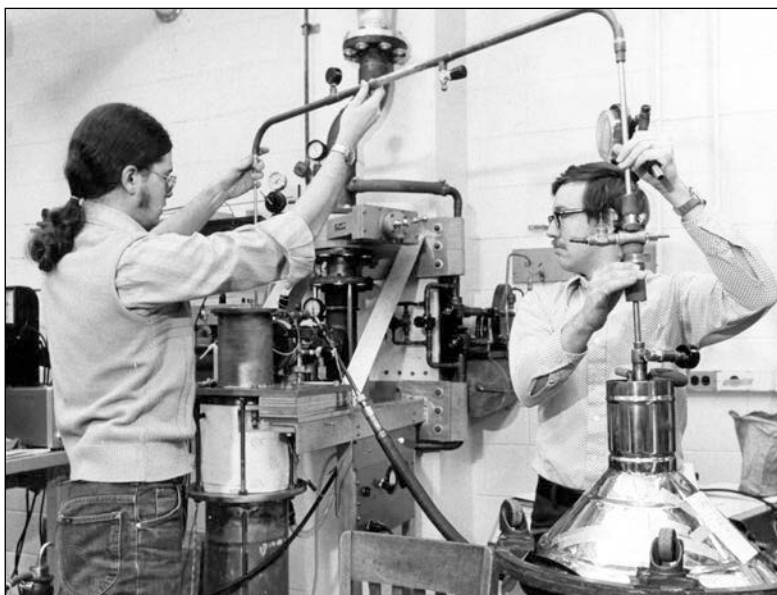


Taking Technology Through the “Valley of Death,” Physicists Don’t Fear Risk

As the History of Physics Entrepreneurship (HoPE) project transitions from the interview phase to the analysis phase, new and intriguing insights have begun to bubble to the surface. The project staff have completed 114 interviews with physicist entrepreneurs, 11 interviews with university intellectual property transfer offices, and two interviews with venture capitalists throughout the U.S. With field trips to Georgia and Colorado remaining on the agenda, we expect to interview another ten to fifteen physicist entrepreneurs and five or six venture capitalists. We’ll then spend the last year of the three-year study coding and analyzing the interviews and other resources and compiling our findings.

Some trends are obvious even though they await formal analysis. That physicist entrepreneurs do not feel they are taking great risk in their entrepreneurial activity is among the most surprising.

Physicists are highly skilled in risk analysis and few, if any, appear inclined to venture into activity at which they do not feel confident they will succeed even though they are aware that they are bringing new technologies through



what entrepreneurs call the “valley of death.” Physicist entrepreneurs do not perceive themselves as great risk takers. Rather they are confident that the innovative technologies they have created will solve important social and commercial problems.

Two other issues surprised us by the degree to which they influenced physics-based innovation in the US. The role of the federal SBIR/STTR programs in providing resources to enable high tech innovation appears critical. SBIR/STTR grants play at least two important roles. At one level they provide critical seed funding for ideas and innovations that have not yet reached a stage that will attract venture capital or angel investment. At another level they provide an essential resource for companies whose technologies are nearly fully developed but have not yet found their proper market and for whom venture capitalists are either

unwilling to provide further investment or the founding physicists are unwilling to further dilute their share in the technologies they are transitioning to the marketplace. In both cases the SBIR/STTR programs play essential

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roles in enabling American innovation and in creating well paying high-tech American jobs.

Finally we were surprised at the degree to which immigrant entrepreneurs appear to play a role in physics based entrepreneurship. Of the 114 entrepreneurs interviewed thus far, nearly one third migrated to the United States, many, but not all, to complete their education here. China and India provided the most immigrant entrepreneurs with six each, followed by Germany and Russia with three each. Japan and Korea both provided two physicist entrepreneurs while Argentina, Brazil, Columbia, Egypt, England, Iran, Ireland, Italy, Jordan, Poland, Romania, Taiwan and Turkey filled out the list of source lands for immigrant physicist entrepreneurs. Another five of the 76 American-born physicist entrepreneurs identified their parents as immigrants. Almost as significant was the view, both by entrepreneurs and venture capital of the importance of immigration to maintaining American competitive advantage. One angel investor told us that venture capital is beginning to move abroad because American immigration policy is discouraging the best and brightest from coming to or staying in the United States. Another immigrant entrepreneur, who began his company in the 1990s, now employing more than 700 and the technological leader in his field, told us that since 9/11 it was easier for foreign students trained in the US to return to their homelands to begin companies; taking the technologies they had developed with them. ■

“*“Proof,” I said, “is always a relative thing. It’s an overwhelming balance of probabilities. And that’s a matter of how they strike you.”*

Philip Marlowe in Raymond Chandler’s Farewell, My Lovely, 1940

The Niels Bohr Library & Archives, American Institute of Physics (AIP), is pleased to announce that it has completed digitizing the complete Samuel Goudsmit Papers (1921–1979, 30 linear feet, approximately 67,000 images) and mounting them on the Web at <http://www.aip.org/history/nbl/collections/goudsmit/>.

The papers are a major international collection of correspondence, research notebooks, lectures, reports, World War II science documents, and other material of Goudsmit (1902–1978) a Dutch physicist who spent his career in the U.S. and was involved at the cutting edge of physics for over 50 years. It contains especially strong sources on the development of quantum physics in Europe and its spread to the U.S. during the first half of the century; German efforts to develop an atomic bomb during World War II, post-war physics research, and scientific publishing. Because of its breadth and depth it is the most used collection in AIP’s Library & Archives.

Goudsmit was a prolific letter writer and a conscientious collector who saved letters (often including copies of his outgoing correspondence) and other documents from his student days through the end of his career. He was born in the Netherlands and studied theoretical physics at the University of Leiden under Paul Ehrenfest. His discovery of electron spin in 1925 with fellow student George E. Uhlenbeck represents his signal scientific contribution. In addition, he conducted other important research over his career, and he received a variety of honors and awards, culminating in the top U.S. science prize, the National Medal of Science.

Upon completing his doctorate in 1927, Goudsmit settled at the University of Michigan. In 1928 he helped establish the famous Michigan Summer Schools in Theoretical Physics, which were taught

by Goudsmit, other European-trained faculty, and by guest lecturers including luminaries like Bohr, Heisenberg, Dirac, Pauli, Ehrenfest, and Fermi. The Summer School was the first program of its kind on theoretical physics in America, and it played a critical role in introducing American scientists to quantum physics.

In 1941 Goudsmit left Michigan to go to the Radiation Laboratory at the Massachusetts Institute of Technology, where radar was perfected during World War II, and from 1944 to 1946 he was detailed to the War Department as Chief of Scientific Intelligence of the Alsos Mission. The mission moved with the advancing Allied forces in Europe to investigate the state of the German research projects to develop an atomic bomb and to capture both relevant documents and the scientists who participated. Goudsmit’s extensive Alsos Mission files are invaluable in understanding German atomic bomb research and have been used by many historians.

The last chapter of Goudsmit’s career began after the war when he accepted two iconic positions, editor of the *Physics Review*, then emerging as the preeminent physics journal, and research director at the brand-new Brookhaven National Laboratory. In 1966 he also became Editor-in-Chief of the *American Physical Society*. His postwar files broaden to embrace both the new high-energy physics research at Brookhaven and the entire spectrum of Cold War physics. Goudsmit retired from Brookhaven in 1970 but retained his editorial duties until 1974.

In summary, the Goudsmit Papers, and especially his rich correspondence, document the mainstream of physics research from the 1920s through the mid-1970s. The project to digitize the Goudsmit Papers took two years and was partially supported by the U.S. National Historical Publications and Records Commission. ■

Disciplinary History Centers' Success in Capturing the History of Science

By Greg Good, Director, Center for History of Physics

The AIP Center for History of Physics (CHP) and the Niels Bohr Library & Archives (NBL&A) are the world's premier institutions dedicated to the preservation and dissemination of physics history. Together, these two AIP programs constitute a "disciplinary history center." In fact, we were the first such center in history of science when the CHP and the NBL&A were created in the 1960s. Since then, disciplinary history centers have formed that focus on other areas such as chemistry, computing, and electrical engineering.

