

CHARLES BABBAGE INSTITUTE NEWSLETTER

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CENTER FOR THE HISTORY OF INFORMATION PROCESSING

Trustees Honored at Annual Meeting

Three trustees of the Charles Babbage Foundation and one employee of CBI were honored at the annual Board of Directors dinner on September 15 at the Whitney Hotel. Chairman Erwin Tomash, President Bill Drake, and Fred Lang received the first annual Director's Award for their contributions to the work of CBI. Susan Stepka received a certificate of achievement for her work on the Burroughs collection. (See related story on page two). The awards to the trustees were given for extraordinary service to the Charles Babbage Institute.

The annual meeting of the trustees and the Board of Directors followed on Saturday, September 16.

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CBF Names Johnson, Uncapher Trustees

Herbert C. Johnson, former president of the Minnesota High Technology Corridor Corporation, MTS Systems Corporation, and Datamyte, and founder and a former chair of the Minnesota High Technology Council, has joined the Trustees of the Charles Babbage Foundation. A native of Minnesota, he helped to found engineering programs at Mankato State University, St. Cloud State University, and the University of Minnesota-Duluth. He also served as chair of the Minnesota Project Outreach Corporation, a University of Minnesota group that connects manufacturers with university experts. Mr. Johnson has been very active in environmental causes as well, having founded the Friends of the Boundary Waters Canoe Area and

Beginning the year of the computer

ERA Founded 50 Years Ago



The home of Engineering Research Associates, Inc., in St. Paul, Minnesota, ca. 1950. Originally a glider manufacturing plant, it still stands today.

directed the Minnesota Environmental Science Foundation, Inc.

Keith W. Uncapher, associate dean for Information Sciences at the University of Southern California and corporate vice president of the Corporation for National Research Initiatives, has also accepted an invitation to serve as trustee.

Best known for having managed the creation of the first timesharing system for mathematicians (JOSS) at Rand Corporation, he has contributed to packet-switched technology, pen-stylus character recognition, and a multipurpose time shared emulator facility on ARPA net. With Dr. Danny Cohen, Professor Uncapher created MOSIS, a computer-based agent to allow hundreds of VLSI

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During the fall of 1945, Howard T. Engstrom and William C. Norris discussed forming a company out of the talent amassed for the Navy's wartime cryptologic effort. Both had served as members of the Navy's Communications Supplemental Activity-Washington (CSAW) during World War II and wished to continue this work as civilians.

By the end of the year they had convinced John E. Parker to provide the financing for the new company. After recruiting Ralph Meader, who had headed the Naval Computing Machine Laboratory in Dayton, Ohio, the four men incorporated Engineering Research Associates on January 8, 1946.

Parker's wartime glider factory in St. Paul became the company's home. Norris and Engstrom became vice

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Burroughs Project Milestone

After a two years of work, Project Archivist Susan Stepka concluded the first phase of a special project designed to help organize and describe the records of the Burroughs Corporation. The collection was donated to CBI by Unisys Corporation and consists of approximately 500 cubic feet of records. The project was funded by the Unisys Corporation. She completed basic preservation, enhanced description, and produced cataloging records for use in the university's catalog and the Research Libraries Information Network.

This collection includes advertisements dating from 1900 to the mid-1980s, computer brochures, communications with internal employees and outside customers, press clippings, press releases, speeches, and magazines and books published by Burroughs. There are also company histories, biography files,

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annual reports, letters to the field force, and shareholder/stockholder information. In addition, researchers will find files on World War II, the merger of Burroughs and Sperry, ElectroData records, Systems Development Corporation records, division and subsidiary records, and the Burroughs International Corporation records.

The product literature category is very large and includes manuals. There are also sales and technical information collections.

There are over 100,000 photographs in the collection as well as videotapes for 1960 to 1986.

The project transformed the Burroughs Corporation Records into CBI's finest archival resource. The collection is one of the few sources publicly available on a major office machine manufacturer of the first half of the 20th century, and is one of a handful of archival collections on one of the top ten manufacturers of electronic computers. □

Annual Meeting ...

Continued from page 1

Elections and Committees

The trustees reelected Erwin Tomash to be chairman, Willis Drake to be president, Ken Anderson, treasurer, and Bob Seidel, executive director. Paul Armer was elected secretary.

The Board of Directors of CBF named the following committees for 1996:

Development: Willis Drake, chair, Walter Carlson, Robert Price, George Ryan, and Keith Uncapher.

