

## History of Computing

This catalogue explores, from the early 1800s to the late 20th century, the development and evolution of what we now call the computer revolution.

Historically, 'computers' were human clerks who read, calculated, and plotted data from various sources. Computing machines, used increasingly from the 1920s, referred to any machine that did the work of a human computer...calculating data in formalized ways. The late 1940s saw the emergence of electronic computing machines...and, in time, 'computing machine' simply became 'computer'.

Included is work from Babbage to the digital age... in primary and secondary source material to ephemera. Highlights include the first publication of Shannon's monumental work that defined the mathematical theory of communication (and coined the term 'bit') to the proceedings of the first Computer Faire[sic], to an association copy of Stibitz's, Zeroth Generation. Something, we hope, to surprise and interest nearly anyone.

There are a handful of images included, but the number of items (72) limited inclusion of all. We are happy to provide images of any item upon request.

Please let us know if you have any questions.

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### Booksellers

Lux Mentis specializes in fine press, fine bindings, and esoterica in all areas, books that have been treasured and will continue to be treasured. As a primary focus is the building and/or deaccessioning of private collections, our selections are diverse and constantly evolving. If we do not have what you are seeking, please contact us and we will strive to find it. All items are

subject to prior sale. Shipping and handling is calculated on a per order basis. Please do not hesitate to contact us regarding terms and/or with any questions or concerns.

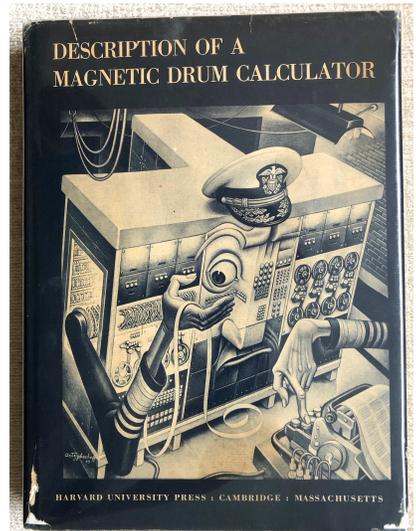
1. **Actes, 1er Congres International de Cybernetique Namur, 26-29 Juin 1956 [1st International Congress on Cybernetics]**. Paris: Gauthier-Villars, 1958. First Edition. Minor shelf/edge wear, touch of wear to spine label, ex libris with minimal markings and an ownership plate, else tight, bright, and unmarred. Orange cloth boards, black spine label, gilt lettering. Very Good. No DJ. Hardcover. (#11080) \$450.00

*[Not in OOC] Includes more than 80 papers by a wide range of speakers from Austria, Belgium, Britain, Czechoslovakia, England, France, Germany, Italy, Sweden, Switzerland, the Soviet Union, the United States, and Yugoslavia. Very scarce.*

*Library marks of the US Patent Office (and deaccession stamp from the Library of Congress).*

*The First International Congress on Cybernetics was held in Namur, Belgium, 26-29 June 1956, and led to the formation of the International Association for Cybernetics [incorporated in 1957].*

2. Aiken, Thomas, et al; Artsbasheff [DJ illus]. **Description of a Magnetic Drum Calculator [together with] Time Magazine [Vol. LV, No. 4. 1950]**. Cambridge, MA: Harvard Univ. Press, 1952. First Edition. Light shelf/edge wear, small tide mark at bottom foreedge of both boards (not reflected on DJ/textblock), else tight, bright, and unmarred; DJ shows light shelf/edge wear, several small closed tears, two small chips at the bottom front corner and tail, else bright, and clean. 4to. 318pp. Appendix. Index. Very Good in Very Good DJ. Hardcover. (#11070) \$450.00



*Annals of the Computation Laboratory of Harvard University, Volume XXV.*

*A cornerstone work exploring Aiken's Harvard Mark III Calculator; developed for the US Navy. It was monumental in a number of ways, critically as the first machine that used 'constants' (fixed values that a program can reference and it was the first piece of hardware to run off an 'internal' program...what we now think of as an Operating System. In many ways, its creation can be seen as the dawn of the modern computing age in the US.*

Includes the very scarce “Artzyubasheff’s famous anthropomorphic” dust jacket [OOC 418]. Overall, a handsome copy of a work challenging to find in DJ. [OOC 420]

Includes Time Magazine with Mark III cover and anthropomorphic illustration.

3. Anonymous. **Recreations of a Philosopher [With Illustration of Babbage’s Difference Engine]**. New York: Harper’s New Monthly Magazine, 1864. First Edition. Light shelf/edge wear, small chip at top front corner tip, several small closed tears due to overlapped wrapper, light, even toning, else tight, bright and unmarred. Printed natural paper wrappers, black ink lettering and decorative elements. 8vo. 136pp plus adverts. Illus. (b/w plates). Very Good in Wraps. Original Wraps. (#11030) \$225.00

Entire issue in original wraps, good with very good illustration, subject article from pp. 34-39. [Not in OOC]

4. Appel, Richard W., et al. **Electronic Business Machines – A New Tool for Management. A Study of Developments in Electronic Business Machines and an Estimate of Their Present and Future Applications to Business**. Boston: Harvard, 1953. First Edition. Minimal shelf/edge wear, ex libris with light markings, entire binding protected by applied clear laminate, else tight, bright, and unmarred. Printed dark paper boards, black cloth spine, gilt lettering. 4to. 82pp. Bibliography. Very Good. Hardcover. (#11073) \$3,500.00

“A very early independent report . . . on the application of electronic computers to business needs.” [OOC 438] Submitted “in partial fulfillment of the requirements for the second-year course in Manufacturing at the Harvard Graduate School of Business Administration.” “A very early independent report written by people outside the computer industry on the application of electronic computers to business needs. When this report was published, no electronic digital computer had been delivered to an American corporation . . . . The first large general-purpose computers such as ENIAC and EDVAC were originally developed for scientific and engineering applications; the report discusses the necessity of modifying both computers and business procedures to take advantage of the great computing power and speed offered by the new machines. Chapter VI, titled ‘Business machines in 1970,’ attempts to predict the future evolution of business machines ‘as they relate to manufacturing companies, department stores, insurance companies, banks and public utilities’ (p. 37).” [OOC 438] “When this report was published, no electronic digital computer had been delivered to an American corporation (the first UNIVAC I delivered to a private rather than governmental customer was serial number 8, sold to

General Electric in 1954)...” [OOC] From Gutenberg to the Internet 10.4; Origins of Cyberspace 428.

