The Charles Babbage Institute Newsletter

Volume 5, Number 3   September 1983
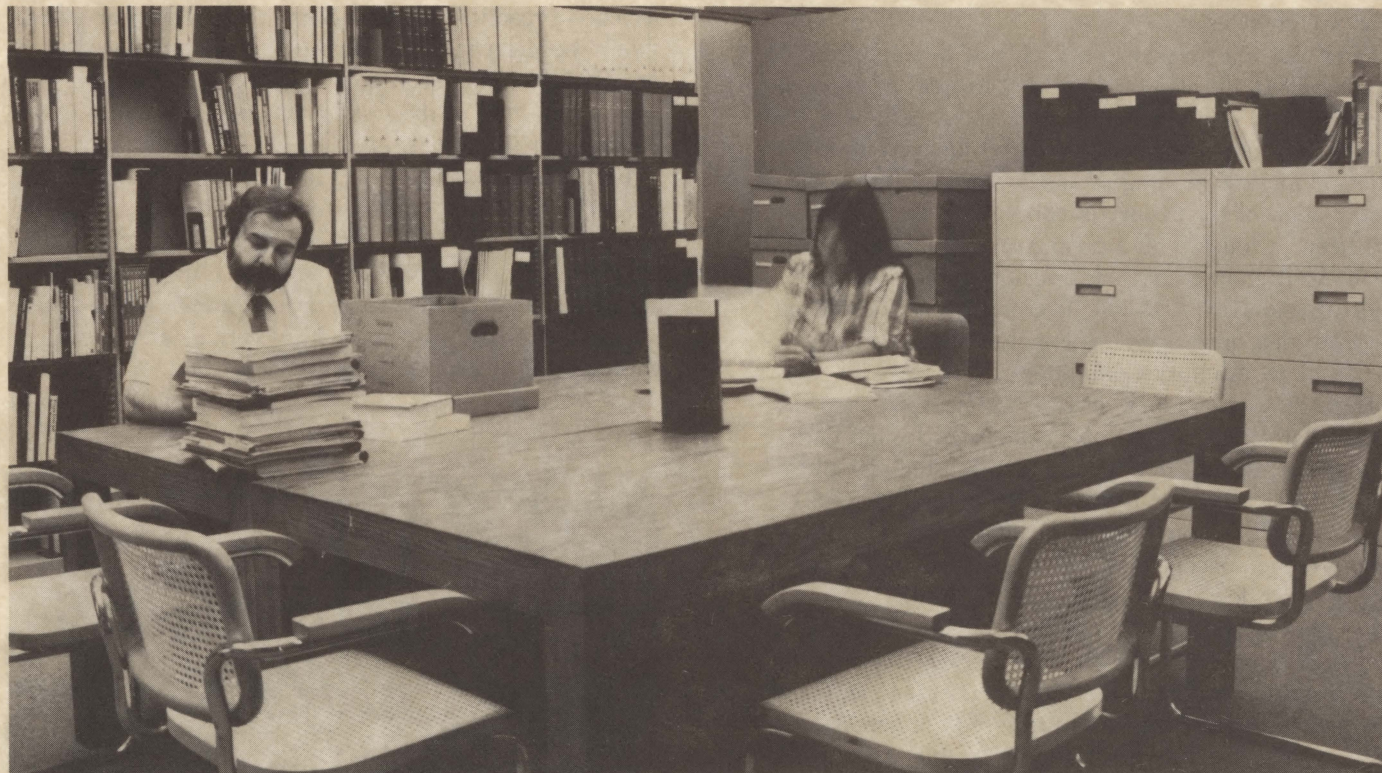

Photo by Nancy Roth

CBI OPENS READING ROOM

Researchers working in the new CBI Reading Room have at hand many important resources for the history of information processing. Most significant are:

Archival Collection — in the center background is a recently arranged collection of corporate materials.

Photograph Collection—file cabinets on the right.

Reports and Monographs—the shelves contain many difficult to obtain reports and studies from the past 40 years.

Reference Materials—finding aids, periodicals and bibliographies shelved in the room accommodate researchers.

Beginning with our next newsletter, we will publish reports on CBI's holdings and the collections in other repositories.

