

CHARLES BABBAGE INSTITUTE NEWSLETTER

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CENTER FOR THE HISTORY OF INFORMATION PROCESSING

UNISYS Donates Burroughs Historical Records

Unisys Corporation has donated a large collection of records relating to the Burroughs Corporation to the Charles Babbage Institute. It includes over 500 cubic feet of historically valuable records, correspondence, photographs, films, video tapes, speeches, sound recordings, technical material, and product literature covering over 100 years of the company's history from 1883 to its merger with the Sperry Corporation. The donation will give historians of business and computing access to one of the most important sources on the accounting machine and electronic computer industries.

Unisys staff vice president David R. Curry said, "Unisys is very pleased to have a setting such as that provided by the Charles Babbage Institute and the University of Minnesota for the century of business history represented by the Burroughs Corporation collection. We are proud to continue our productive association with the Institute with this important donation, and are pleased that scholars and researchers will enjoy excellent access to these materials in the future."

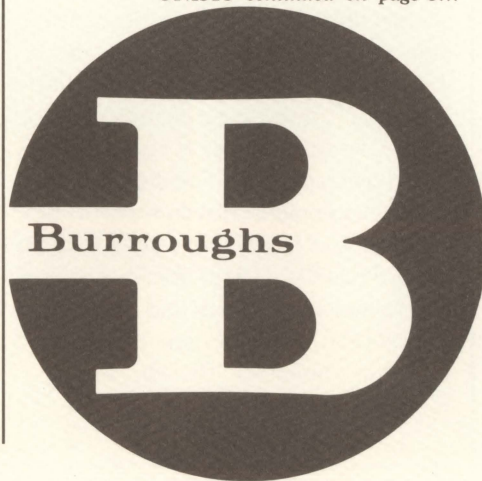
The collection was developed over the last decade under the primary direction of Anne Frantilla, Unisys corporate archivist. While few American firms have taken any measures to preserve their history, Unisys has been a leader in this area. Besides the preservation of its records, Unisys has sponsored a number of historical initiatives, including separate oral history conferences relating to the UNIVAC and B5000 computers. Its commitment to history, even during difficult times for the company, has ensured the availability and preservation

of one of the most important historical resources relating to the history of computing.

While the bulk of the collection reflects Burroughs' history during the past fifty years, it also includes early financial data, correspondence, and technical literature. A few letters originate from William S. Burroughs, one in which Burroughs notes three years before his death that if he could leave the company unattended for just three months, he would buy a small cottage and turn his attention to inventing more machines. Of interest to artifact collectors is the vast array of reports and pamphlets detailing the components of different calculators and listing machines. Also, the collection holds extant records of some early acquisitions of adding machine companies, such as Moon-Hopkins, Pike, and Universal.

Most of the collection is of more recent vintage, including computer product literature, records from various departments and individuals, advertising, press releases, documents from

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The Adelle and Erwin Tomash Fellowship in the History of Information Processing 1992-93

The Charles Babbage Institute is accepting applications for the Adelle and Erwin Tomash Graduate Fellowship, sponsored by the Charles Babbage Foundation, to be awarded for the 1992-1993 academic year to a graduate student whose dissertation will address some aspect of the history of computers and information processing. Topics may be chosen from the technical history of hardware or software, economic or business aspects of the information processing industry, or other topics in the social, institutional, or legal history of computing. Theses that consider technical issues in their socio-economic context are especially encouraged.

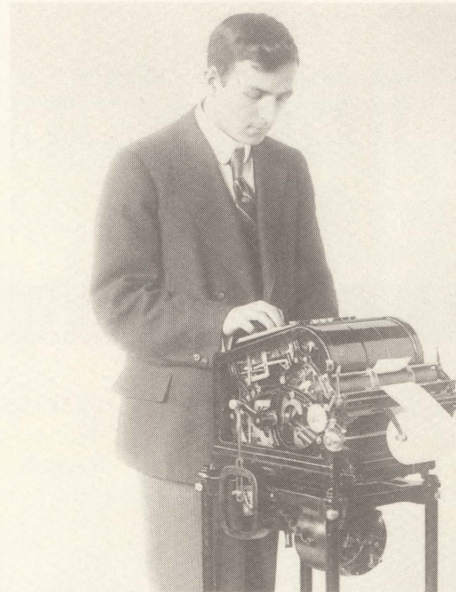
There are no restrictions on the venue of the fellowship. It may be held at the home academic institution, the Babbage Institute, or any other location where there are appropriate research facilities. The stipend will be \$10,000 plus an amount up to \$2,000 for tuition, fees, travel to the Babbage Institute and relevant archives, and other approved research expenses. Priority will be given to students who have completed all requirements for the doctoral degree except the research and writing of the dissertation, though less advanced and incoming graduate students are also eligible to apply. Fellows may reapply for up to two one-year continuations of the Fellowship.