Nominating: Tibor Fabian, chair, John Carlson, Jim Cortada, and Margaret Loftus.

Program: Bob Seidel, chair, Arnold Cohen, Jim Cortada, Margaret Loftus, and Arthur Norberg.

Executive Committee: Erwin Tomash, chair, Walter Bauer, John Carlson, Bill Drake, and Clancy Spangle.

The Board reelected the following trustees: Walter F. Bauer, James W. Birkenstock, Arnold A. Cohen, Peter J. Denning, John Diebold, Tibor Fabian, Bruce Gilchrist, A. S. Hoagland, Thomas

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Frank Chambers



Frank Chambers, one of our founders and Trustee of the Charles Babbage Foundation, died in early December.

He received his BS degree from the University of Utah in 1937 and an MBA from Harvard in 1939. During World War II, he served in the Office of the Undersecretary of War.

In 1947, he founded a company with his brother, Bob, that developed and produced the Shopsmith, a multipurpose woodworking machine for the home craftsman.

In 1959, Frank founded Continental Capital Corporation, one of the first venture capital firms on the West Coast. He remained active as a venture capitalist for over a quarter of a century, during which he was a founding investor in over fifty high-technology companies. □

New Trustees ...

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designers to contribute to artwork, fabrication, and delivery of packaged chips. He is the past president of the IEEE Computer Society, the American Federation of Information Processing Societies, and past international president of IFIP TC-6 (telecommunications). □

Production of this newsletter is supported by Analysis International.

CBI Staff Changes



Susan Stepka

Susan Stepka

Susan Stepka, who joined CBI in 1992 as the Burroughs Project archivist, left CBI in September to join the library at the Federal Reserve Bank in Minneapolis.

She was hired as a library analyst trainee, and is working on a retrospective conversion project. She works with the Federal Reserve electronic library catalog, and is responsible for serial subscriptions and interlibrary loan. The CBI staff wishes her well at her new position! □

Diane Larson

Former principal secretary Diane Larson has left CBI for private industry after three years with the university. Her new job is closer to her home, which is important in Minnesota! □

Jackie Geier

Jacquelyn Geier has joined CBI as the new principal secretary. She has had extensive experience in the Peace Corps, as a departmental secretary at Macalester College, and as director of a youth program in St. Paul. Welcome aboard, Jackie! □

When you move...

Please let us know your new mailing address. This will ensure your receiving the CBI Newsletter on a timely basis and also save us postage costs. Thank You.

Archives Add Wessel, CDC Collections

CBI's collections continue to grow, thanks to our friends in the field.

Wessel Papers

Mrs. Joan Wessel donated eight volumes of the papers of her husband, Milton Wessel. The volumes consist of legal documentation and correspondence relating to the now defunct American Federation of Information Processing Societies (AFIPS). Milton Wessel was retained by AFIPS as the organization's legal counsel from 1968 to 1975. The collection contains key legal documents, opinions on issues facing AFIPS, and information on lobbying by AFIPS.

Control Data Collections

CBI added two accessions relating to Control Data: The first consists of twelve boxes of records from Albert Eisele, who worked with Control Data's top executives during the 1980s. Most of the collection contains speeches and reference files relating to William C. Norris, and later, Robert Price. Eisele's records cover a period missing in the Control Data Corporation Records already available at CBI. The other collection consists of miscellaneous records donated by Control Data's former archivist, Scott Jessee.

The University of Iowa archives donated a complete run of *Pipeline*, a serial developed by Conduit, which was a consortium of computer networks studying the distribution and exchange of computer-based educational materials. *Pipeline* began in 1974 as a clearinghouse of software information. It ceased publication in 1983 after the Conduit program lost its federal funding.

Other accessions include materials on the MADDIDA computer from M. J. Mendelson, some materials about John Mauchly from Claire Schultz, and over 10 cubic feet of records added to the Ralph Griswold Papers. □

Punch-card Project Progress

Lars Heide of Odense University in Denmark reports progress on his project of analyzing the development of punch-card systems in the United States, Great Britain, France, Germany and Norway, which has been partially supported by CBI. His research has taken him to the archives of IBM, Remington Rand, the National Archives, and the Smithsonian in the United States, the Bull Archives in France, and IBM and the Duetsches Museum of Munich. During November, he visited the Science Museum of London, the National Archive of the History of Computing in Manchester, and Oxford and Cambridge in pursuit of material.

In his comparative social analysis, Heide has found a complicated pattern of technology transfer which was shaped by the cultural differences between the societies which adopted punch-card machines. Copies of his full progress report are available from CBI. □

... Annual Meeting ...

