IEEE CENTER FOR THE HISTORY OF ELECTRICAL ENGINEERING

NEWSLETTER Number 1 October 1982

Lines and Waves *as it was set up in New York, April 1981. In the foreground are some of the objects lent to the exhibit by the Smithsonian Institution.*

Historical Exhibits Program Features Faraday and Maxwell

A major 1981 project of the IEEE History Center was the preparation of a traveling exhibit celebrating a double 150th anniversary—that of Michael Faraday's discovery of electromagnetic induction and of the birth of James Clerk Maxwell, whose mathematical genius was most responsible for translating Faraday's work into modern electro-magnetic theory. Entitled "Lines and Waves," the exhibit made its first appearance at the IEEE's major eastern U.S. meeting, Electro '81, in New York. Following this the exhibit began a two-year tour under the auspices of the traveling exhibition program of the Association of Science-Technology Centers (ASTC). The institutions that have displayed the exhibit include the Burndy Library in Norwalk, Conn., the Museum of Science in Boston, the Digital Computer Museum in Marlboro, Mass., the Science Museum of Virginia in Richmond, and museums in Alberta, Pennsylvania, and Maryland. The remaining tour schedule is:

- Museum of Science and Industry, Tampa, FL 30 Oct.-12 Dec. 1982
- John Young Science Center, Orlando, Fl 1 Jan.-13 Feb. 1983
- Evansville Museum of Arts and Science, IN 5 March-17 April 1983
- Museum of Science and Natural History, St. Louis, MO 7 May-19 June 1983.

"Lines and Waves" consists of a large number of pictures relating the careers of Faraday and Maxwell and exploring their contributions to our understanding of electricity. In addition, the exhibit features a number of demonstrations of electrical phenomena explored by nineteenth century physicists, courtesy of the Smithsonian Institution, and a couple of the "zoetrope" cartoons used by Maxwell for teaching and amusement, lent to the exhibit by the Cavendish Laboratory, Cambridge. Others contributing to the exhibit include the Royal Institution, the Institution of Electrical Engineers, the American Institute of Physics, and NASA. Special help was provided by Prof. C.W.F. Everitt of Stanford University, who generously made his collection of pictures of Maxwell available. The exhibit was made possible by an underwriting grant from the IEEE and by additional grants from the Microwave Theory and Techniques Society, the Education Society, the Information Theory Group, and the Antennas and Propagation Society, all technical entities of the IEEE, as well as from the IEEE's Central New England Council and the Board of Directors of Electro '81.

Interest in the exhibit has spread overseas, and currently a replica is being prepared by the National Center for Engineering Exhibitions (TTC) in Delft, the Netherlands, with appropriate translations for a Dutch audience. This effort is being coordinated by Prof. Pieter Eykhoff of the Technical University, Eindhoven. Following this, preliminary plans are being made for another replica to be constructed by the Museum of Transport and Technology of New Zealand, in Auckland.

Accompanying the exhibit is a catalogue, reproducing the text and many of the pictures of the exhibit, and a poster. The catalogue, "Lines and Waves," and the poster are available from the Center.

Centennial Exhibit Plans

The next major exhibit effort of the Center will be in connection with the IEEE's 1984 Centennial. An exhibit will be prepared for use at all of the major IEEE meetings, starting in late 1983 and going on through 1984. Focusing on the development of the electrical engineering profession over the last one hundred years, current plans call for an exhibit featuring visual and audio elements drawn from the IEEE Archives and other historical collections.

Introduction

The Center for the History of Electrical Engineering was established as an office of the IEEE in 1980. Its mission is the promotion of the study and understanding of the history of electrical science and technology. The programs of the Center include archival and bibliographic services, oral history and documentation projects, exhibits, research, and publication. The Center's products and services are directed at the more than 220,000 members of the IEEE world-wide, the scholarly community, and the general public.

The Center's *Newsletter* will be issued from time to time as a means for reporting on Center efforts and for disseminating information about resources and activities in electrical history. The *Newsletter* is distributed free of charge. Those wishing to be added to the distribution list should write to the Center. The offices of the Center are located at IEEE Headquarters in the United Engineering Center, 345 East 47th Street, New York, NY 10017. Visitors are welcome, but are advised to contact the Center in advance by letter or telephone (212-705-7501).