Applicants should send biographical data and a research plan. The plan

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Burroughs Corporation: A Brief History

The Burroughs Corporation began in 1886 as the American Arithmometer Company, founded in St. Louis around a machine invented by William S. Burroughs, an accountant who desired to develop practical adding and listing machines. By 1905 the firm had relocated to Detroit and changed its name to the Burroughs Adding Machine Company. It established itself as a major manufacturer of calculators, bookkeeping machines, and transit listing machines for banks. During the 1920s, the company introduced calculators featuring registers that allowed for more complex calculation than could be afforded by a simple columnar adding machine. Besides the production of reliable office machines, Burroughs expanded its operations through the acquisition of related companies, such as Universal Adding Machine Co. (1908), Pike Adding



Early Burroughs electric adding machine

Machine Company (1909), Moon-Hopkins Billing Machine Co. (1921), Mittag & Volger, Inc. (1949), and Acme Carbon and Ribbon Co. (1949).

After World War II the corporation, led by President John Coleman, moved quickly into electronic products and began to experiment with computers. In 1948 it established a research and development laboratory under the direction of Irven Travis. At first most of the improvements generated by the lab were focused on improving the standard office equipment line. But gradually the company moved towards advanced techniques with application towards computers. Shortly after its establishment the lab produced two computers, one of which was installed at the lab and another at Wayne (State) University.

In 1954, the lab was moved to Paoli, Pennsylvania, and pursued research related to the commercial development of computers. A new group of acquisitions secured expertise needed to move the company into the computer industry, including Control Instrument Co. (1951), a manufacturer of military electromechanical and analog-type fire control equipment; Haydu Bros. (1954), manufacturer of special-purpose vacuum tubes; Todd Co. (1955), a maker of checks and safety paper; and ElectroData Corp. (1956), which originally produced scientific computers. By 1962, the company had produced a number of

computers for general commercial use, banking, air defense, and guidance, as well as electrographic printing and paper-handling devices. Burroughs major competitive advantage was its marketing organization, which excelled at selling small- and medium-scale systems to the business data processing market.

Compared to other mainframe manufacturers in the 1960s, Burroughs lagged behind. The company ran into difficulties with the introduction of the B5000 computer, a technologically advanced machine that was slowly accepted by customers. The company strove to cut costs and increase productivity beginning with the Product Improvement Committee established by President Ray Eppert. It continued to fund technological development and expanded its product line to include small systems, very large systems (B 6500), military systems, and specialized machines (such as the ILLIAC IV, considered one of the earliest "supercomputers"). By the mid-1970s Burroughs had found a formula that placed it as the second-ranked U.S. company based on data processing revenues.

During the late 1970s, Burroughs moved to expand its office automation capabilities with the purchase of Graphic Sciences (1975), Redactron (1976), and Context Corp. (1979). However, the transition away from complete dependence on the mainframe computer market was too slow, and Burroughs found its financial and technological position eroded by 1981. It tried adjusting its strategy under W. Michael Blumenthal's direction. Burroughs made two significant acquisitions in 1981: Systems Development Corporation and Memorex Corporation. The latter was an unsuccessful attempt to expand in the add-on memory and storage products market. A new emphasis on service and increased R&D expenditures for office automation and other technology managed to improve Burroughs' performance. Blumenthal's final strategy was to merge the company with Sperry Corporation in 1986, concluding the history of Burroughs as a separate corporation. □

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Collections included in this subseries: Bill Receivable, Wage Books/Time Cards; Tax Appeal.

Sales and Marketing contains manuals, papers of individual salesmen, and sales records related to sales of Burroughs products and is concentrated on the 1920s and 1930s.

Collections in this subseries: Marketing Schedules; Sales Conventions; Sales and Marketing; C.P. Staubach Papers; Salesman's Manuals; Field Force Letters; Sales Records; Salesmanship; Salesmen—Misc.; Sales Dept.

