

# CHARLES BABBAGE INSTITUTE NEWSLETTER

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Winter 1992

CENTER FOR THE HISTORY OF INFORMATION PROCESSING

## Charles Babbage Institute's Oral History Collection Update

CBI's oral history collection constitutes the world's largest group of historical interviews relating to the history of computing. It now contains nearly double the 140 interviews listed in its 1986 *Guide to the Oral History Collection*. The greatest number of interviews added since then were developed as part of research projects relating to Engineering Research Associates, Control Data Corporation, the National Science Foundation, and DARPA/IPTO (which is nearing completion). CBI continues to emphasize projects as the focus of its oral history efforts, rather than conducting isolated interviews. In a project, interviewers are likely to know where gaps exist in traditional archival sources, resulting in an interview that will produce information unavailable from other sources. This ensures the development of "research-grade" oral history.

As CBI improves the research quality of its interviews, it strives to improve accessibility to its oral history collection. CBI's six-year old paper guide is proving inadequate, given the number of new interviews produced since then and the number of listed interviews that have had restrictions on their use removed. A few updates have appeared in this newsletter, but they have been published sporadically. Rather than produce another paper guide that would become outdated in a few years, CBI has produced automated listings on the Research Libraries Information Network (RLIN) and the University of Minnesota's catalog, LUMINA (available through internet). The primary advantage of producing machine-readable catalog records for oral

histories is that information about each interview can be updated instantaneously. In this manner information about the status of an interview (closed, open, or restricted) is always current.

CBI's cataloging efforts were enhanced by the receipt of funds in 1991 to convert abstracts in the old guide to standard, electronic, cataloging records. This work was conducted as part of the Research Libraries Group Retrospective Conversion Project for Archival and Manuscripts Collections, which was funded by the National Endowment for the Humanities. Kevin Corbitt, CBI's Assistant Archivist, has been involved in recataloging the collection. When the project ended in February 1992, over 170 oral history abstracts had been created in RLIN and passed to LUMINA. Researchers with access to either database can learn about oral histories available for use and keep informed about interviews that have recently been conducted or accessioned by CBI.

While catalog entries are being created for each interview, the CBI staff is pushing to resolve the status of many older interviews that have remained closed. The backlog of unreleased oral histories is a perennial problem for programs such as CBI's that produce transcripts for each interview. The process of initial editing, editing by the interviewee, and then signing a release form can become stalled at many points, and a two-year period from interview to release is not unusual. The staff is currently concentrating their efforts on interviews that have been edited and

## New Trustees of the Babbage Foundation

The Charles Babbage Foundation is an important partner in CBI activities, both in terms of policy guidance and financial support. Members of the Foundation, known as Trustees, have made major contributions to the "computing enterprise", a phrase that encompasses all the areas of computing and information processing in society, and people associated with the corporate, government, academic, and media sectors. At its annual meeting in October 1991, the Foundation elected the eleven new Trustees who are listed below.

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We wish to welcome our new group of trustees and to thank them and our continuing Trustees, many of whom have been associated with the Foundation since its origins, for all their efforts on behalf of the Foundation and CBI.

*Oral History continued on page 5...*

*Trustees continued on page 3...*

# Grace Murray Hopper

Grace Murray Hopper, a pioneer and leader in the development of computer software and a trustee of the Charles Babbage Institute, died on January 1, 1992 at her home in Arlington, Virginia.

Hopper graduated Phi Beta Kappa from Vassar College in 1928 and earned a master's degree in 1930 and a Ph.D. in 1934 from Yale. She taught at Vassar from 1931 to 1941, at the Moore School of Engineering from 1959, and at George Washington University during the 1970s.

In 1943 Hopper entered the naval reserve and served until 1966 when she retired with the rank of Commander; but she was recalled to active service the next year, and served until 1986 when she retired at the age of 79, the oldest active officer in the nation, with the rank of Rear Admiral. During her years of service in the Navy, Hopper served the Bureau of Ordnance and later was in charge of standardization of programming languages for the Navy.