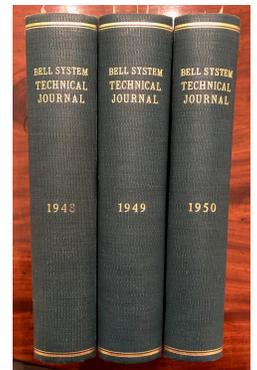
5. [Babbage, Charles]. **Mr. Babbage’s Calculating Machine [Chambers’ Edinburgh Journal, No. 134]**. Edinburgh: Chambers’ Edinburgh Journal, 1834. First Printing. Light even toning, minor tidemark near spine, disbound sheets, a couple small closed tears, two leaves chipped, two with very minor loss of text at bottom right corner, fragile, else clean. Printed pulp sheets. fo. [p240], 4 leaves total. Good. Sheets. (#11028) \$100.00

An early article about Babbage and his work...the first appears circa 1822. Article details the Difference Engine, exploring the difficulty of printing the resulting output accurately, and criticizing the failure to continue work on “this wonderful machine of Mr. Babbage.” [not in OOC]

6. Baehne, G.W. [ed] [Hurd, CC]. **Practical Applications of the Punched Card Method in Colleges and Universities**. New York: Columbia University Press, 1935. First Edition. Minor shelf/edge wear, gentle bump to middle of front board, ownership inscription at ffe, else tight, bright, and unmarred. Burgundy cloth boards, black ink spine label, gilt lettering, 4to. 442pp., Illus. (b/w plates). Near Fine. Hardcover. (#11152) \$325.00

This copy with ownership signature of C.C. Hurd on ffe. Hurd was an important IBM executive in the late 1930s and thereafter. [See, A History of Computing in the 20th Century] Hard to find in nice condition, this with an interesting provenance. “[A] major work, at the time, on the use of cards, primarily in scientific applications but also in administration.” [Cordata, 976]

7. Bardeen, John; Brattain, Walter; Shockley, William; Shannon, Claude; et al. **The Transistor and the Foundation of Modern Cryptography [Bell System Technical Journal] [Vol. 28]**. New York: American Telephone And Telegraph, 1949. First Edition. Minimal shelf/edge wear, else tight, bright, and unmarred. Blue cloth boards, gilt lettering. 8vo. 753pp. Illus. (b/w plates). Near Fine. Hardcover. (#11043) \$1,750.00



Includes:

- Shannon, “The Synthesis of Two-Terminal Switching Circuits” [not in OOC].
- Shannon, “Communication Theory of Secrecy Systems” [not in OOC].
- Bardeen & Brattain, “Physical Principles Involved in Transistor Action” [OOC 450].
- Shockley, “The Theory of p-n Junctions in

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*Semiconductors and p-n Junction Transistors*” [not in OOC].

Vol 28 is best known for No. 3, entirely devoted to the semiconductor/transistor. It includes articles by John Bardeen, Walter Brattain and William Shockley (jointly awarded the 1956 Nobel Prize in Physics for work on the subject). Other issues includes Claude E. Shannon's 'The Synthesis of Two-Terminal Switching Circuits', and Bardeen and Brattain's 'Physical Principles Involved in Transistor Action'.

However, it is worth noting that Shannon's "Communication Theory of Secrecy Systems", exploring cryptography as a function of information theory is monumental for modern crypto theory. It is "one of the foundation treatments (arguably THE foundational treatment) of modern cryptography. It is also a proof that all theoretically unbreakable ciphers must have the same requirements as the one-time pad [a secret random key used only once]" [Wikipedia] N.B. Shannon published an earlier iteration of this research in the classified report, "A Mathematical Theory of Cryptography (Memorandum MM 45-110-02, Bell Laboratory, 1945). [Shannon, Collected Papers, no. 25.40610]

8. Baxandall, David (ed.). **Catalogue of the Collections in the Science Museum, South Kensington, with Descriptive and Historical Notes and Illustrations. Mathematics 1. Calculating Machines and Instruments.** London: His Majesty's Stationery Office, 1926. First Edition. Hint of oxidation at staples, else tight bright and unmarred. Printed green wraps, black ink lettering. 8vo. 85pp plus plates. Illus. (b/w plates). Near Fine in Wraps. Original Wraps. (#11035) \$345.00

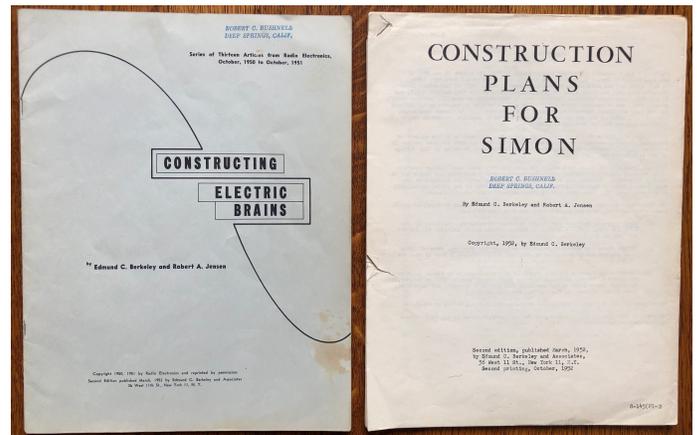
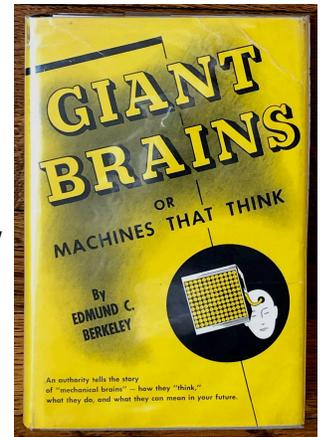
*"A well-annotated and well-illustrated historical catalogue, focusing primarily on European calculating machines and instruments from the seventeenth to the early twentieth centuries. . . . This remained the most useful and informative exhibition catalogue of early calculating instruments through the 1960s."* [OOC 222]

9. Berkeley, Edmund C. **Giant Brains or Machines That Think.** New York: John Wiley & Sons, 1949. First Edition. Minor shelf/edge wear, else tight, bright, and unmarred; DJ shows two small closed tears at top of both front and rear cover with related soft crease, soft [old] rumple to the top edge of front, else bright and clean. Grey cloth boards, blue ink lettering. 8vo. 270pp. Illus. (b/w plates). Index. Near Fine in Very Good DJ. Hardcover. (#11066) \$1,750.00

