

The Charles Babbage Institute  
For the History of Information Processing  
Sponsored by AFIPS and the information  
processing community.  
University of Minnesota  
104 Walter Library  
117 Pleasant Street, S.E.  
Minneapolis, Minnesota 55455  
Telephone (612) 376-9336

# The Charles Babbage Institute Newsletter

Volume 5, Number 2

1 May 1983



*The transfer of historic Univac materials from Sperry Corporation to Eleutherian Mills Library. Seated: James R. Fullam, Vice President, World Wide Communications for Computer Systems division of Sperry and Walter J. Heacock, President, Hagley Foundation. Standing: Arthur L. Norberg, Director, CBI; Eugene Crittenden, Vice President, Hercules, Inc.; J. Presper Eckert; and Edward B. du Pont, Vice President, Wilmington Trust Co.*

## **SPERRY CORPORATION DONATES HISTORIC UNIVAC MATERIALS TO ELEUTHERIAN MILLS**

Sperry Univac established a milestone for the computer industry by depositing a large amount of historical records of the company in the Eleutherian Mills Historical Library in Wilmington, Delaware. In ceremonies on March 31 at the Library, approximately 2,000 cubic feet of records, files and photographs that document the invention and development of computers and the rapid growth of the industry were officially released by Sperry Corporation to the Library. The collection includes technical and legal documents relating to the ENIAC and UNIVAC computers as well as records of the founding of the E. Remington Typewriter Company and other predecessor companies of the Sperry organization, such as The Library Bureau, Kardex, Rodic Rubber and the Powers Accounting Machinery Company. Thus, our knowledge of the Sperry predecessors dates back in this collection to 1902.

Mr. James R. Fullam, Vice President of Communications for the computer systems operation of Sperry, repre-

*continued on page 5 . . .*

## VISITORS AT CBI

Bernard A. Galler was one of the Distinguished Lecturers to speak in the University of Minnesota Computer Science Colloquium Series. Professor Galler's talk on "The SPREAD Report and the Beginning of the IBM System/360" on April 18 provided new insights on the forces that contributed to decisions within IBM that led to the development of the System/360. Dr. Galler is Professor of Computer and Communication Sciences and Associate Director of the Computing Center at the University of Michigan. He is also editor-in-chief of the *Annals of the History of Computing*.

Garry J. Tee, Senior Lecturer at the Computer Science Department, Auckland University, Auckland, New Zealand presented two lectures during his visit on January 21 and 22. His talk on "Improving Scientific Computation Through the Use of Business Machines" traced the careers and highlighted the contributions of L. J. Comrie and A. C. Aitken, two New Zealand mathematicians. In a second lecture he described his search for manuscripts of Charles Babbage among Mr. Babbage's descendants in Australia and New Zealand. In addition to reviewing the materials that were deposited in the Wanganui Regional Museum, Dr. Tee has discovered hundreds of letters, other documents and even parts of Babbage's difference engine in the private collections of Babbage's descendants in New Zealand.

## HISTORY OF SCIENCE SOCIETY WILL MEET IN OCTOBER

Two sessions are being planned for the History of Science Society annual meeting on October 27-30, 1983, in Norwalk, Connecticut, that may be of special interest to many readers. A session on "Science and Industry in Twentieth-Century America: Resources and Research Agendas" will address questions of documentation and research directions in the history of contemporary science. Spencer R. Weart, Center for the History of Physics, will discuss details of the findings of the International Project in the History of Solid State Physics; Charles Weiner, MIT, will speak on documenting the history of genetic engineering; and Arthur L. Norberg, CBI, will talk about the availability of resources and themes in the history of computing. Arnold Thackray, Center for the History of Chemistry, will chair the session and comment on the papers presented.

Another session entitled "The Scientific Base of Modern Industrial Research: Physics Beyond the University" includes a presentation by William Aspray, Harvard

University, who will speak on "The Training of Computer Professionals in the 1950s." Ronald Kline, University of Wisconsin-Madison, will speak on "The Symbiotic Relationship Between General Electric and Union College" and Neil Wasserman, Harvard University and Winthrop Research Group, will present a paper on "The Introduction of Physics in the Telephone Industry." Arthur Norberg will serve as commentator for this session.

## ARCHIVIST POSITION AVAILABLE AT CBI

The Charles Babbage Institute for the History of Information Processing at the University of Minnesota exists to document and study the history of information processing. To that end it supports programs of publication, scholarly symposia, graduate research, and an archival center and clearinghouse that works to insure preservation of the records of information processing.