Mechanical Library is a collection of notebooks containing manuals and mechanical drawings of the various Burroughs Adding Machine Company products compiled by the legal department.

World War II Records document the Burroughs Adding Machine contribution to war production efforts. The records summarize government influence on the office machine industry and Burroughs Adding Machine's responses to production controls.

BURROUGHS MACHINES LTD., 1952-1974, contains annual reports, account records, and records of the HOB0 Group, a cooperative effort of Burroughs Machines and Burroughs Adding Machine.

Collections in this series: Annual Reports and Accounting Records, BAM HOB0Group.

BURROUGHS INTERNATIONAL S.A. (BISA), 1956-1972, consists of the W.J. Collins papers which document the establishment and activities of BISA.

Collections in this series: W.J. Collins/BISA Papers (sic).

BURROUGHS INTERNATIONAL CORPORATION (BIC), 1962-1963, consists of the Ray MacDonald Papers documenting the formation of this independent subsidiary which succeeded the International Division in 1963 and some unprocessed materials about the International Division.

Collections in this series: Ray MacDonald/BIC Papers (sic); International Operations.

DEFENSE AND SPECIAL SYSTEMS DIVISION, 1948-1968, contains the records, largely technical, from the division at Paoli, PA., which are divided into four subseries.

Individual Engineer's Papers include the papers of engineers working for the Burroughs Corporation except those who worked in the Electrodata Division and the Defense and Special Systems Division.

Collections in this subseries: Defense—J.J. Wolf Papers; Irven Travis Papers; Lyle Thompson Papers.

Engineering Records is an artificially created subseries which includes documentation, exclusive of individual engineer's papers and technical literature or near print reports, created at the departmental level.

Collections in this subseries: Paoli—Proposals; Defense and Special Systems Group: R & D Review; Paoli—Reference Memos; EID/CID Files.

Patent Department Records include the patent research files produced in connection to research work at Paoli and Philadelphia.

Technical Literature and Reports includes all technical literature and technical reports produced by the Defense and Special Systems division.

III. BURROUGHS CORPORATION

EXECUTIVE DOCUMENTATION, 1946-1982, is an artificially created series which contains material about executives of the Burroughs Corporation which has been arranged in two subseries.

Speeches, includes several small collections of speeches made by various executives.

Collections included in this subseries: Standish Backus Speeches; Annual Meeting Speeches; Ray MacDonald Speeches; Analysts Speeches I; Analysts Speeches II; Executive Speeches I; Executive Speeches II; Ray Eppert Speeches; John Coleman Speeches; Speeches I; Speeches II.

Biographical Files, is a series of files containing biographical data and photographs of executives in the Burroughs Corporation.

ADVERTISING, 1907-1971, contains tear sheets from print advertising.

Collections included in this series: Advertising—Oversize and Photographs; Direct Mail Advertising; International Advertising; Advertising; Print Advertising—Oversize Scrapbooks.

SALES, 1961-1985, consists of documentation of the Legion of Honor, an organization within the Burroughs Corporation which recognized outstanding members of the sales force and a collection of installation stories.

Collections included in this series: Legion of Honor Records; Installation Stories.

ENGINEERING, 1948-1979, contains four subseries.

Individual Engineer's Papers include the papers of engineers working for the Burroughs Corporation except those who worked in the Electrodata Division and the Defense and Special Systems Division.

Collections included in this subseries: Simon Gluck Papers; Thomas Butler Papers; A. Mauro/Redactron Papers; Sybil Rock Papers; E.W. Dijkstra Papers; Pasinski Family Papers.

Engineering Records is an artificially created subseries which includes documentation, exclusive of individual engineer's papers and technical literature or near print reports, created at the departmental level.

Collections included in this subseries: B 6500 Product Proposals; Electrographic and Electrostatic Recording; Competitor Files; Large System Department—Monthly Project Reports & Monthly Project Progress; ILLIAC IV; Scientific Research Society of America—Burroughs Branch.

Schematics contains all large schematic drawing created by the Burroughs Corporation which were retained separately from other technical records.

Technical Literature and Reports includes all technical literature and technical reports produced by the Burroughs Corporation exclusive of Electrodata, System Development, and Defense and Special Systems material.