WORK IN PROGRESS

Note: It is hoped that one of the major functions of this Newsletter will be to exchange information about the research that is currently being pursued in electrical history. For our reports to be truly useful, they will have to be based on information sent to us by active researchers. We hope that readers of this Newsletter will not hesitate to send their contributions.

Thomas A. Edison Papers, Rutgers University, New Brunswick, N.J. is continuing its ambitious effort to organize and select from the millions of documents relating to the career of Thomas Edison (in the Edison Laboratory, West Orange, N.J., and elsewhere), with eventual products including a selected microfilm edition of the Papers and a multi-volume annotated edition of the most important documents. The Project is directed by Reese V. Jenkins and involves the work of staffs at New Brunswick and West Orange.

International Project in the History of Solid State Physics is an effort based in the United States, Great Britain, and Germany to document and study the history of solid state physics, with special attention given to the period from the 1920s to the 1950s. American coordinator is Lillian Hoddeson, Dept. of Physics, University of Illinois, Urbana, IL. In addition to an extensive archival effort and oral history program, it is anticipated that the Project will produce a substantial historical study that will provide the foundations for future historical work in this area. Separate plans are now being made to develop a similar effort in the area of solid-state electronics technology, with the focus on the period since 1947. These plans are being coordinated by the IEEE Center.

Michal McMahon is continuing work on a history of the electrical engineering profession in America, written for the IEEE as its Centennial history. The work is scheduled for completion in late 1983.

Ronald Kline, IEEE History Fellow for 1979-80, is completing his dissertation (Univ. of Wisconsin, Madison) on the career of the German-American electrical engineer, Charles Proteus Steinmetz (1865-1923).

W. Bernard Carlson, IEEE History Fellow for 1980-81, is nearing completion of his study of the life and work of Elihu Thomson (1853-1937) for his Univ. of Pennsylvania dissertation.

Robert Rosenberg, IEEE History Fellow for 1981-82, is continuing research for a dissertation (Johns Hopkins) on the development of electrical engineering education in America before 1900.

Hugh G.J. Aitken (Amherst College) is working on an extension of his well-received study of the early technical development of radio, *Syntony and Spark*. Current research deals with the development of the technology that made continuous-wave (and thus broadcast) radio possible.

W.J. Reader has been commissioned to write a history of the Institution of Electrical Engineers (IEE). It is anticipated that the study will be completed in 1985.

Leanard S. Reich (Edison Papers—Rutgers) will be spending 1982-83 as Harvard-Newcomen Fellow in Business History, studying the development of scientific and engineering research in the Bell System.

W. Stuart Leslie (Johns Hopkins) has received a commission to write a history of the California electronics pioneers, Varian Associates.

James E. Brittain (Georgia Institute of Technology) is continuing his research on the career of the radio inventor E.F.W. Alexanderson (President, I.R.E., 1921).

The Institute of Electrical and Electronics Engineers

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THE HISTORY CENTER MOVEMENT

The Center for the History of Electrical Engineering is the IEEE's contribution to a movement for organizing professional and disciplinary history that has gained considerable momentum in recent years. Of particular interest to readers of this *Newsletter* are centers devoted to the history of physics and the history of information processing.

The Center for History of Physics, an office of the American Institute of Physics in New York, is the oldest of the disciplinary centers and the most important model for a number of later efforts. Tracing its origins to the "Project on the History of Recent Physics in the United States" established at the AIP more than 20 years ago, the Center has a number of well-developed programs and a permanent staff of five. Resources include the Niels Bohr Library, which is particularly strong in physics textbooks and historical monographs, and oral history collections of considerable size and scope. Some of the Center's most important projects have involved surveys of archival resources in a number of specific areas of modern physics, including nuclear physics, astrophysics, and, in progress, solid state physics. The Center's director is Dr. Spencer Weart, and its address is 335 East 45th Street, New York, NY 10017.

Much newer than the physics center, but still pre-dating the IEEE's effort is the Charles Babbage Institute for the History of Information Processing, located at the University of Minnesota in Minneapolis. The Babbage Institute ("CBI"), founded in 1977 by computer pioneer Erwin Tomash, is supported by the Charles Babbage Foundation and sponsored by the American Federation of Information Processing Societies (AEIPS). The location of the Babbage Institute in Minnesota is relatively recent, as is the appointment of its director, Dr. Arthur Norberg, formerly with the National Science Foundation. Among the activities of the CBI are an annual graduate fellowship in information processing history, an industry-wide survey of archival resources for the field, a widely-disseminated *Newsletter*, and an oral history program. A separate, but closely related, activity sponsored by AFIPS is publication of the *Annals of the History of Computing*, under the editorship of Dr. Bernard Galler and Prof. Nancy Stern.