The archivist of the Charles Babbage Institute Collection, which is administered by the University Libraries, holds a 12-month appointment on a continuous appointment track as Assistant Librarian in the University of Minnesota-Twin Cities Libraries. The archivist is a member of the staff of Walter Library and reports to the director of that library. Walter Library includes five other archives and manuscripts collections: the Children's Literature Research Collections, the Immigration History Research Center Collection, the Northwest Architectural and Performing Arts Archives, the Social Welfare History Archives, and the University Archives.

The archivist is responsible for managing the Collection, including performing or supervising the functions of acquisitions, appraisal, arrangement and description, and preservation of records, and for providing access to and reference service from the Collection. The archivist trains and supervises staff members, represents the Collection to its multiple constituents, and in consultation with the Institute director promotes use of the Collection through programs of instruction and research. In addition, the archivist is also responsible, in cooperation with the CBI director and staff, for promoting the preservation of records of the history of information processing in other archives and manuscripts repositories; he or she does so by working with other archivists and scholars in developing appraisal guidelines, coordinating placement of collections, aiding in the design of computer applications in archives administration, cooperating in building national databases of historical records, and advising organizations in developing records management programs.

*continued on page 4 . . .*

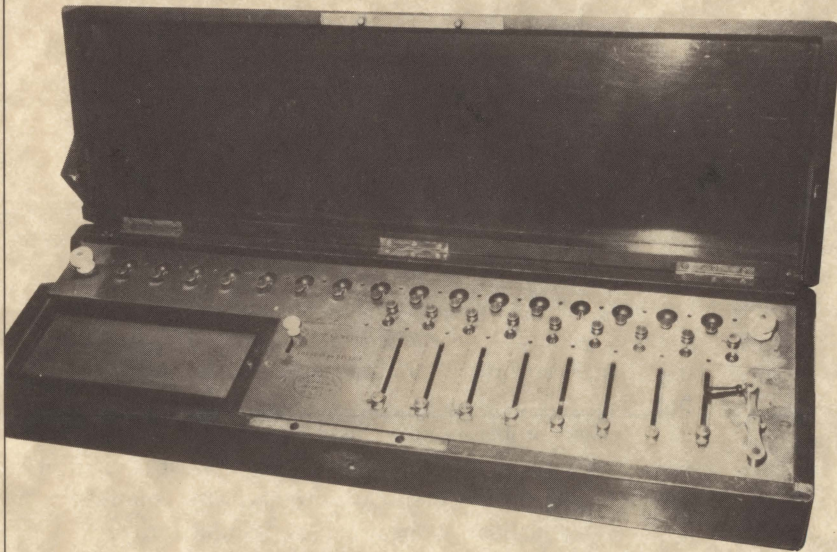
## RECENT ACQUISITIONS TO CBI PHOTOGRAPH ARCHIVES

During the past few months a number of individuals and companies have donated photographs to CBI. Below are photos from three of the collections we have received.

### THE THOMAS CALCULATING MACHINE.

Through the courtesy of Dr. K. Fuchs-Kittowski, we received a communication from Dr. Friedrich Naumann, Humboldt Universität in Berlin, describing the Thomas calculating machine in the collection of the Technische Hochschule Karl-Marx-Stadt (GDR).

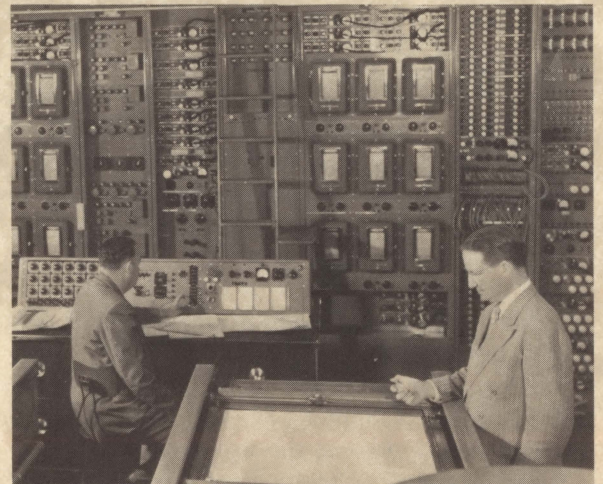
Charles Xavier Thomas, director of an insurance agency in Paris, designed and built a calculator for which he received a patent in 1820. During his lifetime he manufactured and sold about 1500 calculators. In his report, Dr. Naumann describes this machine and the acceptance of them as calculators in German factories. In 1878 the German engineer Arthur Burkhardt from Glashütte in the ore mountains (near Dresden, today G.D.G.) opened a factory that was the starting point of the German calculating machine industry based on Thomas' model. Burkhardt made this model with improved functions and later he produced his own calculator, ("Burkhard-Arithmometer," models H, G, C, and K); production of this type of calculating machine continued until the year 1960 and influenced the company's models, "Saxonia" and "Archimedes".