FROM PAST TO FUTURE
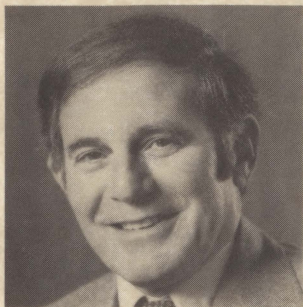
Erwin Tomash

I trust that my fellow computer history enthusiasts will agree that this fifth anniversary commemoration warrants at least a bit of retrospection. The questions of "what were we trying to accomplish?" and "how have we done?" seem worth asking and answering. In this look backward, I shall try to avoid the trap of retrospective enhancement that so often ensnares this sort of enterprise by frequent reference to what I loosely refer to as my archives.

I first put felt-tip pen to scratch pad in August 1977. At the end of the month, I showed a series of notes on the subject to a number of people whose judgment I value. The notes postulated the need for, and gave the rationale for, establishing an institution devoted to the preservation of the history of computing. By December, I had been in touch with a great many people and I felt encouraged enough by their reaction to take the next steps: preparation of a draft "working paper" describing the CBI idea, incorporation, initial funding, and the formation of an Advisory Committee.

The Advisory Committee first met on April 28, 1978 at Rockefeller University at the invitation of Joshua Lederberg, President of Rockefeller and a Trustee of CBI. We are pleased and proud to have been invited to return there this fall for our Fifth Annual Meeting. This group endorsed the concept outlined in the working paper. "We should try to foster and encourage the history of our field," they concluded. "We should build a data base and encourage its use....The CBI is an international, not for profit organization formed to foster, encourage and support activities related to the history of information processing." To close this first meeting I remember saying, "The CBI program should be (a) professional and scholarly, (b) broadly based and ecumenical, and (c) fun."

The rest of the history is well-known. On June 21, 1979, AFIPS President Al Hoagland and I signed an agreement between AFIPS and CBI for matching support of CBI's program. Soon thereafter Paul Armer, the first CBI Director, set in motion the search for a permanent home. The University of Minnesota was ultimately selected by the search committee and a contract with the University was signed on October 31, 1980. With the question of permanent location settled, a search was launched for a director; Nancy Stern was asked to conduct a research priority study to help define the areas in which CBI would work; Brian Randell was asked to chair a committee to examine the desirability of a microfilm project to make available a library of articles and out-of-print books (the CBI Reprint Series is an outgrowth of this work). It was not long before a growing staff was busy with the long-term program that emerged from this range of activities.

As I turn from the retrospective to the prospective, I want to be sure that we all recognize how unique the CBI is. For the first time, industrialists, professionals, and academics have banded together to form an institution dedicated to preserving the history of their enterprise. Even more important, this is being done not with nostalgia in an effort to preserve or recreate what is gone, but with a sense of the future and with a keen awareness of its importance to society.

In our first five years, the fundamental steps were taken to build a professional and scholarly instituion, which is broadly based and ecumenical. The years ahead should be great fun. We have every right to be very proud of what has been accomplished and if we are awed by the enormity of the task ahead, it is only because we have begun so auspiciously.

For making it all possible, I want to thank our Founders, our Sponsors, our Trustees and Directors, and, above all, the CBI staff, who have served us not only well but with dedication and devotion. In the years ahead, we shall all find pleasure and gratification in having been involved with what I am certain will be regarded as an historic event in its own right.