Collections included in this subseries: Engineering Project reports; Interim Reports; Technical Reports; Management Reports; Engineering Progress Reports—M & E; Engineering Reports—Todd Electronic Components; Technical Lit—unprocessed; Technical Lit—unidentified; Technical Bulletin; Technical Reprints; Tech Info Bulletins; Tech Lit—Data Communications; Pulse Control Equipment Lit; Information Bulletins; Corporate Misc. (part); Research Center—Educational Materials.

CORPORATE COMMUNICATIONS, 1925-1990, consists of six subseries which encompass material which Corporate Communications produced or collected.

Burroughs Histories include a number of histories, mostly unpublished, of Burroughs Corporation by various authors.

Collections in this subseries: Oral History Transcripts; Histories of Burroughs; Historical Growth of the Burroughs Distributive Organization; Burroughs Distributive Organization (background material and

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Parts production line at Burroughs manufacturing facility, 1950.

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draft for Historical Growth of the Burroughs Distributive Organization); History of Burroughs Corporation; Burroughs Sperry merger (folder).

Corporate Events contains material on various corporate recognition events, largely retirement parties for executives.

Newsclipping File includes newclippings about the Burroughs Corporation. A portion of this collection documents the activities of Burroughs Adding Machine.

Press Releases contains a collection of press releases compiled in binders.

Publications is a collection of publications produced by Corporate Communications or divisions or groups within the Burroughs Corporation. Most of the publications are newsletters, but there are several magazines included. Neither technical literature or product literature is included in this subseries.

Studies includes several studies of the Burroughs Corporation or the data processing industry.

Collections included in this subseries: Data Processing Industry Statistics; Accounting Machine Industry Study.

Vertical File consists of two ready reference files: one is of general and the other contains information on various plants and facilities.

Collections included in this subseries: Vertical File, Plants and Facilities IV.

United Foundation Campaign consists of a small collection on the United Foundation fundraising drive.

PRODUCT LITERATURE, n.d., is a conglomerate of several small collections of product literature comprising around 100 cubic feet.

PHOTOGRAPHIC IMAGE COLLECTIONS, 1880-ca. 1986, is an artificially created series containing photographic images arranged

by type of reproduction.

Glass Plate Negatives contains a small number of photographic plates from Burroughs Adding Machine.

Lantern Slides largely document Burroughs Adding Machine equipment.

Prints comprise the largest subseries of the photographic image collections. It contains several distinct collections of prints which will each form a separate series within the subseries.

Collections included in this subseries: Photographs; Photographs—Oversize.

Slides contain 35mm slides. Slide presentations which contain recorded audio can be found under the "Slide Presentations" subseries of the "Audiovisual Collections" series.

Microfilm contains a few reels of microfilm.

AUDIOVISUAL COLLECTIONS, ca. 1945-1986, contains three series arranged in a similar manner to the "photographic images" series.

Films contains a number of 16mm black and white and color films which document Burroughs activities and products.

Collections included in this subseries: Films; BAV—Misc. [part]

Video Tapes includes a variety of forms of video tape ranging from Beta and VHS formats to 2" professional tape which document Burroughs activities and products.

Collections included in this subseries: BAV—Video Masters; BAV—Misc. [part]

Slide Presentations contain all slides which have an accompanying audio component.

Collections included in this series: BAV—Misc. [part]

AUDIO TAPE COLLECTIONS, n.d. consist of a number of audio tapes including oral history interviews, and tapes of annual meetings. As with the "photographic image collections" and "audiovisual



The B7700 computer (1970), one of a group of large mainframes based on the B5000 computer.

collections," this series is arranged by type of tape (cassette or reel to reel) and by discreet units within these artificial categories.

Collections included in this series: Oral History Tapes; Annual Report Audio Recording; Audio Tapes—Misc.; Annual Meeting—Scripts and Audio Tapes.

ARTIFACTS, n.d. contains two subseries.

Coleman Table Artifacts include the artifacts displayed on the Coleman Table for many years at Burroughs.

Miscellaneous Artifacts include a number of artifacts received from the Burroughs Corporation which have no discernable organization.

Collections include in this subseries: Artifacts: Boxed; Artifacts: Loose; Stock Certificates.

FINANCIAL RECORDS include tax reporting for and a small number of accounts payable ledgers.

Collections included in this series: Form 10K; Form 10Q; Accounts Payable/Ledgers.

LEGAL RECORDS include two subseries.

