Engineering Research Associates, Inc., Land-Grant Chair Established for CBI

In honor of this year's 40th anniversary of the founding of Engineering Research Associates (ERA), Incorporated in Minnesota and in recognition of the many contributions of the members of the company, several of the early personnel created a fund at the University of Minnesota to establish a chair in CBI. This initiative became part of the University's Capital Campaign (1985-88) to raise $300 million. Monies donated to the ERA Chair Fund were matched on a one-for-one basis by the Permanent University Fund. The total amount in the ERA Chair Fund is $1 million.

The ERA Chair is incorporated within the mission of the Charles Babbage Institute. The responsibilities of the chair holder will be to:

- serve as the Director of CBI;
- with the advice of the prevailing advisory structure of CBI, establish organizational

goals and design and direct effective programs and activities to ensure their timely achievement (included among these goals are those that focus on historical research, instruction, archival development, and reference services);

- participate in the instructional activities of the Program of the History of Science and Technology, specifically, and the University of Minnesota, generally;
- disseminate the results of the historical research conducted by the chair holder and the staff of CBI in a timely and periodic fashion in the contexts of lectures, public speaking engagements, nationally reputed publications, and other appropriate educational vehicles.

The chair holder's interests will be in the history of technology, particularly in the history of 20th century computation and its organizational structure.

Minnesota was the principal home of ERA, one of the important and influential corporate harbingers in the evolution of information processing. Founded in 1946 in St. Paul, ERA was the genesis of technical research and a resource of talented personnel of such renown as to help define and develop computing and modern electronic communication as it is now known and experienced throughout the world. Major donors to this fund were: Adelle and Erwin Tomash, Mildred and Willis Drake, and John E. Parker. Other significant donors included: Virginia and John Hill, Patricia and Frank Mullaney, and the Sperry Corporation. CBI staff and University personnel are grateful to these donors for their generosity to and their strong endorsement of the Institute's programs. This is one of 40 new chairs in the University to be filled in the near future. □

CBI Begins Study of the Impact of DARPA on Computing

The phenomenal growth of computing after the Second World War is largely an American success story, a fact which is frequently attributed to the timely and generous support of agencies of the federal government. Among the most prominently cited of these agencies is the Information Processing Techniques Office (IPTO, now ISTO, the Information Science and Technology Office) of the Advanced Research Projects Agency (ARPA, now DARPA, the Defense Advanced Research Projects Agency). Many arguments have been put forth in its favor:

- That the research IPTO sponsored has resulted in major advances cutting across computer science and technology: artificial intelligence, networking and timesharing, graphics, computer architecture, and VLSI design.

- That IPTO support has enabled institutions like Berkeley, Carnegie-Mellon, MIT, and Stanford to become world leaders in computer research and education.

- That IPTO succeeded far beyond all initial expectations in supporting the critical mission requirements of the Department of Defense.

- That IPTO projects have spawned massive commercial developments in hardware, software, and computer services.

- And that both directly and indirectly DARPA has contributed to the maturation of computer science and technology as professional disciplines and to the computer industry as a major factor in the American economy.

In order to investigate these important and untested claims, CBI has engaged in a two-year, three-part historical research project, sponsored by DARPA/ISTO with administrative assistance from NASA-Ames and the Information Sciences Institute of the University of Southern California. Our study will examine the history and influence of IPTO from its beginnings in 1963 through the early 1980s. The final conclusions will be presented

in a report submitted to ISTO in late 1990. The principal investigators are William Aspray and Arthur Norberg.

The three parts of the study are as follows:

1. A management history of the DARPA/IPTO Office

This study will allow us to investigate such questions as the development of IPTO within DARPA and DoD; the evolution of IPTO's programs; the management style of IPTO, and changes in it over time; the interactions of IPTO with its principal investigators and

Arthur Norberg, Director of the Babbage Institute, will be on administrative leave for the calendar year 1989. The purpose of this leave is to complete his book on the development of engineering companies in the new electronic digital computer industry. William Aspray will serve as Acting Director during this period.

