CHARLES BABBAGE INSTITUTE
NEWSLETTER
Volume 8, Number 2
Winter 1986

THE CENTER FOR THE HISTORY OF INFORMATION PROCESSING

CBI Develops National Collecting Strategy

A year ago CBI began a planning process that has culminated in a three-year national collecting strategy program for computer history. In its entirety, this program presents a solution to a national cultural problem: How can the history of one of man's most important endeavors be preserved? Simply stated: What records should be saved? Which may be destroyed?

Answering these questions now is more difficult than it used to be, because collecting and preserving historically significant materials is an increasingly complex and costly activity. Essential to the task is the ability to determine what records should be collected. The decision about what to save should be based on careful analysis of the character of historical events, the nature of records, and present and past needs of users. This information, balanced against the resources available to organize and preserve collections, so as to maintain control over the material for effective retrieval, allows an archivist or curator to accept or reject materials knowledgeably.

Modern records are both more voluminous and more widely dispersed than their earlier counterparts. Because copies have become cheaper and easier to make and because reporting requirements have produced a greater redundancy of records, the likelihood of any one document being unique has greatly diminished. Bulk, duplication, and detail overwhelm the archivist.

Curators experience problems similar to those of archivists, and to the extent that they handle paper records, their problems are identical. Like the archivist, the curator is confronted with developments and applications distributed in intricate patterns across groups in academia, business, and government. With the millions of existing computing machines supplied by hundreds of different groups, the curator also confronts the problems of bulk, wide dispersion of materials, and redundancy. Curators, like archivists, can best decide what to save by conserving past and present computer activities, present and future needs of historians and other users, and availability of similar records and artifacts. Because of these similarities in need by both archivists and curators, this project will aid both groups.

The Solution

Because the computer is an extremely significant technology in any perspective, it is an excellent example to use for understanding records in a technological setting. By concentrating on the development and application of the digital computer, we propose to develop at CBI a model of the fundamental aspects of the technological process and identify the range of records that are produced during technological activity.

The ultimate objective of this project is to craft a collecting strategy that can be useful to archivists and curators in developing collections at institutions and organizations, which as a whole will constitute a national collection of materials that document these processes. This collection would be national in scope and reside in its several parts in the many interested archives around the country. It should even be possible in the future to offer similar assistance to archivists and curators in other countries.

To accomplish this objective, some organization must analyze these processes and convey this knowledge to archivists, curators, librarians, and historians. CBI has already begun to lead this effort. In 1981, through a survey of academic archives and business records programs, a preliminary indication of the amount of material held and available was obtained. Between then and 1984, a program of historical research at CBI has been useful to us in defining the dimensions of the problem of what needs to be known by archivists and curators to collect selectively in this field. To fill an important gap, in late 1984, with the support of the National Endowment for the Humanities, CBI conducted a workshop on the question of corporate technical records. In all these activities, CBI has been working closely with the archival and museum communities, and is now in a position to make further contributions to understanding historical modern records.

Any successful collections program must be based on a knowledge of events, personalities, projects, and the functional modes within the projects and the organizations and institutions in which the projects were performed. Only after this knowledge is attained and tested, can an appropriate strategy for developing a national collection be crafted by all interested parties.

CBI proposes to accomplish this task with a multi-phased program, whose objectives are:

1. to analyze the development and application of the digital computer thoroughly enough to facilitate the identification of appropriate records;
2. to assess the universe of records, both those already available in repositories and those still in private hands;
3. to develop appraisal guidelines that can be used in all the different personal and institutional situations in this history; and
4. to evaluate the methods used and the reports produced so as to design a national collecting strategy to appraise and preserve the necessary documentation for research into the history of the development and application of this new technology.

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COMPUTING IN THE 21ST CENTURY

A Symposium on Computing and Society, Past and Future

In Celebration of the 40th Anniversary of the Founding of Engineering Research Associates, Incorporated

Organized by
The Charles Babbage Institute, University of Minnesota

Sponsored by
The Sperry Corporation

September 9 and 10, 1986
Minneapolis, Minnesota

In 1946, ERA (Engineering Research Associates) became the first digital computer company and, soon after, a leader in the first computer revolution. ERA people helped to define the principal issues in electronic computing—speed, storage capacity, processing capability; the applications in society including education; and the economics of computing.

