

CHARLES BABBAGE INSTITUTE NEWSLETTER

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CENTER FOR THE HISTORY OF INFORMATION PROCESSING

State of the Charles Babbage Institute

At the 1992 Charles Babbage Foundation Board meeting, Arthur Norberg presented a report of CBI's accomplishments of the year 1991-92. He summarized the efforts of CBI in research, archives development, community involvement, and changes in space.

Perhaps the most important highlight of the year was the imminent completion of the CBI study of the Information Processing Techniques Office of the Defense Advanced Research Projects Agency. In June, the staff was preparing the final draft (the report was completed thereafter and submitted in October 1992 to the Department of Defense; see the Summer 1992 newsletter). The manuscript will be reviewed by the Johns Hopkins University Press for publication in a revised form.

Over two dozen acquisitions were made this year. Among the more significant were a machine-readable version of the Federal Inventory of Digital Computers; the Data Processing Management Association records; the papers of Francis Holberton, Claire K. Schultz, John Hamblen, John E. Parker, and Edward Gilfix. The Archives also received additions to the Control Data Corporation records; the records of the Twin Cities Chapter of the Association of Women in Computing; the Herbert Bright papers; and to CBI's Computer Literature and Corporate Manuals Collection. Processing of these and other collections continued to increase, partly as the result of new quarters in Walter Library for CBI's archival processing activities. The archives staff cataloged all of CBI's oral histories in the Research Libraries Information Network,

enabling interlibrary loan of transcripts and providing greater access to CBI's large oral history collection.

The Adelle and Erwin Tomash Fellowship in History of Information Processing was awarded to Ms. Michele Jackson, a University of Minnesota graduate student in the Department of Speech Communication. Ms. Jackson is preparing a history of computerized group decision support systems for the period 1965 to 1985.

CBI published four Newsletters and Volume 16 of the CBI Reprint Series (*The Calculating Machines (Die Rechenmaschinen): Their History and Development (1925)*) appeared from Tomash Publishers and the MIT Press. Bruce Bruemmer published two brief articles in a regular column he prepares for the Midwest Archives Conference Newsletter and a major article on access to oral history published in *American Archivist*. Judy O'Neill is the Happenings Department Editor for the *Annals of the History of Computing*.

Bruce Bruemmer participated in a study on preservation issues for archives conducted for the (U.S.) Commission on Preservation and Access. The staff attended a number of meetings during the year: the annual meetings of the Society for the History of Technology, Society of American Archivists, the Oral History Association, the Midwest Archives Conference, and the Association of Women in Computing; an international conference on the History and Prehistory of Automatic Computing and Informatics in Siena, Italy; an IEEE History Center conference on Competitiveness; and an international conference

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Bibliographic Communication Experiment in Florence

The Istituto e Museo di Storia della Scienza, Firenze, is engaged in an experiment to create a common format for data exchange among bibliographies of the history of science, technology, and medicine. The experiment aims at being a first tangible step towards the cooperation and coordination of the developers of the various bibliographies. The principal bibliographies included in the experiment are the Bibliography of the History of Medicine, Francis-Histoire des Sciences et Techniques, ISIS Current Bibliography, Technology and Culture Bibliography, and the Bibliografia Italiana di Storia della Scienza. The purpose of the experiment is to establish a common standard that will permit (a) communication and exchange between various databases, (b) the creation of a common database, and (c) the creation of common control files (authority files relative to author, subject and periodical information).

The common format, designed by Massimo Bucciantini, Anna Corinna Citernes, and Fabio Guidi, contains the data elements designation and name of the datafield, definition of the datafield, use of the datafield (whether mandatory or optional), notes about the datafield, subfields, and examples. The record consists of three parts: record identification, bibliographic description, and indexes for added entry information about the original creator of the record and information used by that creator and not otherwise included in the record. In order to facilitate the experiment, the records supplied by the independent bibliographies were reproduced exactly as they were transmitted.

Experiment continued on page 6...

SHOT Special Interest Group in History of Computing

The Society for the History of Technology (SHOT) Special Interest Group in Information, Computing, and Society held its sixth annual meeting in Uppsala, Sweden on 17 August 1992. The meeting was chaired by Janet Abbate of the University of Pennsylvania.

The meeting opened with a description of the electronic mailing list, SHOTHC, that was started in the past year to promote informal exchange of information among members of the special interest group. [If you wish to subscribe to this list, send electronic mail to BITNET address `LISTSERV@SIVM` (internet address `listserv@sivm.bitnet`), containing a blank subject and the message "sub shothc-1 firstname, lastname". You will receive reply mail that provides further information about how to use the list.]