The newest major history center has just been established at the University of Pennsylvania under the auspices of the American Chemical Society. The Center for History of Chemistry is directed by Prof. Arnold Thackray, and additional staff is expected to be hired in the coming year.

IEEE Archival Activities

The collection and maintenance of the archives of the IEEE and its two predecessor organizations, the American Institute of Electrical Engineers (AIEE) and the Institute of Radio Engineers (IRE) is one of the primary functions of the Center. The Center's archivist, Mrs. Nancy Perlman, is responsible for identifying those non-current records of the Institute that are of archival value and for creating and maintaining an inventory of these records. The material included in this archival project consists not only of the records of the IEEE executive and headquarters, but also of the Groups, Societies and Councils (kept for the most part in the Technical Activities Department), and of a number of special committees of significance in the history of the Institute (such as that which arranged for the merger of the AIEE and the IRE in 1962).

The Center's archival resources also include a recently completed microfilm of all minutes of the governing bodies of the AIEE, the IRE, and the IEEE (through 1980) and of all extant membership directories and annual reports of these organizations. The Center is the custodian of most of the original documents for this microfilm.

The Center holds a number of small manuscript collections and historical files, largely relating directly to the history of the IEEE or its predecessors. Of particular interest among these is a set of old membership files of the AIEE, which includes records of the membership of most prominent American electrical engineers in the period from 1884 to the 1930s. Supplementing these resources is a modest collection of photographs and other images of electrical engineers (particularly officers of the AIEE, IRE, and IEEE), some other historical photographs, and some taped interviews with such figures as Arthur Keller, Lloyd Espenshied, Alfred Goldsmith, Leonard Fuller, and Vladimir Zworykin. More details about holdings in the archives may be obtained by writing to the Center.

Survey of Archival and Manuscript Collections Relating to Electrical Science and Technology (SAMCREST)

In an effort to promote both the collection and the use of historical materials relating to electrical engineering, the Center is embarked on a continuing effort to gather information about archival and manuscript materials that are or may become available to historical researchers.

The IEEE's first effort in this direction was the sponsorship about ten years ago of a survey of U.S. archival repositories and the subsequent publication of the results compiled by David A. Hounshell ("Manuscripts in U.S. Depositories Relating to the History of Electrical Science and Technology") in 1973. In the summer of 1981, the current project, an effort to update and extend the Hounshell survey, was begun. Like the first survey, this one was co-sponsored by the Division of Electricity of the Smithsonian's Museum of American History and was funded by a grant from the IEEE Life Members Fund.

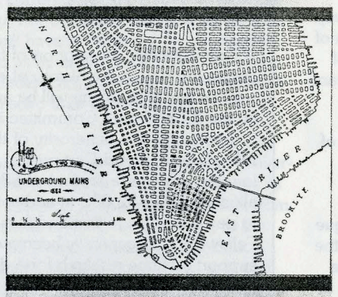
Under the direction of David Rhees, now of the History and Sociology of Science Department of the University of Pennsylvania, SAMCREST tripled the number of collections described in the Survey catalogue (to over 700) and considerably extended the number of repositories included. While the Survey results are available to researchers at the Center, more work remains in indexing and in updating entries supplied by respondents to a questionnaire sent to about 170 repositories. Another grant has been received from the IEEE Life Members Fund to support work in extending the Survey to corporate archives and other institutions not normally reporting to the Union Catalogue of Manuscript Collections (the primary source for the Hounshell and Rhees efforts).

IEEE HISTORY FELLOWSHIP FOR 1983-84

A Fellowship for the support of full-time graduate study in the history of electrical science and technology will be awarded by the IEEE History Committee in 1983. Supported by the generosity of the IEEE Life Members Fund Committee, the Fellowship provides a stipend of $8,500 and allocates up to $2,000 in additional funds to pay academic tuition and fees. The Fellowship has generally been awarded to support full-time research for a doctoral dissertation, and a complete description of proposed research is an important part of the application. The application deadline is February 1, 1983, and forms and further information are available from the Center for the History of Electrical Engineering.