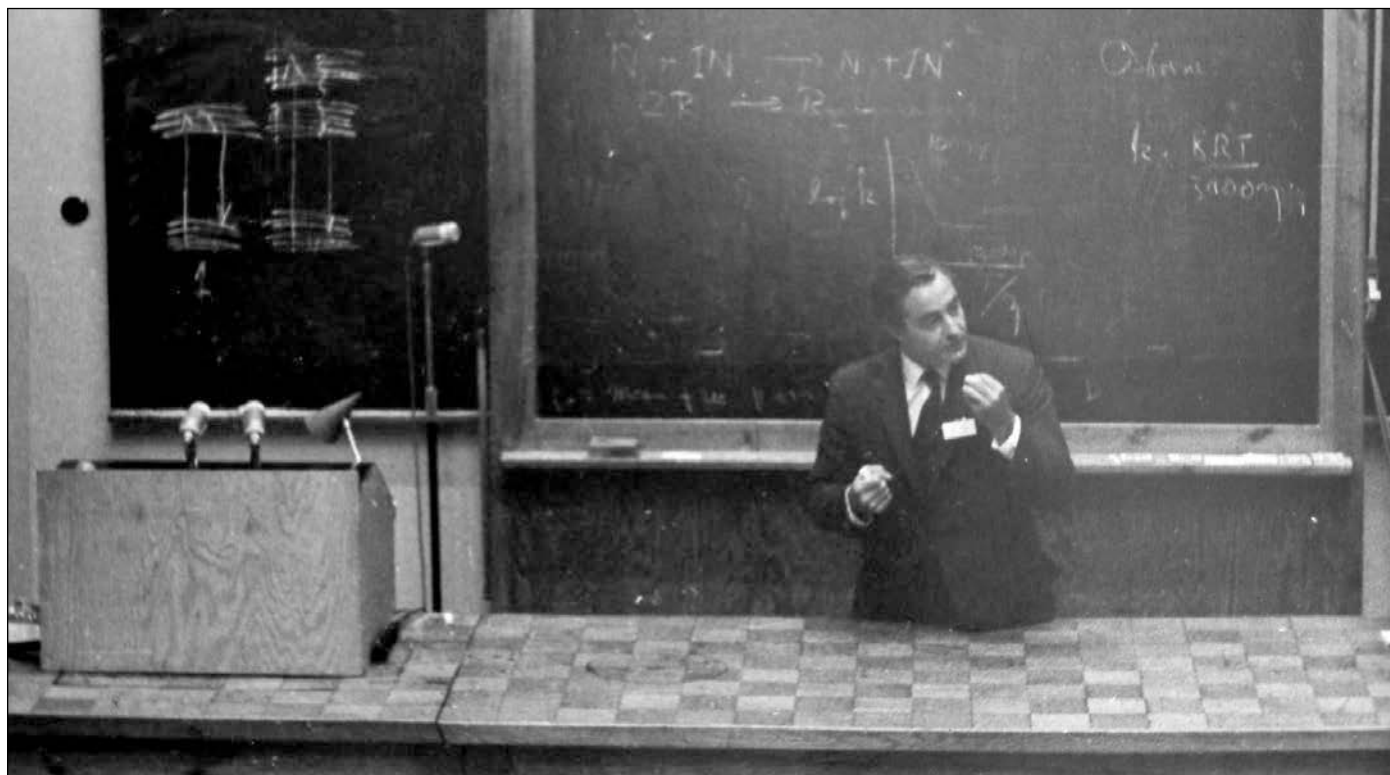
I recently visited two such disciplinary history centers that promote the history of sciences closely related to physics. The Chemical Heritage Foundation (CHF) in Philadelphia focuses not only on chemistry, obviously, but also medical chemistry and nuclear science—topics that clearly overlap some of CHP's interests. The Charles Babbage Institute (CBI) in Minneapolis serves a similar purpose for the history of computing. CHP, CHF, CBI, and the IEEE History Center all help scholars and others to explore

histories clustered around their core disciplines, but all of them are also very conscious that disciplinary boundaries are not fixed. Much of the best science crosses boundaries and always has. This does not mean that disciplinary history centers are outdated. They serve the critical need for enhancing the visibility of history of science. Working together, these diverse centers cover much more history and many more sciences than their names imply.

This summer, the Center for History of Physics will undertake a new initiative by hosting a conference for early-career historians of science, "Continuity and Discontinuity in the Physical Sciences Since the Enlightenment." The most important goal of the conference is to bring together the rising generation of historians of the physical sciences so they can begin to build the next active community of historians of physics. It's their community to build, and both the Center for History of Physics and the Niels Bohr Library and Archives need a strong community of researchers to

augment the written history of physics. The early-career historians chose the conference theme, conducted the call for abstracts, and will present most of the more than 30 papers at the conference. Their topics range from investigations of the Geiger-Müller counter and controversies over quantum gravity and statistical mechanics to the history of auroral physics and the prediction of the positron. The conference also features a public lecture by David DeVorkin, Senior Curator of History of Astronomy and the Space Sciences at the Smithsonian National Air and Space Museum. The evening of Friday, July 29, DeVorkin will deliver a talk entitled "How the Cold War Changed the Smithsonian's Astrophysical Observatory." The conference begins on July 28 with a full day of sessions and closes July 31 with a look toward the future of the history of physics.

Although the conference is by and for the young historians of physics, registration is open to everyone interested in the history of physics and allied sciences. Please join us. ■



George Porter during his plenary talk at 'The International Conference on Luminescence' in Torun, Poland. September 25–28, 1963. Credit: Nicolaus Copernicus University, courtesy AIP Emilio Segrè Visual Archives.

History of Physics in Utrecht

Welcome to Utrecht! Utrecht University in the Netherlands houses a strong and competitive graduate programme in History and Philosophy of Science. Furthermore, HPS in Utrecht offers tracks that have a robust emphasis on History and Philosophy of Physics. Courses and student research can also be combined with courses and research in core physics disciplines, notably in theoretical physics. Utrecht's HPS program is entirely offered in English, and is as such the only program on the European continent in the field. Many HPS students from outside the Netherlands and outside Europe enroll at Utrecht University.

HPS in Utrecht can be studied at the Master and PhD level; the first degree is obtained after two years, after which the most successful students may be invited to continue towards a PhD in Utrecht. 80% of Utrecht's Master's degree graduates continue for a PhD in Utrecht, elsewhere in the Netherlands, or abroad.

Currently, the core faculty that teaches History and Philosophy of Physics includes Denis

Dieks, Jeroen van Dongen and Jos Uffink. Their research centers on the historiography of late 19th and 20th century physics, and foundational issues in physics and philosophy of science; recent topics have included the science and life of Albert Einstein and his contemporaries, foundational debates on space, time and quantum mechanics, and the development of European physics in the context of World War II and the Cold War. Visiting Associates in History and Philosophy of Physics are Al-

bert van Helden, A.J. Kox, Frans van Lunteren and Fred Muller; recent HPS PhD graduates with an emphasis on physics include M.P. Seevinck (on correlations in physical theories and what these say about the world), Daan Wegener (on the history of energy conservation in 19th century German science and culture) and David Baneke (on the desire for "synthesis" in Dutch debates about science and culture in general during the first third of the twentieth century).

Utrecht's HPS program is taught at two of the university's institutes: The Institute for History and Foundations of Science, which is part of the Physics Department, and the university-wide

cal and Comparative Studies of the Sciences and Humanities; Philosophy of Science; Foundations of Physics, and, finally, Mathematics and Logic.

A substantial number of graduate students enrol after having completed their undergraduate degrees in Utrecht, which generally already contain a number of high level HPS courses in their curriculum; consequently, HPS graduate students are expected to immediately perform at an advanced level. This is particularly true in the case of students who have done a Bachelor degree in physics in Utrecht.

The Utrecht Institute for History and



The Oudegracht ("Old canal") in Utrecht, the Netherlands.

Foundations of Science houses the editorial offices of two of the leading journals in the field: Studies in History and Philosophy of Physics, and Foundations of Physics. Furthermore, "Gewina", the History of Science Society of Holland and Belgium, has its offices there, and close collaborations exist with the Einstein Papers Project at Caltech and the

Descartes Centre. With the combined faculty of both, our HPS degree program can offer advanced courses in history and philosophy of all core academic disciplines, even the humanities; students can of course also choose to do a number of topical courses in the sciences or humanities proper. HPS is one of Utrecht University's designated research focus areas, which is reflected in a broad presence of faculty in the field. Main recommended tracks that the program offers are in: History of Science; Histori-

Max Planck Institute for the History of Science in nearby Berlin. At the Descartes Centre, recent visiting faculty in History and Philosophy of Physics have included Roman Frigg and Miklos Redei from the LSE, and Giovanni Valente from Pittsburgh. In collaboration with the Centre for the Humanities, it hosts Peter Galison (Harvard) who holds the Treaty of Utrecht Visiting Chair for 2010 through 2013. The Descartes Centre also hosts many other prominent historians

(Continued on page 6)

Joseph Rotblat's Archive: Some Anomalies and Difficulties

By Martin C. Underwood, Dept of Physics, Sub-Dept. of Particle Physics, University of Oxford and
Dept. of The History and Philosophy of Science, University of Cambridge

Introduction

Professor Sir Joseph Rotblat was a distinguished scientist who made significant contributions to nuclear physics, worked on the development of the atomic bomb (he was the only scientist to leave the Manhattan Project where these weapons of mass destruction were being developed) and was suspected of being a soviet spy. Rotblat was appalled when nuclear weapons were used on Hiroshima and Nagasaki, although he did work, albeit for a short time, on their development and in his view with little impact. Instead he dedicated himself to the medical uses of nuclear physics and radiation, taking up the post of Professor of Physics (as applied to medicine) at St. Bartholomew's Medical College and made major contributions to this field, becoming one of the world's leading researchers into the biological effects of radiation. Rotblat was to develop the view that scientists were responsible

for the consequences of their work and scientific research should be for the benefit of humanity, a driving principle in his life and work being that scientists cannot dissociate themselves from the consequences of their work, however difficult to predict.