Three New Collections Available at CBI

Three manuscript collections acquired during the past year have been organized and are now available for use at CBI. Inventories have been completed for the **Daniel D. McCracken Papers** *(CBI 43)*, **the American Federation of Information Processing Societies Minutes** *(CBI 44)*, and **the Margaret Fox Papers** *(CBI 45)*. The inventories include a general description of each collection and a folder-by-folder listing of their contents.

McCracken was well-known for his early programming texts and was prominent in the Association for Computing Machinery (ACM). He served as a council member (1974-1982), vice president (1976-1978), and president (1978-1980). His papers contain files from his work with the ACM and document the council's proceedings from 1976 to 1982. Of note are a number of ACM controversies that were hotly debated during McCracken's tenure in office and documented in the collection's correspondence. These included Herbert Grosch's comments that appeared in the "President's Letter" in *Communications of the* ACM during Grosch's presidency; the Turchin resolution and other proclamations of support for dissident Soviet scientists; and McCracken's efforts to change

the name of the organization. Use of the collection is restricted to ACM staff members and those individuals having written permission from Daniel McCracken until 1998, after which use will become open to all researchers. The McCracken papers were acquired as part of an on-going effort by CBI to document the history of professional computer societies.

The American Federation of Information Processing Societies (AFIPS) donated minutes, agendas, exhibits, and reports of its board of directors and executive committee. Also included are minutes, exhibits, and agendas from conference boards concerned with the Joint Computer Conference (later, National Computer Conference) and from the conference committee that did the day-to-day planning and execution of the conferences. The records give an overall view of the activities of AFIPS from 1964 to 1984 and in-depth coverage of the planning and execution of the National Computer Conferences from 1978 to 1986. Prominent in the activities recorded in these minutes are Richard I. Tanaka, Bruce Gilchrist, and H. G. Asmus. Access to the collection is limited to individuals having written approval from the AFIPS president or executive director for a period of five years from the date of the documents. Documents

older than five years are open to all researchers.

Margaret Fox donated records relating to computer activities of the National Bureau of Standards (NBS). Many of the records document NBS's oversight of automation within various units of the Department of Commerce. The collection also contains information about the UNIVAC, MIDAC, LARC, Bizmac, and other early computers. Of particular note are records of Samuel N. Alexander, chief of the NBS Electronic Computer Laboratory and the Data Processing System Division, and Samuel B. Williams, who served as a consultant to NBS and was president of the ACM in 1953. Other subjects covered by the collection are training materials for programming, a cooperative computer science program at Hood College; an HEW grant in 1962 to develop a large computer system for Johns Hopkins University in conjunction with Bolt, Beranek & Newman; a project on a new classification for coordinating information in research and in computers (CUSAC); a radar mapping project of China and the Soviet Union (ACSIMATIC); studies on automating the patent office; and the automation of a bibliographic service of NBS. Further additions to this collection are anticipated.

Inquiries about these collections should be directed to the CBI archivist. □

From CBI's Photograph Collection

S. Reid Warren, professor emeritus of the University of Pennsylvania, recently donated this photograph (ca. 1943) of an afternoon picnic party at the home of John Mauchly's mother in Collegeville, Pa. Standing in the back row are John Mauchly, Arthur Burks, C. N. Weygandt, Carl C. Chambers, John Mauchly's mother, J. G. Brainerd, and Reid Warren. Pictured in the next row are Mary and Sidney Mauchly, Marion Weygandt, Margaret Morgan, Marian Warren, ? Mode, Margaret Chambers, and Carol Brainerd. In the front row are James Mauchly, Reid and Alan Warren, and James and Jane Chambers. CBI maintains over 3,000 historical photographs, and welcomes other donations relating to individuals, hardware, and the computer industry.

