 146 pp., illus., fig., table, index. Oxford University Press, 2002. ISBN 0198525168 (hc) \$29.95.

Levelt-Sengers, Johanna M. H. How Fluids Unmix: Discoveries by the School of **Van der Waals** and **Kamerlingh Onnes**. History of Science and Scholarship in the Netherlands, 4. xv + 302 pp., figs., bibl., index. Amsterdam: KNAW, 2002. ISBN 9069843579 Euro 45.00.

Matricon, Jean; Waysand, Georges. Cold Wars: A History of Superconductivity. xiii + 27 pp., figs., bibl., index. Translated by **Charles Glashauser**. New Brunswick: Rutgers University Press, 2003. ISBN 0-8135-3294-9 (hc) \$65.00.

Staley, Kent W. The Evidence for the Top Quark: Objectivity and Bias in Collaborative Experimentation. xvi + 343 pp., illus., figs., bibl., index. New York: Cambridge University Press, 2004. ISBN 0521827108 (hc) \$70.00.

Tweed, Matt. Essential Elements: Atoms, Quarks, and the Periodic Table. (Wooden Books) 64 pp., illus., apps. New York: Walker & Company, 2003. ISBN 0-8027-1408-0 (hc) \$10.00.

Warwick, Andrew. Masters of Theory: Cambridge and the Rise of Mathematical Physics. 520 pp., illus., bibl., index. Chicago: The University of Chicago Press, 2003. ISBN 0-226-87375-7 (hc) \$85.00.

HISTORY OF ASTRONOMY, ASTROPHYSICS, COSMOLOGY & SPACE SCIENCES

Blecker, Johan A. M.; Geiss, Johannes; Huber, Martin C. E. (eds.) The Century of Space Science (2 volumes). Foreword by **Lodewijk Woltjer**. 1846 pp. Dordrecht: Kluwer Academic Publishers, 2002. ISBN 0-7923-7194-1 (hc) \$595.00.

Butrica, Andrew J. Single Stage to Orbit: Politics, Space Technology and the Quest for Reusable Rocketry. xiii + 266 pp., illus., bibl., index. Baltimore: Johns Hopkins University Press, 2003. ISBN 080187338-X (hc) \$45.00.

Cabbage, Michael; Harwood, William. Comm Check... The Final Flight of Shuttle Columbia. xiv + 320 pp., illus., app., index. New York: Simon & Schuster, 2004. ISBN 0-7432-6091-0 (hc) \$26.00.

Cockell, Charles S. (ed.) Martian Expedition Planning. 506 pp., American Astronautical Society and the British Interplanetary Society. Volume 107: Science and Technology Series. California: Univelt, 2004. ISBN 0877035083.

Greene, Brian. The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory. xv + 448 pp., figs., tables, bibl., index. New York/London: W. W. Norton & Company, 2003. ISBN 0393058581 (hc) \$19.95.

Greene, Brian. The Fabric of the Cosmos: Space, Time, and the Texture of Reality. xii + 569 pp., illus., notes, gloss., index. New York: Alfred A. Knopf, 2004. ISBN 0-375-41288-3 (hc) \$28.95.

Havel, Karel. Gravitation: Master Key to the Universe. 176 pp., bibl., index. Brampton, Ont.: Grevyt Press, 2003. ISBN 0-9689123-0-1 (pb) \$14.95.

Klerkx, Greg. *Lost in Space: The Fall of NASA and the Dream of a New Space Age.* 392 pp., illus., notes, index. New York: Pantheon Books, 2004. ISBN 0-375-42150-5 (hc) \$27.95.

Leverington, David. *Babylon to Voyager and Beyond: A History of Planetary Astronomy.* x + 558 pp., illus., bibl., index. Cambridge, UK: Cambridge University Press, 2003. ISBN 0-521-80840-5 (hc) \$95.00.

Mishkin, Andrew. *Sojourner: An Insider's View of the Mars Pathfinder Mission.* xiv + 333 pp., illus., index. New York: Berkley Books, 2003. ISBN 0-425-19199-0 (hc) \$21.95.

Ryan, Craig. *Magnificent Failure. Free Fall From the Edge of Space.* xvi + 301 pp., illus., notes, bibl., index. Washington/London: Smithsonian Books, 2003. ISBN 1-58834-141-0 (hc) \$29.95.

Udias, Augustin. *Searching the Heavens and the Earth: The History of Jesuit Observatories.* xiii + 369 pp., illus., bibl., notes, index. Dordrecht: Kluwer Academic Publishers, 2003. ISBN 140201189x.