*The Thomas Calculating Machine pictured to the left was built in the last half of the 19th century from brass and steel parts inclosed in a wooden box. The desired operation is selected with the fixed crank to the right. Each number is entered by adjusting the lower knobs. This entry is transported to the dial plates by the turning of a gear inside. If some numbers are already present, the new number is added. Multiplication is obtained by a corresponding shift of the position of the crank. The box on the left serves as a place for the storage of accessories and spares. The lid contains a slate board for noting down subtotals.*



*The group of individuals above are examining the MERLIN computer which was constructed at Brookhaven National Laboratory during 1957 to 1959. It was a high speed, general purpose, binary, digital computer modeled after the Los Alamos MANIAC II. The MERLIN was used by the Atomic Energy Commission in programs in the areas of chemistry, biology, and reactor studies. It was the first to be used as an on-line computer in a high energy physics experiment.*



*The Typhoon, developed by RCA, was the largest and most accurate electronic analog computers ever constructed. It was built for the U.S. Navy in 1950 to evaluate the performance of guided missiles, airplanes, and submarines.*

## PUBLICATIONS

- Lenore Sarasan and A. M. Neuner, Compilers, *Museum Collections and Computers*. (Lawrence, Kansas: Association of Systematics Collections, 1983). (Available from Museum of Natural History, University of Kansas, Lawrence, Kansas 66044). ISBN0942924037.

This volume is a review of computerized management projects based on a survey conducted by the Association of Systematics Collections. The book contains a bibliography of over 1000 articles and monographs relating to the use of computers in museums and to collection documentation in general. It also contains approximately 200 project summaries derived from the surveys and indexes of the project summaries by computer system, by software used and by the type of project.

- Maurice V. Wilkes, David J. Wheeler, and Stanley Gill, *The Preparation of Programs for an Electronic Digital Computer*. Vol. 1, CBI Reprint Series for the History of Computing. (Los Angeles: Tomash Publishers, 1982). ISBN093822803X. \$30.00 plus \$1.50 for packing and shipping.

This book is a facsimile of the first edition of *Preparations of Programs for an Electronic Digital Computer*, issued in 1951 by Addison-Wesley Publishing Company. No alterations, deletions, or additions have been made to the original text.

- H. P. Babbage, editor, *Babbage's Calculating Engines*. Vol. 2, CBI Reprint Series for the History of Computing. (Los Angeles: Tomash Publishers, 1983). \$45.00 plus \$2.50 for packing and shipping.

This collection of Charles Babbage's works was assembled by his son, Major General H. P. Babbage, and published in a limited edition in 1889. This reprint includes several plates referred to but missing from the original edition.

- E. M. Horsburgh, editor, *A Handbook of the Napier Tercentenary Exhibition or Modern Instruments and Methods of Calculation*. Vol. 2, CBI Reprint Series for the History of Computing. (Los Angeles: Tomash Publishers, 1983). \$42.00 plus \$2.50 for packing and shipping.

This volume was originally issued in 1914 by the Royal Society of Edinburgh. This is a facsimile reprint of the official guide to the Napier Tercentenary Exhibition of 1914 and a general survey of calculating devices used up to that time. It includes a well written account of Napier's life and times as well as detailed descriptions of the use of the abacus, slide rule, planimeters, harmonic analyzers, integranometers, and differentiating machines. Also included are discussions of mathematical tables and mathematical models for plane geometry in use at the time. The material is beautifully illustrated with a multitude of engravings, photographs and diagrams.

- Recent articles of interest in the history of computing:

John W. Haanstra, et al, "Processor Products—Final Report of SPREAD Task Group, December 23, 1961," *Annals of the History of Computing*, 5 (January 1983):6-26.

Joel D. Aron, et al., "Discussion of the SPREAD Report, June 23, 1983," *Annals of the History of Computing*, 5 (January 1983):27-44.

Garry J. Tee, "The Heritage of Charles Babbage in Australasia," *Annals of the History of Computing*, 5 (January 1983):45-59.

Marshall Ledger, "The Case of the E.N.I.A.C.," *Pennsylvania Gazette*, (University of Pennsylvania: October, 1982):30-35.

Marshall Ledger, "The E.N.I.A.C.'s Muddled History," *Pennsylvania Gazette*, (University of Pennsylvania: November, 1983):29-33.