Banquet of the Institute of Radio Engineers, Luchow's Restaurant, New York City, April, 1915. Among the distinguished figures present were Ferdinand Braun, David Sarnoff, John Stone Stone, Lee de Forest, Nikola Tesla, E.F.W. Alexanderson, and George Clark. From the IEEE Archives.

PEARL STREET



PEARL STREET

The Centennial of the opening of Thomas Edison's first generating station, located on New York's Pearl Street, was celebrated by a number of activities during 1982. The IEEE Power Engineering Society sponsored the "Pearl Street Commemorative Lectures" at its Winter Power Meeting in New York in February. To accompany the lectures, the Center for the History of Electrical Engineering prepared a brief illustrated booklet, "Pearl Street; a Centennial Commemoration" (available from the IEEE for $2.00). A small exhibit on the station was displayed at New York's Federal Hall, hard by Edison's "First District." The exhibit was prepared by U.S. National Park Service staffer Ann Jordan, with the cooperation of the Edison National Historic Site, West Orange, N.J. On September 4, the anniversary date of the start-up of Pearl Street's "Jumbo" generators and the supply of power to the first customers, ceremonies celebrating the occasion were held in the Hall of Electricity at the Smithsonian Institution's National Museum of American History.

IEEE Society on the Social Implications of Technology

The newest IEEE Technical Society (there are now 31) is the Society on the Social Implications of Technology. Evolving from a committee of the Institute's Technical Activities Board, the new Society is the latest of the long-standing efforts of engineers to provide an effective and visible forum for dealing with the social issues raised by their technology. The constitution of the SSIT defines its scope as:

> . . . the impact of technology (as embodied by the fields of interest of IEEE) on society, including both positive and negative effects, the impact of society on the engineering profession, the history of the societal aspects of electrotechnology, and professional, social, and economic responsibility in the practice of engineering and its related technology.

The Society's interim president, R. Jeff Bogumil, has voiced his hope that the Society and its quarterly publication, *IEEE Technology & Society Magazine* will stimulate historical work within the Institute, particularly research that addresses the social history of engineering.

BRIEFS

Landmark Designated

On May 22, the IEEE joined with the American Society of Mechanical Engineers in dedicating the AC Electrification Project of the New York, New Haven & Hartford Railroad a National Engineering Landmark. The electrification was completed in 1907. As the landmark plaque indicates, "It established single-phase alternating current as a technical and economical alternative to direct current," and hence considerably influenced later systems in both the United States and abroad. The landmark effort was initiated by the Fairfield County Section of the ASME and was supported by the IEEE Connecticut Section.

New Archivist at Bell Labs

Dr. Marci Goldstein has been appointed the archivist for Bell Laboratories, where she will continue the program formerly managed by Dr. Deirdre LaPorte. Dr. Goldstein comes to Bell from the New Jersey Institute of Technology in Newark. The Bell Laboratory Archives are located at 101 J.F. Kennedy Parkway, Short Hills, N.J. 07078.

Milwaukee Road Records Saved

The most ambitious electrification project in American railroad history was the conversion of the line of the Chicago, Milwaukee and St. Paul Railroad between 1914 and 1920. This enormous engineering project, which electrified 656 miles of main line trackage, crossing five mountain ranges between Harlowton, Mont. and Tacoma, Wash., yielded a considerable volume of engineering drawings and technical specifications and plans. With the recent re-organization of the Milwaukee Road, these records, many of them of great value in documenting the technology of main-line electrification in the early 20th century, were in danger of disposal. After more than eight years of effort, however, appropriate provision has been made for depositing the most important of these records in the collections of the Wisconsin Histrical Society and the Milwaukee Public Library. A number of individuals and institutions deserve recognition for their assistance in this effort, which was coordinated by the IEEE History Center: Jim Scribbins of the railroad's corporate staff, George Frazier of the engineering staff, the late Field Curry, and, most recently, Dr. Arthur Norberg of the University of Minnesota and the staff of the Minnesota Historical Society.

Preservation of Sound Recordings

In cooperation with the IEEE Magnetics Society, a Committee for the Preservation of Sound Recordings has been organized. The committee was formed to encourage research and to promote the dissemination of information relevant to the long-term preservation of recorded sound, particularly in magnetic media. The active participation of a number of corporations and research laboratories has been enlisted, as well as archivists and curators from appropriate institutions. The committee's Executive Director is Ms. Mary Hoos, who may be contacted at 4317 Barrington Road, Baltimore, Maryland 21229.