Joseph Rotblat worked at the University of Warsaw, discovering inelastic neutron scattering. He was invited in 1939 to work at Liverpool University with James Chadwick. Towards the end of 1939 Rotblat began experiments in Liverpool which demonstrated that the nuclear bomb was feasible. At the beginning of 1944 Rotblat joined the Chadwick group at Los Alamos, New Mexico to work on the Manhattan Project, which was developing the atomic bomb. At the end of 1944 he resigned and returned to England.¹

In this paper I describe some new findings that will lead to a reappraisal of some aspects of his life and work.

This has become possible as a consequence of funding from The Friends of The Center For The History of Physics at AIP, allowing me to consult Rotblat's Archive that is now becoming available, housed in the Churchill Archives Centre, Churchill College, University of Cambridge. Many insights and anomalies have already been uncovered and in this short summary I describe some of the findings, to date.

The Manhattan Project

In his seminal paper 'Leaving the Bomb', Rotblat says 'And so, on Christmas Eve 1944, I sailed for the United Kingdom....I packed **all** (emphasis is mine) my documents-research notes as well as correspondence and other records in a box.... Chadwick personally helped me put the box on the train to New York. But when I arrived there a few hours later, the box was missing. Nor, despite valiant efforts, was it ever recovered.'²

(Continued on next page)



Photo taken at the official start-up of the Uppsala Cyclotron by E. O. Lawrence. The Nobel Prize winners were asked to sign their names on the coffee pot. L-R: Theodor Svedberg, Ernest Lawrence, John Cockcroft, Glenn Seaborg, Santa Lucia girl (note the candles in her hair), and Ernest Walton. December 1951. Credit: AIP Emilio Segrè Visual Archives, gift of E. T. S. Walton.

(Utrecht, continued from page 4)

of science who focus on other disciplines than physics.

The atmosphere at Utrecht's HPS institutes is distinctly lively, with many student activities, conferences and seminars. There is much interdisciplinary collaboration across departments, faculty is easily accessible to students and the university offers excellent libraries and other facilities. For the historian of physics it should be noted that some of Europe's best physics archives are to be found within commuting distance in Haarlem, Leiden, Amsterdam and of course in Utrecht itself.

Utrecht University is one of Europe's leading institutions of higher learning, and has consistently been listed in the European top ten in the Shanghai ranking of global universities. The town of Utrecht is very attractive, with beautiful age old canals, gabled houses, a lively city centre and a large and active student community. It is located in the heart of the "Randstad" metro area, which includes Amsterdam, Rotterdam and The Hague; one finds here many museums,

a rich cultural life and a vibrant economy. So, to all aspiring young historians of physics: Visit Utrecht, or better still: join us for a first rate degree in History and Philosophy of Science!

For more information about the graduate program and related matters, please visit:

<http://www.phil.uu.nl/HPS/>

<http://www.descartescentre.com/index.php?lang=eng>

or email: j.a.e.f.vandongen@uu.nl

(Rotblat, continued from page 4)

The Archive contains, much to my surprise, a considerable body of papers from Rotblat's time at Los Alamos. In summary, these papers contain:

Plan of an experiment to determine the capture cross-section of ^{235}U ³

1. A method for neutron energy measurements⁴
2. Notes on an experiments to determine some nuclear constants³
3. Monthly report⁵

The discovery of these papers is a significant finding as it is totally at odds with Rotblat's account of events. It could be that Rotblat was simply mistaken, reporting over 40 years after the events, the papers could have been removed by someone else, possibly Chadwick, but this is only speculation. This contradiction will be the subject of future work.

St. Bartholomew's Medical College

Following his return to Liverpool University in late 1944, Rotblat started to change the direction of his research activities. Perhaps, in part, as a reaction to the horrors of the use of the atom bomb on Hiroshima and Nagasaki, he became involved in the medical uses of radioisotopes and radiation in diagnosis and treatment. This culminated in his accepting the post of Professor of Physics (as applied to medicine) St. Bartholomew's Medical College, London University. The hospital housed a 15 MeV linear accelerator, used for treatment that was employed for research when not being utilised for clinical purposes. Rotblat, however, wanted an accelerator devoted solely for research. He succeeded and a full assessment of the performance of this machine can now be made from papers contained in the Archive.⁶

An order was placed with Vickers in May 1961, and delivered to site in July 1963 and assembled by December of that year. The specification called for a 5 micro-second pulse at 100 pulses per second. Vickers carried out trials during 1964 and obtained a pulse length of 1.7 micro-seconds at full power. A new wave guide was fitted in 1965 and Vickers claimed a beam of electrons at an energy of 14.6 MeV and a current of 750 mA. St. Bartholomew's staff measured the energy to be 11.8 MeV. In October 1965 it was agreed that an independent measurement should be sought and Barts agreed to take the machine if it performed within 10% of the specification. Independent assessors from the Rutherford Laboratory were appointed and carried

Grants-in-Aid Awarded in Fall 2010 and Spring 2011

Most of the grant-in-aid funding for 2011 is being used to bring early-career scholars to the AIP conference "Continuity and Discontinuity in the Physical Sciences since the Enlightenment." Approximately 30 travel grants were awarded.

Patrick Welsh (Ph.D. candidate, Florida State University), to support oral histories related to physics and national security in the 1960s.

Dr. Josep Simon (Institut de Recherches Philosophiques, Université Paris Ouest), to support research on Robert Andrews Millikan and the making of an American pedagogy of physics.

Dr. Donald Salisbury (Austin College, Sherman, TX), to support oral history interviews on the early history of quantum gravity.

Dr. Jaume Navarro (Max Planck Institute for History of Science, Berlin), to support research at the Niels Bohr Library & Archives on teaching of physics pre-World War II.

A note to former Grant-in-Aid awardees and other scholars who have researched in the Niels Bohr Library & Archives or conducted oral history interviews for us: Please consider writing a short overview of your research. We will gladly consider articles up to 1000 words for the next issue of the newsletter.

out energy measurements in June 1966, after a new klystron was fitted. The energy was measured at 13.5 MeV at a current of 750 mA which was just within the agreed acceptance limits.

The machine was subject to frequent breakdowns and not fit for day to day running and research. Bart's wanted a complete independent assessment of the machine but Vickers refused. In 1967 the S.R.C. were brought in for a final arbitration and the Rutherford Laboratory recommended acceptance of the machine in March 1968. However, some months later the klystron burnt out and a replacement was purchased with an S.R.C. grant. Various attempts were made to run the machine from July 1968 to March 1969 which failed due, largely, to arcing in the waveguides. In March 1969 the klystron burnt out again after only 485 hours of operation. A new klystron was eventually purchased from hospital funds but funding ceased in September 1976. Some student-based research work was undertaken, but the machine was not a success.

The Vickers 15 MeV linear accelerator installed in St. Bartholomew's Medical College in 1963 was plagued with problems from the outset. Independent assessors were appointed to review the machine, but Bart's agreed, it can be argued, an acceptance criterion that was not stringent enough. When Barts wanted additional outside, independent opinions as to the performance of the machine, Vickers were not pressed hard enough to agree to this. At one point, Thompson-Varian did not honor the guarantee covering the performance of the klystron and hospital funds were used to purchase a replacement. The manufacturer claimed that the klystron was running at too high a current and therefore out of specification. There is no evidence in the Archive of these claims being challenged. Project management was simply not careful and tight enough. Norman Kember, who succeeded Rotblat as Head of the Academic Department in St. Bartholomew's Medical College (and later

appointed Professor) said in relation to this machine and Joseph Rotblat, that 'great men are allowed to make great mistakes'⁷ and only one research paper was produced.

Acknowledgements: I am very grateful for the help provided by the staff of The Churchill Archives Centre, Churchill College, Cambridge University and the Listening Service Team of The British Library Sound Archive. I very much thank The Friends of The Center for The History of Physics, The American Institute of Physics for financial support. I would also like to acknowledge and thank Professor Robin Devenish of The Sub-Dept. of Particle Physics, Dept. of Physics, University of Oxford and Professor John Forrester of The Dept. of The History and Philosophy of Science, University of Cambridge for allowing me access to their respective Departments.

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At the annual Department of Physics Picnic, University of Illinois at Urbana-Champaign, from left to right are: Donald M. Ginsberg, Lorella M. Jones (with banjo), graduate students Lynn A. Garren and Richard F. Martin, and two unidentified persons. Circa 1978-79. Credit: Department of Physics, University of Illinois at Urbana-Champaign, courtesy AIP Emilio Segrè Visual Archives.

Recent Publications of Interest

Compiled by Greg Good

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 index: www.aip.org/history/s-index.htm.

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

Notes and Records of the Royal Society

Vol. 64, No. 4: M.I. Grossman, “William Higgins at the Dublin Society, 1810-20: the loss of a professorship and a claim to the atomic theory”; J. Wess, “Crookes’s radiometers: a train of thought manifest”.

Perspectives on Science

Vol. 18, No. 3: Jed Z. Buchwald, “A Reminiscence of Thomas Kuhn”; Vasso Kindi, “Novelty and Revolution in Art and Science: The Influence of Kuhn on Cavell”; K. Brad Wray, “Kuhn’s Constructivism”; Struan Jacobs, “J.B. Conant’s Other Assistant: Science as Depicted by Leonard K. Nash, including Reference to Thomas Kuhn”; Stephanie

Solomon, “Kuhn’s Alternative Path: Science and the Social Resistance to Criticism”; and Alex Levine, “Thomas Kuhn’s Cottage”.