Hopper joined Harvard in 1946 as a

research fellow at the computation laboratory where she wrote programs for the Mark I, II and III. In 1949 she joined the Eckert-Mauchly Computer Corporation (later acquired by Remington Rand, later Sperry Rand), where she worked on the UNIVAC I as a senior programmer. The world's first compiler was developed by her and her staff in 1952. While

## Forum on the History of Computing

The Association for Computing Machinery Special Interest Group on Programming Languages (ACM/SIGPLAN) is organizing a Forum on the History of Computing, scheduled for April 20, 1993, as part of the Second History of Programming Languages Conference (HOPL-II) in Cambridge, MA. The Forum will include lectures, overview presentations, small group discussions, and panel discussions. CBI's director, Arthur Norberg, and archivist, Bruce Bruemmer, are scheduled to participate in the Forum. Further information about the Forum, and HOPL-II generally, will be available soon. □

working for Sperry Rand, she was involved in the development and standardization of COBOL.

After her retirement from the navy in 1986, Hopper joined the Digital Equipment Corporation as a senior consultant. Until the last few years, she was a very active public speaker, addressing a wide variety of audiences. □



Grace Murray Hopper at the 1978 History of Programming Languages Conference.

## CHARLES BABBAGE INSTITUTE NEWSLETTER

The Charles Babbage Institute, Center for the History of Information Processing, is sponsored by the University of Minnesota and the information processing community. Arthur L. Norberg, Director.

*Charles Babbage Institute Newsletter* is a publication of the Charles Babbage Institute, University of Minnesota, 103 Walter Library, 117 Pleasant Street S.E., Minneapolis, MN 55455 USA, telephone (612) 624-5050. The Newsletter reports on Institute activities and other developments in the history of information processing. Permission to copy without fee all or part of this material is granted provided that the source is cited and a copy of the publication containing the copied material is sent to the Institute.  
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Production of this newsletter is supported by the Charles Babbage Foundation.

## Staff Serves on Preservation Committee

The Commission on Preservation and Access is a national organization established to foster and support collaboration among libraries and archives to ensure the preservation of the documentary record in all formats and to provide enhanced access to scholarly information. During the past year, the Commission has been involved in a self-assessment designed to critique its role and recommend future directions. Arthur Norberg, CBI's director, was one of four individuals who served on the Review and Assessment Committee and helped write its final report, which was recently released by the Commission. The report includes twenty recommendations that will "enhance the work of the Commission and ultimately promote preservation of the record of human cultures." It is available free of charge from the Commission's headquarters (1400 16th Street, N.W., Suite 740, Washington, D.C. 20036-2217).

A number of the recommendations concerned preservation and access issues for non-print materials, including the establishment of national priorities covering such materials. To this end, two archival task forces have been established to look at applicability of archival collection development tools to preservation issues. Bruce Bruemmer, CBI's archivist, was recently recruited to the task force pertaining to documentation strategies, a method with some promise of developing inter-institutional cooperation in the preservation of non-print materials. The task force will meet through the spring of 1992 and is expected to release a report in June. □

### 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.

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## Schultz Papers Donated to CBI

Claire K. Schultz, a leading figure in the development of automated information retrieval systems, has donated her papers to the Charles Babbage Institute (CBI). The collection, containing 67 cubic feet of records, focuses on Schultz's work with information retrieval and information science.

Schultz retired in 1980 from her positions as professor of information science and director of libraries at the Medical College of Pennsylvania. She became acquainted with automated information retrieval as librarian for Merck, Sharp and Dome from 1949-57, and later worked on natural language applications under John W. Mauchly at Sperry Rand's UNIVAC Division. She was involved with the automation of the Armed Services Technical Information Agency (ASTIA) and the development of the National Library of Medicine's MEDLARS/MEDLINE system in the early 1960s. In addition, Schultz developed the information science curriculum at Drexel Institute of Technology and the Medical College of Pennsylvania, served as president of the American Documentation Institute (now the American Society for Information Science), and has written widely on information science topics including her *Thesaurus of Informa-*