*First edition of "the first popular book on electronic computers,"* [OOC 463]

*True first edition (without the "Comments in 1961" on pp. 256-280).*

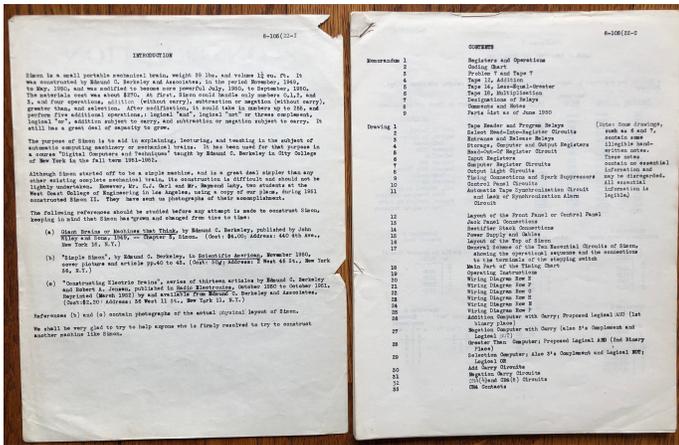
*"The first popular book on electronic computers . . . . When Giant Brains was published, electronic computers were virtually unknown to the general public. The few that existed were unique machines that belonged to the government . . . . Apart from occasional newspaper and magazine articles, there was virtually no information on electronic computers available for the nonspecialist reader. Berkeley's book was intended to explain a difficult subject to curious people, most of whom would probably never see an actual electronic digital computer. . . . Berkeley's book is written in a clear, easy-to-read style that remains quite accessible even after the passage of over fifty years."* [OOC 463]



10. Berkeley, Edmund, et al. **Construction Plans and Foundational Works on "Simon," the "First Personal Computer": Includes: "Simple Simon. A small mechanical brain..."** [together with] **"World's Smallest Electric Brain"** [together with] **Constructing Electric Brain** [together with] **"Construction Plans for Simon."** New York, etc.: Various, 1950-1952. First Editions; Second Edition for Instructions. Light shelf/edge wear to the two magazines; light shelf/edge wear, small stain, and ownership stamp to Const. Human Brains; front and last two leaves free at corner staple (but present), light even toning, small closed tear at left edge involving first 3 leaves, ownership stamp at front, else tight, bright, and unmarred. Original b/w or glossy color wraps. 4to. Var. pag. Illus. (color and b/w plates. Good+ to Very Good+. Original Wraps. (#11085) \$2,750.00

*Construction Plans and Foundational Works on "Simon," the "First Personal Computer" Edmund Berkeley's "Simon" computer "has been called the first personal*

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computer.” The following items include the fundamental materials that Berkeley used to explain Simon – and the rare plans and instructions sold to public hobbyists for building the machine.

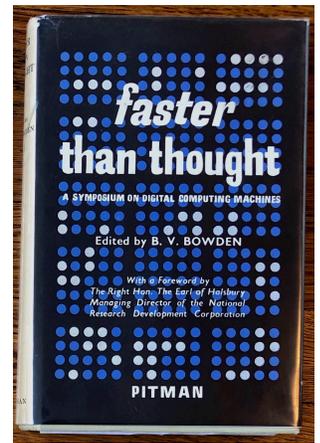
- Berkeley, Edmund C. “Simple Simon. A small mechanical brain that possesses the same fundamental characteristics as its larger relatives can explain in rudimentary fashion how they work.” *Scientific American*, November 1950, pp. 40-43. Entire issue, slightly creased, otherwise near fine. Berkeley’s article ends on a prophetic note: “Some day we may even have small computers in our homes, drawing their energy from electric-power lines like refrigerators or radios. . . . They may recall facts for us that we would have trouble remembering. They may calculate accounts and income taxes. Schoolboys with homework may seek their help. . . . We may find the future full of mechanical brains working about us.” (p. 42).

- Berkeley, Edmund C. & Robert A. Jensen, “World’s Smallest Electric Brain. Part I of a series of articles outlining principles and describing construction of electric and electronic computing devices.” *Radio-Electronics*, October 1950, pp. 29-30. Entire issue, spine somewhat worn, otherwise near fine. This is the first in a series of thirteen articles collected in the following publication.

- Berkeley, Edmund C. & Robert A. Jensen, “Constructing Electric Brain.” *Series of Thirteen Articles from Radio Electronics*, October 1950-October 1951. New York: Edmund C. Berkeley and Associates, 2nd ed., March 1952. [OOC 467.] With addenda page 32A inserted. Small stain on lower right and owner’s stamp on cover; otherwise near fine in original grey wraps. The first seven articles, pp. 1-21, describe the construction and working of Simon. The remaining six, pp. 22-36, provide general information on “Electric Brains,” including “SEAC, the 800-tube Thinking Machine” (article 13).

- Berkeley, Edmund C. & Robert A. Jensen, “Construction Plans for Simon.” New York: Edmund C. Berkeley and Associates, 2nd ed., March 1952, 2nd printing, October 1952. (Not in OOC.) Original reproduced typescript [mimeo], owner’s stamp on cover; staple rusting, first and final page detached, tear in left margin of first few pages, but all pages present and in good condition. This paper is extremely rare. None shown for sale online. WCAT shows 21 copies in libraries, but upon review, almost all of these are either missing or links to the eBook version online from the University of Michigan. The Michigan copy is also 2nd edition, March 1952, 2nd printing, October 1952. The only other likely originals are at NY Public Library and Berkeley, both shown as 2nd editions, 1952, without printing information.

11. Bowden, B[ertram] V[ivian], ed. **Faster Than Thought. A Symposium on Digital Computing Machines.** London: Sir Isaac Pitman & Sons, 1953. First Edition. Minor shelf/edge wear, bump to front board near head, else tight, bright, and unmarred; DJ shows minor shelf/edge wear, light toning to spine and rear, else bright, and clean. Pale green boards, gilt lettering, frontispiece. 8vo. 416pp. Illus. (b/w plates). Very Good+ in Very Good DJ. Hardcover. (#11071) \$475.00



“The most widely read early English introduction to electronic computing,” [OOC 504] True first edition (with Chapter 17 misattributed to Wilkes on p. xvi).