Vol. 18, No. 4: Jeffrey McDonough, “Leibniz’s Optics and Contingency in Nature”.

Vol. 19, No. 1: Gert Goeminne, “Once upon a Time I was a Nuclear Physicist. What the Politics of Sustainability can Learn from the Nuclear Laboratory”.

Vol. 19, No. 2: Paul Pojman, “The Influence of Biology and Psychology upon Physics: Ernst Mach Revisited”.

British Journal for the History of Science

Vol. 43, No. 158: Thomas F. Mayer, “The Roman Inquisition’s precept to Galileo (1616)”; Omar W. Nasim, “Observation, working images and procedure: the ‘Great Spiral’ in Lord Rosse’s astronomical record books and beyond”; Cyrus C.M. Mody and Michael Lynch, “Test objects and other epistemic things: a history of a nanoscale object”.

Vol. 44, No. 160: Stephen Pumfrey, “‘Your astronomers and ours differ exceedingly’: the controversy over the ‘new star’ of 1572 in the light of a newly discovered text by Thomas Digges”; and Kevin Lambert, “The uses of analogy: James Clerk Maxwell’s ‘On Faraday’s lines of force’ and early Victorian analogical argument”.

Historical Studies in the Natural Sciences

Vol. 41, No. 1: Lewis Pyenson, “The Enlightened Image of Nature in the Dutch East Indies: Consequences of Postmodernist Doctrine for Broad Structures and Intimate Life”; and Suman Seth, “The History of Physics after the Cultural Turn” [essay review].

Vol. 41, No. 2: Arturo Russo, “Europe’s Path to Mars: The European Space Agency’s Mars Express Mission”; and Olof Hallonsten, “Growing Big Science in a Small Country: MAX-lab and the Swedish Research Policy System”.

Physics in Perspective

Vol. 12, No. 4: C. Olivotto and A. Testa, “Galileo and the Movies”; S. Reif-Acherman, “Henri Victor Regnault: Experimentalist of the Science of Heat”; P. Halpern, “The Physical Tourist: A DC Circuit Tour”; and H. Lustig, “The Life and Times of Werner Heisenberg” [essay review].

Vol. 13, No. 1: H. Kragh, “Resisting the Bohr Atom: The Early British Opposition”; C.H. Holbrow, “Dick Crane’s California Days”; and L. Bonolis, “Bruno Rossi and the Racial Laws of Fascist Italy”.

Physics Today

Vol. 63, No. 8 (August 2010): T.N.



Emmett Pybus, one of the members of the Ballistic Research team that conducted studies of the stratosphere in the Antarctic, making a final check of the ‘line’ before launching a weather balloon. The team, from Aberdeen Proving Ground, Maryland, worked under the sponsorship of the National Science Foundation. Credit: AIP Emilio Segrè Visual Archives, Physics Today Collection.

Narasimhan, "Thermal conductivity through the 19th century".

Vol. 63, No. 9 (Sept.): Dirk van Delft and Peter Kes, "The discovery of superconductivity".

Vol. 63, No. 10 (Oct.): Alan J. Friedman, "The evolution of the science museum".

Vol. 63, No. 12 (Dec.): Kameshwar C. Wali, "Chandra: A biographical portrait"; Freeman Dyson, "Chandrasekhar's role in 20th-century science"; Robert M. Wald, "Some memories of Chandra"; and S. Chandrasekhar, "Beauty and the quest for beauty in science".

Vol. 64, No. 3 (March 2011): Robert P. Crease, "Politics of precision in ancient China".

Vol. 64, No. 5 (May): John Dvorak, "The origin of the Hawaiian Volcano Observatory".

Vol. 64, No. 6 (June): Robert W. Hamm and Marianne E. Hamm, "The beam business: Accelerators in industry".

Isis

Vol. 101, No. 2: Sabine Clarke, "Pure Science with a Practical Aim: The Meanings of Fundamental Research in Britain, circa 1916–1950"; Hunter Heyck and David Kaiser, "Introduction" [on science and the Cold War]; and Zouyue Wang, "Transnational Science during the Cold War: The Case of Chinese/American Scientists".

Vol. 101, No. 4: Peter Heering, "An Experimenter's Gotta Do What an Experimenter's Gotta Do—But How?"; Iwan Rhys Morus, "Worlds of Wonder: Sensation and the Victorian Scientific Performance"; Natasha Myers, "Pedagogy and Performativity: Rendering Laboratory Lives in the Documentary Naturally Obsessed: The Making of a Scientist"; and Klaus Hentschel, "Heisenberg Contextualized" [essay review].

Vol. 102, No. 1: Edward J. Larson, "Public Science for a Global Empire: The British Quest for the South Magnetic Pole".

History of Geo- and Space Sciences

Vol. 1, No. 1: A. Nishida, "Early Japanese

contributions to space weather research (1945–1960)"; A. Egeland and W.J. Burke, "Kristian Birkeland's pioneering investigations of geomagnetic disturbances"; and W. Schröder, "The development of the aurora of 18 January 1770".

Vol. 1, No. 2: F. Halberg, et al., "Egeson's transtridecadal weather cycling and sunspots"; M. Manda, et al., "Alexander von Humboldt's charts of the Earth's magnetic field: an assessment based on modern models"; and W. Schröder, et al., "Georg von Neumayer and geomagnetic research".

Vol. 2, No. 1: P. Stauning, "Danish auroral science history". ■

“ I am simply going to relate what happened without adding anything of my own — no small effort for a historian. ”

Voltaire, *Micromégas*, 1752



Please help us contact...

...the individuals listed below or their heirs so we can put their oral history interview transcripts online. The Library's project to mount the transcripts of our most valuable oral histories on the web is coming to a successful conclusion.

Currently, one can read interviews with over 500 physicists and astronomers, including figures like Bohr, Bethe, Chandrasekhar, Gell-Mann, and Rabi, and listen to voice clips of Heisenberg, Gamow, and others, by clicking on the list of names at <http://www.aip.org/history/nbl/oralhistory.html>. For a full description of the project, which is funded by a grant from the National Endowment for the Humanities, see our Fall 2008 newsletter (<http://www.aip.org/history/newsletter/fall2008/oral-history.html>).

Contacting interviewees and heirs for permissions is one of the most important and most time consuming parts of the project, and you and other newsletter readers have been of enormous help in the past. We are counting on you now to help us include these important individuals in our new online archive. If you have contact information or other information, please get in touch with Amanda Nelson at anelson@aip.org or 301-209-3172.

Abalakin, Viktor Kuzmich
Abell, George Ogden
Aigrain, Pierre
Archambeau, Charles B.
Armstrong, Alice H.
Bakal, Alexander S.
Baker, William Oliver
Barr, Ernest Scott

Bolef, Dan I.
Dobrzynski, Leonard
Fujita, Yoshio
Gurevich
Hammett, Louis P.
Kozyrev, Aleksei
Libby, Willard F.
Lavrent'ev, Oleg

Lazarev, Boris
Lovell, Bernard, Sir
Miller, Harry B.
Numerova, A. B.
Pais, Abraham
Ryutov, Dmitry
Smith, William

Documentation Preserved

Compiled by Melanie Brown

Our report of new collections or new finding aids is based on our regular survey of archives and other repositories. Many of the collections are new accessions, which may not be processed, and we also include previously reported collections that now have an online finding aid available.

To learn more about any of the collections listed below, use the International Catalog of Sources for History of Physics and Allied Sciences at www.aip.org/history/icos. You can search in a variety of ways including by author or by repository.

Please contact the repository mentioned for information on restrictions and access to the collections.

NEW COLLECTIONS

McMaster University. University Library. Division of Special Collections. 1280 Main Street, West, Hamilton, ON L8S 4L6 Canada

Terry J. Kennett papers. Collection Dates: 1957–1991. Size: 6.5 centimeters. Restrictions: There are no access restrictions.

Università di Roma “La Sapienza”. Dipartimento di Fisica. Piazzale Aldo Moro 2, 00185 Rome

Mario Ageno papers. Collection Dates: 1914–1993. Size: 54 boxes.

Giorgio Careri papers.

Carlo Salvetti papers.

Claudio Villi papers. Collection Dates: 1949–1997. Size: 63 boxes.

Boulder Public Library. 1001 Arapahoe Ave., Boulder, CO 80302, USA

Albert A. Bartlett photograph collection. Collection Dates: 1941–1942, 1992. Size: 1.5 linear feet (3 boxes).

Oral history interview with Albert A. Bartlett. Collection Dates: 1994. Size: Audio recording: 1 sound cassette.

Oral history interview with Albert A. Bartlett. Collection Dates: 1991. Size: Audio recording: 1 sound cassette.

California Institute of Technology. Institute Archives. 1201 East California Blvd. (Mail Code 015A-74), Pasadena, CA 91125, USA

Oral history interview with Leverett Davis. Collection Dates: 1983 May 5. Size: Transcript: 55 pages.