*tion Science Terminology.*

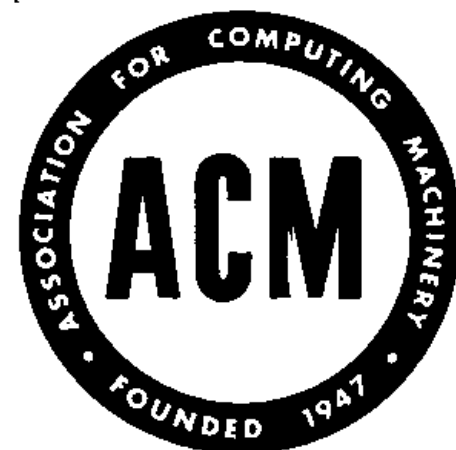
The collection documents pioneering work in automated information retrieval, the transition of information retrieval systems from punched cards to computers, and indexing practices for medical and scientific literature. Included are research and progress reports, journal articles, professional presentations, and product literature. The bulk of Schultz's papers were collected for her professional use and as a resource for her students. Access to individual items in the collection can be obtained through a Zatacoded subject index and an author index compiled in the style of a traditional card catalog (Zatacoding was a punched card indexing system developed by Calvin N. Mooers, whose papers are also available at CBI). Schultz's papers also include her professional and personal correspondence and accompanying subject and author indexes.

A finding aid for the Schultz Papers was completed after the collection received some basic preservation treatment during processing. CBI is grateful to Claire Schultz for making this important collection available to historians. Interested researchers should consult the CBI archivist regarding access to the collection. □

## Association for Computing Machinery

Fortyfive years ago, on January 10, 1947, at the Symposium on Large Scale Digital Calculating Machinery held at the Harvard Computation Laboratory, Samuel H. Caldwell called for an association for those interested in computing machinery. The first meeting of the Eastern Association for Computing Machinery was held in New York, September 15, 1947, at Columbia University. T. Kite Sharpless spoke on the EDVAC and officers were elected: John H. Curtiss of NBS as president, John W. Mauchly of Electronic Control as vice president, Edmund C. Berkeley of Prudential as secretary, and Robert V. D. Campbell of Raytheon as treasurer. These officers appointed an executive committee: Franz L. Alt of the Ballistic Research Laboratory, E. G. Andrews of Bell Laboratories, Mina Rees of the

Naval Office of Research, T. K. Sharpless of Technitrol, Inc., R. Taylor of MIT, and C. B. Tompkins of Engineering Research Associates. A second meeting was held on December 11-12, 1947 in Aberdeen Maryland. In 1948 the name was changed to Association of Computing Machinery, and in 1949 a constitution and by-laws were adopted. □



## The Friends of CBI

**W**e would like you to become a Friend of the Charles Babbage Institute. The Charles Babbage 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 collection

contains more than 10,000 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 associate yourself, along with many others, in the activities of 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**. □

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- \_\_\_\_\_ Colleague \$250 Donation  
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## Current CBI Friends

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

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Thank you all for your continuing support and encouragement. □

## SHOT Bulletin Board Established

In January, Paul Ceruzzi initiated an electronic bulletin board for the SHOT Special Interest Group in Information, Computing, and Society, in response to the group's desire for an informal forum to discuss ideas, questions, and themes relevant to members of the Special Interest Group. The bulletin board is provided through the Smithsonian Institution.

SHOTHC-L is distributed through BITNET, an academic and research computer network, which is internationally connected to many other networks. Mail sent to the SHOTHC-L address is sent to everyone who has subscribed to the discussion group. Replies are also distributed to all subscribers. Contributions are automatically archived and remain available to list members. If you wish to subscribe to this group, send electronic mail to BITNET address [LISTSERV@SIVM](mailto:LISTSERV@SIVM) (internet address [listserv@sivm.bitnet](mailto:listserv@sivm.bitnet)), containing a blank subject and the message "sub shothc-l firstname,lastname". You will receive reply mail that gives further information on how to use the bulletin board.

For further information, contact: Paul Ceruzzi, Curator, Dept. of Space History Smithsonian Institution, Washington, DC 20560 USA (BITNET: NASEM001 at SIVM) □

### Oral History continued from page 1...

require only a signed release agreement. For the most part, this effort has met with good success.