NEW PUBLICATIONS

Richard H. Schallenberg. *Bottled Energy; Electrical Engineering and the Evolution of Chemical Energy Storage.* Philadelphia: American Philosophical Society, 1982. Memoirs of the A.P.S., vol. 148.
The first modern historical study of the origins and development of the storage battery. Closely related to this study is an article by the author, "Prospects for the Electrical Vehicle: A Historical Perspective," *IEEE Transactions on Education, E-23*, no. 3 (August 1980). Richard H. Schallenberg, now deceased, was with the Department of History, Virginia Polytechnic Institute and State University.

Harold A. Wheeler. *The Early Days of Wheeler and Hazeltine Corporation—Profiles in Radio and Electronics.* Greenlawn, NY: Hazeltine Corporation, 1982. 432 pages, illustrated.
A memoir rich in both personal and technical detail covering the career of one of the most indefatigable pioneers of radio technology, with special attention to the period from 1922 (when Wheeler first met Louis Hazeltine) to World War II. A companion volume to Wheeler's *Hazeltine the Professor* (1978). Harold A. Wheeler is Chairman Emeritus and Chief Scientist with the Hazeltine Corporation.

Claude Baum. *The System Builders; the Story of SCD.* Santa Monica, CA: System Development Corporation, 1981.
A Twenty-fifth Anniversary history with heavy emphasis on administrative and managerial developments. Systems Development Corporation had its origins in the Rand Corporation's development of the SAGE system, the U.S. Air Force's automated air defense system that is generally acknowledged to be the first truly large-scale computer-based system. The extention of the technology represented by SAGE into defense, aerospace and commercial applications is SDC's primary achievement, and this history does not neglect the difficulties that accompanied SDC's transition from a government-sponsored nonprofit company to a competitive for-profit corporation. Claude Baum is with Systems Development Corporation.

A Century of Progress; The General Electric Story, 1876-1978. Schenectady, NY: Hall of History Foundation, 1981. 325 pages, illustrated.
A re-issue in one volume of the four separate pieces published in conjunction with the General Electric Company's 100th Anniversary in 1978. Largely organized as a year-by-year survey of General Electric (and predecessor companies), the chief value of this work lies in the glimpse that it gives of the treasure-trove of thousands of phtographs collected by General Electric and the Hall of History ("An organization formed for the purpose of gathering, preserving and displaying historical documents and objects pertinent to the people, products, and places of the electrical industry").

Robert J. Chapuis. *100 Years of Telephone Switching, 1878-1978: Part I: Manual and Electromechanical Switching, 1878-1960s.* Amsterdam/New York: Elsevier North-Holland, 1982. 464 pages.
A comprehensive and encyclopaedic work covering every aspect of the history of telephone switching technology, from manual switchboards, and the most rudimentary automatic systems to the final state of the electromechanical switching art. Part I will be followed by a second volume treating the development and integration of electronic switching technology. Robert J. Chapuis is Senior Councillor with the International Telecommunications Union in Geneva, Switzerland.

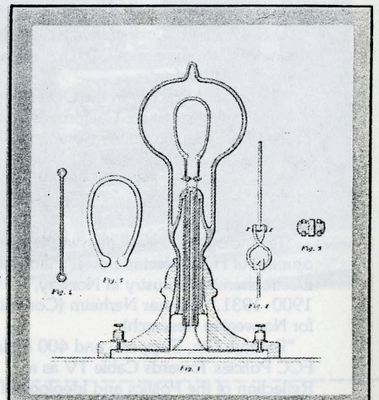
Brian Bowers. *A History of Electric Light and Power.* Stevenage, U.K./New York: Peter Peregrinus Ltd., 1982. IEE History of Technology Series No. 3. 304 pages (hardbound and paperbound).
A very broad survey of the development of electric power technology and its applications over the last century and a half. While the initial premise of the book is broader, a very heavy emphasis is placed on the British experience. Brian Bowers is Deputy Keeper, Department of Electrical Engineering, The Science Museum, London.

John W. Stokes. *70 Years of Radio Tubes and Valves . . . a guide for Electronic Engineers, Historians, and Collectors.* Vestal, NY: Vestal Press, 1982. 256 pages, illustrated.
A work promising to have special appeal to large numbers of hobbiests and collectors in the field of antique radio. Emphasis is on the period between 1927 and 1937, when the explosive growth of the radio industry spurred the rapid development of vacuum tube technology. John W. Stokes is a native New Zealander for whom the collection and study of radio tube technology has been a life-long avocation.