Oral history interview with Jerome Pine. Size: Transcript: 50 pages. Restrictions: No direct quotations in writing.

Oral history interview with Wallace Leslie William Sargent. Collection Dates: 1991. Size: Transcript: 53 pages.

Oral history interview with Thomas Foster Strong. Collection Dates: 1979. Size: Transcript: 50 pages. Restrictions: No publication.

Kip Thorne interviews conducted for his book “Black Holes and Time Warps.” Collection Dates: 1980–1989. Size: Audio recordings: 181 cassettes, CDs or MP3 files.

Children’s Museum of Oak Ridge. 461 West Outer Dr., Oak Ridge, TN 37830, USA

Alvin Weinberg papers. Collection Dates: 1940–1960.

Cornell University. Carl A. Kroch Library. Division of Rare and Manuscript Collections. 2B Carl A Kroch Library, Ithaca, NY 14853, USA

Ernest J. Sternglass papers. Collection Dates: circa 1952–2008. Size: 80 cubic feet.

Dartmouth College. Rauner Special Collections Library. Hanover, NH 03755, USA

Arthur Kantrowitz papers. Collection Dates: 1937–2007. Size: 92 linear feet (62 boxes). Restrictions: Unrestricted.

Oral history interview with Leonard M. Rieser. Collection Dates: 1996. Size: Transcript: 82 pages. Audio recording: 5 audio cassettes. Restrictions: Unrestricted.

Leonard Rieser papers. Collection Dates: 1960–1966. Size: 1.75 linear feet (2 boxes). Restrictions: Unrestricted.

Jet Propulsion Laboratory. Archives. JPL Archive, MS 512-110, 4800 Oak Grove Drive, Pasadena, CA 91109-8099, USA

Lew Allen papers. Collection Dates: 1976–1991. Size: 17.7 cubic feet. Restrictions: Records must be reviewed and cleared before foreign release. Some discreet records are not available to the public.

Andrew J. Butrica radar astronomy collection. Collection Dates: 1993–1994. Size: 0.6 cubic feet. Restrictions: Records must be reviewed and cleared before foreign release.

James A. Cutts papers. Collection Dates: 1982–1987. Size: 2.1 cubic feet (7 boxes). Restrictions: Records must be reviewed and cleared before public release.

Robert H. Goddard photograph collection. Collection Dates: 1915–1940. Size: 0.15 cubic feet.

Infrared Astronomical Satellite records. Collection Dates: 1978–1982. Size: 14 cubic feet. Restrictions: Records must be reviewed and cleared before foreign release.

Charles E. Kohlhasse papers. Collection Dates: 1966–1990. Size: 1.5 cubic feet (3 boxes, 1 oversize box). Restrictions: Records must be reviewed and cleared before foreign release.

Mars Observer Project records. Collection Dates: 1982–1994. Size: 104.2 cubic feet. Restrictions: Records must be reviewed and cleared before public release.

Edward C. Stone papers. Collection Dates: 1976–2001. Size: 33.3 cubic feet. Restrictions: Records must be reviewed and cleared before foreign release.

Library of Congress. Geography and Map Division. 101 Independence Avenue SE, Madison Bldg, Room LM B01, Washington, DC 20540-4650, USA

Marie Tharp papers.

Library of Congress. Manuscript Division. James Madison Memorial Building, First Street and Independence Avenue, S. E., Washington, DC 20540, USA

Robert Furman papers. Collection Dates: 1944–1985. Size: 0.4 linear feet (1 box, 350 items).

Heezen-Tharp collection. Collection Dates: circa 1957–circa 1995. Size: approximately 23,200 items.

William H. Littlewood papers. Collection Dates: circa 1955–1958. Size: 11 boxes. Restrictions: Restrictions may apply to unprocessed material.

Arno A. Penzias papers. Collection Dates: 1931–2006 (bulk 1963–1998). Size: 10.8 linear feet (27 containers plus 2 oversize, 1 artifact, and electronic files or 9,500 items). Restrictions: Open to research.

Francis W. Reichelderfer papers. Collection Dates: 1918–1983 (bulk 1939–1967). Size: 3.6 linear feet (9 boxes). Restriction:

Open to research. Restrictions may apply to unprocessed material.

Pennsylvania State University. Libraries. Special Collections Division. University Park, PA 16802, USA

Wheeler P. Davey papers. Collection Dates: 1907–1945. Size: 0.5 cubic feet. Restrictions: Unrestricted access. These materials are stored offsite. Please allow three days for retrieval before use.

D. C. Duncan class record books. Collection Dates: 1918–1953. Size: 0.5 cubic feet (27 class record books). Restrictions: Restricted access. These materials are stored offsite. Please allow three days for retrieval before use.

Recollections by David C. Duncan [manuscript]. Collection Dates: 1970 June 8.

Size: 57 pages. Restrictions: Unrestricted access.

Paul Kendig papers. Collection Dates: 1938–1987. Size: 1.5 cubic feet. Restrictions: Unrestricted access. These materials are stored offsite. Please allow three days for retrieval before use.

Hans H. Neuberger papers. Collection Dates: 1929–1988. Size: 0.9 cubic feet. Restrictions: Unrestricted access. These materials are stored offsite. Please allow three days for retrieval before use.

Elbert F. Osborn papers. Collection Dates: 1911–1998. Size: 3.45 cubic feet. Restrictions: Unrestricted access. These materials are stored offsite. Please allow three days for retrieval before use.

Pennsylvania State University Environmental Acoustics Laboratory records. Collection Dates: 1970–1998. Size: 1.5 cubic feet. Restrictions: Unrestricted access. These materials are stored offsite. Please allow three days for retrieval before use. [\(Continued on next page\)](#)



Subrahmanyan Chandrasekhar reading; apparatus in background is a Taylor-Couette rig. Credit: AIP Emilio Segrè Visual Archives, Gift of Kameshwar Wali

(New Collections, cont'd from previous page)

lection Dates: 1972–1979. Size: 1 cubic foot. Restrictions: Unrestricted access. These materials are stored offsite. Please allow three days for retrieval before use.

Pennsylvania State University Materials Research Laboratory records. Collection Dates: 1949–1996. Size: 5 cubic feet. Restrictions: Partial restrictions. Personnel files in box 5 are restricted for 70 years from the date of creation. Non-public records are restricted for 20 years from the date of creation.

T. A. Wiggins papers. Collection Dates: 1945–2003. Size: 4 cubic feet. Restrictions: Unrestricted access. These materials are stored offsite. Please allow three days for retrieval before use.

Stanford University. Department of Special Collections and University Archives. Stanford, CA 94305, USA

Isabel Steiner Karkau collection on William Shockley and eugenics. Collection Dates: 1966–1973. Size: 0.25 linear foot.

William E. Spicer collection on William Shockley and eugenics. Collection Dates: 1965–1970. Size: 0.25 linear foot.

Stanford University Center for Computer Research in Music and Acoustics records. Collection Dates: 1967–2001. Size: 40 linear feet. Restrictions: Electronic media and audio-visual materials currently not available for use.

Stanford University Department of Physics photographs. Collection Dates: 1910–1973 (bulk 1965–1973). Size: 2.5 linear feet.

Stanford University Department of Physics records. Collection Dates: 1905–1994 (bulk 1960–1994). Size: 60 linear feet.

Stanford University Physics Library crank file. Collection Dates: 1983–1990. Size: 2 linear feet.

Silicon genesis: oral history interviews of Silicon Valley scientists. Collection Dates:

1995–2005. Size: 7 linear feet (26 VHS video tapes, 2 audio cassettes 3 DVD-R, 68 betacam videos). Restrictions: Betacam videos are restricted master copies; if no VHS copy exists, allow approximately two weeks to have one made.

David Locke Webster papers. Collection Dates: 1915–1973. Size: 21 linear feet.

State University of New York at Buffalo, University Archives, 420 Capen Hall, Amherst Campus, Buffalo, New York 14260, USA

Stanislaw W. Mrozowski additional papers. Collection Dates: undated. Size: 22 boxes.

Tufts University. Tisch Library. Archives and Special Collections. Medford, MA 02155, USA

George Preston Bacon papers. Collection Dates: 1930–1939. Size: 2 linear feet. Restrictions: Some records may be restricted.

Vannevar Bush papers. Collection Dates: 1910–1988. Size: 1.5 linear feet. Restrictions: Some records may be restricted.

Tufts University Department of Physics and Astronomy high energy physics records. Collection Dates: 1956–2009. Size: 7.25 linear feet. Restrictions: Some records may be restricted.

Tufts University Department of Physics and Astronomy records. Collection Dates: undated. Size: 1 carton. Restrictions: Some records may be restricted.

Tulane University. Howard Tilton Memorial Library. Special Collections Division. Manuscripts Collection. 7001 Freret Street, New Orleans, LA 70118, USA

John Karlem Riess papers. Collection Dates: 1866–2002 (bulk 1920s–1990s). Size: 13.5 linear feet. Restrictions: Access is unrestricted.

University of California, Berkeley. The Bancroft Library. Berkeley, CA, 94720-6000, USA

Bruce A. Bolt papers. Collection Dates: 1930–2005. Size: 15 linear feet (12 cartons). Restrictions: Unarranged collection. Advance notice required for use.