Verger, Fernand; Sourbès-Verger, Isabelle; Ghirardi, Raymond. *The Cambridge Encyclopedia of Space: Missions, Applications and Exploration.* 428 pp., illus., charts, bibl. New York: Cambridge University Press, 2003. ISBN 0-521-77300-8 (hc) \$50.00.

HISTORY OF EARTH SCIENCES

Cutler, Alan. *The Seashell on the Mountaintop.* 228 pp., illus., index. New York: Dutton, 2003. ISBN 0-525-94708-6 (hc) \$23.95.

Fagan, Brian. *The Long Summer: How Climate Changed Civilization.* xvii + 284 pp., illus., notes, index. New York: Basic Books, 2004. ISBN 0-465-02281-2 (hc) \$26.00.

Palmer, Trevor. *Perilous Planet Earth: Catastrophes and Catastrophism Through the Ages.* ix + 522 pp., illus., index. Cambridge, UK: Cambridge University Press, 2003. ISBN 0-521-81928-8 (hc) \$75.00.

Page, Jake; Officer, Charles. *The Big One: The Earthquake That Rocked Early America and Helped Create Science.* xii + 239 pp., illus., notes, index. Boston: Houghton Mifflin Co., 2004. ISBN 0-618-34156-1 (hc) \$24.00.

Young, David A. *Mind Over Magma: the Story of Igneous Petrology.* xxii + 686 pp., illus., bibl., index. Princeton: Princeton University Press, 2003. ISBN 0-691-10279-1 (hc) \$69.95.

HISTORY OF MATHEMATICS

Anderson, Marlow; Katz, Victor; Wilson, Robin (eds.) *Sherlock Holmes in Babylon and Other Tales of Mathematical History.* x + 420 pp., index. Washington DC: The Mathematical Association of America, 2003. ISBN 08838555461 (hc) \$49.95.

Folkerts, Menso. *Essays on Early Medieval Mathematics: The Latin Tradition.* (Variorum Collected Studies Series.) xii + 382 pp., index. Burlington, VT: Ashgate Publishing, 2003. ISBN 0-86078-895-4 (hc) \$111.95.

Jahnke, Hans Niels (ed.) *A History of Analysis.* (History of Mathematics, 24.) ix + 422 pp., index. Providence: American Mathematical Society, 2003. ISBN 0-8218-2623-9 (hc) \$89.00.

Nahin, Paul J. *When Least is Best.* xviii + 370 pp., illus., apps., index. Princeton and Oxford: Princeton University Press, 2004. ISBN 0-691-07078-4 (hc) \$29.95.

Pesic, Peter. *Abel's Proof: An Essay on the Sources and Meaning of Mathematical Unsolvability.* 213 pp., illus. Cambridge, Mass.: The MIT Press, 2003. ISBN 0-262-16216-4 (hc) \$24.95.

Wallace, David Foster. *Everything and More: A Compact History of Infinity.* 312 pp., illus., bibl. New York: W. W. Norton, 2003. ISBN 0-393-00338-8 (hc) \$23.95.

HISTORY OF INSTRUMENTS

Agar, Jon. *The Government Machine: A Revolutionary History of the Computer.* viii + 554 pp., notes, index. Cambridge and London: The MIT Press, 2003. ISBN 0262012022 (hc) \$50.00.

Baird, Davis. *Thing Knowledge: A Philosophy of Scientific Instruments.* xxi + 273 pp., illus., ref., index. Berkeley/Los Angeles: University of California Press, 2004. ISBN 050232496 (hc) \$65.00.

Fournier, Marian. *Early Microscopes: A Descriptive Catalogue.* (Museum Boerhaave Communication 300) 235 pp., illus., index. Leiden: Museum Boerhaave, 2003. ISBN 90-62-92-143-4 (hc) 50 Euros.

Higton, Hester. *Sundials at Greenwich: A Catalogue of the Sundials, Nocturnals and Horary Quadrants in the National Maritime Museum, Greenwich.* Contributions from **Silke Ackermann, Richard Dunn, Kiyoshi Takada** and **Anthony Turner.** x + 463 pp, illus., app., index. Oxford: Oxford University Press and National Maritime Museum, 2002. ISBN 0-19-850877-8 (hc) \$185.00.

Turner, Gerard L. E. *Renaissance Astrolabes and their Makers.* Variorum Collected Studies Series. xii + 294 pp., figs., apps., bibl., index. Ashgate Variorum, 2003. ISBN 0860789039 (hc) \$122.95.

HISTORY OF TECHNOLOGY

Abelshauer, Werner; Von Hippel, Wolfgang; Johnson, Jeffrey Allan; Stokes, Raymond G. *German Industry and Global Enterprise. BASF: The History of a Company.* ix + 677 pp., app., bibl., index. Cambridge: Cambridge University Press, 2004. ISBN 0521827264 (hc) \$75.00.