Erwin Tomash
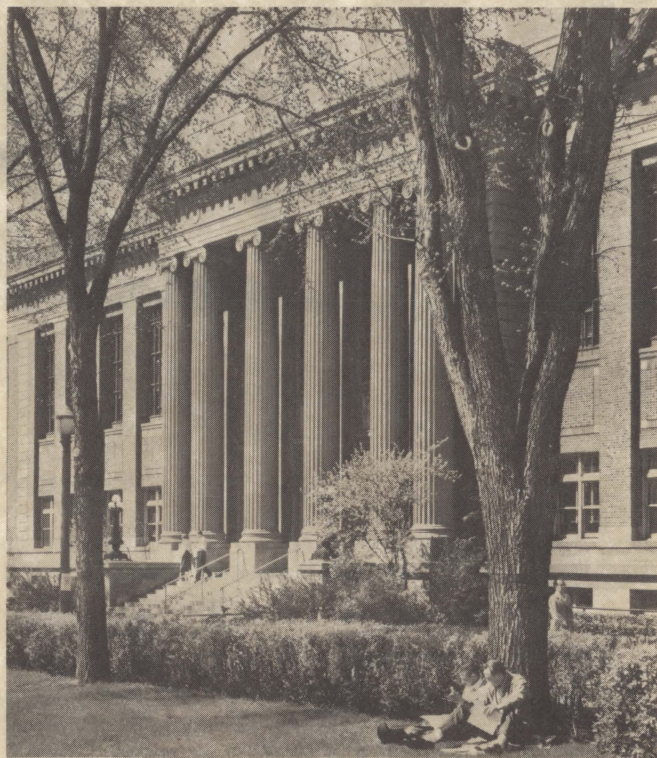
Walter Library, home of CBI

GENESIS OF THE CBI CONCEPT

During the discussions about the formation of CBI in the early months of August 1977 to April 1978, Erwin Tomash sent a series of informal progress reports to over 100 persons from whom he was soliciting advice on the matter. These reports offer an interesting view of the early developments. We offer several pithy excerpts.

From the first progress report dated December 23, 1977:

"A non-profit corporation…has been incorporated and I [Tomash] have funded it with $150,000….Tax exemption has been applied for."

"An Advisory Committee is being formed with an initial membership of Paul Armer, Isaac Auerbach, John Burke, Arnold Cohen, William Hoover, Melvin Kranzberg, Joshua Lederberg, Robert McDonald, and Robert Multhauf."

From the second report, January 5, 1978:

"The name…The Charles Babbage Institute."

The third report reveals that the idea has taken hold and has a momentum.

"The Advisory Committee has been joined by Alfred Chandler, Willis Drake, Kenneth Olsen, and Jean Sammet."

"Paul Armer has agreed to accept the position of Executive Secretary."

"AFIPS plans to publish a journal covering the history of computing starting in January 1979 and the History of Computing Committee of AFIPS under the leadership of Jean Sammet has been rejuvenated and has laid out an ambitious program of work well worthy of CBI support."

"The CBI Working Paper has now been distributed to more than 100 people."

"I have been delighted with the response to this very preliminary rough outline. People from all sectors have phoned or written to offer their encouragement and support. It would seem that the CBI idea is one whose time has come."

THE CBI CONCEPT

The working paper developed in late 1977 was an organic document that went through several drafts in those early months. Its principal use was to introduce and ask for support for the fledging CBI. The final form of this document can be seen in Arthur L. C. Humphrey's letter recommending that his firm, ICL, join in sponsoring CBI.

"The principal function of the CBI is to serve as central point of focus and as a catalyst for the entire field. It will solicit materials from individuals and organizations and then process them so as to make the material accessible to scholars. It will maintain and publish a catalog of information available elsewhere. In other words, it will assemble a data base. Oral histories and documents will both be important aspects of this information gathering service.

"The second major function of the CBI is to encourage the use of this data base through fellowships, postgraduate and post-doctoral original research.

"A third function is the publication of newsletters, occasional papers, articles and books so as to increase awareness of computer history and its economic and social ramifications.

"Geographically the scope is world wide. Historically it includes everything from the past to the present. Its program of work will be broadly based and will include science, technology, economics, business, labour, government, social and cultural aspects.

"It is planned that CBI will be located at a major University and that its work will be conducted under the direction of a highly qualified scholar who will also become a member of the faculty of the host institution.

"The intent is to keep the organziation simple in structure and modest in size, probably consisting of a professional historian, a professional archivist and supporting administrative and clerical staff."

The minutes of the first meeting of the Advisory Committee in April 1978 show a unanimous endorsement of this concept. Indeed, the CBI program over its first five years has been an attempt to fulfill this concept.

CBI FIFTH ANNIVERSARY SYMPOSIUM

Five years ago, following a call by Erwin Tomash, the first Advisory Committee of CBI assembled at Rockefeller University at the invitation of its President Joshua Lederberg. They discussed the need for an industry-supported activity to promote the study of the technical and socio-economic aspects of the development of information processing. From that discussion, CBI evolved.