Perry Byerly papers. Collection Dates: 1941–1974. Size: 8.75 linear feet (7 cartons). Restrictions: Unarranged collection; unavailable for use. Inquiries regarding these materials should be directed, in writing, to the Head of Public Services, the Bancroft Library. Collection is stored off-site.

Oral history interview with Patricia Wallace Durbin. Collection Dates: 1979 and 1980. Size: Transcript: 115 leaves. Audio recording: 3 sound cassettes.

Albert Einstein letters to Otto Stern. Collection Dates: 1914–1917. Size: 5 letters, 1 postcard. Restrictions: In-process collection; unavailable for use. Inquiries regarding these materials should be directed, in writing, to the Head of Public Services, the Bancroft Library.

Oral history interview with Thomas L. Hayes. Collection Dates: 1980. Size: Transcript: 80 leaves.

Joel Henry Hildebrand papers. Collection Dates: 1903–1986 (bulk 1923–1981). Size: 6.65 linear feet (5 cartons, 1 box, 1 oversize folder). Restrictions: Collection stored, in part, off-site. Advance notice required for use.

John David Jackson papers. Collection Dates: 1949–2000. Size: 35 linear feet (28 cartons). Restrictions: Unarranged collection; unavailable for use. Inquiries regarding these materials should be directed, in writing, to the Head of Public Services, The Bancroft Library. Collection stored off-site.

Ernest O. Lawrence papers. Collection Dates: 1948–1958. Size: 0.4 linear feet (1 box).

Ernest O. Lawrence personal papers. Collection Dates: 1904–1966. Size: 8.75 linear feet (3 cartons, 4 oversized boxes). Restrictions: Collection stored off-site; Advance notice required for use.

Oral history interview with John Hundale Lawrence. Collection Dates: 1979 and 1980. Size: Transcript: 165 pages.

Oral history interview with Edward Joseph Lofgren. Collection Dates: 2006 May 6, 13, and 20. Size: Audio recording: 9 cassettes.

Oral history interview with Howard Charles Mel. Collection Dates: 1979. Size: Transcript: 141 pages. Audio recording: 6 cassettes.

Oral history interview with Alexander V. Nichols. Collection Dates: 1979. Size: Transcript: 91 pages.

Oral history interview with Wallace B. Reynolds. Collection Dates: 1975–1976. Size: Transcript: 91 pages. Audio recording: 4 tape reels.

Oral history interview with Andrew M. Sessler. Collection Dates: 1975. Size: Transcript: 1 volume.

Oral history interview with William Bradford Shockley. Collection Dates: 1976. Size: Audio recording: 1 cassette.

University of California, San Diego. Archives of the Scripps Institution of Oceanography. Mail Code C-075-C. La Jolla, CA 92093-0175, USA

Gustav Arrhenius papers. Collection Dates: 1961–1964. Size: 1 manuscript box.

Richard P. Phillips papers. Collection Dates: 1964–1981. Size: 4 linear feet (3 cartons).

David Franklin Willoughby photographs [slides]. Collection Dates: 1973–1990. Size: 252 35mm color slides.

Charles S. Wright photographs. Collection Dates: 1960–1965. Size: 13 photographs.

Bernard D. Zetler. Collection Dates: 1945–1991 (bulk 1972–1985). Size: 3.75 linear feet (130 slides, 22 glass lantern slides).

University of California, San Diego. Mandeville Special Collections Library. 9500 Gilman Drive, La Jolla, CA 92093, USA

James Arnold and Fred Peters lecture [sound recording]. Collection Dates: May 14, 1997. Size: Audio recording: 1 cassette (circa 81 minutes).

Oral history interview with James Arnold and Devandra Lal. Collection Dates: 1997 April 18. Size: Audio recording: 1 cassette (circa 2.5 hours).

Oral history interview with James Arnold and Devandra Lal. Collection Dates: 1999 June 9. Size: Audio recording: 1 cassette (circa 90 minutes).

Oral history interview with James Arnold and Ernest Anderson. Collection Dates: 1996 June 3. Size: Audio recording: 2 cassettes.

Oral history interview with James Arnold and Keith Brueckner. Collection Dates: 1998 June 10. Size: Audio recording: 2 cassettes (circa 100 minutes).

Oral history interview with James Arnold. Collection Dates: 1985 October 5. Size: Transcript: 43 pages.

Oral history interview with James Arnold. Collection Dates: 2000 July 19. Size: Audio recording: 1 cassette (circa 65 minutes).

Oral history interview with James Arnold. Collection Dates: 2000 October 26. Size: Audio recording: 1 cassette (circa 76 minutes).

Margaret Burbidge papers. Collection Dates: 1950–2004. Size: 23 linear feet. Restrictions: Unprocessed collection. Please contact the Manuscripts Librarian, Mandeville Special Collections Library, UCSD.

William Lanouette collection on Leo Szilard. Collection Dates: 1920–2006. Size: 5 linear feet (7 boxes, 11 card file boxes). Restrictions: Audiocassette recordings in boxes 8 through 18 in the “Interviews on Cassette Tape” series are restricted. Researchers must request

(Continued on next page)



L–R: Carol Ann Prothro; Michael Jura; Harold Kroto; Dieter Hartmann; Peter Martin; John Mathis at a NASA Workshop on Isotopic Anomalies at Clemson University. November 12, 1990. Credit: AIP Emilio Segrè Visual Archives, Clayton Collection.



L-R: Christopher Neu and Prem Singh testing 'wire planes' for the CDF Tracking Chamber Upgrade. Circa 1998. Credit: Department of Physics, University of Illinois at Urbana-Champaign, courtesy AIP Emilio Segrè Visual Archives.

(New Collections, cont'd from previous page)

user copies be produced. Also, the collection contains some photocopies of originals held by other institutions. Should users want reproductions of these documents, they must contact the owning institution.

Marshall N. Rosenbluth papers. Collection Dates: 1960–2003. Size: 1.4 linear feet (4 archives boxes).

Leo Slizard and Aaron Novick research files. Collection Dates: 1948–1969. Size: 0.4 linear feet (1 archives box).

Leo Szilard letters to Gertrud Weiss. Collection Dates: 1937–1959. Size: 0.4 linear feet (1 archives box).

University of California, Los Angeles Institute of Geophysics and Planetary Physics director's reports. Collection Dates: 1960–1990.

University of Chicago. The Joseph Regenstein Library. Department of

Special Collections. 1100 East 57th Street, Chicago, IL 60637, USA

Albert V. Crewe papers. Collection Dates: undated. Size: 11 boxes. Restrictions: Unprocessed collection.

Michael Danos papers. Collection Dates: 1950–2003. Size: 15.75 linear feet (29 boxes). Restrictions: Series V (Boxes 20–28) contains restricted material. Much of this material contains legal correspondence, and is therefore restricted indefinitely. Box 28 contains computer disks in obsolescent formats; access requires staff review and possible reformatting. The remainder of the collection is unrestricted and open for research.

George W. Dell oral history interviews for a biography of Robert Hutchins. Collection Dates: 1958–1979 (bulk 1973–1979). Size: 1 linear foot (2 boxes). Restrictions: This collection is open for research.

Sloan Digital Sky Survey records. Collection Dates: undated. Size: 33 boxes.

Sloan Digital Sky Survey, Don York records. Collection Dates: undated. Size: 17 boxes.

University of Denver. Penrose Library. 2150 East Evans Avenue, Denver, CO 80208, USA

Oral history interview with Andrew Gassman. Collection Dates: 1986 April 18. Size: Audio recording: 1 cassette.

University of Illinois at Urbana-Champaign. University Archives. 1408 West Gregory Drive, Urbana, IL 61801, USA

Beckman Institute for Advanced Science and Technology technical reports. Collection Dates: 1991–[ongoing]. Size: 6.0 cubic feet.

William J. Fry papers. Collection Dates: 1949–1970. Size: 0.2 cubic feet.

Paul Handler papers. Collection Dates: 1955–1995. Size: 2.0 cubic feet.

Glenn Mann papers. Collection Dates: 1960–2001. Size: 0.2 cubic feet.

Sidney Rosen papers. Collection Dates: 1955–1992. Size: 0.3 cubic feet.

Adrian E. Scheidegger papers. Collection Dates: 1958–1996. Size: 0.3 cubic feet.

Dean of Liberal Arts and Sciences Office college, curricular and course announcements and circulars. Collection Dates: 1898–1971, ongoing. Size: 0.6 cubic feet.

Gregorio Weber papers. Collection Dates: 1948–2000. Size: 0.1 cubic feet. 1 optical disc (CD) : digital; 4 3/4 in. Restrictions: Due to copyright restrictions, the content of the cd-rom may only be used in the University Archives.

Kung Chie Yeh papers. Collection Dates: 1940s–2010. Size: 11.3 cubic feet.

University of Kansas. Libraries. Kenneth Spencer Research Library. University Archives. Lawrence, KS 66045, USA

Dinsmore Alter papers. Collection Dates: 1917–1935. Size: 0.5 linear feet (1 box). Restrictions: No restrictions on access. Spencer Library staff may determine use restrictions dependent on the physical condition of manuscript materials.