Miscellaneous legal records contain the Frank Cullen Papers and some unprocessed legal material.

Collections included in this subseries: Frank Cullen Papers, Legal—Misc.

Patent Records include some collections on patent research and reports by the patent department.

Collections included in this subseries: Patent & TM Reports; Patent R & D Requests; Patent—Misc. (unprocessed). □



Burroughs' ground-based electronic guidance system, used by NASA to guide ATLAS and Titan missiles, ca. 1960.

Burroughs Corporation Records, 1880-1990

Outline of the Collection

The acquisition of the Burroughs records represents the largest single donation in CBI's history. Part of the collection is completely processed, and finding aids are available for some records series. However, many records that were acquired by the Unisys Archives have not yet been arranged and described. Other material, such as some audio/visual records, require the staff to examine each discrete item and may not be accessible for some time.

Researchers interested in using the collection should consult with the CBI staff before visiting the archives. An excellent narrative description of the collection written by Anne Frantilla appears in James Cortada's *Archives of Data-Processing History* (New York:Greenwood Press, 1989), p. 129-140. The following series description also should aid researchers in understanding the scope of the collection.

I. ACQUIRED COMPANIES

AMERICAN ARITHMOMETER COMPANY RECORDS, 1890-1905, contain a history, machine manuals, sales records, legal agreements, factory specifications, and financial records (mostly ledgers).

CHARLES R. HADLEY COMPANY RECORDS, 1905-1956, consist of financial records and legal agreements made by the company.

ELECTRODATA CORPORATION RECORDS, 1952-1979, form the largest of the acquired company series. These records include project memorandum, engineering test logs and laboratory notebooks, technical memorandum, technical reports, and papers from several prominent Electrodata engineers. This series will be arranged in six subseries.

Individual Engineer's Papers include the papers of engineers who worked in the Electrodata Corporation (later the Electrodata Division of the Burroughs Corporation).

Collections in this subseries: L.P. Robinson Papers; Martin Shuler Papers; Lawrence Bewley Papers; Duncan MacDonald Papers; J.A. Aldrich Papers; L.P. Robinson and L.W. Cali Papers; D.L. Stevens Papers; Norm Krueder Papers; Glen F. Nielson Papers.

Engineering Records is an artificially created subseries which includes documentation, exclusive of individual engineer's papers and technical literature or near print reports, created at the departmental level.

Collections in this subseries: Optical Character Recognition Papers (sic); Engineering Technical Memos; Project Memos; Scrapbooks; Engineering Notebooks; Engineering Test Log Books; Pasadena Unprocessed [part].

Technical Literature and Reports includes all technical literature and technical reports produced by the Electrodata Corporation (later the Electrodata Division of the Burroughs Corporation).

Collections in this subseries: Engineering Technical Reports; Project Reports; Tech Bulletins; Electrodata Medium Systems; Pasadena Unprocessed [part].

Product Literature includes the product literature associated with the Electrodata Corporation or the Electrodata Division of the Burroughs Corporation.

Collections in this subseries: Pasadena Unprocessed [part]; B 205 and B 220 Product Manuals.

Electrodata Publications include all publications except technical literature and product literature. *Collections in this subseries:* Pasadena Unprocessed [part]; Data from Electrodata; Pasadena Plant Management Newsletter.

Electrodata Photographs contain a collection of photographs not included in the larger Burroughs Corporation collections.

PIKE ADDING MACHINE COMPANY RECORDS, 1903-1912, consist of financial records and a volume on the acquisition of Pike by Burroughs ca. 1912.

SYSTEM DEVELOPMENT CORPORATION RECORDS, ca. 1955-ca. 1975, include extensive documentation of the corporation's development and SDC's relationship with the U.S. Air Force, technical literature about the development of products, product literature and publicity literature.

UNIVERSAL ADDING MACHINE COMPANY RECORDS, 1904-1912, contain financial records.

II. DIVISIONS AND SUBSIDIARIES

BURROUGHS ADDING MACHINE COMPANY RECORDS, ca. 1880-1947, contain records of the Burroughs Adding Machine Company, predecessor to the Burroughs Corporation. This series includes subseries on executive documentation, financial records, sales and advertising, the Mechanical Library, and corporate activity during World War II, and product literature.