To mark that occasion, CBI will convene a special symposium on October 6, 1983, at Rockefeller University. The Charles Babbage Foundation Trustees and Board of Directors will hold their annual meetings on October 7th, again at the invitation of President Lederberg. We designed the symposium with two major issues in the industry today in mind: expert systems as the key to the next generation machines and the convergence of computers and communications. The special guest speakers will be Dr. Joshua Lederberg and Mr. Frank Vigilante.
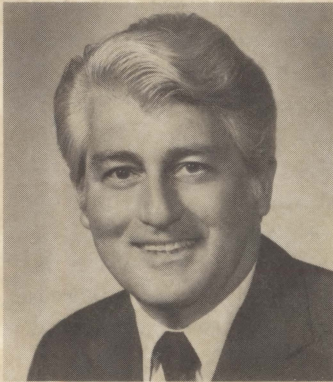
Mr. **Frank Vigilante** will speak on, "The Convergence of Communications and Computers—American Bell Views the Future." Mr. Vigilante was recently named one of the two presidents of AT&T Information Systems. Mr. Vigilante has experience at Bell Laboratories, Western Electric, and now AIS. His address will offer an interesting perspective on the convergence of computers and communications.

Dr. **Joshua Lederberg** will discuss, "Expert Systems in Medicine—Past, Present and Future." Dr. Lederberg is President of Rockefeller University and one of the early pioneers in the development of expert systems. While he was on the medical faculty of Stanford University, he and several colleagues designed DENDRAL, one of the earliest expert systems. This topic has especial interest in the search for new computer developments.

We invite all our associates to this symposium.
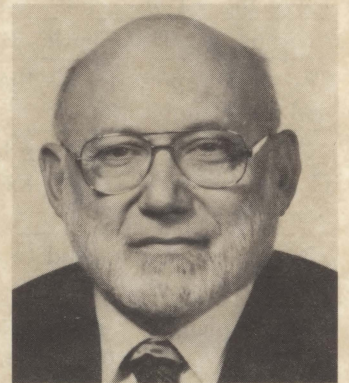
THE FIRST MEETING OF THE CBI ADVISORY COMMITTEE

The First Meeting of the Advisory Committee was on April 28, 1978 at Rockefeller University. Beginning at the lower left corner and proceeding clockwise around the table are Joshua Lederberg, Robert Multhauf, Jean Sammet, Arnold Cohen, Arthur Norberg, Spencer Weart, Morton Fagen, Isaac Auerbach, Arthur Humphreys, Paul Armer, John Burke, Robert McDonald, Alfred Chandler, Jr., and Erwin Tomash.

THE NEXT FIVE YEARS

With the establishment of the Reading Room CBI reached an important milestone. We now have the beginnings of an important archival collection for studies of the history of information processing and sufficient interest in its use to require this facility. Recently, I was asked to offer my conception of CBI at the time of its tenth anniversary. I responded in the following way.

The most important aspect of CBI at the end of the 1980s is that people will be coming to Minneapolis to use archival material on a regular basis. Since this is already occurring, we are looking toward a large increase. We will also direct users to materials elsewhere, because as various national collections develop around the world and we gather information about them, we will be able to inform researchers about their content. We have the beginnings of this capability now, due to the many finding aids archivists have generously sent to CBI.

Another element in our future is a highly interactive data base, containing information about many aspects of the history of information processing. So far we have accumulated a number of files of information about companies, persons, events, and sources. Our photographs collection, which grows daily, offers a type of data that is difficult to obtain in any other way.

I hope we can expand the Fellowship program. In addition, sometime in the future we want to invite scholars to CBI and exchange staff with other institutions that have similar interests in the history of computing. I envision that by the time this is possible our international connections would have reached the level where there might even be exchanges or joint projects with international groups.

Often people ask about the history of computing and the history of science and technology program at the University of Minnesota. Faculty in the program have taken steps to strengthen our resources in this area and we hope to attract a number of students to our program to increase the number of scholars active in the field of the history of computing.