Ephraim Miller papers. Collection Dates: 1920–1931. Size: 0.25 linear feet (1 box). Restrictions: No restrictions on access. Spencer Library staff may determine use restrictions dependent on the physical condition of manuscript materials.

Richard Rhodes papers. Collection Dates: 1938–2006. Size: 79 linear feet (79 boxes, 6 oversize boxes). Restrictions: Access to Box 50 of this collection is prohibited prior to the year 2050 except by permission of Richard Rhodes or his heirs. Spencer Library staff may determine use restrictions dependent on the physical condition of manuscript materials.

Stephen J. Shawl collection of Discovery space shuttle mission artifacts. Collection Dates: 1984. Size: 6 items. Restrictions: No restrictions on access. Spencer Library staff may determine use restrictions dependent on the physical condition of manuscript materials.

Stephen J. Shawl papers. Collection Dates: 1930s–2009. Size: 3 linear feet (3 cubic foot boxes, 1 oversize box, 1 card file box). Restrictions: No access restrictions. Spencer Library staff may determine use restrictions dependent on the physical condition of manuscript materials.

University of Miami. Richter Library. Archives Division. Main Library, 8th Floor, Coral Gables, FL 33124, USA

Cesare Emiliani papers. Collection Dates: 1957–1993. Size: 4.0 objects. Restrictions: This collection is open for research.

Behram Kursunoglu papers. Collection Dates: 1967–1978. Size: 12 boxes. Restrictions: This collection is open for research.

University of Nevada, Reno. Library. Special Collections Dept., Reno, NV 89557, USA

The structure of atomic nuclei [video-recording], a lecture. Collection Dates: April 15, 1985. Size: 1 video tape cassettes (VHS) : sound, color; 1/2-inch. William T. Scott collection on Michael Polanyi. Collection Dates: 1903–1995 (bulk 1979–1991). Size: 1.0 cubic foot.

William T. Scott papers. Collection Dates: 1947–1982. Size: 1.25 cubic feet. Restrictions: There are no restriction on the use of this collection.

University of Nevada, Reno Laboratory of Atmospheric Physics records. Collection Dates: 1962–1969.

University of Pittsburgh. Hillman Library. Archives of Scientific Philosophy in the Twentieth Century. Pittsburgh, PA 15260, USA

Ronald Anderson papers. Collection Dates: 1987–2006. Size: 3.8 linear feet (5 document boxes). Restrictions: No restrictions on access.

Paul Hertz papers. Collection Dates: dates unknown. Size: 5 linear feet. Restrictions: Researchers should note that Rudolf Hertz reserves copyright to all unpublished papers of Paul Hertz in the collection.

University of Texas at Austin. Center for American History. Archives of American Mathematics. Austin, TX 78713, USA

Lawrence Bideharn papers. Collection Dates: 1931–1997. Size: 41 feet. Restrictions: Access to student records is restricted until 75 years after the date of creation. All other material is open for research. These papers are stored remotely. Advance notice required for retrieval. Contact repository for retrieval.

John Wheeler papers. Collection Dates: 1938–1987. Size: 15 feet. Restrictions: Access to student records is restricted
(Continued on next page)



Edith Quimby at the Presbyterian Hospital at the Columbia-Presbyterian Medical Center. Date: May 5, 1955. Credit: AIP Emilio Segrè Visual Archives, Physics Today Collection.

until 75 years after the date of creation. All other material is open for research. These papers are stored remotely. Contact reference staff for retrieval from off-site storage.

University of Texas at Austin. Center for American History. Austin, TX 78713, USA

Texas Symposium on Relativistic Astrophysics records. Collection Dates: 1980s–2000. Size: 1.0 foot, 8 inches. Restrictions: Portions of the collection are restricted due to privacy issues. These records are stored remotely. Advance notice required for retrieval. Contact repository for retrieval.

University of Texas at Austin. Center for American History. University Archives. Faculty Papers Collection. Austin, TX 78713, USA

David S. Evans papers. Collection Dates: 1391–2004. Size: 6 feet, 8 inches. Restrictions: Restricted access. Use of transparent media restricted. Artifact requires appointment with artifacts curator. These papers are stored remotely. Advance notice required for retrieval. Contact repository for further information.

University of Washington Libraries. University Archives. Mailstop #0-10. Seattle, WA 98195, USA

Visit our collection of over 500 oral history transcripts (some with voice clips!) online

<http://www.aip.org/history/ohilist/transcripts.html>

“ Truth comes out of error more readily than out of confusion. ”
Francis Bacon
Novum Organum, 1620

Arnold B. Arons papers. Collection Dates: 1946–2001. Size: 1.84 cubic feet (3 boxes). Restrictions: Box 2 contains a file with a social security number that is restricted as indicated on the inventory.

Università di Roma “La Sapienza”. Dipartimento di Fisica. Piazzale Aldo Moro 2, 00185 Rome

Nicola Cabibbo papers.

Virginia Commonwealth University. Tompkins-McCaw Library. Special Collections and Archives. Richmond, Virginia 23298-0582, USA

William T. Ham, Jr. papers. Collection Dates: 1933–1996. Size: 7 linear feet. Restrictions: Collection is open.

Woods Hole Oceanographic Institution. Archives. McLean lab, MS 8, 360 Woods Hole Road, Woods Hole, MA 02543, USA

Lee C. Bennett, Jr. papers. Collection Dates: 1961–1966. Size: 0.5 linear feet (1 box). Restrictions: Materials are available for research.

Andrew F. Bunker papers. Collection Dates: 1953–1979. Size: 4 linear feet (8 boxes). Restrictions: Materials are available for research.

John I. Ewing papers. Collection Dates: 1955–1989. Size: 1 linear foot (1 box). Restrictions: Materials are available for research.

Earl E. Hays papers. Collection Dates: 1970–1983. Size: 1.25 linear feet (3 boxes). Restrictions: Most materials in the collection are available for research; some materials may only be viewed by the Office of Origin or with permission of the Archivist.

James Ransom Heitzler papers. Collection Dates: 1951–1972. Size: 5 linear feet (4 boxes). Restrictions: Materials are available for research.

NEW FINDING AIDS

Library of Congress. Manuscript Division. James Madison Memorial Building, First Street and Independence Avenue, S. E., Washington, DC 20540, USA

A. D. Bache papers. Collection Dates: 1828–1863. Size: 7.2 linear feet (18 containers or 2000 items).

William W. Coblenz papers. Collection Dates: 1884–1960. Size: 3 linear feet (10 containers or 350 items).

George and Barbara Gamow papers. Collection Dates: 1915–1975 (bulk 1950–1975). Size: 12.8 linear feet (30 containers plus 1 oversize or 8,000 items).

Frederic Eugene Ives and Herbert Eugene Ives papers. Collection Dates: 1869–1957. Size: 5000 items (17 containers).

Stanford University. Department of Special Collections and University Archives. Stanford, CA 94305, USA

Cyril Frank Elwell papers. Collection Dates: 1930–1961. Size: 2 linear feet. Restrictions: Information on literary right available in the library.

Douglas C. Engelbart papers. Collection Dates: 1953–1986 (bulk 1953–1968). Size: 464 linear feet. Restrictions: Partially restricted: for more information, contact the archivist.

Scientists and science collection. Collection Dates: 1870–1948. Size: 1.5 linear feet.

Tjeerd H. Van Andel papers. Collection Dates: 1950–2006. Size: 21.5 linear feet.

Tufts University. Tisch Library. Archives and Special Collections. Medford, MA 02155, USA

Office of the President records. Collection Dates: 1828–2006. Restrictions: Some records may be restricted. Please contact the repository for details.

University of California, Berkeley. The Bancroft Library. Berkeley, CA, 94720-6000, USA

Oral history interview with James L. Born. Collection Dates: 1979. Size: 91 pages, 29 centimeters.

Ruggero Giuseppe Boscovich papers. Collection Dates: 1711–1787. Size: 6.5 linear feet (5 cartons, 2 volumes, 1 oversize folder).

Oral history interview with Owen Chamberlain. Collection Dates: 1976. Size: Transcript: 1 volume, 234 pages.

Exploratorium records. Collection Dates: 1957–2001. Size: 110 linear feet (87 cartons, 2 boxes, 1 oversize box, 11 oversize folders, 4 tubes). Restrictions: Collection is stored off-site: Advance notice required for use. Cartons 5, 10, 12 : unarranged, unavailable for use. Inquiries concerning these materials should be directed, in writing, to the Head of the Manuscripts Division.

Emil Fischer papers. Collection Dates: 1876–1919. Size: 39 boxes, 12 cartons, 7 oversize folders, 15 oversize volumes. Selected items : 11 microfilm reels. Restrictions: Collection stored in part off-site. Advance notice required for use. Boxes 1-6 : Restricted originals; use microfilm copy only. Use of originals only by permission of the Head of the Manuscripts Division.

Oral history interview with John W. Gofman. Collection Dates: 1980 24 July to 8 August. Size: 3 sessions. Transcript, 260 pages.

Oral history interview with Alexander Grendon. Collection Dates: 1979. Size: 90 leaves.