ARPA NETWORK, GEOGRAPHIC MAP
OCTOBER 1,
1975

∿ **SATELLITE CIRCUIT**
○ **516 or 316 INTERFACE MESSAGE PROCESSOR (IMP)**
□ **TERMINAL IMP (TIP)**
△ **PLURIBUS IMP**
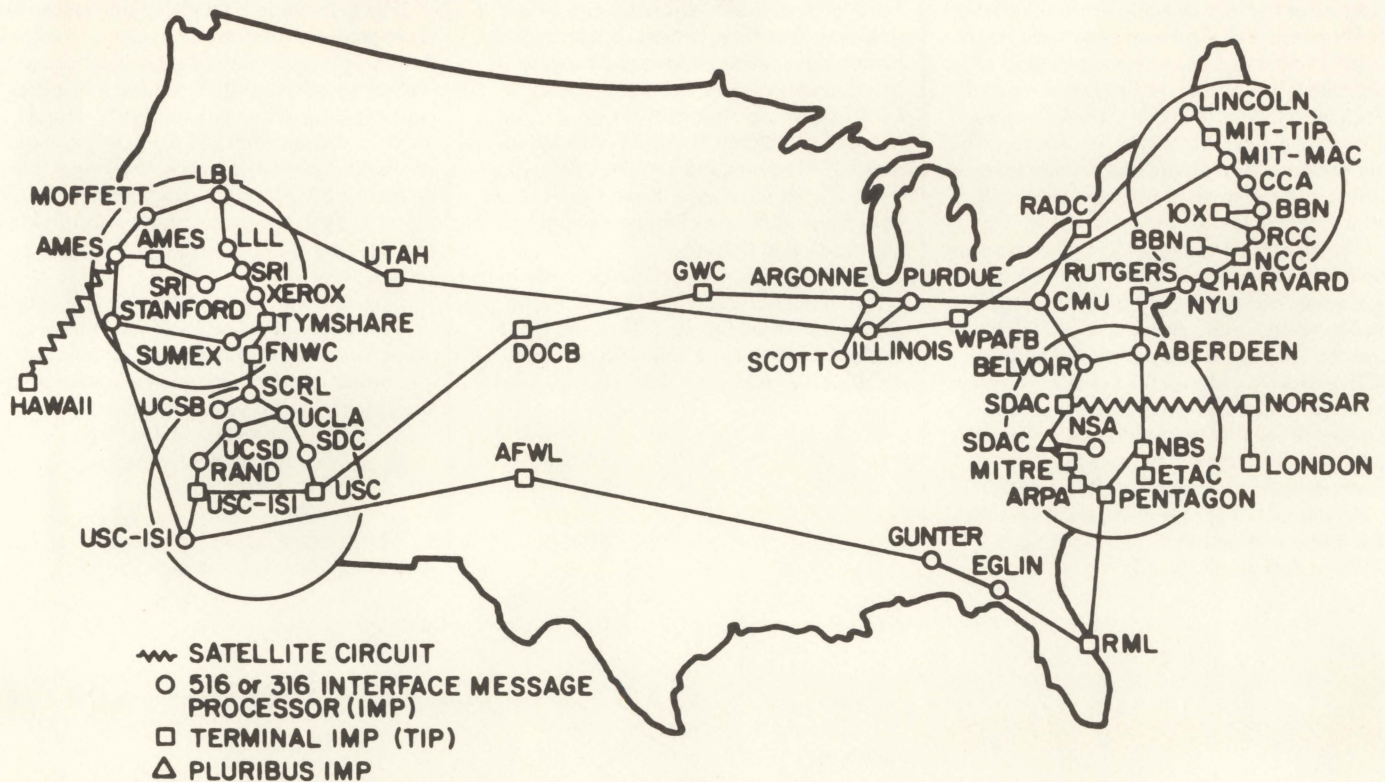
One of the greatest successes to arise from ARPA's funding of computer research was networking. This diagram shows the nodes of the pioneering ARPA Network as of October 1975. Networking is one of the computer advances under investigation in CBI's newest historical research project.

more generally with the academic and commercial sectors; and the evolution of its general objectives and its effectiveness at meeting them.