... from page 2

Applicants for the position must have an advanced degree, preferably in the history of science and technology, American history or American studies, or an appropriate related area of study, and a minimum of three years' professional archival experience. In addition, a successful applicant must have at least several of the following qualifications: experience with computer applications in libraries or archives; administrative experience or experience in organizing projects and supervision; demonstrated interest in instruction and research; the ability to work with the constituents of the Institute and the Collection; and competence in records management.

The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities.

Salary is a minimum of \$20,000. Deadline for receipt of application is June 15, 1983.

Applicants should send a letter of application, vita, and names of three references to Robert L. Wright, Personnel Officer, University Libraries, 499 Wilson Library, 309 19th Avenue South, Minneapolis, Minnesota 55455.

The Charles Babbage Institute Newsletter is a 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.

©The Charles Babbage Institute for the History of Information Processing

. . . from page 1

sented the company in the signing and Dr. Walter J. Heacock, President of the Hagley Foundation, sponsoring agency of the Library, signed the official documents of transfer for the Library. Also present as guests were Dr. J. Presper Eckert, co-inventor of the ENIAC, and Dr. Arthur L. Norberg, of CBI.

The Eleutherian Mills Historical Library has a national reputation as a center for scholarly research in American economics and technical history, and according to Dr. Richmond D. Williams, Director of the Library, "This collection is of unparalleled importance. Any serious researcher seeking to understand the development of computer technology or its application to human affairs will be interested in this collection. As

a library devoted to the history of business and technology, this arrangement with Sperry to become custodian of the Sperry collection could not be more appropriate." Dr. Williams also noted that a collection of this size will require several months to process. Materials may be available to researchers toward the latter part of 1984.

Asked to comment after lunch on the importance of the occasion, Norberg emphasized the significance of the transfer of these papers as a model for other companies to follow. CBI is ready to assist any company desiring to establish an archives or deposit papers elsewhere.

## FRIENDS OF THE CHARLES BABBAGE INSTITUTE PROGRAM

As many of you who are already members of the Institute's Associate program are aware, CBI receives its support from the information processing community through your membership donations, corporate sponsorships and AFIPS. Your renewed or new membership assists CBI's effort to assure the existence of an accurate record of the information processing field's evolution. If you are not currently a "Friend of CBI," please consider becoming one.

A Babbage Associate—\$30 donation—besides supporting the work of CBI you will receive:

- the *CBI Newsletter*
- a 20% discount on the *CBI Reprint Series for the History of Computing*.

A Babbage Participating Associate—\$75 donation—besides supporting the work of CBI you will receive:

- the *CBI Newsletter* and other occasional publications
- a 20% discount on the *CBI Reprint Series for the History of Computing*
- a years subscription of AFIPS *Annals of the History of Computing*; check the membership card if you already subscribe to *Annals* and we will extend it for one year.

A Babbage Colleague—\$250 donation—besides supporting the work of CBI you will receive:

- the *CBI Newsletter* and other occasional publications
- one book of my choice from the *CBI Reprint Series for the History of Computing* and 20% discount on any other books from the Reprint Series
- a years subscription to AFIPS *Annals of the History of Computing*; check the membership card if you already subscribe to *Annals* and we will extend it for one year.

A Babbage Sustaining Colleague—\$500 donation—besides supporting the work of CBI you will receive:

- the *CBI Newsletter* and other occasional publications
- two books of my choice from the *CBI Reprint Series for the History of Computing* and 20% discount on any books from the Reprint Series
- a years subscription to AFIPS *Annals of the History of Computing*; check the membership card if you already subscribe to *Annals* and we will extend it for one year.

A Babbage Patron—\$1,000 donation—besides supporting the work of CBI you will receive:

- the *CBI Newsletter* and other occasional publications
- four books of my choice from the *CBI Reprint Series for the History of Computing* and 20% discount on any books from the Reprint Series
- a years subscription to AFIPS *Annals of the History of Computing*; check the membership card if you already subscribe to *Annals* and we will extend it for one year.

I would like to become a Friend of CBI:

( ) Associate Member—\$30 ( ) Colleague—\$250 ( ) Patron—\$1,000

( ) Participating Associate—\$75 ( ) Sustaining Colleague—\$500

( ) My company has a matching gift program or might be willing to support the work of CBI

My check for \$\_\_\_\_\_ is enclosed payable to the Charles Babbage Foundation which is the support arm of CBI.

Current *Annals* subscriber: ( ) yes ( ) no

Name \_\_\_\_\_  
(Please show Prof., Dr., Mr., Ms., Mrs., Miss as appropriate)

Title \_\_\_\_\_

Department \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

City, State, Country \_\_\_\_\_ Zip/Postal Code \_\_\_\_\_ Telephone \_\_\_\_\_

I am interested in the history of information processing:

( ) From the standpoint of someone involved in information processing.