In the intervening 40 years, ERA people, as well as many others in information processing, contributed to innovation in technology, expansion of a new industry, and application of computing to all walks of life. Now, with the maturing of computer science techniques and the defining of the philosophy of artificial intelligence, we are on another revolutionary threshold in information processing.

These past developments will be celebrated and expected future changes described in a two-day symposium. Major addresses will be given on the maturation of computing and the impact of computing on society—technical, social, educational, and economic. A series of presentations on rapidly changing technical areas—software engineering, artificial intelligence, VLSI, and supercomputing—will offer a perspective on computing in the 21st Century.

For additional information and registration forms contact the Charles Babbage Institute, 103 Walter Library, 117 Pleasant Street S.E., Minneapolis, Minnesota 55455.

Minnesota Oral History Conference to Consider Uses of Oral Histories

The Oral History Association of Minnesota will convene a one-day conference to analyze and evaluate the contributions of oral history to historical research and other humanities-based programs. The program will include formal sessions directed at two themes: the uses of oral history and the assessment of quality in oral history. Thomas L. Charlton, Director of the Oral History Institute, Baylor University, will discuss current issues and the future of oral history, touching in particular on the controversy surrounding videotaping and confidentiality. An open discussion will follow the keynote address.

The conference is scheduled for March 22 in St. Paul, Minnesota. CBI's archivist, Bruce Bruemmer, currently serves on the Association's council and will chair the session, "Oral History: An Assessment of Quality." Questions about the conference may be directed to him.

Software-Related Resources Available in CBI

CBI recently began focusing special attention on the identification, location, and preservation of important records from the history of software in order to balance its more extensive collection of hardware-related materials. Early efforts in this area are concentrated on significant operating systems and database management software from the 1950s and 1960s. We are eager to hear from people with records relating to these activities and from people wanting to use our rapidly expanding collection.

Although software was not a collecting priority in our early years, we have collected a useful group of records relating to many different aspects of software from the period 1945-1975. The listing below will indicate the nature of the collection. It is not intended to present an exhaustive list of holdings:

Professional Organization Records

Records of the Univac Scientific Exchange (USE) and SHARE (IBM users group), including: administrative records, correspondence, membership information, meeting agendas, published meeting reports, technical reports, and an extensive microfilm run of programs, routines, and other technical information contained in "SHARE Distribution Reports." Smaller quantities of other user group records also may be found.

Product Literature

Sales and descriptive brochures from over 900 companies, including many which specialized in software development.

Computer Manuals

An extensive set of company manuals for programming languages, operating systems, utilities, and applications built up from the ACM Literature Collections, donations from Computer Sciences Corporation, and Auerbach Publishing, Inc., and contribution from individuals.

Technical Reports

Reports on programming languages, applications, natural language processing, and other topics investigated by the Office of Naval Research, National Bureau of Standards, Rand Corporation, and a number of other government agencies and private companies.

Standardization Records

Records from standards committees, notably ASCII X.3.2.

Miscellaneous

Many other types of materials in smaller quantities, some relating to the development of programming languages. CBI holds a small number of IFIP ALGOL Bulletins, and expects to receive records from the ACM History of Programming Languages Conference held in 1977.

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

The Charles Babbage Institute *Newsletter* is a publication of the Charles Babbage Institute, University of Minnesota, 103 Walter Library, 117 Pleasant Street S.E., Minneapolis, Minnesota 55455, telephone (612) 376-9336. The *Newsletter* reports on Institute activities and other developments in the history of information processing.

CBI Receives New Oral History Collection on Princeton Mathematics

CBI has recently received the set of transcripts from the Princeton Mathematics Community in the 1930s Oral History Project. These interviews focus on the institutional and social context of the eminent mathematical research and graduate-education center established at Princeton University and the Institute for Advanced Study, and on the personalities and biographies of the individuals involved.