Each person present gave a brief description of their current work and interests. For those members who can not attend the yearly meeting, the CBI

Newsletter or the electronic mailing list could perform the same function.

Much of the meeting was devoted to a discussion of whether and how to organize a session for the next SHOT meeting. There was general interest in organizing a session devoted to computer topics. Several possible topics were suggested including business aspects of computer history, networking, public policy, computers in the public consciousness, historiography, failures, role of government, the development of computer science within universities, and standards. Stuart Shapiro, Centre for Research into Innovation, Culture, and Technology at Brunel University, volunteered to organize the session and propose a topic.

The group elected Paul Ceruzzi, National Air and Space Museum, Smithsonian Institution, as chair for the coming year. Anyone wishing to become associated with this special interest group can do so by contacting him at the National Air and Space

Museum, Smithsonian Institution, Washington, DC 20560 USA; telephone 202 357-2828; or e-mail `NASEM001@SIVM.BITNET`.

Shapiro has subsequently chosen the session theme "Computing and Organizations." Computing covers mechanical devices such as calculators and tabulators as well as programmable electronic computers. The theme should be broadly interpreted and includes the role of organizations in the development of computer technology, the impact of computing on organizations, and the development of entirely new organizational forms through computer technology. He can be reached at CRICT, Brunel University, Uxbridge, Middlesex UB8 3PH, England; fax 0895 203155, or e-mail `Stuart.Shapiro@brunel.ac.uk`.

[Editor's note: Janet Abbate, Stuart Shapiro, and Paul Ceruzzi have each been a former recipient of a CBI fellowship.] □

CHARLES BABBAGE INSTITUTE NEWSLETTER

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CBI offers this special acknowledgement to the individuals and groups listed below for supporting the programs of the Institute through their membership in the CBI Friends Program.

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Thank you all for your continuing support and encouragement. □

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.



Become a Friend of the Charles Babbage Institute

We would like you to become a Friend of the Charles Babbage Institute (CBI). The institute is dedicated to promoting the study of the history of information processing. By becoming a Friend of CBI, you can help support the activities of the Institute and learn more about the remarkable development and impact of information processing in society.

CBI's Major Programs

Historical Research—CBI specializes in researching historical areas of the information processing field. Topics have included development of the computer industry, scientific computation, the role of government in computing, and technical developments. The results of this research can be found in a series of popular and scholarly books and articles published by the CBI staff.

Historical Collection—CBI documents the history of computing with a large collection of historical materials. Chief among them are records donated to the institute by computer scientists, industrialists, businesses, and professional organizations. Our audio/visual collec-

tion contains more than 150,000 items, largely photographs. CBI has recorded oral interviews with over three hundred pioneering individuals in the information processing field. Arrangements can be made in person or by telephone for reproduction of many of the items in the collection. A reading room is available with professional staff to help users.

Archival Advocacy—CBI maintains ties to other repositories and encourages the documentation of information processing. Also, it conducts archival research projects.

Graduate Fellowships—CBI awards the Adelle and Erwin Tomash Fellowship in the History of Information Processing to graduate students whose dissertations address an aspect of the field's history.

Reprint Series—Much of the historical work in the rapidly changing information processing field depends on the use of difficult-to-obtain monographs, conference proceedings, manuals, government reports, and books, issued in very small circulation numbers. The *Reprint Series*, available through CBI, brings these works into wider circulation.

Publications—CBI produces this *Newsletter* four times a year. It contains information about current activities at CBI and elsewhere relating to the history of information processing. The Institute also produces occasional papers such as bibliographies and finding aids.

Symposia—CBI hosts and co-sponsors conference and lectures in which we provide an historical perspective to contemporary issues surrounding the information processing field. Symposia are directed towards producers, users, public policy makers, archivists, academicians, and many others.

Become a Friend

As an individual, you can join with others to make an important contribution to the activities at CBI. There is a wide range of supporting categories. Details of the Friends Program offerings are listed below on the membership application form. Contributions to the Charles Babbage Institute are tax-exempt. We greatly appreciate matching contributions from companies that match employees gifts. Thank you for considering becoming a **Friend of CBI**.

I would like to join in membership as a "FRIEND OF CBI". Enclosed is my check for the category indicated, made payable to the *Charles Babbage Foundation*.