If these developments occur, they will be stimulated by and feed back into growing programs and activities elsewhere. An expanded Computer Museum; a strong *Annals for the History of Computing*; a new exhibit hall on information processing at the Smithsonian's Museum of American History; research and publication on topics in and around the history of information processing will all contribute substantially to CBI and to the field. The ecumenical spirit in which CBI was founded inspires us to welcome and seek increased mutual interaction with all these groups. Onward and upward!

Arthur L. Norberg

CBI ARCHIVES

Photo by Nancy Roth

LaVonne Molde processing a recent donation to CBI's photograph collection

During the last year and the completed establishment of the CBI program, we began arrangement of archival materials and organized and instituted a Reading Room for use of CBI materials available. Among the approximately 1,000 volumes and 700 linear feet of archival records already acquired are corporate records, personal papers, special reports, periodicals, and technical documents on hardware, software, and application descriptions. Over half of this material is organized and available for use in CBI's Reading Room. Add to this our processed oral histories and 3,000 photographs, and we can boast that CBI is now a functioning archives and research center.

This is the visible evidence of our archives program. However, there are several behind-the-scenes activities that support the growth of this center. For example, CBI has a major solicitation program in action, encompassing our interest in increasing the number of collections worldwide of the papers of individuals and companies. To accomplish this and ease arrangement of papers, we established an authority file of the names of persons and places. We are certifying spellings and sources of names to have correct information here.

In order to craft effective strategies for identifying and appraising the significance of such materials a comprehensive knowledge and understanding of the historical literature is necessary. During the past year, CBI staff completed an examination of this literature, including historical treatments by participants as well as narratives and analyses by others. This work provides a framework for several of CBI's projects. One project is the creation of a chronology of industrial activities,

CBI FOUNDERS

On the fifth anniversary of CBI we wish to express our appreciation and acknowledge the following individuals for their significant financial contributions to the Founders Fund.

Erwin Tomash founded the Charles Babbage Institute and is chairman of the board of the Charles Babbage Foundation. He is also Chairman of the executive committee of the board of Dataproducts Corporation. Since founding that company in 1962, Mr. Tomash has served as President and Chairman of the Board. Mr. Tomash's experience in the computer field began in 1946 when he joined Engineering Research Associates.

Gene M. Amdahl founded Trilogy Systems and became chairman of the Board in 1980. Previously he was chairman of the board of Amdahl Corporation, which he founded in 1970. Mr. Amdahl also held positions at IBM, Ramo-Wooldridge and Aeroneutronics.

Isaac L. Auerbach was the founder and chief executive officer of over a dozen companies in the computer and communications field. He is currently president of Isaac L. Auerbach Consultants, Inc. Mr. Auerbach became involved in computer systems development in the late 1940s while working on the BINAC and UNIVAC I and later as division manager for Burroughs. He was one of the founders and the first president of IFIP.

Walter F. Bauer founded Informatics General Corporation in 1962 and served as president for 20 years. His career in computing began as a research engineer in 1951 at the University of Michigan and involved working on the SEAC at the National Bureau of Standards. Before forming Informatics General, he held a number of management positions at Ramo-Wooldridge Corporation.

Frank G. Chambers is managing general partner and founder of Continental Capital Ventures. Since 1959 this company has been a founding investor in 50 high technology companies.

Richard P. Daly is chairman and chief executive officer of Comserv. Before joining the firm in 1971, Mr. Daly had gained over 30 years experience in management, engineering and marketing with computer manufacturing and service firms including UNIVAC and participated in the founding of ARIES Corporation and served as vice president and president.

Willis K. Drake recently retired as chairman of the board of Data Card Corporation. Since founding the company in 1969 he also served as president and chief executive officer. Mr. Drake began his career with Engineering Research Associates (ERA) and subsequently was associated with Remington Rand Univac, Control Data Corporations, Midwest Technical Development Corporation and Dataproducts Corporation. He currently serves on the board of regents of the University of Minnesota.
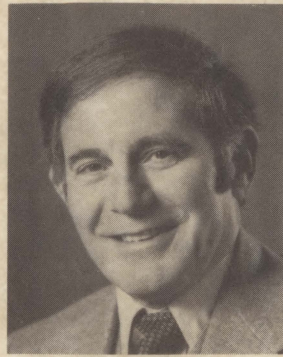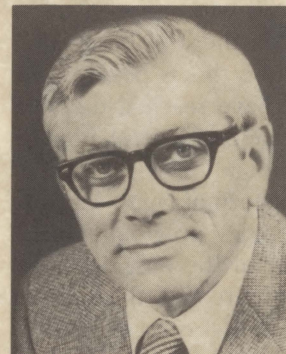