The project generated 45 interviews approximately one quarter with direct relevance to the history of computing. These include interviews with John Bardeen, Alonzo Church, James Wallace Givens, Herman Goldstine, John Kemeny, Stephen Kleene, Derrick Lehmer, Emma Lehmer, Frances Morrey, Deane Montgomery, J. Barkley Rosser, Abraham Taub, Albert Tucker, John Tukey, and Shaun Wylie.

The project was conducted by Princeton University with the financial assistance of the Alfred P. Sloan Foundation. The project administrator was Princeton Professor of History of Science Charles C. Gillispie. Interviews were conducted by Princeton Professor of Mathematics Emeritus Albert W. Tucker and by CBI Associate Director William Aspray. Frederik Nebeker, doctoral candidate in the Princeton Program in the History of Science, edited the transcripts.

Transcripts are available for scholarly use at CBI. Both transcripts and tapes are available at the Seeley Mudd Library at Princeton University. Those interested in using the tapes should contact the Mudd Library well in advance of an intended visit.

AT&T Fellowship in Telephone History

In 1986, the AT&T Company will again award a fellowship in support of doctoral research into the history of the AT&T Company, its predecessor and associated enterprises. Advanced students who have completed their course work in an accredited university graduate program of business history or related fields are eligible candidates for the 1986 award. The award for 1986 is $10,000.

The purpose of the AT&T Fellowship program is to furnish one year's financial support for a student to carry out research utilizing information from the Company's historical business archive in New York.

For further information contact Robert W. Garnet, Historical Archive & Publications Group, AT&T Company, 195 Broadway, Room 1508, New York, NY 10007. The deadline for receipt of proposals is April 1, 1986.

ENIAC — The 40th Anniversary

Standing in front of the computer's master programmer are (left to right): Cummings, Sharpless, Chedaker, Shaw, Davis,Chu, Huskey, Eckert, Goldstine, Burks, Sheppard, Michaels and Mauchly (CBI photograph).

This photograph was taken as part of the ENIAC dedication during February, 1946. This year marks the fortieth anniversary of the first public announcement of the ENIAC at the University of Pennsylvania. In 1946 two public relations events were coordinated by the university and the War Department. The first, held on February 1, was an exhibition and demonstration of the computer to the press. ENIAC was given the task of conducting 5000 additions in one second, 500 multiplications in one second, and the generation of squares, cubes and trigonometric tables. The second event was a formal dedication dinner held on February 15. The program featured speeches by the George W. McClelland (president of the university), Frank B. Jewett (president of the National Academy of Sciences), and Major General G. M. Barnes (Chief of the Research and Development Services for the Ordnance Department). Another demonstration was given after the dinner.

The photograph was entered as an exhibit during Herman H. Goldstine's 1971 testimony in the Honeywell vs. Sperry Rand trial.

Recent Publications

- Charles J. Bashe, Lyle R. Johnson, John H. Palmer, and Emerson W. Pugh, *IBM's Early Computers.* (Cambridge, MA: MIT Press, 1986.) $27.50. ISBN0262022257.

  This is the best technical history of computing to appear to date. It focuses on engineering alternatives rather than business and general management considerations. Well documented.

- Martin Campbell-Kelly and Michael R. Williams, editors, *The Moore School Lectures: Theory and Techniques for Design of Electronic Digital Computers.* (Cambridge, MA: MIT Press, Los Angeles, Tomash Publishers, 1985.) $50.00. ISBN0262031094.

  An edited republication of the famous Moore School lectures given at the University of Pennsylvania in the summer of 1946.

- Cipher A. Deavours and Louis Kruh, *Machine Cryptography and Modern Cryptanalysis.* (Dedham, MA: Artech House, 1985.) $56.00. ISBN0890061610.

  Historical information is sprinkled throughout this book, but particular attention is called to Chapter 1 where various military intelligence developments are described.

- Dorothy Stein, *Ada A Life and a Legacy.* (Cambridge, MA: MIT Press, 1985.) $25.00. ISBN026219242X.

  An important new study of Ada based on solid scholarship.

- Recent Articles of Interest in the History of Computing:

  J. W. S. Carmichael, "History of the ICL Content-addressable File Store (CAFS)," *ICL Technical Journal,* 4 (November 1985): 352-357.

