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For the History of Information Processing
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The Charles Babbage Institute Newsletter

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CBF BOARD OF TRUSTEES MEETING

The Charles Babbage Foundation Board of Trustees met at the invitation of the Digital Equipment Corporation in their facilities in Marlboro, Massachusetts, on Friday, October 16, 1981. After learning of the activities of CBI over the past year, the Board heard comments from new director Arthur Norberg about his view of the future direction of the Institute's programs. Norberg reviewed the general outline of an integrated plan of activities. These activities were grouped into four categories: (1) assessment of historical trends in and social impact of information processing; (2) archival development; (3) research; and (4) community service. The aims of this plan are also four in number: to provide substance and quality in historical materials and interpretations; continuity through personnel and database management; a network focus; and stability in organization and funding. Norberg listed several generic research areas of interest to CBI and discussed the usefulness of the results of historical research to further elaboration of contemporary issues in the area of information processing. Board members' reactions were generally favorable and they offered a number of comments about and criteria for setting priorities to implement the plan. During the next year further advice on priorities will be sought from many other groups.

Board members completed a revision of the Bylaws for the Foundation. These Bylaws provide for a dual structure of Trustees of the Foundation, from which group Directors will be elected, and define the standing committees of CBF. In addition, charters for the committees were adopted and slates of members were approved.

Officers of the Foundation elected for the coming year are: Erwin Tomash, Chairman of the Board; James W. Birkenstock, President; Arthur L. Norberg, Vice President and operating officer of the Foundation; Adelle Tomash, Secretary; Paul Torgerson, Assistant Secretary; Philip W. Rootes, Treasurer; and William C. Price, Assistant Treasurer.

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photo by Steve Ristvedt



Since our new word processor was installed in October, CBI staff have been exploring ways it can best be used to support on-going projects. Above, University of Minnesota students, Edward Tebbenhoff and Janene Connelly, are working with the information that has been received in response to the survey of sources in the history of information processing that was conducted by CBI last spring.

VISITORS TO CBI

During the past few months, two noted visitors from Europe came to CBI. Robert Chapuis, senior councillor of the International Telecommunications Union, informed us of his activities related to writing a history of telephone switching. Volume I on mechanical and electro-mechanical switching is in the hands of his publisher. In Volume II, on which he is now engaged, much attention will be paid to the marriage between computers and telephone technology.

Erwin Engeler, professor at the Eidgenössische Technische Hochschule (ETH), described to us his interests in the history of computing in Zurich. Last summer the ETH sponsored an exhibit of materials relating to the work of Konrad Zuse. The exhibit contained correspondence, unpublished reports, photographs, and equipment.

INVISIBLE COLLEGE DEPARTMENT

"Invisible College" is a term which refers to a set of individuals working in a specialized field of knowledge who, despite varied geographical locations, slowly get to know one another and begin exchanging ideas and information about their field. As a clearinghouse, the Charles Babbage Institute has catalyzed the growth of the invisible college of individuals interested in the history of computing. This department of the Newsletter is designed to introduce our readers to the work of other individuals in the field. We hope that you will get in touch with each other directly, or by writing to the Institute about a particular item.

Since CBI began seeking information about courses in the history of computing, a number of people responded by sending comments and syllabi. Paul E. Ceruzzi, a past CBI fellow, now at Clemson University, is the latest person to send a syllabus for a course he is offering this year. CBI has answered a number of inquiries from others desiring to inaugurate such courses. One area for which we have not received information is the social impact of computers. Inquiries in this area are increasing and we wish to learn about the work of others.

The historical development of solid state physics parallels that of the history of computing. For many of the same reasons that led to the establishment of CBI, the **International Project in the History of Solid State Physics** involving groups in Britain, Germany and the United States and individuals in several other countries, was designed to examine the history of solid state physics. Oral history interviews are being conducted with several dozen pioneers in the field, including both academic and industrial people. At the same time, correspondence and other unpublished papers of leading people are being preserved at appropriate repositories, in order to save the documentation that historians will need.