Atkinson, William Illsey. *Nanocosm: Nanotechnology and the Big Changes Coming from the Inconceivably Small.* 306 pp., index. New York: American Management Association, 2003. ISBN 0-8144-7181-1 (hc) \$24.95.

Auyan, Sunny. *Engineering—An Endless Frontier.* xiii + 344 pp., illus., bibl., index. Cambridge, MA: Harvard University Press, 2004. ISBN 0674013328.

Cadbury, Deborah. *Dreams of Iron and Steel.* xix + 300 pp., illus., bibl., index. New York: Harper Collins, 2004. ISBN 0-00-716306 (hc) \$25.95.

Cardwell, Donald. *The Development of Science and Technology in Nineteenth-Century Britain: The Importance of Manchester.* xx + 320 pp., illus., index. Aldershot, Hants: Ashgate, 2003. ISBN 0-86078-908-X (hc) \$111.95.

Crouch, Tom D.; Jakab, Peter L. *The Wright Brothers and the Invention of the Aerial Age.* 240 pp., photographs, bibl., index. Washington, D.C.: National Geographic Society, 2003. ISBN 0-7922-6985-3 (hc) \$35.00.

Degani, Asaf. *Taming HAL: Designing Interfaces Beyond 2001.* viii + 312 pp., illus., notes, index. New York: Palgrave Macmillan, 2003. ISBN 0-312-2957-X (hc) \$35.00.

Duffy, Michael C. *Electric Railways 1880-1990.* (The IEE History of Technology Series, 31). xxi + 452 pp., illus., bibl., index. London: The Institution of Electrical Engineers, 2003. ISBN 0-85296-805-1 (hc) \$84.00.

Essig, Mark. *Edison & the Electric Chair.* 358 pp., illus., notes, index. New York: Walker & Company, 2003. ISBN 0-8027-1406-4 (hc) \$26.00.

Gooday, Graeme J. N. *The Morals of Measurement: Accuracy, Irony, and Trust in Late Victorian Electrical Practice.* xxv + 285 pp., illus., index. New York: Cambridge University Press, 2004. ISBN 0521430984 (hc) \$85.00.

Hallion, Richard P. *Taking Flight: Inventing the Aerial Age, from Antiquity through the First World War.* 560 pp., illus., index. Oxford: Oxford University Press, 2003. ISBN 0-19-516035-5 (hc) \$35.00.

Huurdeeman, Anton A. The Worldwide History of Telecommunications. xx + 620 pp., apps., illus. Hoboken: John Wiley & Sons, 2003. ISBN 0-471-20505-2 (hc) \$125.00.

Jones, Jill. Empire of Light: **Edison, Tesla, Westinghouse**, and the Race to Electrify the World. xiv + 416 pp., illus., bibl., notes, index. New York: Random House, 2003. ISBN 0375507396 (hc) \$27.95.

Misa, Thomas J.; Brey, Philip; Feenberg, Andrew (eds.) Modernity and Technology. vi + 421 pp., bibl., index. Cambridge, Massachusetts: The MIT Press, 2003. ISBN 0-262-13421-7 (hc) \$40.00.

Moran, Jack. An Introduction to Theoretical and Computational Aerodynamics. 464 pp., figs., apps., index. Mineola, New York: Dover Publications, 2003. ISBN 0486428796 (pb) \$29.95.

Vinck, Dominique (ed.) Everyday Engineering: An Ethnography of Design and Innovation. (Inside Technology Series,) 256 pp., bibl., index. Cambridge, Massachusetts: The MIT Press, 2003. ISBN 0-262-22065-2 (hc) \$30.00.

COLLECTED BIOGRAPHIES (3 or more Scientists)

Balchin, Jon. Science: 100 Scientists Who Changed the World. 200 pp., illus., name index. New York: Enhanced Lion Books, 2003. ISBN 1-59270-017-9 (hc) \$18.95.

Knox, Kevin; Noakes, Richard (eds.) Foreword by **Stephen W. Hawking**. From **Newton to Hawking: A History of Cambridge University's Lucasian Professors of Mathematics**. 510 pp., illus. Cambridge, UK: Cambridge University Press, 2004. ISBN 0 521 66310 5 (hc) \$45.00.

INDIVIDUAL BIOGRAPHIES & AUTOBIOGRAPHIES; ANALYSES OF A SCIENTIST'S WORK

[Bohr, Niels] Brock, Steen. Niels Bohr's Philosophy of Quantum Physics in the Light of the **Helmholtzian** Tradition of Theoretical Physics. 301 pp., bibl. Berlin: Logos Verlag, 2003. ISBN 3-8325-0200-9 (pb) \$50.00.