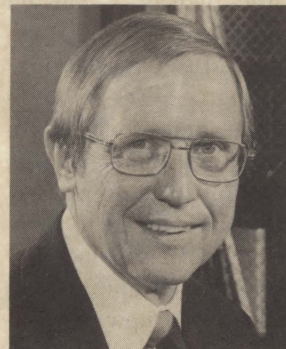*Erwin Tomash*
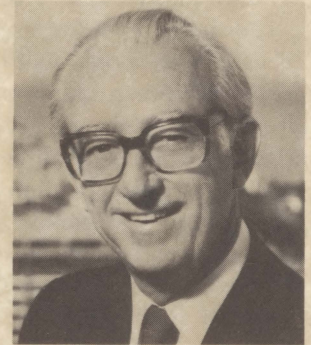
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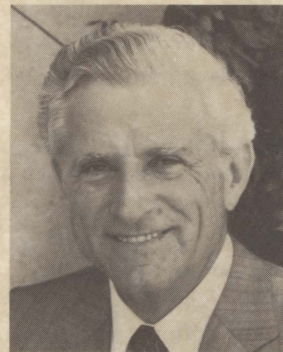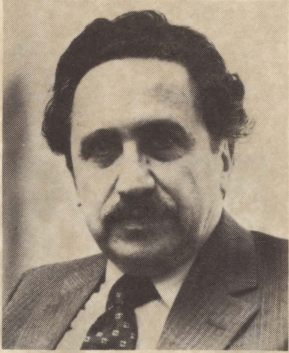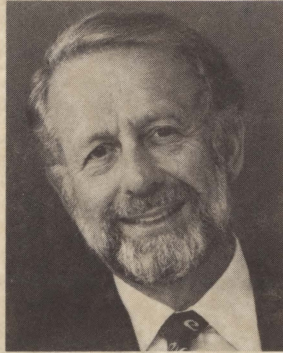

Gene M. Amdahl

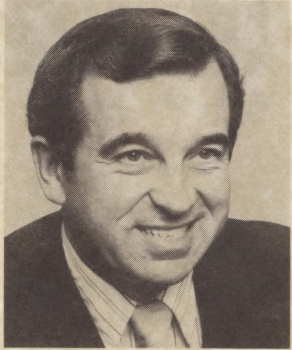*Richard P. Daly*

Isaac L. Auerbach

Willis K. Drake

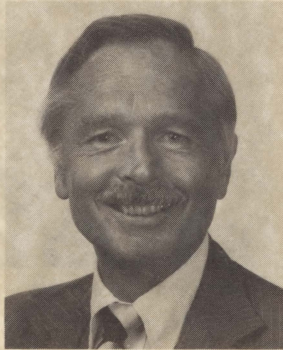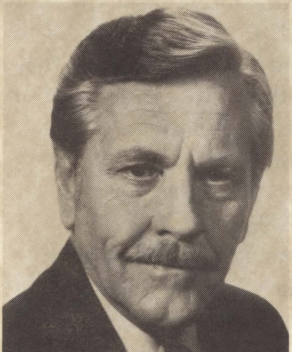
Walter F. Bauer

Tibor Fabian
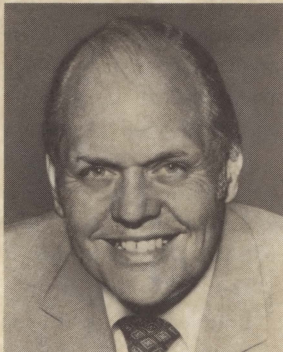

Chester I. Lappen

John N. Maguire

Dan L. McGurk

William N. Mozena

Kenneth H. Olsen

Max Palevsky

Tibor Fabian retired from Mathematics, Inc. in July 1983 after serving as president for the past 19 years. He joined the company in 1961 following work at UCLA's Institute of Industrial Relations and the Rand Corporation.