William Aspray prepared a **"Selective Bibliography on the History of Computing and Information Processing"** for use by persons wishing to obtain an overview of the field. The list includes some of the better known and more accessible books on the history of computing. Principal categories are popular general works, more technical general works, microelectronics and computing, artificial intelligence and robotics, and biographical and personal accounts. The list will be especially useful for those contemplating teaching courses or segments on the history of information processing. Available free by writing CBI.

While the whole period from the late 19th century to the present is of interest, special attention is given to the period from the 1920s into the 1950s, ranging from study of the condition of the field at the advent of quantum mechanics, to investigation of the first burgeoning of industrial applications.

Further information can be obtained from either Dr. Lillian Hoddeson, Department of Physics, University of Illinois, Urbana, Illinois 61801, U.S.A. or Dr. Ernest Braun, Technology Policy Unit, University of Aston, Costa Green, Birmingham B47ET, England, U.K.

The **AFIPS History of Computing Committee Speaker's Bureau** has assembled a list of speakers, who can address various groups on topics in the history of computing. This list includes biographical and topical information with an index by subject. The list is available from the AFIPS headquarters at 1815 North Lynn Street, Suite 800, Arlington, VA 22209.

Donna Stanger, director of the Rochester, Minnesota, school district's Computer Assisted Problem Solving Project, prepared a useful book entitled **"The First Bite: A Beginning Microcomputer Manual for Teachers and Students."** The booklet contains sections on the history of computing, using the Apple II Plus system, and writing computer programs. Interested persons can obtain the booklet for \$5.00 each from Curriculum Office, Coffman Building, Rochester Public Schools, Rochester, MN 55901.

McHENRY AWARDED CBI FELLOWSHIP FOR 1981-82



William K. McHenry has been awarded the Charles Babbage Fellowship for 1981-82 to support his research on computing in the Soviet Union. Mr. McHenry received his master's degree from the Department of Applied Mathematics and Computer Science at the University of Virginia in 1981; the title of his master's thesis was "Uses of Computers in Soviet Energy Industries." He will continue his studies for his Ph.D. degree at the University of Arizona in Tucson.

Research for his doctoral thesis will be on the social and economic impact of computing in the Soviet Union and will include an examination of the history of Soviet computing to assess the impact of this technology on a society very different than that in the United States.

Mr. McHenry believes that the Soviet approach to computerization reflects its socialist organization and preoccupation with large systems. Specifically he plans to look at societal characteristics that aid or deter the development of computing. He is also interested in investigating the relationship of past Soviet policy choices and systemic constraints that contributed to the lag in their computing capabilities and in examining the degree to which their achievements are unique or are the result of adopting technology that already existed in the West. Further insights will be gained by relating changes in Soviet society resulting from computing to changes that have occurred in U.S. and Japanese societies and by looking at the differences in laws that have been enacted in these countries concerning computing.

ANNUAL FELLOWSHIP COMPETITION FOR 1982-83

CBI is accepting applications for a Graduate Fellowship to be awarded for the 1982-83 academic year to a graduate student whose dissertation will be on some aspect of the history of computers and information processing. The stipend will be \$5,000.00 plus an amount up to \$2,500.00 for tuition and fees. Priority will be given to students who have completed all course work and have completed all requirements for the doctoral degree except the research and writing of the dissertation. However, even incoming graduate students will be considered. The Fellowship may be extended for a period of one to three years if the Selection Committee concludes such support is appropriate.

Appropriate thesis topics might be concerned with aspects of the development of the information processing industry and its infrastructure; with specific technological developments in the information sciences, including both hardware and software, especially if they also deal with the economic and organizational milieu of the developments; or with the economic, legal or social history of computing. There are no restrictions on the location of the academic institution which will be the venue for the Fellowship.