[Einstein, Albert] Levenson, Thomas. Einstein in Berlin. viii + 486 pp., illus., notes, bibl., index. New York: Bantam Books, 2003. ISBN 0-553-10344-X (hc) \$25.95.

[Einstein, Albert] Parker, Barry. Einstein: The Passions of a Scientist. 297 pp., illus., notes, gloss., bibl., index. Amherst, N.Y.: Prometheus Books, 2003. ISBN 1-59102-063-8 (pb) \$28.00.

[Foucault, Léon] Aczel, Amir D. Pendulum: **Léon Foucault** and the Triumph of Science. x + 275 pp., illus., app., notes, bibl., index. New York: Atria Books, 2003. ISBN 0-7434-6478-8 (hc) \$25.00.

[Galilei, Galileo] Shea, William R.; Artigas, Mariano. Galileo in Rome: The Rise and Fall of a Troublesome Genius. 401 pp., illus., bibl. Oxford: Oxford University Press, 2003. ISBN 0-19-516598-5 (hc) \$27.00.

[Goddard, Robert H.] Clary, David A. Rocket Man: **Robert H. Goddard** and the Birth of the Space Age. xxvi + 324 pp., photos, notes, bibl., index. New York: Hyperion, 2003. ISBN 0-7868-6817-1 (hc) \$24.95.

[Hooke, Robert] Bennet, Jim; Cooper, Michael; Hunter, Michael; Jardine, Lisa. London's **Leonardo**: The Life and Work of **Robert Hooke**. 224 pp., illus., bibl., index. Oxford: Oxford University Press, 2003. ISBN 0-19-852579-6 (hc) \$35.00.

[Hutton, James] Repcheck, Jack. The Man Who Found Time: **James Hutton** and the Discovery of Earth's Antiquity. 247 pp., bibl., index. Cambridge, Mass.: The Perseus Book Group, 2003. ISBN 0-7382-0692-X (hc) \$26.00.

[Jenkin, Fleeming] Cookson, Gillian; Hempstead, Colin A. A Victorian Scientist and Engineer: **Fleeming Jenkin** and the Birth of Electrical Engineering. Ashgate. ISBN 0754600793 (hc) \$89.95.

[**Kepler, Johannes**] **Nevskaia, N. J.** (ed.) **Johannes Kepler**, Collection of Articles. 2: The Works About **Kepler** in Russia and Germany. 148 pp. Saint Petersburg: Boreo-Art, 2002. ISBN 5-7187-03892.

[**Leibniz, Gottfried Wilhelm**] **Rescher, Nicholas**. On **Leibniz**. 264 pp., bibl., index. Pittsburgh: University of Pittsburgh Press, 2003. ISBN 0-8229-4208-9 (hc) \$32.50.

[**Marconi, Guglielmo**] **Weightman, Gavin**. Signor **Marconi**'s Magic Box: The Most Remarkable Inventor Whose Genius Sparked a Revolution. 312 pp., illus., index. Cambridge, Massachusetts: Da Capo/Perseus Books, 2003. ISBN 0-306-81275-4 (hc) \$25.00.

[**Meitner, Lise**] **Sexl, Lore; Hardy, Anne**. **Lise Meitner**. (Rowohlts monographien) 157 pp., illus., index. Reinbek: Rowohlts Taschenbuch Verlag, 2002. ISBN 3-499-50439-1 (pb) Euro 8.50.

[**Mercator, Gerardus**] **Crane, Nicholas**. **Mercator**: The Man Who Mapped the Planet. xv + 397 pp., illus., notes, bibl., index. New York: Henry Holt & Co., 2003. ISBN 0-8050-6625-x (pb) \$16.00.

[**Morse, Samuel Finley Breese**] **Silverman, Kenneth**. Lightning Man: The Accursed Life of **Samuel F. B. Morse**. vi + 503 pp., illus., index. New York: Alfred A. Knopf, 2003. ISBN 0-375-40128-8 (hc) \$35.00.

[**Newton, Isaac**] **Leshem, Ayval**. **Newton** on Mathematics and Spiritual Purity. x + 245 pp., bibl., index. Dordrecht: Kluwer Academic Publishers, 2001. ISBN 1-4020-1151-2 (hc) \$86.00.

[**Oppenheimer, J. Robert**] **Bernstein, Jeremy**. **Oppenheimer**, Portrait of an Enigma. xi + 223 pp., illus., notes, index. Chicago: Ivan R. Dee, 2004. ISBN 1-56663-569-1 (hc) \$25.00.