Richard Gilder, Jr. is president and a senior partner in Gilder, Gagnon and Company, Inc., a New York Brokerage House.

Chester I. Lappen is a Senior Partner and head of the Corporate Department of Mitchell, Silberberg and Knupp.

Donald Lucas is an investor in venture capital activities. He began his career as an associate in the corporate finance department of Smith Barney & Co. in 1956. He serves on the boards of many corporations and is a regent emeritus of the University of California, Stanta Clara.

John N. Maguire is president, chairman of the board, and chief executive officer of Software AG of North America, which he founded in 1972. Through previous employment with CACI, Lockheed Missles and Space Co., and Ratheon Company, he has been closely involved with design and application aspects of computer and computerized information systems.

Dan L. McGurk is Chairman and Vice President of Marketing at ProType Corporation.

William N. Mozena is currently a director, vice president and chief financial officer of BTI Computer Systems. He previously held executive positions with Amdahl Corporation, Quantel Corporation and Dataproducts Corporation.

Frank Mullaney began his career with Enginering Research Associates (ERA) in St. Paul in 1947 and subsequently was involved with a number of the early UNIVAC computers. He was a founder and became a director and group vice president of Control Data Corporation in 1957, and in 1972 was one of the founders and served as a director and chairman of the board of Cray Research, Inc.

Kenneth H. Olsen founded Digital Equipment Corporation in 1957 and has served as its president since then. Prior to 1957 he was on the staff of the Massachusetts Institute of Technology Digital Computer Laboratory. He has also served on the National Academy of Sciences Computing and Engineering Board and the President's Science Advisory Committee.

Max Palevsky founded Scientific Data Systems, Inc., in 1961. When it was acquired by Xerox Corporation in 1969, he became a director and chairman of the executive committee of Xerox until his retirement in 1972. Earlier he was involved in computer design projects at Bendix Corporation. Currently he serves on the boards

of several corporations and is the publisher of the political journal, *Democracy*.

George M. Ryan is a founding partner of Office Automation Associates, a Los Angeles firm engaged in the development of computer-based products for the office. Previously, he had been chairman and CEO of CADO Systems Corp., a firm he founded in 1975.

Clarence W. Spangle is president of Memorex Corporation and executive vice president of Burroughs Corporation. Mr. Spangle began his career at Honeywell in 1947 and became president of Honeywell Information Systems in 1974.

Sam Wyly has been responsible for successfully establishing several major businesses. He is one of the original developers of the remote computing concept, which was the basis for the University Computing Company he founded in 1963. In 1968 he established DATRAN, the first nationwide switched digital communications network in the U.S.
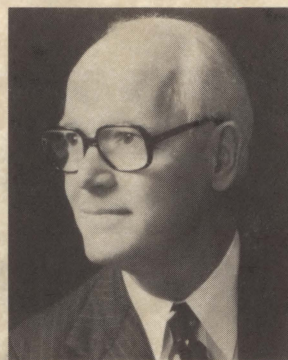
George M. Ryan
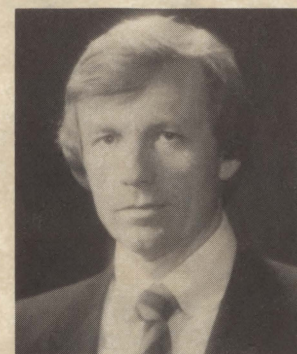
Sam Wyly

Clarence W. Spangle

WILLIAM ASPRAY BECOMES ASSOCIATE DIRECTOR OF CBI

This summer Dr. William F. Aspray, Jr., joined the CBI staff as Associate Director. Dr. Aspray's varied research and professional activity in the history of computing will add strength to many of the Institute's ongoing programs.