Applications should be sent to The Charles Babbage Institute, University of Minnesota, 104 Walter Library, 117 Pleasant Street S.E., Minneapolis, Minnesota 55455, U.S.A. by February 15, 1982. Applications should include biographical data and a research plan or design. Applicants should arrange for three letters of reference, certified transcripts of college credits and GRE scores (or their equivalents abroad) to be sent directly to Professor Norberg.

1982 NATIONAL COMPUTER CONFERENCE

Your attention is called to the forthcoming NCC historical sessions. Pioneer Day 1982 is devoted to the development of FORTRAN. A related historical session will be presented on "The Stored Program Concept." Other activities on historical topics will also occur. The Conference will be held in the Astrohall in Houston, Texas, June 7-10, 1982.

The Charles Babbage Institute *Newsletter* is a quarterly publication of the Charles Babbage Institute for the History of Information Processing, University of Minnesota, 104 Walter Library, 117 Pleasant Street, S.E., Minneapolis, Minnesota, 55455, telephone (612)376-9336. The *Newsletter* reports on Institute activities and on 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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PUBLICATIONS

- Katharine Davis Fishman, *The Computer Establishment* (Harper & Row, New York, 1981). ISBN 0060112832, \$20.95.

A well-written, well-documented book on the evolution and current infrastructure of the computer industry in the United States. Major sections are devoted to developments from the 1930s to the 1970s at IBM and other developers such as CDC, Honeywell, DEC, ACT and ADP as well as discussions of the outlook for the 1980s, and some of the pressing contemporary issues associated with increased information processing capability. Policies, people, and problems and prognoses are all interwoven in the text, providing a comprehensive view of the industry.

- Tracy Kidder, *The Soul of a New Machine* (Little, Brown, Boston, 1981). ISBN 0316491705, \$13.95.

While the previous book discusses the industry from a structural perspective, this book presents a glimpse inside a computer company on an engineering group designing a new machine. The focus is the Data General Corporation and the group that designed the new Eclipse MV/8000. It is almost a day-by-day account of successes and failures, of talent stretched to its limits and the engineers' views of management's reaction to their work.

- Murray Laver, *Computers and Social Change* (Cambridge University Press, Cambridge, England, 1980). ISBN 0521297710, \$7.95 paper.

This book examines the wider, and often unintended, effects of using computers for a variety of commercial, educational and leisure applications. Some of the effects raise problems that involve economic, social and political considerations which concern everyone. The book, by considering such areas as employment, education, home systems, privacy, crime, military applications, and modeling, aims to promote the closest cooperation and understanding between all who are engaged in designing or using computer systems, or who may be affected by their operation.

- Christopher Evans, *The Making of the Micro: A History of the Computer* (Van Nostrand, New York, 1981). ISBN 0442222408, \$14.95.

An attractively-produced popular account of the development of computers by the late British psychologist and computer scientist. It is primarily useful as an introduction to computer history for the layman.

- Anton Glaser, *History of Binary and Other Nondecimal Numeration* (Tomash, Los Angeles, 1981). ISBN 0938228005, \$29.50.

In this study, the author traces the development of nondecimal numeration from the 16th century to the present. A good source of information about the technical development of many mathematicians, the work also contains an excellent bibliography.

- Recent articles of interest in the history of computing:

Jeremy Bernstein, "Profiles (Marvin Minsky): A.I.," *The New Yorker*, LVII (December 14, 1981).

Martin Campbell-Kelly, "Programming the Pilot ACE: Early Programming Activity at the National Physical Laboratory," *Annals of the History of Computing*, 3 (April 1981): 133-162.

Paul E. Ceruzzi, "The Early Computers of Konrad Zuse, 1935-1945," *Annals of the History of Computing*, 3 (July 1981): 244-264.

Marion Ryewski, "How Polish Mathematicians Broke the Enigma Cipher," *Annals of the History of Computing*, 3 (July 1981): 213-236.

H. R. Schwarz, "The Early Years of Programming in Switzerland," *Annals of the History of Computing*, 3 (April 1981): 121-132.