  Paul Ceruzzi, "The First Generation and the Aerospace Industry," in *Research Report 1985 of the National Air and Space Museum,* (Washington, D.C.: Smithsonian Institution, 1985).

  A. T. F. Hutt, "History of the CAFS Relational Software," *ICL Technical Journal,* 4 (November 1985): 358-364.

  Koji Kobayashi, "The Evolution of 'C & C' [Communications and Computing]", in *The Computer Museum Report,* 14 (Fallinter 1985): 3-6.

  Arthur L. Norberg, "The Birth of the Business Machine Industry," *Canadian Datasystems,* 17 (October 1985): 50-51.

  Charles A. Phillips, Joseph F. Cunningham, and John L. Jones, "Recollections on the Early Days of COBOL and CODASYL," *Annals of the History of Computing,* 7 (October 1985): 304-315.

  Jean E. Sammet, "Brief Summary of the Early History of COBOL," *Annals of the History of Computing,* 7 (October 1985): 288-303.

  Ben Shneiderman, "The Relationship Between COBOL and Computer Science," *Annals of the History of Computing,* 7 (October 1985): 348-352.

  Jack A. Strong and Richard F. Clippinger, "Recollections on the Intermediate-Range Committee," *Annals of the History of Computing,* 7 (October 1985): 326-328.

ACM History Conferences

The Association for Computing Machinery (ACM) is planning a series of historical conferences on technical aspects of computing, following the model of their successful 1978 conference on the history of programming languages. The first is on workstations to be held near Xerox PARC in Palo Alto in January, 1986. A conference on scientific computing is scheduled for Princeton in October, 1986. Conferences on computing institutions and medical information systems are planned for 1987. For more information contact ACM headquarters, 11 West 42 Street, New York, NY 10036.

CBF Trustees Elected at Annual Meeting

The election of new Trustees of the Charles Babbage Foundation was held at their annual meeting in Los Angeles on October 4, 1985. We are very pleased to welcome Hollis L. Caswell, Jeffrey Chuan Chu, and Kenneth H. Keller to Trustee positions.

Hollis L. Caswell is senior vice president and president of the Systems Product Group, Burroughs Corporation. Prior to joining Burroughs in 1984 as vice president of Corporate Operations, he held several positions at IBM, ultimately serving as vice president of the General Technology Division. Dr. Caswell is a fellow of the Institute of Electrical and Electronics Engineers and serves on the board of directors of Hypres, Inc. He is a former member of the policy committee of the National Science Foundation Sub Micron Facility at Cornell University.

Jeffrey Chuan Chu began his career in the data processing field in the 1940s as a research associate at the University of Pennsylvania. Since then he has served as chairman of the Board of Santec Corporation, senior vice president of North American Operations for Wang Laboratories, vice president and assistant general manager of Honeywell Information Systems, Inc. and chief engineer for the Univac Commercial Engineering Division, Sperry Rand Univac Company. Dr. Chu currently is serving as chairman of Columbia International and as advisor to the president of SRI International.

Kenneth H. Keller was named president of the University of Minnesota in March 1985. He joined the University as a faculty member of the Chemical Engineering Department in 1964 and has held a number of administrative posts in that department as well as in the Graduate School and in central administration. Dr. Keller's research interests have centered on the application of engineering science to problems in medicine and biology; he has published extensively on these topics.