( ) Both of the above.

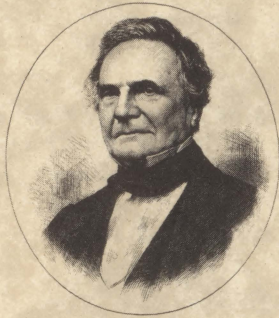
( ) From the standpoint of a practicing historian.

( ) For other reasons (Please state reasons).

Return to the Charles Babbage Institute, University of Minnesota, 104 Walter Library, 117 Pleasant Street, S.E., Minneapolis, MN 55455.

**The Charles Babbage Foundation**

for the History of Information Processing



**FOUNDERS**

- Gene M. Amdahl
- Isaac L. Auerbach
- Walter F. Bauer
- Frank G. Chambers
- Willis K. Drake
- Richard Gilder, Jr.
- Chester I. Lappen
- Donald Lucas
- John N. Maguire
- Dan McGurk
- William N. Mozena
- Frank C. Mullaney
- Kenneth H. Olsen
- Max Palevsky
- Clarence W. Spangle
- Erwin Tomash
- Sam Wyly

**TRUSTEES**

Gene M. Amdahl, Chairman,  
Trilogy Computer Systems

Paul Armer  
Stanford University

\*Isaac L. Auerbach, President,  
Auerbach Publishers, Inc.

\*William O. Baker, President,  
Bell Telephone Laboratories  
(Retired)

\*Walter F. Bauer, Chairman,  
Informatics General Corporation

\*James W. Birkenstock, Vice  
President, IBM (Retired) and  
President, CBF Board of  
Directors

Alfred D. Chandler, Jr., Professor  
Harvard University

\*Arnold A. Cohen, Charles  
Babbage Institute, University of  
Minnesota

\*I. Bernard Cohen, Professor,  
Harvard University

\*Willis K. Drake, Chairman, Data  
Card Corporation

\*Aaron Finerman, Professor  
University of Michigan

\*Bernard A. Galler, Professor  
University of Michigan

\*Carl Hammer, Consultant

\*Member, Board of Directors

\*Per A. Holst, Manager,  
Research Operations, The  
Foxboro Company

\*Arthur L. C. Humphreys,  
Director, International Computers  
Limited

Stephen G. Jerritts, Vice  
President, Honeywell Information  
Systems

Roger G. Kennedy, Director,  
National Museum of History and  
Technology, Smithsonian  
Institution

Melvin Kranzberg, Professor,  
Georgia Institute of Technology

Chester I. Lappen,  
Senior Partner  
Mitchell, Silberberg,  
and Knupp

Joshua Lederberg, President,  
Rockefeller University

C. Peter Magrath, President  
University of Minnesota

Robert E. McDonald, President  
Sperry Rand Corporation  
(Retired)

\*Robert P. Multhauf, Senior  
Historian, Smithsonian Institution

William C. Norris, Chairman,  
Control Data Corporation

Kenneth H. Olsen, Chairman,  
Digital Equipment Corporation

Robert H. Sorensen,  
Chairman and Chief  
Executive Officer,  
Perkin-Elmer Corporation

\*Clarence W. Spangle, Chairman,  
Memorex Corporation

Roger Staehle, Dean, Institute of  
Technology, University of  
Minnesota

\*Erwin Tomash, Chairman  
Dataproducts Corporation  
(Retired) and Chairman,  
CBF Board of Directors

Frank S. Vigilante, Vice  
President, American Bell, Inc.

**CORPORATE SPONSORS**

- AFIPS
- American Telephone and  
Telegraph Co.
- Applied Data Research, Inc.
- Automatic Data Processing
- Broadview Associates
- Burroughs Corporation
- Comserv Corporation
- CPT
- Data Card Corporation
- Dataproducts Corporation
- Honeywell Corporation
- IBM Corporation
- Informatics General Corp.
- International Computer Programs
- International Computers, Ltd.
- NCR Corporation
- Perkin-Elmer Corporation
- Arthur Young and Co.
- Xerox Corporation

**The Charles Babbage Institute**

Arthur L. Norberg, Director

**The Charles Babbage Institute**  
104 Walter Library  
117 Pleasant Street, S.E.  
University of Minnesota  
Minneapolis, MN 55455

Return Postage Guaranteed  
Address Correction Requested

Non-Profit Org.  
U.S. Postage  
**PAID**  
Permit No. 155  
Minneapolis, MN