[**Rutherford, Ernest**] **Heilbron, J. L.** **Ernest Rutherford** and the Explosion of Atoms, (Oxford Portraits in Science.) 144 pp., illus., bibl., index. Oxford: Oxford University Press, 2003. ISBN 0-19-512378-6 (hc) \$27.50.

[**Saint Exupéry**] **Vallières, Nathalie des**. **Saint Exupéry**: Art, Writing and Musings. 215 pp. Rizzoli International Publications, 2004. \$50.

[**Wilkins, Maurice**] **Wilkins, Maurice**. The Third Man of the Double Helix: The Autobiography of **Maurice Wilkins**. 288 pp. Oxford: Oxford University Press, 2003. ISBN 0-19-860665-6 (hc) \$27.50.

COLLECTED WORKS OF SCIENTISTS (including unpublished papers)

[**Franklin, Benjamin**] A **Benjamin Franklin** Reader. Edited by **Walter Isaacson**. xv + 551 pp. New York: Simon & Schuster, 2003. ISBN 0-7432-5782-0 (hc) \$21.95.

REFERENCE WORKS: ENCYCLOPEDIAS, HANDBOOKS, etc.

Editors of Discover Magazine. Discover: Science Almanac. x + 790 pp., index. New York: Hyperion, 2003. ISBN 0-7868-8759-1 (pb) \$13.99.

Grattan-Guinness, I. (ed.) Companion Encyclopedia of the History and Philosophy of the Mathematical Sciences. Volume 1. xiv + 842 pp., illus., figs., bibl. Baltimore/London: The Johns Hopkins University Press, 2003. ISBN 0801873967 (pb) \$49.95.

Grattan-Guinness, I. (ed.) Companion Encyclopedia of the History and Philosophy of the Mathematical Sciences. Volume 2. xi + 864 pp., illus., figs., bibl., index. Baltimore/London: The Johns Hopkins University Press, 2003. ISBN 0801873795 (pb) \$49.95.

Holmes, Frederic L.; Renn, Jürgen; Rheinberger, Hans-Jörg (eds.) Reworking the Bench: Research Notebooks in the History of Science. (Archimedes: New Studies in the History and Philosophy of Science and Technology, 7) xv + 325 pp. Dordrecht: Kluwer Academic, 2003. ISBN 1-4020-1039-7 (hc) \$119.00.

Recent Publications of Interest

Compiled by Babak Ashrafi

This is our usual compilation of some (by no means all) recently published articles on the history of modern physics, astronomy, geophysics and allied fields. Note that these bibliographies have been posted on our Web site since 1994, and you can search the full text of all of them (along with our annual book bibliography, recent Catalog of Sources entries, exhibit materials, etc.) by using the “Search” icon on our site map: www.aip.org/history/s-indx.htm

To restrict your search to the bibliographies, enter in the box: [your search term(s)] AND “recent publications”

The August 2004 issue of **The American Journal of Physics**, vol. **72**, no. 8 contains “Reappraising Einstein’s 1909 Application of Fluctuation Theory to Planckian Radiation” by F.E. Irons.

Volume **44**, no. 7 of **The CERN Courier** (2004) contributes to the celebrations of CERN’s 50th birthday with “Computing at CERN: the Mainframe Era” by Chris Jones.

Hans Bethe writes “My Life in Astrophysics” in the September 2003 issue of **Review of Astronomy and Astrophysics**, volume **41**.

Ernest D. Courant shares his recollections, called “Accelerators, Colliders, and Snakes” in the December 2003 issue of **Annual Review of Nuclear and Particle Science**, volume **53**.

The September 2004 issue of **Discover** magazine anticipates the 2005 centenary with articles including “Einstein [In a Nutshell]” by Michio Kaku; “A Tangled Life” by Brad Lemley; “Einstein’s Gift for Simplicity” by Thomas Levenson; “Einstein’s Grand Quest for a Unified Theory” by Tim Folger; “Einstein’s Lonely Path” by Lee Smolin; “Tinker, Thinker, Inventor of the Modern World” by David Bodanis; “No Mere Genius” by Walter Isaacson, and “The Master’s Mistakes” by Karen Wright, among other well-illustrated articles.

Historical Studies in the Physical and Biological Sciences includes in its March 2004, volume **34**, no. 2 issue “Scientific Discovery in statu nascendi: The Case of Dmitrii Mendeleev’s Periodic Law” by Igor S. Dmitriev; “Organized Criticism of Einstein and Relativity in China” by Danian Hu; “The SIRIO satellite, 1968-1977: Between Scientific Engagement and Managerial Inexperience” by Lucia Orlando, as well as “Project Vista, Caltech, and the Dilemmas of Lee DuBridge” by former AIP postdoc W. Patrick McCray.