Mary Brignano and Hax McCullough. *The Search for Safety: A History of Railroad Signals and the People Who Made Them.* Pittsburgh, PA: Union Switch & Signal Division, American Standard Inc., 1981. 199 pages, illustrated.
A lavishly and handsomely illustrated history of railroad signaling technology, issued for the 100th Anniversary of the founding of the Union Switch and Signal Company by George Westinghouse. While providing considerable coverage to corporate history, this work largely succeeds in providing the broader coverage of American signal technology that its authors were clearly seeking. The design and use of illustrations far surpasses the customary standards for corporate histories. The authors are professional writers based in Pittsburgh.

Joseph H. Udelson. *The Great Television Race.* University, AL: University of Alabama Press, 1982. 197 pages, illustrated.
An excellent survey of the technical development of television before 1941. Attention is given to both the mechanical systems of Baird and Jenkins and the electronic systems of Farnsworth and Zworykin. Special emphasis is placed on the complex of technical, commercial, and political considerations that surrounded the struggle over standardization of television systems. Joseph H. Udelson is with the Department of History, Tennessee State University.

Nancy Stern. *From ENIAC to UNIVAC: An Appraisal of the Eckert-Mauchly Computers.* Billerica, MA: Digital Press, 1981. 250 pages, illustrated.
The first detailed historical treatment of the work of J. Presper Eckert and John W. Mauchly and their development of their pioneer digital computers, ENIAC, EDVAC, BINAC, and UNIVAC. Nancy Stern is a historian of science and technology presently with the Department of Administrative Computer Systems at Hofstra University.



EDISON PATENT FILES AVAILABLE ON MICROFILM

In connection with the Edison Papers Project, the complete file of patent applications from Thomas Edison held by the National Archives has been microfilmed. Copies of the microfilm are available for the use of qualified researchers both at the Branch Library of the National Museum of American History, Smithsonian Institution, Washington, D.C., and at the Thomas A. Edison Papers, Rutgers University, New Brunswick, N.J. The illustration is from Edison's patent application of Demember 8, 1879, covering the paper horseshoe carbon filament electric lamp.

MEETINGS

S.H.O.T.

The 25th Annual Meeting of the Society for the History of Technology, scheduled for 29-31 October 1982 in Philadelphia, will include a number of papers in electrical history, in addition to the annual meetings of the Jovians, the special interest group for the history of electrical technology. Jovians' chief lightning-slinger, David Hounshell (Univ. of Delaware), has called the annual meeting for 7:30 Sunday morning, 31 October. Papers scheduled for the three-day meeting include:

"Marketing the Monster: Advertising Computer Technology," Donald de B. Beaver (Williams) and William Aspray (Harvard)

"William Stanley and his Laboratory Notebooks," Karen Belmore (Pennsylvania)

"The Alexanderson Alternator: An Encounter Between Radio Physics and Electrical Power Engineering," James E. Brittain (Georgia Tech)

"What Did They Think They Invented: Perceptions of the Digital Computer in its Early Years, 1945-1951," Paul Ceruzzi (Clemson)

"U.S.-U.S.S.R. Cooperative Research in Magneto-Hydrodynamics (MHD)," Jonathan Coopersmith (Oxford)

"Theory and Practice in the Development of a Technological Style: California's Early Three-Phase Electric Power Systems," Donald Jackson (Pennsylvania)

"Science and the Engineer: the Work of Charles Proteus Steinmetz," Ronald Kline (Wisconsin)

"Technological Coevolution in the Development of Hydroelectric Power Plants and Electrochemical Industry in Norway, 1900-1931," Gunnar Nerheim (Committee for Norwegian Research)

"Bathtub Gin, Flappers, and 400 MHz: FCC Policies Towards Cable TV as a Reflection of the Politics and Ideology of the 1920s," David H. Ostroff (Bowling Green)

"Physicists and Engineers at the Birth of a Discipline: Electrical Engineering Education," Robert Rosenberg (Johns Hopkins)

"Social Engineering in Mid-20th Century America: TVA and the Nature of Systems Design," Howard P. Segal (Michigan)

"Electrification of the Ruhr," Edmund N. Todd (Pennsylvania)

"NASA's Impact on Computer Development," James F. Tomayko (Wichita State)

LASER HISTORY PROJECT

1985 will mark the 25th anniversary of the first operating lasers. In the quarter century since they were invented, lasers have graduated from a scientific curiosity to the technical core of a billion-dollar industry. The history of lasers, and of their parent device, the maser, vividly exemplifies the intimate interplay among science, engineering, commercial applications and military requirements that is characteristic of recent decades. The study of the laser's development thus offers rich data for the history of science and technology, business history and the sociology and philosophy of science.