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P. Hughes, Melvin Kranzberg, Frederick W. Lang, Pamela McCorduck, Daniel D. McCracken, Patrick J. McGovern, Frank C. Mullaney, Robert M. Price, Emerson Pugh, George M. Ryan, Lawrence J. Schoenberg, Herbert A. Simon, Merritt Roe Smith, Clarence W. Spangle, Joseph F. Traub, Hasso von Falkenhausen, and Sam Wyly.

The Board elected Saul Amarel, John Carlson, Jim Cortada, Cuthbert Hurd, Herbert Johnson, Margaret Loftus, Keith Uncapher, Harry Woolf, and William Wulf as new trustees.

The next meeting of the foundation is scheduled for September 15, 1996, with a banquet on September 14. □

Computer Riches at SHOT Meeting

The history of computing appeared at the annual meeting of the Society for the History of Technology (SHOT) at the University of Virginia in Charlottesville.

Former CBI Fellow Stuart Shapiro organized a session "Contextualizing the

ENIAC Plans Mature

The Historical Advisory Board to the ENIAC History Project met on October 21 at the University of Virginia.

The principal historical events planned include a banquet for early luminaries of computing and a series of historical presentations at the ACM meeting in Philadelphia from February 14-16, 1996, and a set of historical sessions on May 17-18 as part of a Joint Technical and Historical Symposium to commemorate the original Moore School Lectures.

The ACM and the City of Philadelphia are cosponsoring a banquet on February 14, 1996 for "people involved in the early history of computing as well as general audiences." The ACM program committee plans to invite 10-15 people to the banquet at the expense of the celebration, and others will pay around \$100/person.

The Advisory Board suggested that more people be invited and that no one be singled out for special treatment, but that the dinner's cost should be reduced through subsidy.

Historical "tracks" organized by the ACM program committee's subcommittee on computer history are planned to include a talk on the technical history of the ENIAC by Mitch Marcus, head of Penn's computer science department, and papers by CBI Fellow Atsushi Akeru on "Biography and Contest: John W. Mauchly and the Origins of Modern Computing," and Pap Ndiaye on "The Aftermath of the ENIAC: Eckert, Mauchly, and the National Bureau of Standards."

The Joint Technical and Historical Symposium in May is being organized by Akeru and a program committee consisting of Bob Seidel, Bill Aspray, and Pierre Mounier-Kuhn. □

New Information and Communication Technologies" in which he spoke of "Going to Extremes: The Congelation of Social Relations in the New Information and Communication Technologies."

Microprocessors

A session on post-postwar technology saw past CBI Fellow Bill Aspray discuss "The Early Development of the Microprocessor in Japan and America," focusing on the work of Tadashi Sasaki.

Ross Bassett of Princeton University presented "The Challenge of Integration on a Large Scale: Organization and Region in LSI Start-ups in the Hudson Valley and Silicon Valley."

The Internet

Jon Guice, of the University of California at San Diego, organized a session titled "Building the Internet," which was premised on the assertion that how people understand the history of the Internet will affect its future. Newer historical work transcends the view that enthusiasm led to the growth. Former CBI Fellow Janet Abbate spoke about "The Role of the 'Open Systems' Model in Shaping the Internet;" Juan Rogers of VPI presented a paper, "Characterizations of the Internet: Toward a Multi-stranded Account," based in part on research done at CBI.

Guice read a paper by Judy O'Neill, former associate director of CBI, based upon her forthcoming book written with Arthur Norberg, which summarized the history of IPTO and its contributions to TCP/IP.

Computing Technology

Janet Abbate chaired the session on computing technology. Dave Irvine of Hughes STX Corporation described "The Role of Data in EOS and the EOS Data Information System" and Jan van den Ende of the Delft University of Technology analyzed "Socio-Technological Interaction on the Macro-Level: Computing Technology in the 20th Century."

Computers in Science and Engineering

The final session, "Computers in Science and Engineering", was organized and chaired by Bob Seidel of the Charles Babbage Institute. CBI Fellow Atsushi Akeru of the University of Pennsylvania presented a talk entitled, "Young Men's Enthusiasms: Electronics, Engineering, and Computer Education in the 1940s and 1960s," and Anne Fitzpatrick of Los Alamos National Laboratory and Seidel presented "Computers, Nuclear Weapons, and Science."

Participants were kept busy attending all these sessions, as well as meetings of the History of Computing Interest Group and many other sessions of interest.