The following list of interviews were produced after the 1986 oral history guide and include only those interviews that are available for use or are scheduled to be opened this year. The latter category applies to the DARPA/IPTO interviews, which were conducted as part of an ongoing historical research project undertaken by the CBI staff. A small number of interviews may be used only at CBI because copyright has not been assigned to CBI. Recent legal interpretations of "fair use" have forced CBI to suspend the production of copies for these interviews. □

## OPEN INTERVIEWS

OH Interviewee	Date	Interviewer
211 ADRION, W. R.	10/29/90	Aspray
176 AMAREL, SAUL	10/05/89	Norberg
107 AMDAHL, GENE M.	04/14/86+	Norberg
119 ANDERSON, WALTER L.	09/11/86	Norberg
128 BAUER, FRIEDRICH L.	04/17/87	Aspray
055*BAUER, WALTER	05/14/73	Mapstone
113 CLOVER, H. DICK	06/05/86	Norberg
138 COHEN, ARNOLD A.	07/02/87	Norberg
134 CRITCHFIELD, C.	05/29/87	Aspray
145*CURTIS, KENT	11/13/87	Minker
189*DAVIES, D. W.	03/17/86	Campbell-Kelly
144 DICK, GEORGE W.	02/19/88	Aspray
118 DUNCAN, HUGH	08/14/86	Norberg
193*ECKERT, J. PRESPEER	1975	Evans
216 GRAD, ARTHUR	10/29/90	Aspray
201 GRISWOLD, R & M	07/25/90	Cargo
111 HERR, ROBERT	01/17/87	Norberg
140 HERZSTARK, CURT	09/10/87	Tomash
215 INFANTE, ETTORRE F.	11/14/90	Aspray
214 LYKOS, PETER H.	11/13/90	Aspray
115 MASTERSON, EARL E.	06/30/86+	Aspray
135 METROPOLIS, N. C.	05/29/87	Aspray
110 MULLANEY, FRANK C.	06/2/86+	Norberg
116 NORRIS, WILLIAM C.	7/28/86+	Norberg
194*PINKERTON, J. M. M.	1976	Evans
149 PINKERTON, JOHN	08/31/88	Self
147 ROBINSON, H. W.	7/13/89	Bruemmer
124 SCHWARZSCHILD, M.	11/18/86	Aspray
125 THOMPSON, PHILIP	12/05/86	Aspray
062 THORNTON, JAMES	02/09/84	Norberg
053*TOMASH, ERWIN	3/30/73	Mapstone
200 UNIVAC CONFERENCE	5/17/90	Bruemmer
202 WAMPLER, STEVEN	07/25/90	Cargo
109 WATSON/BIRKENSTOCK	04/25/85	Norberg
132 WHEELER, DAVID J.	05/14/87	Aspray
127 ZEMANEK, HEINZ	04/14/87	Aspray
152 ZEMLIN, RICHARD A.	5/16/88	Bruemmer

### OPEN AFTER JULY 1, 1992

182*BARAN, PAUL	03/05/90	O'Neill
184 CROWTHER, WILLIAM	03/12/90	O'Neill
191 CERF, VINTON	04/24/90	O'Neill
164 DERTOUZOS, MICHAEL	04/20/89	Norberg
157*FEIGENBAUM, EDWARD	03/3/89	Aspray
188 FRANK, HOWARD	03/30/90	O'Neill
186 HEART, FRANK	03/13/90	O'Neill
226 HEILMEIER, GEORGE	03/27/91	Norberg
208 HERZFELD, CHARLES	08/06/90	Norberg
192*KAHN, ROBERT	04/24/90	O'Neill
190*KLEINROCK, LEONARD	04/03/90	O'Neill
156*McCARTHY, JOHN	03/02/89	Aspray
185 MCKENZIE, A.	03/13/90	O'Neill
155 NILSSON, NILS	03/01/89	Aspray
175 OHLANDER, R. B.	09/25/89	Norberg
183*ORNSTEIN, SEVERO	03/06/90	O'Neill
231 REDDY, RAJ	06/12/91	Norberg
159 ROBERTS, L. G.	04/04/89	Norberg
178 ROSS, DOUGLAS T.	11/01/89	O'Neill
161 SCHWARTZ, JULES I.	04/07/89	Norberg
171 SUTHERLAND, IVAN	05/01/89	Aspray
154 TAYLOR, ROBERT	02/28/89	Aspray
174 UNCAPHER, KEITH	07/10/89	Norberg
181*WALDEN, DAVID	02/06/90	O'Neill