Albert F. Shackil, "Design Case History: Wang's Word Processor," *IEEE Spectrum*, 18 (August 1981): 29-33.

M. V. Wilkes, "The Design of a Control Unit—Reflections on Reading Babbage's Notebooks," *Annals of the History of Computing*, 3 (April 1981): 116-120.

Michael R. Williams, "The Scientific Library of Charles Babbage," *Annals of the History of Computing*, 3 (July 1981): 237-243.

Readers are reminded that the Charles Babbage Foundation is supported solely through private financing. **If you would like to contribute to the promotion of the history of computing, join our Associates program.** Associates receive at no charge a subscription to the AFIPS *Annals of the History of Computing*. The schedule for contributions is as follows:

Associate Member Category	Minimum Annual Tax-Deductible Contribution
Regular	\$ 40
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This meeting coincided with another in the series of the DEC Museum's Pioneer Computer Lectures. On Thursday evening Dr. Tom Flowers described a number of aspects of the group associated with and technical features of the British Colossus cryptographic project in which he was involved during World War II. There followed a general reception and a dinner to honor Dr. Flowers at which the Board of CBF and members of the AFIPS History of Computing Committee were guests.

NEW CBF TRUSTEE AND DIRECTOR

At its October meeting, the Board of Directors of CBF paid tribute to the efforts of Paul Armer as Executive Director of CBI in its formative years. A Board resolution offered its heartfelt thanks for Armer's contributions. The Board then elected Armer to a three-year term as a trustee of CBF.

Also at this meeting Aaron Finerman was elected to the Board of Directors. Dr. Finerman is Director of the Computing Center at the University of Michigan and Professor of Computer and Communication Science and of Electrical and Computing Engineering. He has been active in many computing societies since serving as president of the SHARE organization in 1961. He has also served as editor and on the editorial board of a number of journals in the computing field. Dr. Finerman was nominated for this position on the CBF Board by AFIPS.

DIRECTORS' PASSING

We sadly note the sudden deaths of three CBF directors. On August 28, 1981, Mr. Henry Halladay died after a short illness. Mr. Halladay was a partner in the law firm of Dorsey, Windhorst, Hannaford, Whitney and Halladay in Minneapolis.

Mr. Paul W. Berthiaume, president of the New York Times Information Bank, succumbed to a heart attack while in attendance at the CBF Board of Directors' meeting on October 16, 1981.

On October 31, 1981, Mr. William A. Cruikshank died of a heart attack while vacationing in Oregon. He was a partner of the Los Angeles law firm of Cruikshank, Antin & Grebow.

CBI DIRECTOR'S ACTIVITIES WITH MUSEUM GROUPS

CBI Director Norberg's interest in museums and exhibiting was further displayed in the last few months through publication of an article and as keynote speaker at the Midwest Museums Association (MMA) annual meeting. The article entitled "Humanities Themes and a Process Approach to Exhibits" appeared in a volume *Museums, Adults and the Humanities: A Guide for Educational Programming* (American Association of Museums, 1981), edited by Zepporah W. Collins. The article discusses the relations of the sciences and the humanities and how humanities themes can be apparent in exhibits. His September address to the MMA, "Freedom, Fashion and the Truth in Artifacts," is an extension of the earlier arguments, focusing on exhibits built around single objects.

CBI SEEKS HISTORICAL PHOTOGRAPHS

Over the years since CBI's founding, a number of valuable items have been donated to us concerning the history of information processing. There is one major deficiency in this material: historical photographs. The literature contains a number of such good photographs for projects but not enough for adequate documentation. From another source, the years after 1965 are represented by many company publicity photographs, which lack some aspects of human interest. The number of photographs available is simply not enough for a full understanding of historical developments. As a result, CBI has assumed as a special project the accumulation of historical photographs. Please tell us about any photographs from 1940 to the present that you possess. We are particularly interested in pre-1965 photographs.

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