Asif Siddiqi writes about “Deep Impact: Robert Goddard and the Soviet ‘Space Fad’ of the 1920s” in the June 2004 issue of **History and Technology**, volume **20**, no. 2.

The Indian Journal of History of Science contains S.F. Tuan’s “Dirac and Heisenberg in Hawaii” in volume **38**, no. 1 (2003).

The second part of L. A. Currie’s “The Remarkable Metrological History of Radiocarbon Dating” appears in the March-April 2004 issue of **Research of the National Institute of Standards and Technology**, volume **109**, no. 2.

Philip Gissing writes about “Britain and the H-Bomb” in **Minerva**, volume **42**, no. 3 (September 2004).

Physics in Perspective, volume **6**, no. 2 (June 2004) contains “Ellen Gleditsch: Pioneer Woman in Radiochemistry” by Annette Lykknes, Helge Kragh, and Lise Kvittingen; “AdA: The First Electron-Positron Collider” by Carlo Bernardini; “A Conversation with Frank Press” by Judith R. Goodstein; and “Heike Kamerlingh Onnes: Master of Experimental Technique and Quantitative Research” by Simón Reif-Acherman. Alberto A. Martínez (a recipient of an AIP Grant-in-Aid) writes about “Ritz, Einstein, and the Emission Hypothesis” in issue no. 1 of that volume (April 2004), which also contains “Enrico Fermi’s Discovery of Neutron-Induced Artificial Radioactivity: The Recovery of His First Laboratory Notebook” by Giovanni Acocella, Francesco Guerra and Nadia Robotti; and “Early Gravity-Wave Detection Experiments, 1960-1975” by James L. Levine.

John Krige contributes “I. I. Rabi and the Birth of CERN” to the September 2004 issue of **Physics Today**.

Physics World joins the CERN celebrations in its September 2004 issue with “CERN at 50: the Highlights” by Peter Rodgers.

Physics Uspekhi volume **47**, no. 2 (2004) contains “Creation and Development of Bohr’s Theory (On the 90th Anniversary of the Bohr Theory of the Atom)” by V.P. Milant’ev, while no. 6 of the same volume offers “How Were the Hilbert and Einstein Equations Discovered?” by A.A. Logunov, M.A. Mestvirishvili and V.A. Petrov.

Research Policy volume **31**, number 5 (July 2002) includes “The Organization of Scientific Collaboration” by Ivan Chompalov, Joel Genuth and Wesley Shrum.

Science and Education, volume **13**, no. 3 (April 2004) has two articles about understanding and teaching history of science that are relevant to the history of physics: “Pseudohistory and

All of us are interested in our roots. Generally this interest is latent in youth, and grows with age. Until I reached fifty I thought that history of science was a refuge for old scientists whose creative juices had dried up. Now of course I know that I was wrong! As we grow older, we become more interested in the past, in family history, local history, etc. Astronomy is, or was when I started in it, almost a family.

– Donald E. Osterbrock

Pseudoscience” by Douglas Allchin, and “Comments on the Epistemological Shoehorn Debate” by Stephen G. Brush.

Science in Context, volume 16, nos. 1 and 2 (2003) are about “Scientific Personae and Their Histories,” with “Harmonious Investigators of Nature: Music and the Persona of the German Naturforscher in the Nineteenth Century” by Myles W. Jackson; “J. Robert Oppenheimer: Proteus Unbound” by Silvan S. Schweber, and “Objectivity and the Scientist: Heisenberg Re-thinks” by Cathryn Carson. Volume 17 (2004) has “Hermann Weyl’s Analysis of the ‘Problem of Space’ and the Origin of Gauge Structures” by Erhard Scholz; and “Early Developments of Nonlinear Science in Soviet Russia: The Andronov School at Gor’kiy” by Amy Dahan Dalmedico.

Science, Technology & Human Values, vol. 29, no. 3 (2004) considers two aspects of the nuclear risk, with “Transformation Discourse: Nuclear Risk as a Strategic Tool in Late Soviet Politics of Expertise” by Sonja D. Schmid; and “Uncertainty and Regulation: The Rhetoric of Risk in the California Low-Level Radioactive Waste Debate” by Louise Wells Bedsworth.

Documentation Preserved

Compiled by Katherine A. Hayes

All the information here is entered in our online International Catalog of Sources for History of Physics and Allied Sciences. PLEASE NOTE: This column is published in its full extended form, as in previous years, as part of our online newsletter. Please see the latest issue online at www.aip.org/history/web-news.htm.

THE NATURAL HISTORY MUSEUM. CROMWELL ROAD, LONDON SW7 5BD, ENGLAND, UK (CONTACT: MUSEUM ARCHIVIST)

Papers of **René Gallant**. Size: 4.6 cu. ft. (50 paper files, 580 photographic slides). Contact repository for further information on access.