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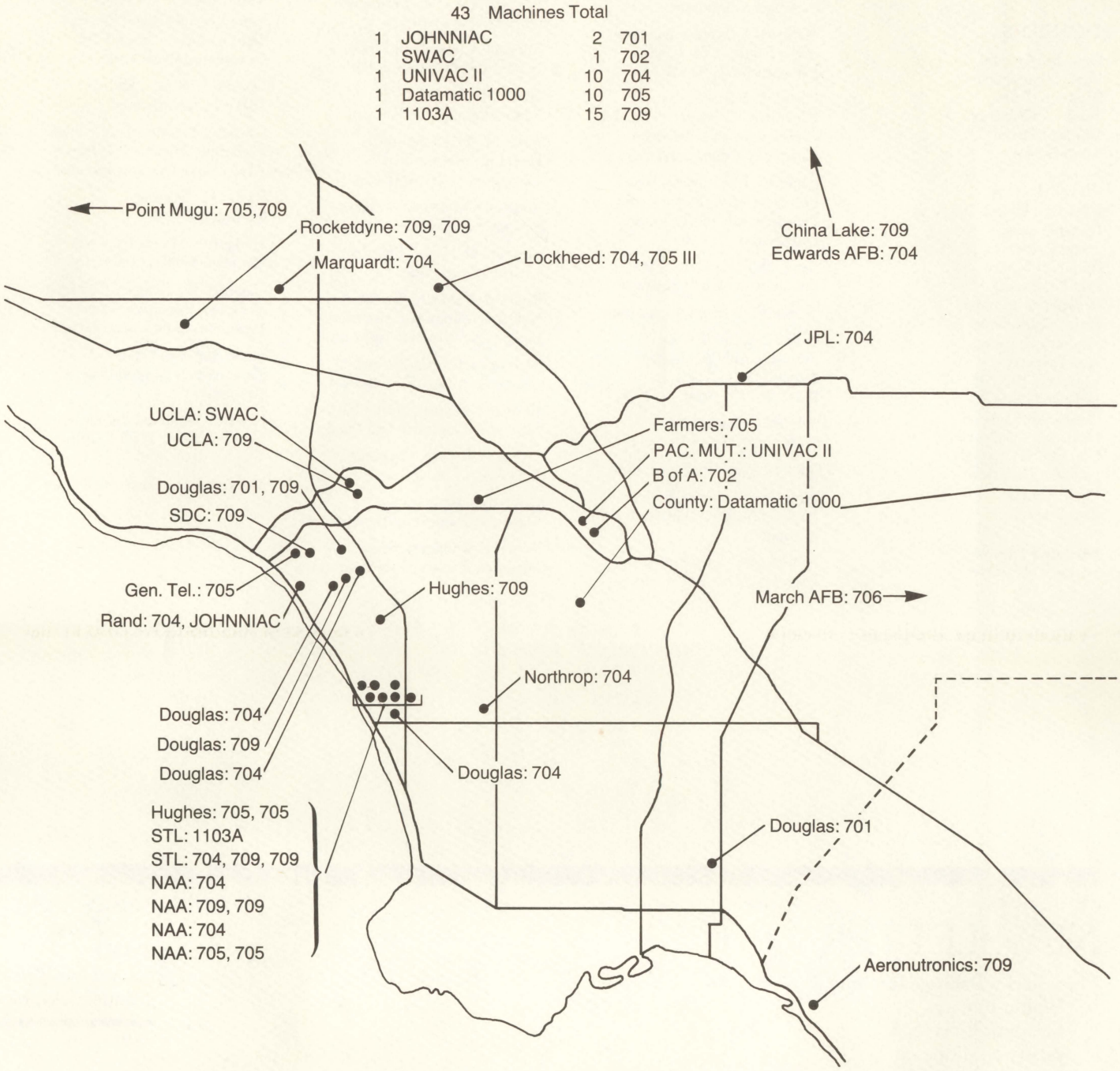
The full project offers the specific methodology to accomplish these objectives. Generally, however, it offers more than that:

- it is a formula for communication and cooperation within and between communities—academic, corporate and government;
- it is a model for solving records management problems in other settings and fields;
- and, finally, it is a resource to virtually all instructional levels with information, or the means to obtain it, for both students and faculty.

Large-Scale, High-Speed Computers in Greater Los Angeles
December 31, 1959



Recent Acquisitions

This reproduction of a 1959 map of large computer installations in the Los Angeles area was printed originally in *Computing News*. The map is from a collection of records recently donated to CBI by Frank V. Wagner, former Senior Vice President of Informatics, Inc. The records reflect Wagner's early activity in the West Coast computer industry, and includes information about SHARES's Universal Computer-Oriented Language (UNCOL), IBM 701 programming, the European computer market in 1974, and North American Aviation's computing activity during the 1950s. The collection is open to research at CBI.

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