“This work became the most widely read early English introduction to electronic computing, remaining in print without changes as late as 1968. . . . The work contains much information on Babbage (including a reprint of the Lovelace translation of Menabrea’s paper) and chapters on British computer projects of the 1940s and early 1950s. Among the twenty-four computer experts who contributed papers to his book were Alan Turing (‘Digital computers applied to games’), . . . [regarding] his moderately successful work on programming the Manchester machine to imitate human thought processes, in this case game-playing. He described the first machine capable of playing a complete game of chess.” [OOC 504]

12. Burks, Arthur W. “Electronic Computing Circuits of the ENIAC.” [Proceedings of the I.R.E., Vol. 35, No. 8]. New York: Proceedings of the Institute of Radio

Engineers, 1947. First Edition. Light shelf/edge wear, touch of foxing at the front wrapper, small owner address sticker, else tight, bright, and unmarred. Printed paper wrappers. 4to. 70pp. plus adverts. Illus. (b/w plates). Very Good-. Original Wraps. (#11063) \$750.00

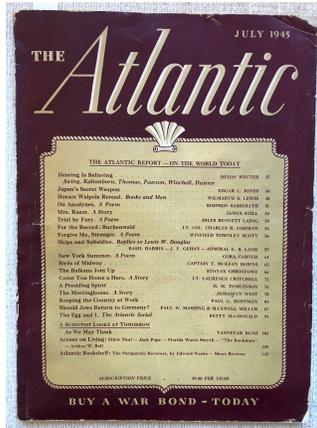
Subject text at: 756-767pp.

Burks was a senior engineer on the team that developed the ENIAC, the world's first general-purpose electronic computer. A rather monumental paper: "The ENIAC performs the operations of addition, subtraction, multiplication, division, square-rooting, and the looking up of function values automatically. ... The technique of combining the basic electronic circuits to perform these functions is illustrated by three typical computing circuits: the addition circuit, a programming circuit, and the multiplication circuit" [p. 756].

13. Bush, Vannevar & S. E. Caldwell. **A New Type of Differential Analyzer [Journal of the Franklin Institute. Vol. 240, No. 4].** Franklin Institute, 1945. First Edition. Light wear to spine, small closed split at tail, else tight, bright, and unmarred. Grey Printed wrappers. 8vo. 255-346pp plus adverts. Illus. (b/w plates). Very Good in Wraps. Original Wraps. (#11051) \$175.00

First paper presented; entire volume included. [not in OOC]

14. Bush, Vannevar. **As We May Think. [Atlantic Monthly, Vol. 176, No. 1].** Atlantic Monthly, 1945. First Edition. Bush, Vannevar, "As We May Think," in Atlantic Monthly, v. 176, n.1, July 1945. Entire issue, slight wear to cover and spine, very good in original wraps. Light shelf/edge wear, small chip at top front top corner, else tight, bright, and unmarred. Glossy printed wrappers. 4to. Illus. (color and b/w plates). Very Good in Wraps. Original Wraps. (#11050) \$3,500.00



This article embodied the idea of hypertext and, effectively, the function of the internet. "A remarkable early expression of ideas that were eventually realized in a different way on the Internet." [OOC 519]

"Wholly new forms of encyclopedias will appear, ready-made with a mesh of associative trails running through them, ready to be dropped into the memex and there amplified... Thus science may implement the ways in which man produces, stores, and consults the record of the race." [Bush]

"The vision of the Internet and World Wide Web goes back to an article by Vannevar Bush in the 1940s. Bush outlined his vision of an information management system called the memex (memory extender) in a famous essay "As we may think." He envisioned the memex as a device electronically linked to a library and able to display books and films. It describes a proto-hypertext computer system and influenced the development of hypertext systems." [O'Regan, Giants of Computing (2013), p. 61]

"Bush's article describes his proposed Memex system for organizing, storing, retrieving, and linking information. . . . Bush conceived of the Memex as consisting of a desk equipped with projection screens, buttons and levers, a keyboard, and a storage system designed to provide instant access to microfilmed books, periodicals, documents, photographs, etc. The Memex system would allow pieces of data to be linked into permanent 'information trails' dictated by the individual user's needs, which could be called up again and modified at any future date . . . . Only after the development of the personal computer and hyperlinks on the World Wide Web was Bush's paper resurrected as a remarkably early expression of ideas that were eventually realized in a different way on the Internet." [OOC 519]

15. Bush, Vannevar. **The Differential Analyzer. A New Machine for Solving Differential Equations. [Journal of the Franklin Institute. Vol. 212, No. 4].** Philadelphia, PA: Journal of the Franklin Institute, 1931. First Edition. Minor shelf/edge wear, ownership plate at front pastedown, discrete library marks at title page (small stamp and emboss), else tight, bright, and unmarred. Brown buckram binding, gilt lettering, printed paper endpages. 8vo. 816pp plus adverts (subject paper pp 447-488). Illus. (b/w plates). Index. Two laid in cigarette cards: "Super Calculating Machine" and "The Manchester University Robot" (both with an image on one side and text on the other). Very Good+. Hardcover. (#11048) \$2,000.00

"The most powerful computing machine prior to the electronic digital computer. . . . Bush invented an elegant, dynamical, mechanical model of the differential equation. . . . The differential analyzer proved so useful that copies were built at the University of Pennsylvania, the General Electric plant in Schenectady, New York, and the Ballistics Research Laboratory at the Aberdeen Proving Ground, as well as many other places in Europe and America. In England, Douglas Hartree built a small model of the analyzer . . . which gave results with a two percent margin of error." [OOC 244]

"The differential analyzer was an analog computer developed by Vannevar Bush (1931), who was interested in developing machines that expressed information in

terms of physical measures, such as the turning of a shaft (Zachary, 1997). Work on the differential analyzer was begun in 1928, and it was completed in 1931 at a cost of \$25,000. It was MIT's first computer. The purpose of the differential analyzer was to solve differential equations. The differential analyzer was a set of electric motors that drove a series of gears and shafts; the moving components represented the values of different values in a differential equation of interest, and physical connections amongst the components were physical implementations of relationships amongst mathematical variables.