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

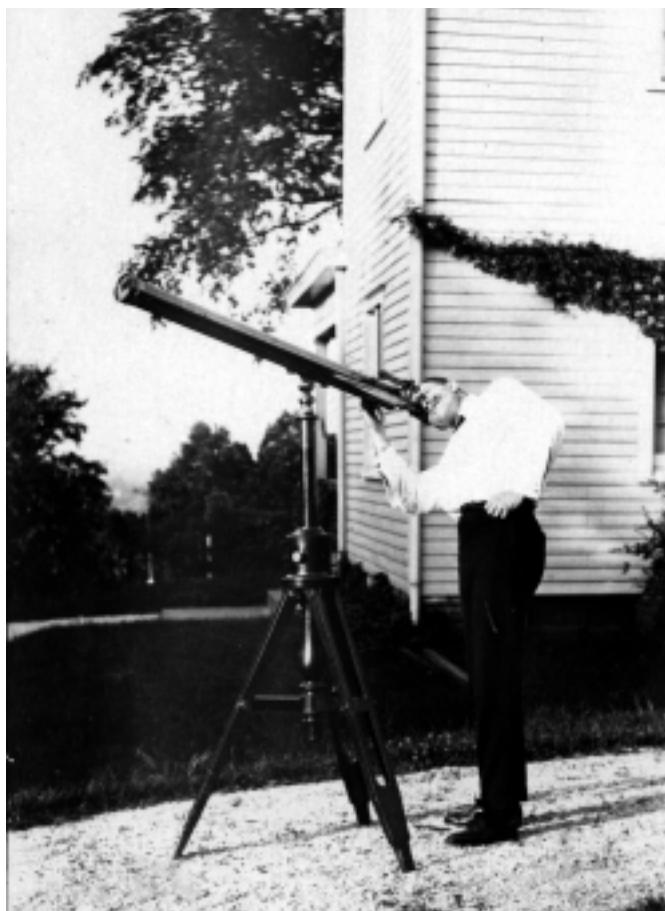
Papers of **Jean Perrin, 1870-1942**. Collection dates: 1887-1942. Size: 5 cartons.

RUSSIAN ACADEMY OF SCIENCES. ARCHIVE. UL. NOVOCHEREMUSHKINSKAIA, 34, MOSCOW 117218, RUSSIA (CONTACT: ARCHIVIST)

Papers of **B. M. Vul**. Size: 3.5 lin. meters. Collection is unprocessed.

Papers of **Evgenii Ivanovich Zababakhin**. Size: 2.8 lin. meters.

Papers of **Evgenii Konstantinovich Zavoiskii, 1907-1976**. Size: 2.1 lin. meters. Collection is unprocessed.



To entertain his young students, and perhaps in preparation for an evening of astronomical observations, Edwin Hubble brought a telescope and set it up in the circular driveway of John Roberts’s home, near the Hubble family home in Louisville, Kentucky. This is the earliest photograph showing Hubble with a telescope. Photograph by John R. Roberts, courtesy AIP Emilio Segrè Visual Archives, Kielkopf Collection. Donated by Dr. and Mrs. John F. Kielkopf with John R. Hale.

DWIGHT D. EISENHOWER LIBRARY. ABILENE, KS 67410, USA (CONTACT: JAMES W. LEYERZAPF)

“Twenty-four minutes to checkmate” by **Vincent T. Ford**. Collection dates: 1953-1957. Size: 1,260 pages. The entire manuscript is open to researchers, with the exception of a brief phrase on one page withheld for national security reasons.

Papers of **Lauris Norstad, 1907-1988**. Collection dates: 1930-1987. Size: 62 linear feet (147 boxes). Almost 17,000 pages in the Norstad Papers remain security classified and unavailable for research as of November 1988. These fall entirely within the SACEUR and Pre-SACEUR periods, 1951-1962.

HISTORICAL SOCIETY OF WESTERN PENNSYLVANIA. SENATOR JOHN HEINZ PITTSBURGH REGIONAL HISTORY CENTER. LIBRARY AND ARCHIVES. 1212 SMALLMAN ST., PITTSBURGH, PA 15222, USA (CONTACT: THOMAS E. WHITE)

Records of the **Aluminum Company of America**. Collection dates: 1857-1992. Size: 95 linear feet (189 boxes).



LEFT: Enrico Fermi (at left) with a group of physicists that includes Ettore Majorana, by the Leaning Tower of Pisa, date unknown. Photograph by Nello Carrara, courtesy AIP Emilio Segrè Visual Archives. Donated by Eugenio Carrara.