Authoritative history depends upon adequate documentation—upon collections of papers, equipment and photographs and on oral histories which fill the inevitable gaps in other types of documentation. For lasers, this is the optimum time to conduct interviews, and see to the preservation of materials. While the field is mature, most of its pioneers are still alive and active.

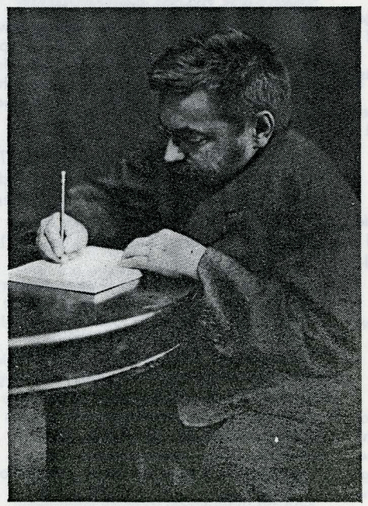
Recognizing both the importance of the subject and the fitness of the moment, four societies—the American Physical Society, the Laser Institute of America, the Optical Society of America, and the Institute of Electrical and Electronics Engineers' Quantum Electronics and Applications Society—have joined together to initiate the Laser History Project, with the cooperation of the IEEE Center for the History of Electrical Engineering and the American Institute of Physics' Center for History of Physics.

The Laser History Project will conduct about 50 major interviews and 25 auxiliary ones, and produce about 25 videotaped interviews. The major interviews will be transcribed and edited, and all transcripts and tapes will be deposited at the Center for the History of Electrical Engineering, the Center for History of Physics, and other suitable repositories. The Project will also gather information on oral histories done under other auspices, and compile a comprehensive card catalog of all interviews.

The Laser History Project will further develop plans for the systematic collection of historical materials, and their cataloging. It will work actively with members of the laser community to help them evaluate and preserve records and choose repositories, and will do some collecting and microfilming.

The Project plans to produce an historical volume to commemorate the coming 25th anniversary, and to subsequently mount a traveling exhibit on the history of lasers.

A Laser History Council, and an Advisory Committee of laser specialists, historians and archivists will guide the Project. Day-to-day activities are directed by Joan Lisa Bromberg, historian of science and technology. Haynes A. Lee, General Manager of the Laser Institute of America, is serving as financial manager.



Charles P. Steinmetz, 1907. Steinmetz is one of four American electrical engineers who will be featured on postage stamps to be issued by the U.S. Postal Service in 1983. The others are Edwin H. Armstrong, Philo T. Farnsworth, and Nikola Tesla. From the IEEE Archives.