"Calculations were carried out by brute force. Metal clanked against metal until a solution arrived" (Zachary, 1997, p. 51)." [Dictionary of Cognitive Science]

16. Bush, Vannevar. **Instrumental Analysis [Bulletin of the American Mathematical Society. Vol. 42, No. 10]**. American Mathematical Society, 1936. First Edition. Minor shelf/edge wear, hint of toning at spine, soft crease at front wrapper, else tight, bright, and unmarred. Printed pale grey wrappers, black ink. 8vo. 649-740pp plus adverts. Near Fine in Wraps. Original Wraps. (#11049) \$450.00

The subject paper spans pp. 649-669, presented here as part of the complete volume. [OOC 245]

"Bush was a significant figure in computer science. In 1930, he invented the 'Differential Analyzer,' the most powerful general purpose analog computer of its time, and during WWII, he served as a key scientific advisor to the government. Bush is most famous among computer scientists for an article he published in 1945 describing a theoretical machine called a 'memex' that would provide linked access to a vast array of human knowledge; his article today reads like an uncanny foreshadowing of hypertext and the internet itself."

"Bush's 1936 paper, entitled 'Instrumental Analysis,' given as the American Mathematical Society's Gibbs Lecture that year, was an excellent survey of both analog and digital calculating devices. It included several references to Charles Babbage's work and in particular to the collection of papers published by Babbage's son (1889). The section on digital devices concluded with a discussion of how it might be possible to devise a programmable master controller that would turn a set of existing IBM punched-card machines into, effectively, what Bush described as "a close approach to Babbage's large conception." [In many ways, of course, this is exactly what Aiken, starting in 1937, convinced IBM to do, thus starting a project that led to the successful completion in 1944 of the first US program-controlled calculator, the Harvard Mark I.] [J. A. N. Lee, *Computer Pioneers*]

17. Carr, John W. & Norman R. Scott [eds]. **Notes on Digital Computers and Data Processors Prepared for Special Summer Conferences at the University of Michigan**. Michigan: University of Michigan College of Engineering, 1956. First Edition. Light shelf/edge wear, ex libris with minor related markings, gilt toned, else tight, bright, and unmarred. Burgundy cloth boards, gilt lettering. 4to. Var. pag. Very Good. Hardcover. (#11075) \$450.00

University of Michigan Special Summer Conference. [OOC 950] Scarce.

18. Casey, Robert S.; Perry, James W. [eds]. **Punched Cards. Their Application to Science and Industry**. New York: Reinhold Publishing Corporation, 1951. First Edition. Minor shelf/edge wear, else tight, bright, and unmarred; DJ shows light, even toning/sunning with one square area at the rear lighter, else clean. Mustard cloth boards, gilt lettering. 8vo. 506pp. Illus. (b/w plates). Index. Bibliography. Very Good in Very Good+ Dustjacket. Hardcover. (#11153) \$345.00

A handsome copy of a relatively early computing reference with nice, detailed bibliography. Scarce generally, rare in original DJ.

19. Dantzig, George. [**The Origins of Linear Programming] Maximization of a Linear Function of Variables Subject to Linear Inequalities [together with] Linear Programming [together with] An Introduction to Linear Programming**. Washington DC/ New York: US Dept of Commerce; John Wiley & Sons, 1947-1951. First Edition(s). Minor shelf/edge wear, book shows a bit of wear at head and tail and toning to gilt, else tight, bright, and unmarred. Blue cloth boards, gilt lettering; printed paper wraps in natural and grey. 8vo/4to. 404pp plus index; 21pp; 74pp. Illus. (b/w plates). Very Good. Hardcover & Original Wraps. (#11062) \$1,450.00

• Dantzig, George, "Maximization of a Linear Function of Variables Subject to Linear Inequalities." In Koopmans, Tjalling C., ed., *Activity Analysis of Production and Allocation: Proceedings of a Conference*. New York: John Wiley & Sons, 1951, pp. 339-347. "Dantzig's paper, originally written in 1947 but not published until 1951, was a fundamental application of computers to problems of management and economics." [OOC 561, p 349]

• Dantzig, George, "Linear Programming," in *United States Department of Commerce, National Bureau of Standards, Problems for the Numerical Analysis of the Future. Proceedings of a Symposium Held July 29-31, 1948, at the University of California, Los Angeles*. Washington, D.C.: Government Printing Office, 1951, pp.

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18-21. *National Bureau of Standards Applied Mathematics Series 15*. [Not in OOC]

• Charnes, A., W.W. Cooper & A. Henderson, *An Introduction to Linear Programming*. New York: John Wiley & Sons, Inc., 1953.

20. Dodd, George. **Dodd's Curiosities of Industry**. London: H. Lea, [1852]. First Edition. Light shelf edge wear, head tender, hinges cracked but sound, Two ownership bookplates at front pastedown plus two small paper stamps, several small moisture stains, careful repair to a small tear on the verso of the frontispiece, else tight, bright, and unmarred. Original green cloth binding, gilt lettering and decorative elements, in blind decorative elements, frontispiece. 8vo. var. pag. Illus. (b/w plates). Very Good. Hardcover. (#11029) \$1,750.00

*First edition, with 12 papers rather than the reissue [OOC 70] with 16. Each paper of 24pp. "The article on 'Calculating and registering machines' contains an account of Babbage's Difference Engine no. 1 and a brief notice of the Analytical Engine." [OOC 69][See gen: Origins of Cyberspace 70]*

21. Eccles, W. H.; Jordan, F. W. **A Trigger Relay Utilizing Three-Electrode Thermionic Vacuum Tubes [Vol 1, No. 3] [Invention of the Flip-Flop Circuit]**. The Radio Review, 1919. First Edition Thus. Light to moderate shelf/edge wear, some wear through at hinges, discrete library mark at tail and elsewhere at preliminaries, ex libris, else tight, bright, and unmarred. Red cloth boards, gilt lettering. 8vo. 804pp. All of Vol. 1. Very Good. Hardcover. (#11034) \$245.00

*Subject article at pp. 143-146. First published in The Electrician, September 19, 1919, reprinted in its entirety here in December, 1919. "With the invention of electronic computing using vacuum tubes as switches, flip-flops became the basic storage element in sequential logic used in digital circuitry, and the basis for electronic memory." [History of Information] [Not in OOC]*

22. Eckert, W.J. **Punched Card Methods in Scientific Computation**. New York: Thomas J. Watson Astronomical Computing Bureau Columbia University, 1940. First Edition. Light shelf/edge wear, else tight, bright, and unmarred. Orange cloth boards, black ink lettering. 8vo. 136pp. Illus. (b/w plates). Index. Near Fine. No DJ.. Hardcover. (#11151) \$445.00

*The first book on the use of punch card computing in scientific research. The adoption of punch card computational equipment radically extended the market for computers and laid the groundwork for the development of electronic computing. "Eckert developed methods for IBM, who funded the Astronomical Computing Bureau at Columbia and published his book.*