BELOW: Enrico Fermi, Franco Rasetti and Nello Carrara eating lunch while mountaineering in the marble landscape of the Apuanian Alps. Note their cooking equipment and climbing ropes. Photograph by Nello Carrara, courtesy AIP Emilio Segrè Visual Archives. Donated by Eugenio Carrara.



NORTH CAROLINA STATE UNIVERSITY. SPECIAL COLLECTIONS RESEARCH CENTER, NCSU LIBRARIES. BOX 7111, RALEIGH, NC 27695-7111, USA (CONTACT: TODD KOSMERICK)

Records of the **Department of Nuclear Engineering, North Carolina State University**. Collection dates: 1950-1999. Size: 2.5 linear feet.

Papers of **John S. Risley**. Collection dates: 1961-2002. Size: 54 lin. ft. (34 boxes, 2 oversized folders).

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

Oral history interview with **John Daniel Kraus, 1910-**. Interview date: 2002. Transcript: 18 pp. Interview conducted by Robert Wagner at the home of Dr. Kraus on August 20, 2002.

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

Atomic test site slides taken by **Ralph Earle** at the Atomic Energy Testing Center, Yucca Flats, Nevada in October 1951. Collection dates: 1951. Size: 30 slides (lantern size and 35mm).

Oral history interview on videotape of **H. W. Kroto**. Collection size: 0.5 cubic feet.

SMITHSONIAN INSTITUTION ARCHIVES. A & I BUILDING, ROOM 2135, MRC 414, 900 JEFFERSON DRIVE, SW, WASHINGTON, DC 20013, USA (CONTACT: TAMMY PETERS)

Records of **Science Service**. Collection size: 68.25 cubic feet.

Addition to the papers of **Fred Lawrence Whipple, 1906-**. Collection dates: 1927-2004. 19.72 cubic feet (2004 addition). Collection is unprocessed. Use of this record unit requires prior arrangement with the Archives staff.

STATE UNIVERSITY OF NEW YORK AT STONY BROOK. FRANK MELVILLE JR. MEMORIAL LIBRARY. STONY BROOK, NY 11794, USA (CONTACT: JASON TORRE)

Stony Brook history project by **Sidney Gelber (1924-)**. Collection dates: 1947-1988. Size: 20 cu. ft.

Stony Brook oral history project by **Karl D. Hartzell**. Collection dates: 1986-1989.

UNIVERSITY OF CALIFORNIA, BERKELEY. THE BANCROFT LIBRARY. BERKELEY, CA 94620-6000, USA (CONTACT: DAVID FARRELL)

Papers of **Donald A. Glaser (1926-)**. Collection dates: Ca. 1945-present. Size: 43.75 lin. ft. (35 cartons).

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Papers of **Edsger Wybe Dijkstra**. Collection dates: 1971-1979. Size: 1 cu. ft. (1 box). Forms part of the Burroughs Corporation Records, CBI 90. This is Series 31. The collection is unrestricted.

UNIVERSITY OF MINNESOTA. UNIVERSITY ARCHIVES. 10 WALTER LIBRARY, 117 PLEASANT ST. S.E., MINNEAPOLIS, MN 55455, USA (CONTACT: LOIS HENDRICKSON)

Papers of **Willem Jacob Luyten, 1899-1994**. Collection dates: 1920-1994. Size: 1 meter (7 boxes); 1 map case.

Papers of **Joseph Valasek, 1896-** . Collection size: 3 boxes.

UNIVERSITY OF TEXAS AT AUSTIN. DEPARTMENT OF COMPUTER SCIENCES. 1 UNIVERSITY STATION C0500, AUSTIN, TX 78712-0233, USA (CONTACT: HAM RICHARDS)

Manuscripts of **Edsger Wybe Dijkstra**. Internet resource accessible via the World Wide Web; composed of text (HTML, PDF), video (MPEG-1) and digital images. Visit the Web site at www.cs.utexas.edu/users/EWD.

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In the history of scientific development the personal aspects of the process are usually omitted or played down to emphasize that the thing discovered is independent of the discoverer and that the result can be checked. But, as Einstein has pointed out, scientific concepts are "created in the minds of men," and in some way the nonprofessional aspects of life and mind are inevitably related to the professional.

— Melba Phillips

It will all be lost when I'm gone...

This sums up the sentiment of most of the physicists interviewed for the Physicists in Industry Project (see article on page 2). Most companies don't preserve the working papers of their scientists, and these are all too often lost when the physicist retires. The Center hopes to build an endowment to fund oral history interviews and provide expertise to save this important part of our legacy. Please contact the American Institute of Physics Development Office (301-209-3006) or the Center at chp@aip.org to help endow this significant gap in our programs.

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