- _____ Associate Member \$30 donation
(receives 20% discount on *CBI Reprint Series for the History of Computing*)
- _____ Participating Associate \$100 donation
(receives 20% discount on *Reprint Series* and a subscription to the *Annals of the History of Computing*)
- _____ Colleague \$250 Donation
(receives one free book from *Reprint Series* and a subscription to the *Annals of the History of Computing*)
- _____ Sustaining Colleague \$500 donation
(receives two free books from *Reprint Series* and a subscription to the *Annals of the History of Computing*)
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Mail To: Charles Babbage Institute, University of Minnesota, 103 Walter Library, 117 Pleasant Street Southeast, Minneapolis, MN 55455 U.S.A.

Software Patent Institute

With significant participation from the computer industry and the computer science community, and strong encouragement from recent U.S. Government reports, the Software Patent Institute (SPI) has begun operation.

SPI is a broad-based response to fast-moving and complex challenges surrounding software-related patents. Its mission is to create a prior art database for access by those involved in software-related patents and to provide short courses on software technology for U.S. Patent and Trademark Office (USPTO) personnel and others.

Patenting problems have been created in part by a rapid increase in applications for software-related patents, limited prior use of patenting and publication in software development (historically, software-related patents were discouraged), and advances made through extensive use of prior work. To these factors were added the difficulty experienced by the USPTO in hiring personnel with strong dual backgrounds in software and hardware technologies. The decades of experience that paved the way for more traditional technologies are also nonexistent for software-related technology. The SPI's effort to provide compatible access to materials outside the USPTO collection will complement the current effort by USPTO to automate its operations and patent collection.

The USPTO, the Office of Technology Assessment of the U.S. Congress, and the Advisory Commission on Patent Law Reform of the U.S. Department of Commerce have expressed strong interest in SPI. Some of the organizations working with SPI include Apple; Caterpillar; DEC; EDUCOM; IBM; the Industrial Technology Institute; Lotus; Microsoft; the Software Publishers Association; the Information Technology Association of America; the University of Michigan; and a number of major legal firms that work with software issues. In addition, the Michigan Strategic Fund of the State of Michigan has provided matching funds for startup contributions.

SPI recently selected the Industrial Technology Institute (ITI) of Ann Arbor,

SPI continued on page 6...

CHARLES BABBAGE FOUNDATION

Resolution of Appreciation

PRESENTED TO

Arthur Norberg

Whereas, Arthur Norberg, has served as the Executive Director of the Charles Babbage Institute throughout its most important, formative first decade and has totally devoted his professional life to fostering the growth and development of the Charles Babbage Institute; and

Whereas, he has guided the program of research and creation of the archives of the Charles Babbage Institute, has established it as an integral part of the University of Minnesota, has made it known world wide as the premier Center for the History of Information Processing; and

Whereas, he has heightened the level of awareness, nationally and internationally, of the History of Information Processing and has encouraged and facilitated participation, particularly on the part of younger scholars, in both historical activities and archival techniques.

Now Therefore Be It Resolved, that on this occasion the Trustees and Board of Directors are pleased to express their appreciation to Arthur Norberg for his many contributions and multiple services to the Charles Babbage Institute and the Charles Babbage Foundation.

Be It Further Resolved that the Trustees and Board of Directors are pleased to express their best wishes for continuing success, professional growth, and personal fulfillment to Arthur Norberg.

BY ORDER OF THE BOARD OF DIRECTORS:

Erwin Tomash

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Bernard A. Galler

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OCTOBER 27, 1992

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Doug Ross

W.F. Bauer

Adelle Tomash

This multi-colored, hand-lettered, framed resolution was presented to Arthur Norberg at the Charles Babbage Foundation Annual Meeting.

IEEE Oral History Guide Available

The IEEE Center for the History of Electrical Engineering recently completed and published the second volume in its "Sources in Electrical History" series. The new book, entitled *Sources in Electrical History 2: Oral History Collections in U.S. Repositories*, is now available. Researchers can use the guide to find oral history interviews with engineers, scientists, politicians, industrialists, laborers, and others that contain information on electronics or electrical or computer technology. The guide summarizes the

contents of over 1,000 taped interviews, stored in 63 depositories. It includes an extensive subject and name index.

The book joins the first volume of the series *Archives and Manuscript Collections in U.S. Repositories*, in providing a ready reference of primary sources available in the history of electrical and electronics technologies.

To obtain the guide, contact the Center for the History of Electrical Engineering, Rutgers University, 39 Union Street, New Brunswick, NJ 08903-5062. □

AUERBACH ORAL HISTORY

A six-hour oral history interview of Isaac L. Auerbach was conducted recently by Bruce Bruemmer, CBI's archivist. The interview complements an extensive collection of records available at CBI documenting Auerbach's work with Eckert-Mauchly Computer Corporation, Burroughs Corporation, the International Federation for Information Processing, Auerbach Electronics, and a number of other businesses established by Auerbach.