*Eckert's influence in the direction of science computers was the key factor in IBM's later success in the computing field." [Goldstine, 107-110]*

23. Eckert, Wilkes, et al. **Sammelband of the First Four U.S. Symposia on Digital Computing, 1951-1953**. New York: American Institute of Electrical Engineers, 1952-3. First Edition. Minor shelf/edge wear, touch of sun at spine, else tight, bright, and unmarred. Blue cloth boards, red spine label, gilt lettering. 4to. 114; 142; 1568; 125pp. Illus. (b/w plates). Bound in a blue cloth, spine labelled "Electronic Digital Computers" and "A.I.E.E.," wraps not bound in. Very Good. Hardcover. (#11069) \$1,250.00

*Scarce individually, this sammelband includes:*

• "Review of Electronic Digital Computers. Joint AIEE-IRE Computer Conference. Papers and Discussions presented at the Joint AIEE-IRE Computer Conference, Philadelphia, PA., December 10-12, 1951." (OOC 740) Eighteen papers by Eckert, Wilkes and many others, including "The UNIVAC System," "Performance of the UNIVAC System," "The operation and Logic of the Mark III Electronic Calculator in View of Operating Experience," "The EDSAC Computer," and "The Transistor as a Digital Computer Component."

• "Review of Input and Output Equipment Used in Computing Systems. Joint AIEE-IRE-ACM Computer Conference, New York, N. Y., December 10-12, 1952." (OOC 740)

• "The Computer Issue," *Proceedings of the I.R.E., Vol. 41, No. 10, October, 1953. Forty-one papers by Eckert, Mauchly, Hopper, Shannon, Wilkes, etc. (OOC 675 and nine specifically cited references.)*

• "Proceedings of the Eastern Joint Computer Conference. Theme: Information Processing Systems – Reliability and Requirements. Papers and Discussions presented at the Joint IRE-AIEE-ACM Computer Conference, Washington, D. C., December 8-10, 1953." (OOC 740)

24. Feindler, Robert. **Das Hollerith-Lochkarten-Verfahren für maschinelle Buchhaltung und Statistik. [The Hollerith Punch Card Method for Machine Accounting and Statistics]**. Berlin: Verlag von Reimar Hobbing, 1929. First Edition. Minor shelf/edge wear, light sunning, ex libris with related marks/stamps, professionally applied and mounted protective acetate wrapper over boards, else tight, bright, and unmarred. Green cloth boards, black ink lettering. 8vo. 425pp. Illus. (b/w plates). Index. Very Good. Hardcover. (#11154) \$150.00

*Text in German. Ex libris markings notwithstanding, a very presentable copy of an early and important work on the application of punch card accounting. Very scarce.*



25. Fox, Gardner F. & E. E. Hibbard. **The Flash and the Case of The Machine That Thinks Like a Man.** [Flash Comics No. 52] [together with] **Captain Marvel Tangles with the Missing Persons Machine!** [Whiz Comics No. 60]. 1944. Flash: Minor shelf/edge wear, closed split at spine, rubber stamp 'E' near foredge in yellow space, minor even toning, else tight, bright, and unmarred. Cpt. Marvel: light shelf/edge wear, discrete distributor stamp at rear wraps, two small, closed tears at top edge, one with related soft crease, light even toning, else tight, bright, and unmarred. Color printed wraps. 4to. np. Illus. (color plates). Very Good to Very Good+. Original Wraps. (#11084) \$750.00

*Includes:*

- Fox, Gardner F. & E. E. Hibbard, "The Flash and the Case of The Machine That Thinks Like a Man." *Flash Comics No. 52, April 1944.* The machine is "controlled by four electronic tubes," and it uses "discs" to store "all knowledge known to mankind. . . . It functions as does the human brain, with its discs acting as a storehouse of the world's 6 information." "Evart Keenan returns from his planet of Karma to visit Jay and give him a gift. Keenan gives The Flash a mechanical brain, unaware that it holds the key to destroy the Flash."
- Unknown, "Captain Marvel Tangles with the Missing Persons Machine!" *Whiz Comics No. 60, November 1944.* This machine is a "filing system for missing persons." Just "punch the buttons according to the description of the missing person and a card will come out telling . . . where to find him."

26. Hamming, R. W. "Error Detecting and Error Correcting Codes" [Bell System Technical Journal] [Vol. 29, No. 2]. New York: American Telephone And Telegraph, 1950. First Edition. Light shelf/edge wear, light toning to spine, light wear at head and tail, ownership stamp at bottom of front wrapper and date at top, else tight, bright, and unmarred. 8vo. 147-293pp. Illus. (b/w plates). Very Good in Wraps. Original Wraps. (#11037) \$500.00

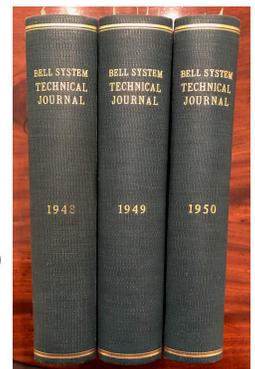
"In 1947, frustrated when a failure in one of Bell Lab's relay computers had spoiled a run of data, Hamming began developing the first error-correction codes (now known as Hamming codes), which enabled computers to find and correct single errors in a stretch of data, as well as to discover double errors. Error correction has since been developed into a scientific discipline used in everything from extracting data transmitted from space probes, to recovering jammed communications, to guaranteeing high-quality music from a compact disk (Lee 1995, 361)." [OOC 646]

Hamming's paper defined a method for correcting errors in block packages of transmitted data. "He further showed that, in a mathematical sense, these error correcting codes are the best possible codes [known also as 'perfect codes'; there are none shorter" (A. M. Turing Award Portal). Hamming was awarded the A. M. Turing Award in 1968.

Before working at Bell, Hamming had been part of the Manhattan Project. "Hamming was the first coding theorist to attract widespread interest in his work" [OOC 646]. "It was an event in 1947 that prompted Hamming to undertake his most famous piece of work. One Friday, while working for Bell Laboratories, he set their pre-computer calculating machines to solving a complex problem and expected the result to be waiting for him when he began work on the following Monday. But when he arrived on Monday, he found that an error had occurred early on in the calculations and the relay-based calculators had been unable to proceed" [Turing Award Portal]. "Hamming began developing the first error-correction codes (now known as Hamming codes), which enabled computers to find and correct single errors. Error correction has since been developed into a scientific discipline used in everything from extracting data transmitted from space probes, to recovering jammed communications, to guaranteeing high-quality music from a compact disk" [OOC].