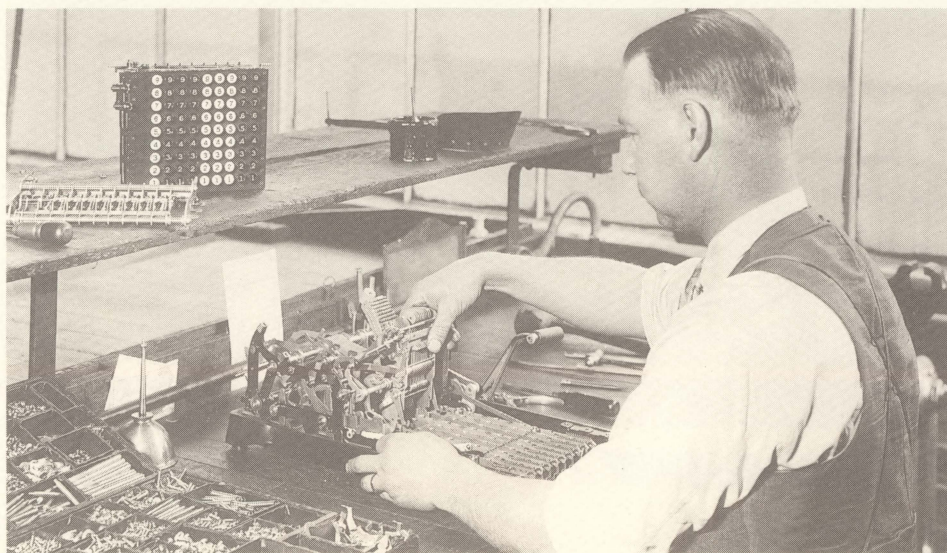
Product Literature contains product information about various Burroughs Adding Machine products. *Collections included in this subseries:* Products—Prices and Styles, Bookkeeping Manuals, Adding Machine Manuals, BAM—Adding Machine Manuals, Prod Lit—Customer and Tech; Misc. Manuals (CBI reboxed).

Executive Documentation consists of several small collections related to executives and management decisions.

Collections included in this subseries: BAM—Decisions in Force; BAM—Executive Orders; BAM—Policies and Procedures; Joseph Boyer—Correspondence; Langhorne Family Papers; L.M. Boyer vs. S. Backus; William S. Burroughs.

Financial Records include a collection of bills receivable, wage book and time cards, and a tax appeal case.

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Assembly of the millionth Burroughs calculator, 1926.

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annual meetings, patent files, publications, and audio-visual materials. Of particular interest are the photographs and films; there are prints and negatives of a wide range of computer products and company events, as well as films produced as early as the 1940s. A sample of subjects include a Burroughs' launch computer from the 1960s, a prototype mail sorting machine, electronic computers, a Sensimatic accounting machine demonstration, the B 5000 computer, and Burroughs' military products from the late 1950s.

The Burroughs Corporation records will provide researchers with an excellent primary source from which to study the accounting machine industry, banking automation, the mainframe computer industry, technological development in the United States, and computing machine applications. The entire collection is open to the public at CBI's facilities, although much remains to be learned about the collection in order to provide adequate access to its components. A portion of the collection remains to be processed, and the whole collection requires new descriptive aids to bring it in line with CBI's other collections. Such work is beyond the immediate resources of archives staff, so CBI is actively pursuing funds to apply directly to this one collection. □

Fellowship continued from page 1...

should contain a statement and justification of the research problem, a discussion of procedure for research and writing, information on availability of research materials and evidence of faculty support for the project. Applicants should arrange for three letters of reference, certified transcripts of college credits, and GRE scores to be sent directly to the Institute. There is no special application form.

Complete application materials should be received by January 15, 1992 by the Charles Babbage Institute, University of Minnesota, 103 Walter Library, 117 Pleasant Street S.E., Minneapolis, MN 55455, U.S.A. Telephone 612/624-5050. The number of awards is dependent upon funding. □

PRIVATE COMPUTER COLLECTORS WANTED

A number of collectors of computer artifacts have contacted the Charles Babbage Institute and expressed a desire to exchange information with other collectors. In response to this need, CBI will undertake to compile a list of private collectors to be made available to interested persons. If you wish to be included on such a list, please send your name, address, and telephone number to the CBI archivist. Also, a sentence description of your collecting objectives would be helpful. If enough individuals respond, CBI will maintain the list and distribute it upon request. □



Burroughs exhibit at the 1951 National Office Machine Association meeting in Chicago.

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