\* Copyright has not been assigned to CBI. Interview may be used only at CBI (see last paragraph).

+ Interview conducted on more than one day. □

## Sixteenth Volume in Reprint Series Now Available

The Charles Babbage Institute is pleased to announce the availability of Volume 16 of the MIT Press and Tomash Publishers Reprint Series for the History of Computing: *The Calculating Machines (Die Rechenmaschinen): Their History and Development* by Ernst Martin, translated and edited by Peggy Aldrich Kidwell and Michael R. Williams. The original 1925 German edition was printed on high acid paper and both the paper and bindings are deteriorating rapidly.

The *Calculating Machines* consist of Ernst Martin's compilation of information about calculating machines, collected from 1900-25. It focuses on the machines available to Martin, and provides a description of the state of the mechanical calculator industry in Germany in 1925.

This is the last volume of the Charles Babbage Institute Reprint Series for the History of Computing. □

## CBI Reprint Series

1. *The Preparation of Programs for an Electronic Digital Computer* (1951) by Maurice Wilkes, David Wheeler, and Stanley Gill, 1984.
2. *Babbage's Calculating Engines: A Collection of Papers* (1889) by Henry Provost Babbage, 1984.
3. *Handbook of the Napier Tercentenary Celebration, or Modern Instruments and Methods of Calculation* (1914) edited by E.M. Hornsburgh, 1984.
4. *High Speed Computing Devices* (1950) by Engineering Research Associates, 1984.
5. *Punched Card Methods in Scientific Computation* (1940) by W.J. Eckert, 1984.
6. *Calculating Machines: Recent and Prospective Developments and Their Impact on Mathematical Physics* (1947) and *Calculating Instruments and Machines* (1949) by Douglas R. Hartree, 1984.
7. *Proceedings of a Symposium on Large-Scale Digital Calculating Machinery* (1947) jointly sponsored by the Navy Department Bureau of Ordnance and Harvard University Computation Laboratory, 1985.
8. *A Manual of Operation for the Automatic Sequence Controlled Calculator* (1946) by the Harvard University Computation Laboratory, 1985.
9. *The Moore School Lectures* (1946), edited by Martin Campbell-Kelly and Michael R. Williams, 1985.
10. *A.M. Turing's ACE Report of 1946 and*

- Other Reports*, edited by B. E. Carpenter and R. W. Doran, 1986.
11. *Le Calcul Simplifié: Graphical and Mechanical Methods for Simplifying Calculation* (1928) by Maurice d'Ocagne, translated by J. Howlett and M.R. Williams, 1986.
  12. *Papers of John von Neumann on Computers and Computer Theory* by John von Neumann, edited by William Aspray and Arthur W. Burks, 1987.
  13. *Memoirs of the Life and Labours of the Late Charles Babbage, Esq. F.R.S.* by H. W. Buxton, 1987.
  14. *The Early British Computer Conferences*, edited by Michael R. Williams and Martin Campbell-Kelly, 1989.
  15. *Rabdology* (1617) by John Napier, translated by William Frank Richardson, 1990.
  16. *The Calculating Machines (Die Rechenmaschinen): Their History and Development* (1925) by Ernst Martin, translated and edited by Peggy Aldrich Kidwell and Michael R. Williams, 1992.

These books may be ordered directly from: The MIT Press, 28 Carleton Street, Cambridge, MA 02142 U.S.A. They are also available at a discount to "Friends of CBI" (see page 4 for details). □

## CHARLES BABBAGE INSTITUTE NEWSLETTER

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