Oral history interview with August Carl Helmholtz. Collection Dates: 1975, 1989–1990. Size: Transcript: 1 volume (x, 387 pages): port. ; 29 cm. Phonotapes: 26 cassette tapes.

George C. Jaffé papers. Collection Dates: 1902–1962. Size: 1 linear foot (2 boxes).

Ernest O. Lawrence papers. Collection Dates: circa 1920–1968. Size: Originals: 48 cartons, 12 oversize folders. Copies: 79 microfilm reels: positive and negative. Restrictions: Restricted originals. Use microfilm copy only with call number BANC FILM 2248. Use of originals only by permission of the appropriate curator. Inquiries concerning these materials should be directed, in writing, to the Head of Public Services, The Bancroft Library. Originals stored in part off-site. Advance notice required for use.

Victor Lenzen papers. Collection Dates: circa 1904–1975. Size: 5 cartons, 7 boxes and 1 oversize folder. Restrictions: Collection stored in part off-site. Advance notice required for use.

Charles Vincent Litton papers. Collection Dates: 1912–1972. Size: 13 boxes, 6 cartons, 7 oversize folders. Restrictions: Collection stored in part off-site. Advance notice required for use.

Oral history interview with William G. Myers. Collection Dates: 1982. Size: 43 leaves.

Oral history interview with Kenneth Gordon Scott. Collection Dates: 1979. Size: Transcript: 72 leaves. Copy: 1 microfilm reel.

Oral history interview with William E. Siri. Collection Dates: c1979. Size: Transcript: 296 pages. Audio recording: 16 cassettes.

Frederick Slate papers. Collection Dates: 1862–1937. Size: 1 box, 1 oversize folder, and 1 oversize volume.

Otto Struve papers. Collection Dates: 1837–1966 (bulk 1953–1956). Size: 5 linear feet (4 cartons).

Oral history interview with Robert M. Underhill. Collection Dates: 1966–1967. Size: Transcript: 421 leaves. Restrictions: Restricted; contact repository for additional information.

John Verhoogen papers. Collection Dates: 1935–1985. Size: 8.75 linear feet (7 cartons). Restrictions: COLLECTION STORED OFF-SITE. Advance notice required for use.

University of Chicago. The Joseph Regenstein Library. Department of Special Collections. 1100 East 57th Street, Chicago, IL 60637, USA

Astrophysical Journal Records. Collection Dates: 1894–1951. Size: 20 boxes.



Rose Mooney-Slater (1902–1981) did research on the structure of crystals and crystalline materials using X-ray diffraction. Credit: AIP Emilio Segrè Visual Archives, Physics Today Collection.

Bulletin of the Atomic Scientists records. Collection Dates: 1945–1984, (bulk 1945–1952). Size: 18.5 linear feet.

Thomas C. Chamberlin papers. Collection Dates: 1880–1928. Size: 9.5 linear feet and 21 volumes.

Marie Curie - Charlotte Kellogg correspondence and Curie memorabilia, in the Joseph Halle Schaffner collection. Collection Dates: 1921–1929, Size: 18 items.

Louis A. Slotin Memorial Fund correspondence. Collection Dates: 1946–1962. Size: 300 items.

University of Denver. Penrose Library.
2150 East Evans Avenue, Denver, CO 80208, USA

Herbert A. Howe papers. Collection Dates: 1875–1925. Size: 9 linear feet.

Milton M. Schayer correspondence. Collection Dates: 1927. Size: .25 linear feet.

University of Houston. Libraries. Special Collections. Houston, TX 77204, USA

Paul Purser papers, 1940–1975. Size: 5 linear feet.

University of Illinois at Urbana-Champaign. University Archives. 1408 West Gregory Drive, Urbana, IL 61801, USA

Roger Adams papers. Collection Dates: 1900–1971. Size: 24.0 cubic feet.

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Frontiers in Condensed Matter Physics [sound recording]. Collection Dates: 1976. Size: 0.4 cubic feet.

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New Grant for Oral History Interviews

As of June 1, 2011, the Niels Bohr Library & Archives (NBL&A) has begun work on a new grant funded project involving our collection of over 1500 oral histories with renowned physicists. This new grant, provided by the National Endowment for the Humanities (NEH), will allow us to continue our work in placing our oral history interview transcripts online. Over the next two years we will place an additional 500 transcripts online, make all the transcripts full-text and cross searchable, select and transcribe 50 interviews that have yet to be transcribed, and add a selection of interesting audio clips from some of the transcripts.

The previous NEH funded grant, which was completed in December 2009,

allowed NBL&A to place 525 transcripts online which are browseable by the interview subject's name. This new grant will add not only more transcripts to our online collection, but will allow researchers to search them in a variety of new ways.

These grants have made it possible for these interviews to become more accessible and widely used. Before we began placing our interviews online, we received on average 185 requests a year from scholars, but in 2010 the oral history web pages received over 37,000 visits. This allows our interviews to reach a whole new audience of students, teachers, journalists, and the general public, who get to discover the history of the physical sciences from the people who were there. ■

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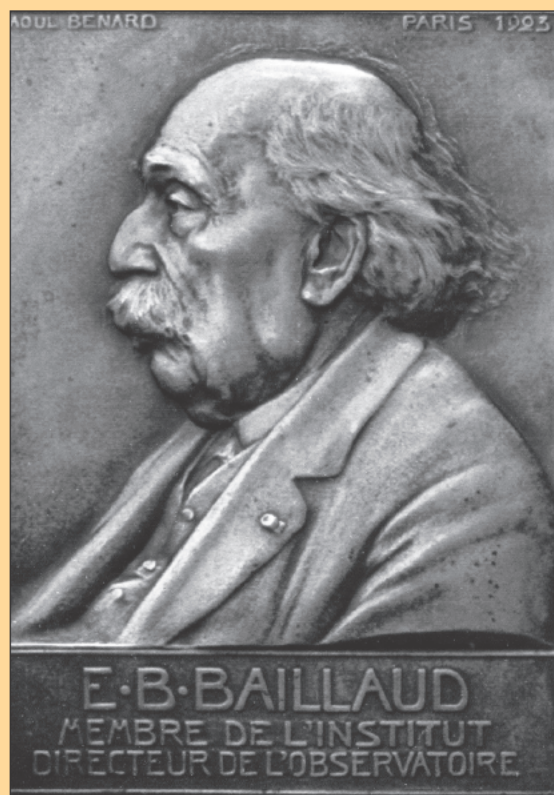
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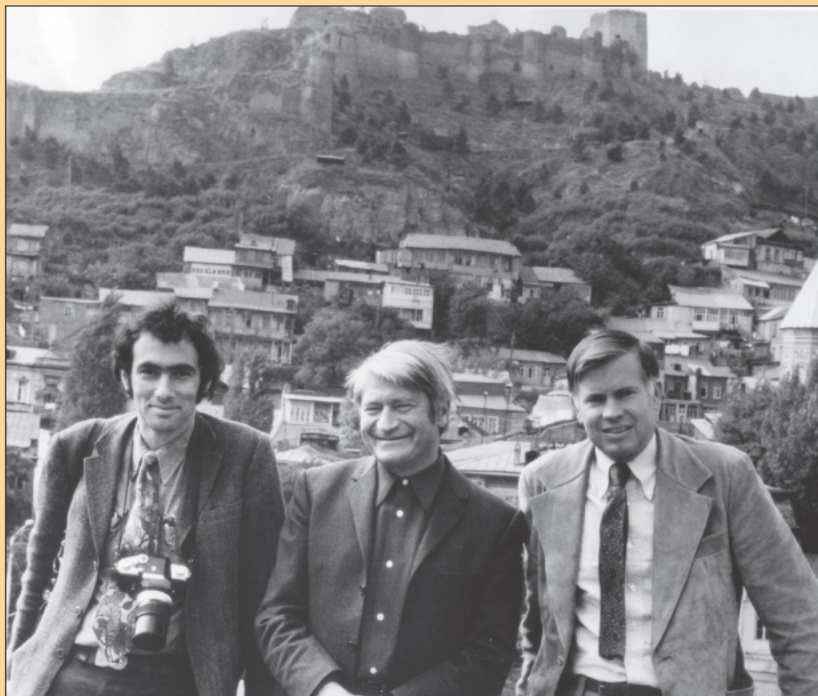
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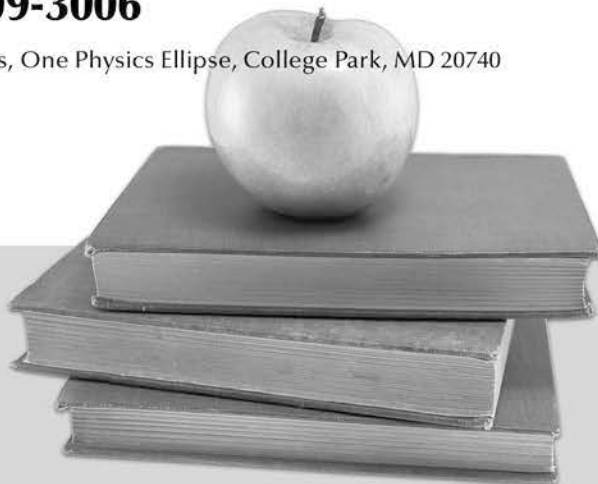
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