A fundamental paper defining idea of error correction in communication and computer systems.

27. Hamming, Shannon, Bardeen, et al. **Bell System Technical Journal** [Vol. 29]. New York: American Telephone And Telegraph, 1950. First Edition. Minimal shelf/edge wear, else tight, bright, and unmarred. Blue cloth boards, gilt lettering. 8vo. 675pp. Fine. Hardcover. (#11044) \$650.00



This volume of BSTJ included some monumental papers, including:

- Hamming, "Error Detecting and

## HISTORY OF COMPUTING 2023

*Error Correcting Codes*” (OOC 646)

• Shannon, “Memory Requirements in a Telephone Exchange” (OOC 883).

• Bardeen, “Theory of Relation Between Hole Concentration and Characteristics of Germanium Point Contacts” (not in OOC).

“In 1947, frustrated when a failure in one of Bell Lab’s relay computers had spoiled a run of data, Hamming began developing the first error-correction codes (now known as Hamming codes), which enabled computers to find and correct single errors in a stretch of data, as well as to discover double errors. Error correction has since been developed into a scientific discipline used in everything from extracting data transmitted from space probes, to recovering jammed communications, to guaranteeing high-quality music from a compact disk (Lee 1995, 361).” [OOC 646]

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Before working at Bell, Hamming had been part of the Manhattan Project. “Hamming was the first coding theorist to attract widespread interest in his work” [OOC 646]. “It was an event in 1947 that prompted Hamming to undertake his most famous piece of work. One Friday, while working for Bell Laboratories, he set their pre-computer calculating machines to solving a complex problem and expected the result to be waiting for him when he began work on the following Monday. But when he arrived on Monday, he found that an error had occurred early on in the calculations and the relay-based calculators had been unable to proceed” [Turing Award Portal]. “Hamming began developing the first error-correction codes (now known as Hamming codes), which enabled computers to find and correct single errors. Error correction has since been developed into a scientific discipline used in everything from extracting data transmitted from space probes, to recovering jammed communications, to guaranteeing high-quality music from a compact disk” [OOC].

There are, in addition, important papers by Shannon, Bardeen/Cooper/Schreiffner [work for which they won the 1972 Nobel Prize in Physics], and others. A very handsome copy.

28. Harrison, Paul F. **Electronic Computers and Possible Applications to Bank Accounting.** New York: Self-published, 1955. Light shelf/edge wear, back wrappers shows closed tear near bottom edge and chip near top front corner, minor toning throughout, else tight, bright and unmarred. Black cardstock wrappers, metal-

strip binding. 4to. 117pp. Bibliography. Very Good. Cardboard Covers. (#11089) \$150.00

*Otherwise Unknown Typescript on Computer Bank Accounting. This is Harrison’s thesis as part of his MBA studies at NYU [Student Copy of his transcript laid in]. Original typescript with numerous original banking forms bound in as exhibits.*

*Interesting to consider with “A very early independent report . . . on the application of electronic computers to business needs,” 1953 [OOC 438].*

29. Hartley-Smith, Sydney. **Mechanical Methods of Calculation.** London: The Draughtsman Publishing Co., 1947. First Edition. Minor shelf/edge wear, light even toning to wrappers, minor foxing throughout, else unmarred. Tan printed paper wraps, black ink lettering. Small 8vo. 48pp plus adverts. Illus. Very Good in Wraps. Original Wraps. (#11146) \$75.00

*Scarce.*

30. Hartree, D. R. **Calculating Machines: Recent And Prospective Developments And Their Impact On Mathematical Physics.** Cambridge: Cambridge University Press, 1947. First Edition. Cloth tape reinforcing spine, ownership signature at front wrapper, stamped number at bottom right for title page, two-hole punched, holes neatly covered on front and back cover by cloth tape, else tight, bright, and unmarred. Original light brown wraps, dark red ink lettering. 12mo. 40pp. Illus. [b/w plates]. References. Very Good in Wraps. Original Wraps. (#11057) \$750.00

*First printing of Hartree’s famous inauguration speech, as issued. “[T]he first booklet on electronic computers separately published by a conventional publisher; and also one of the earliest discussions of how these machines could be used in scientific calculations ... Hartree reported his experiences with ENIAC and touched upon the possible future applications of large general-purpose computers in science, medicine and economics”. [Origins of Cyberspace 649] This work marks tipping point between computers being an academic and scientific curiosity to a tool which would revolutionize scientific research and the world as a whole. “This can be seen as the start of Hartree’s work on bringing computers and their potential to the attention of the scientific community.” [Dictionary of Scientific Biography].*

*[N.B. Published in 1947, there is an interesting question as to whether Hartree knew of the classified work done at Bletchley park and the creation and use of the Colossus machines for code-breaking purposes...however, he certainly moved in social and scientific circles which suggest he might.] Uncommon generally, scarce as issued and found here.*

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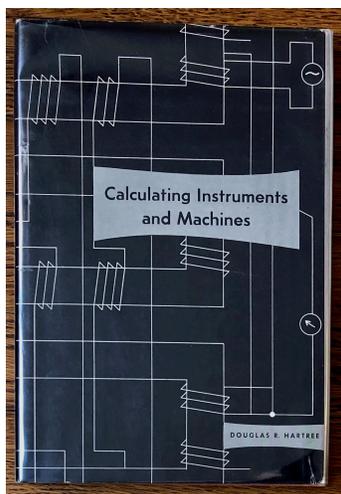
31. Hartree, D. R. **Recent Developments in Computing Machines** [Journal of Scientific Instruments. Vol. 24, No. 7]. London: Journal of Scientific Instruments, 1947. First Printing. Minor shelf/edge wear, library bookplate and 'withdrawn' stamp at front pastedown, entire volume bound together in library binding, else tight, bright, and unmarred. Dark brick/brown cloth boards, gilt lettering. 4to. 344pp. Illus. [b/w plates] Near Fine. Hardcover. (#11052) \$225.00

*Article on pp. 172-176. Entire volume 24 bound together. Includes material on ENIAC. [not in OOC]*