The interview was initially requested because of the inadequate documentation on the activities of Irvan Travis, who was responsible for developing the Burroughs Research Center in the 1950s. Even though the Institute holds the Burroughs Corporation Records, only a small portion of the records yield information on the Research Center, its management, and the products it produced. While Travis had been the subject of earlier interviews, they did not supply adequate information about the early Burroughs years.

Auerbach, who worked closely under Travis and headed the Defense, Space, and Special Projects Division of the company, offered to help supply information.

Auerbach himself was the subject of an earlier interview conducted by Nancy Stern, which covered the period in which he worked with Eckert and Mauchly. This new interview begins in 1949, when Auerbach left Eckert-Mauchly Computer Corporation. He was one of the first people hired by Travis for Burroughs' research and development work, and helped develop the static magnetic memory for the ENIAC (see photo), encryption/decryption equipment, a ground-based guidance computer for the U.S. space program, and many other projects. He discusses the staff hired by Burroughs, the organization and management of the research facility, Travis' position within the company, and Auerbach's reasons for leaving the company in 1957.

The interview then moves into the formation of Auerbach Electronics (later Auerbach Associates), one of the first computer consulting firms. Auerbach



Isaac Auerbach in front of the static magnetic memory unit he helped produce for the Burroughs Corporation in 1952. The unit was built for the Army Ordnance Corps to expand the memory available on the ENIAC, and consisted of 4100 memory cells encapsulated in plastic. The memory increased ENIAC's capacity from 20 to 100 words.

describes the establishment of the company in Narberth, Pennsylvania, its personnel, initial contracts, finances, and growth. He also discusses the formation of other ventures, including an early computer leasing company, a company that designed electronic parimutual equipment, and a publishing firm (producer of the Auerbach Computer Technology Reports).

The interview concludes with an exchange over Auerbach's founding of the International Federation for Informa-

tion Processing, and a discussion of Auerbach's philanthropic work.

In addition to the interview, CBI received over 25 cubic feet of records largely relating to Auerbach's business ventures. The interview, coupled with an extensive collection of records now at CBI, offers a detailed perspective of Auerbach's significant contributions to the international computer industry and community. The interview is undergoing editing and is expected to be released at the beginning of 1993. □

SPI continued from page 4...

Michigan, as its institutional parent. ITI, a nonprofit corporation dedicated to improving the productivity of North American manufacturing, has significant experience in software technology and patents, and is well positioned to provide a neutral forum for computer firms, universities, and government agencies.

Bernard Galler, a computer scientist at the University of Michigan and a Director of the Charles Babbage Foundation, chairs SPI's Executive Committee. Galler noted that "while providing a database of prior art and short courses is not a panacea for these complex issues, most should agree that these efforts will help reduce the uncertainty and associated costs of developing and using software."

SPI maintains a mailing list of those interested in its activities, and is happy to add to that list. For further information, please contact SPI at (313) 769-4083 or write Software Patent Institute, c/o Industrial Technology Institute, 2901 Hubbard Road, P.O. Box 1485, Ann Arbor, MI 48106-1485. □

CBI continued from page 1...

in Trento, Italy, on archival and documentation issues in the history of science, technology, and medicine.

Lastly, Norberg offered two courses (Science in American Culture and Technology in American Culture) in the University's Program in History of Science and Technology. He also team taught a course (Understanding Technological Development) with a professor from the University's Carlson Management School in the Management of Technology Program, a program for technical people returning for an advanced degree in management.

Goals for 1992-1993:

Publication

- revision of the DARPA/IPTO manuscript
- continuation of the ERA/EMCC history study

Archival Development

- continued aggressive collecting policy
- several new processing proposals for making collections more accessible

Fundraising

- develop and implement a new strategy for CBI and CBF development activities

Teaching

- offer several courses at the University of Minnesota

Attendance at Meetings

- Society of American Archivists; Midwest Archives Conference
- History of Programming Languages II
- Society for the History of Technology
- History of Science Society
- Deutsches Museum Workshop on History of Radar
- Business History Conference annual meeting

Preparations for the Transition to a new Director □

Experiment continued from page 1...

The experiment has achieved a measure of success. A common database exists and records can be retrieved easily. The next stage will be to decide on a delivery vehicle, so as to make the common database available to users around the world. Further information about the BCE Experiment can be obtained from any one of the project leaders or from the director of the Istituto e Museo Professor Paulo Galluzzi (Piazza dei Giudici 1, 50122 Florence, Italy). □

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