The Society for History of Technology will meet next in London on August 1-4, 1996. Bob Seidel will chair a session entitled "University, Industry, and Government--Directing the Postwar Visions of Computing."

History of Computing SIG

A large number of historians attended the meeting of the History of Computing Special Interest Group (SIG) at this year's SHOT meeting. Atsushi Akeru reported on plans for the celebration of the 50th anniversary of the ENIAC. Pierre Mounier-Kuhn announced that the Fourth Computer History Conference would be held in Rennes, November 14-16, 1996. Janet Abbate announced that, having finished her dissertation, she would be working on a cultural geography of computing.

J. A. N. Lee announced that the U. S. Navy will launch the *Grace Murray Hopper* on February 14 and that IEEE press is interested in heading up a "flying squad" to investigate the early history of computers at Bletchley Park and NCR (Dayton).

Aristotle Tympas, a graduate student at Georgia Tech, is organizing a Salonika conference on premodern computing technology and seeks those who might be interested in assisting him. □

Become a Friend of the Charles Babbage Institute

The Charles Babbage Institute (CBI) is the only academic research center dedicated to the history of information processing. In addition to publishing the Newsletter, it conducts historical research to identify and interpret significant episodes in the history of information processing and its impact on society. CBI also seeks important collections of documents relating to the history of computing, and interviews with key individuals in the development of computers and information processing.

Support Collections

CBI's large collection of historical materials provides the raw material of future history. It is used by historians around the world. In addition to the records of computer scientists, industrial organizations, and professional associations, it includes more than 100,000 images and interviews with 300 computer pioneers of the information processing field.

CBI has led the development of archival methods in the field, encouraging its documentation in

industry and academe and publishing the results of national surveys and methodological research in the study of large high-technology firms. It is also investigating methods of capturing electronic archives, such as e-mail and data files.

Your donation will help us preserve the records of the field, an ever-growing repository of information of interest to business historians, historians of science and technology, and other students of the information age.

Support Training

CBI awards the Adelle and Erwin Tomash fellowship in the History of Information Processing to scholars interested in the field. Its recipients have become leading contributors to the history of computing. Your donation will help sustain this program of support in graduate education.

Support Publication

CBI has published a collection of rare monographs, conference proceedings, manuals, government

reports and books that help document the history of information processing and are of considerable interest to scholars.

CBI's Newsletter provides information about current activities in the field, bibliographies, and finding aids, many of which are available on the Internet as well as in hard copy.

Become a Friend

You can join others who make an important contribution to CBI activities by enrolling in one of the categories listed below. Your contribution is tax exempt in the United States, and your firm may match it.

Your support can make an important contribution to the understanding of a dynamic field whose history needs to be captured before it is lost. Please fill out the attached form and join our Friends today.

Friends receive discounts on CBI publications and a free subscription to *Annals of the History of Computing*.

I would like to join the "FRIENDS OF CBI". I enclose my check for the category indicated, made payable to the *Charles Babbage Foundation*.

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ERA's 50th Anniversary

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Howard T. Engstrom was among the original founders of ERA (CBI photograph)

presidents of the company, and Parker was made president.

In 1951, ERA was acquired by Remington Rand, which also purchased the company formed by the inventors of ENIAC, Presper Eckert and John Mauchly.

The two subsidiaries remained largely independent of each other and of the company's Norwalk laboratory, which also worked on computers. In 1955, Sperry Corporation merged with Remington Rand to form the Sperry Rand Corporation. Norris headed the Univac division for a time and then went on to found Control Data Corporation with Seymour Cray, Willis K. Drake, and other Univac engineers.

Historians of the early computer industry have singled out Engineering Research Associates as a pioneering firm in electromagnetic drum storage and in the development of the Atlas, one of the first practical computers with a stored program. Its commercial equivalent, the ERA 1101, shipped in 1950. It has been estimated that ERA sold 80% of the dollar value of computers sold in the United States through 1952. Its acquisition by Remington Rand unfortunately obscured its name.

In 1986, the ERA Building in Saint Paul was marked with a plaque to signify its importance as the birthplace of Minnesota's computer industry. A long line of firms derived from the prescience



William Norris, founder of ERA and CDC (CBI photograph)

of Norris, Parker, and Engstrom, the "three wise men" of ERA.

Throughout 1996, CBI and the Minnesota computer industry and professional associations will commemorate the accomplishments of ERA and its successors during the "Year of the Computer." □

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