After receiving B.A. and M.A. degrees in mathematics from Wesleyan University, Dr. Aspray continued his graduate studies in the history of science programs at Princeton, Toronto, and Wisconsin and received a Ph.D. degree from the University of Wisconsin in Madison in 1980. His thesis was a study of the origins of computer science in mathematical logic with an emphasis on the contributions of Alan Turing and John von Neumann. A book based on his thesis will be published by Greenwood Press. During the past few years, Dr. Aspray has written a number of articles and presented papers describing his research. The emphasis of his most recent research is on the historical development of theoretical computer science, institutional and organizational development of computing, economic analysis of the computer industry, social history of computing, and history of mathematical logic and foundations in the nineteenth and twentieth centuries. He is managing editor of the MIT Press Series in the History of Computing and advisory editor of the CBI Reprint Series. He served as historical consultant and exhibit chairman for the 1982 NCC Pioneer Day on the history of FORTRAN and the 1983 Pioneer Day on Howard Aiken and the Harvard Computation Laboratory.

He has held teaching positions in the mathematics department of Williams College and in the history of science department at Harvard University.

CBI STAFF

CBI is looking forward to welcoming an archivist to the Institute's staff. The search for someone to fill this position is nearly complete and expectations are that an archivist will be appointed within a few months. Current CBI staff members are listed below.

Arthur L. Norberg, Director
William F. Aspray, Jr., Associate Director
Arnold A. Cohen, Senior Fellow
LaVonne K. Molde, Assistant to the Director
Deadra S. Johnston, Secretary
James B. Ross, Research Assistant
Edward H. Tebbenhoff, Research Assistant
Ruth J. Townsend, Research Assistant

including company entry into the field, data about products and marketing, personnel, and changes in the industry's infrastructure. Such an analysis will reveal aspects of historical development that cannot be gleaned from the existing historical literature, which will help in the solicitation program. We are doing a similar project for professional organizations. This data base complements our archives collections.

Over the next few years, we expect our archives, and not incidentally other archives around the world, to grow as a result of our activities in promoting collection development and exploitation of the materials for publication.

CBI FELLOWSHIP AWARDS

The concept of designing a fellowship for pre-doctoral students working in the area of the history of information processing was included in CBI's earliest planning documents. In fact, soon after the Advisory Committee meeting in April of 1978, the first recipient of the CBI Fellowship award was selected. Since then six awards have been made. Although the award is still relatively young, from the brief biographies of the first recipients, it is evident that these individuals have remained interested and involved in the history of information processing and have continued to contribute to the field.

William F. Aspray, Jr.

Paul Ceruzzi

William F. Aspray, 1978-79 and 1979-80
William Aspray was the first recipient of the CBI Fellowship. He received the award while enrolled in the History of Science Department at the University of Wisconsin at Madison. His dissertation title was, "From Mathematical Constructivity to Computer Science: Alan Turing, John von Neumann, and the Origins of Computer Science in Mathematical Logic." He received his Ph.D. in 1980 and since then has held teaching positions in the Mathematics Department at Williams College and in the History of Science Department at Harvard. Dr. Aspray recently accepted the position of Associate Director of the Charles Babbage Institute. Additional information on his activities and research on the history of information processing appears on page xx.

Paul E. Ceruzzi, 1979-80
Paul Ceruzzi was chosen for the fellowship award in 1978 when he was a graduate student in the American Studies Department at the University of Kansas. His dissertation title was, "The Prehistory of the Digital Computer, 1935-1945: A Cross-Cultural Study." A book based on this dissertation was recently published by Greenwood Press. Dr. Ceruzzi is presently Assistant Professor of History at Clemson University in South Carolina.

William K. McHenry

Larry Owens, 1983-84
Larry Owens began his graduate studies in the History of Science Department at Princeton University in 1979. His research focuses on an investigation of Vannevar Bush, especially his early years, and includes a reevaluation of Bush's impact and significance during and after the Second World War.
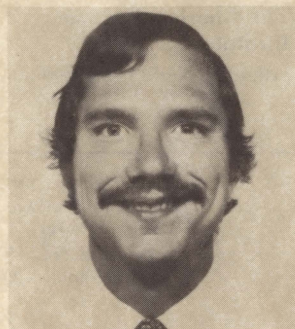
William K. McHenry, 1981-82 and 1982-83
William McHenry received a B.S.E. degree from Princeton University in 1979, an M.S. degree in Computer Science from the University of Virginia in 1981, and is currently completing a Ph.D. in Management Information Systems at the University of Arizona. His research focuses on the diffusion and absorption of computing at the enterprise level in the Soviet Union and includes a review of the history of Soviet computing.

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