2. Case Studies

We will undertake detailed examinations of two areas (timesharing and networking, artificial intelligence) in which IPTO has historically provided major support. We will investigate the major projects sponsored by IPTO in these two areas and evaluate the overall effect of IPTO sponsorship on the advancement of these research areas.

3. General Conclusions

We will merge the findings of our management history with those from our two case studies to reach general conclusions about IPTO and its programs. We will also set our findings in the context of larger historical issues about the overall development of com-

puter science and technology and more generally about the role of technology in American society.

This is a complex historical task, because IPTO has been involved with many different individuals at many different institutions. Our work will follow the current professional standards for historical research and will involve the use of many different kinds of sources: published literature, technical reports, archival sources (like minutes and correspondence), interviews, and site visits.

The apparent impact of IPTO on the development of computer science and technology renders it a worthy topic for careful historical examination. However, it is our expectation that the study will also have larger historical importance, adding to our knowledge of the role of government in the development of cutting-edge technology and of technology in modern American life. The study is funda-

mentally of an historical nature, but it may also have policy interest. By studying historically a case in which a government agency has consciously set out to advance the frontiers of science and technology, we may learn important lessons about the organization of government research efforts, the role of government in the stimulation of the economy, and the influence of the policy process on effective support of frontier research.

The principal investigators on the project are being advised by a distinguished committee of computer professionals and historians, including: Saul Amarel, I. Bernard Cohen, Robert Fano, Robert E. Kahn, L. Kallis, J. C. R. Licklider, Louise Lorenzen, Allen Newell, Merritt Roe Smith, and Keith Uncapher. We warmly invite others who have information, photographs, archival materials, and opinions about these DARPA computing activities to contact us. □

Special Interest Group in History of Computing Holds Second Annual Meeting

The Society for the History of Technology (SHOT) Special Interest Group in the History of Computing held its second annual meeting at the Hagley Museum and Library on 28 October 1988. Representatives from many United States and Norway organizations and companies attended. The group first elected William Aspray (CBI) chair for the coming year. The group then changed its name to the Information, Computing and Society Interest Group and will request official recognition from SHOT.

The assembled members discussed two principal items of business: the sharing of information about current projects and plans for a session at next year's meeting of SHOT. Henry Lowood (Stanford) and Arthur Norberg (CBI) agreed to arrange for a session to be submitted to the SHOT Program Committee. The members also discussed ideas for the next joint SHOT/History of Science Society meeting, to occur in either 1990 or 1991.

Anyone wishing to become associated with this interest group can do so by writing to William Aspray at CBI. □

The Hagley Program in the History of Industrial America

The Hagley Museum and Library and the University of Delaware jointly sponsor a program for students seeking the M.A. or Ph.D. in the history of science and technology or American history. Students may choose their courses from a rich program in social, technological, economic, business and labor history, and museum studies. Hagley Fellows attend the University of Delaware and receive full tuition and a stipend. Many students also pursue course work in the University's Museum Studies Program which leads to certification in this area.

For further information, contact Associated Coordinator, The Hagley Program in the History of Industrial America, Department of History, University of Delaware, Newark, DE 19716, (302) 451-8266. □

IEEE Fellowship in Electrical History

The Institute of Electrical and Electronics Engineers (IEEE) invites applications for its 1989-90 Fellowship in Electrical History.

The Fellowship is for either one year of full-time graduate work in the history of electrical engineering and technology at a college or university of recognized standing or for the support of up to one year of post- doctoral work in the same field for a recent graduate. For a pre-doctoral recipient, the Fellowship stipend is $9,000, with an additional amount up to $2,000 to pay academic tuition and fees. The stipend is $11,000 for a post-doctoral recipient.

The Fellowship is made possible by a grant from the IEEE Life Member Fund and is awarded by the IEEE History Committee.

Further information and application materials may be obtained by writing to:

IEEE Center for the History of
Electrical Engineering
345 East 47th Street
New York, New York 10017

The deadline for the submission of all application materials is 1 February 1989. □

Address Correction Requested