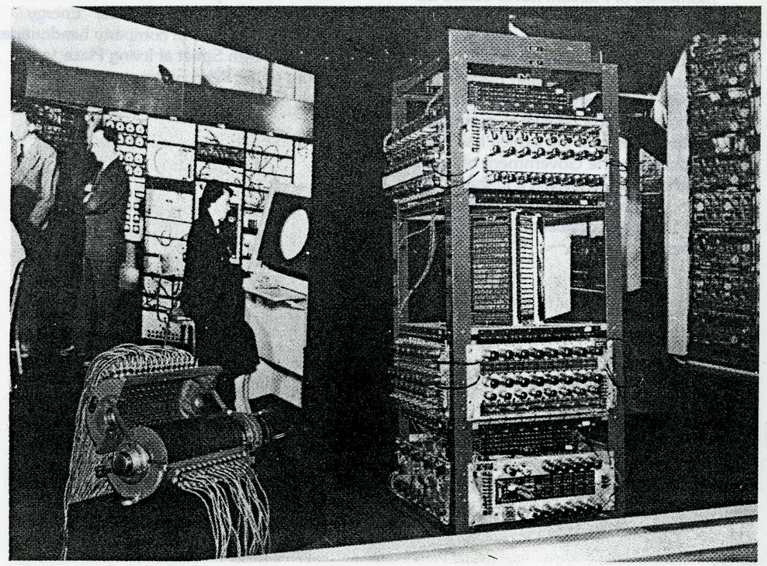
THE COMPUTER MUSEUM

The Computer Museum, in Marlboro, Mass., entered a new phase this year in its development as one of the country's most important efforts in preserving the artifacts of electrical technology. In June, the Museum, formerly a part of the Digital Equipment Corporation (DEC), began operation as an independent, non-profit, charitable foundation. This new independent status will enhance the Museum's role as the premier institution devoted to the preservation of information processing devices and documentation and further emphasizes the Museum's long-standing policy of collecting appropriate materials industry-wide, rather than from just one or a few companies.

The Computer Museum, formerly the Digital Computer Museum, had its beginnings with the efforts of DEC engineers Ken Olsen and C. Gordon Bell in the late 1960s and early 1970s. Olsen and Robert Everett saved the Whirlwind computer from junking and presented it to the Smithsonian Institution, while Bell began collecting smaller pieces of obsolete computer equipment. These activities slowly evolved into efforts to create a permanent museum for computer artifacts, which first opened at DEC's Marlboro facility in 1979. Under the leadership of Director Gwen Bell, the Museum rapidly established itself as an institution for the entire information processing community, leading to its new independent, non-profit status.

The Museum's collections are already quite rich in important examples of computer hardware, thanks to contributions from such firms as DEC, Ford, Texas Instruments, Siemens, and Control Data, and from numerous institutions and individuals. An archives and library are now being established, and the photograph collections are already considerable. Another important part of the Museum's program is its "Bits and Bites" series of Sunday afternoon lectures, which will this Fall feature such individuals as Tracy Kidder (author of *The Soul of a New Machine*) and Tom West (designer of the Eagle computer described by Kidder). The Museum will also continue its notable series of evening lectures featuring computer pioneers and their machines.

The Computer Museum publishes *The Computer Museum Report*, an illustrated quarterly focusing on the Museum's work and reporting many of its lectures. Further information can be obtained from the Director, Ms. Gwen Bell, The Computer Museum, One Iron Way, Marlboro, Mass.



The Computer Museum

This first number of the *Newsletter* of the IEEE Center for the History of Electrical Engineering is being widely distributed both within the IEEE and among historians of technology. If you would like to be certain of receiving later issues, please take the time to fill out the form below and mail it to the Center. Thank you.

Name _____

Address _____

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Zip/Postal Code

IEEE grade (if applicable) A____ M____ SM____ LM____ F____ LF___

EXHIBITIONS AND MUSEUMS

Marconi

In December, 1981, the 80th anniversary of Guglielmo Marconi's first transmission of a radio signal across the Atlantic was observed in a special exhibit at Columbia University, New York City. Presented by the Marconi International Fellowship in cooperation with the Center for Italian Studies at Columbia, the exhibit featured many artifacts and momentos of Marconi never before displayed. This was largely due to the enthusitic support of the exhibit given by Mrs. Gioia Marconi Braga, the inventor's daughter. "Marconi" was written and designed by Angela Gwynn and Richard John, who also produced a short booklet to accompany the exhibit. A copy of the exhibit has been produced by the Government of Canada, which is now circulating it in that country. It is hoped that a version can be made available for similar circulation in the United States.

Pearl Street

A small exhibit of artifacts, pictures, and audio-visual elements was prepared by the Consolidated Edison Company of New York as part of its celebration of the 100th anniversary of the first operation of Thomas Edison's pioneer central generating station at Pearl Street in lower Manhattan. This exhibit is being used on company properties in the New York City area. Consolidated Edison also revamped portions of the "Energy Museum" located at company headquarters on East 14th Street at Irving Place to tell more of the Pearl Street story.

Archival Resources and Services

Due to its very limited space and staff, the Center cannot serve as a repository for archival materials (with the exception of IEEE and related records). As a part of its efforts, however, the Center would like to help those who possess or know about collections of papers and artifacts that have historical value in the fields covered by the IEEE. Efforts will be made, within the limits of Center resources, to provide assistance in finding appropriate respositories for collections and in informing historians and others of their availability.

The Center is interested in collecting certain kinds of material that do not take too much space. Pictorial resources are of particular interest, and readers who know of appropriate collections that might be housed in the Center are urged to bring them to our attention.

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