32. Hartree, D. R. **Recent Developments in Computing Machines.** [Journal of Scientific Instruments. Vol. 24, No. 7]. London: Journal of Scientific Instruments, 1947. First Edition. Light shelf/edge wear, else tight, bright, and unmarred. Printed paper wraps. 4to. 169-196pp plus adverts. Illus. (b/w plates). Near Fine in Wraps. Original Wraps. (#11088) \$245.00

*Subject article spans pp 172-176, in original wraps as issued. Includes material on ENIAC. [Not in OOC]*

33. Hartree, Douglas R. **Calculating Instruments and Machines.** Urbana: University of Illinois Press, 1949. First Edition. Minimal shelf/edge wear, else tight, bright, and unmarred; DJ shows minor shelf/edge wear, one small closed tear, else bright and clean. Orange cloth boards, black ink lettering. 8vo. 138pp. Illus. (b/w plates). Fine in Near Fine DJ. Hardcover. (#11065) \$750.00



*“The first comprehensive exposition of electronic digital computing.” [OOC 652]  
“These lectures were intended for a well-informed scientific audience outside the tiny group of professionals then involved with electronic computing. They represented the first comprehensive exposition of electronic digital computing, and this book was one of the first two treatises on the subject. The other book, Edmund Berkeley’s Giant Brains or Machines That Think was written for a more popular audience and achieved greater sales. . . . Chapter 8, entitled ‘Projects and prospects,’ contains the first generally available comprehensive account of the stored-program machines then in development, including EDVAC, ACE, and EDSAC.” [OOC 652]*

34. Horsburgh, E. M. [ed]. **Modern Instruments and Methods of Calculation. A Handbook of the Napier Tercentenary Exhibition [together with Babbage Institute Reprint].** London: G. Bell and Sons, Ltd. & The Royal Society of Edinburgh, nd [circa 1914]. First Trade Edition. Minor shelf/edge wear, evening toning to spine (as is typical), gilt toned, ownership signature at ffp, else tight, bright, and unmarred. Green cloth boards. Small 4to. (#11032) \$750.00

*“A celebration of Napier’s pivotal role in the history of calculation, the exhibition featured displays of many different types of calculating machines, as well as exhibits of other aids to calculation such as mathematical tables, the abacus and slide rules, planimeters and other integrating devices, and ruled papers and nomograms. These are described in the Handbook to the exhibition, which contains separate sections, with chapters by various contributors, devoted to each type of calculating device.” [OOC 322][N.B. This is the first trade edition, OOC 323]*

*WITH: Horsburgh, E. M. (ed.), Handbook of the Napier Tercentenary Celebration, or, Modern Instruments and Methods of Calculation. The Charles Babbage Institute Reprint Series for the History of Computing, vol. III. Los Angeles: Tomash Publishers, 1982. Fine, in fine original slipcase.*

35. International Business Machines Corporation. **Machine Methods of Accounting. A Manual of the Basic Principles of Operation and Use of International Electronic Bookkeeping and Accounting Machines [Comprehensive Compendium of IBM Machine Accounting in the 1930s].** New York: IBM, 1936-40. First Edition Revised/With Additions. Light shelf/edge wear, gilt toned, ownership signature at bastard title page, else tight, bright, and unmarred. Black pebbled cloth boards, gilt lettering and decorative elements, stiff black endpages. 4to. var. pag. Illus. (b/w plates) Very Good+. Hardcover. (#11036) \$2,500.00

*24 separately paginated pamphlets plus [8]pp. preliminaries \*and\* including the 1942 pamphlet 19A 'Automatic Reproduction Punch / Type 513' [not indicated on 24 pamphlet list], all bound together as provided to the customer. This copy issued to the Amicable Life Insurance Company (founded in Waco, TX. 1910). 1936 copyright for all pamphlets except 20A (1940) and 19A (1942) Includes numerous illustrations and diagrams.*

*This book was one of the "key publications from IBM". [Cortada, Before the Computer, 307]  
“Primarily, this book was written to provide a single volume from which employees of International Business Machines Corporation may thoroughly familiarize themselves with the complete list of bookkeeping and*

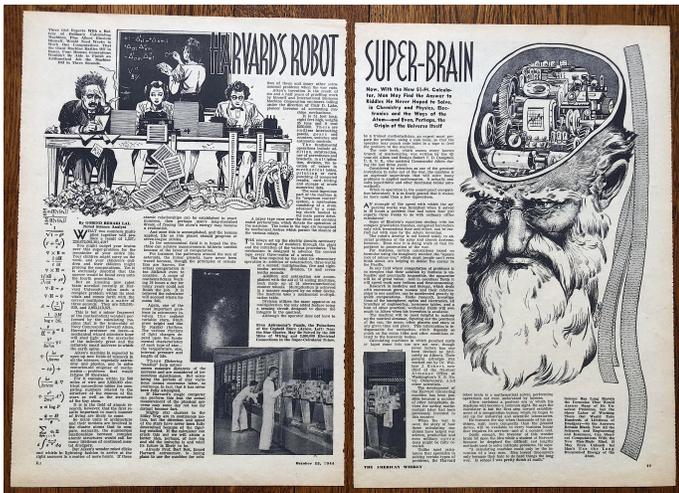
accounting machines manufactured by their Company, and with the operation of such machines of furnishing figure-facts automatically" [from preliminaries, p [6]] The first section, 14 pages, is devoted to the history of IBM, and sections 2 through 8 provide background on principles, the punch card, codes, organization, supervision, training, and controls. The remaining sections illustrate and explain numerous machines and their operation. Originally issued with 23 sections; this version was updated in 1940 and 1942 with two additional sections (19a and 20a) bringing the volume current.

Uncommon generally, scarce as nice as is found here.

36. Knott, Cargill Gilston [ed]. **Napier Tercentenary Memorial Volume.** London: Published for the Royal Society of Edinburgh by Longmans, Green, 1915. First Edition. Minimal shelf/edge wear, very light even toning to binding, else tight, bright, and unmarred. Cream cloth binding, gilt lettering, color frontispiece. 4to. 441pp. Illus. (color and b/w plates). Index. Near Fine. Hardcover. (#11033) \$325.00

"An elegantly printed collection of addresses and essays delivered at the Napier tercentennial celebration, along with a bibliography of the books exhibited there. The essays concerned either Napier's life and work or developments in calculating since Napier." [OOC 331]

A challenging book to find in good condition as the binding is prone to discoloration. A handsome copy.



37. Lal, Gobind Behari. **"Harvard's Robot Super-Brain"** The American Weekly, 1944. Light even toning, disbound, else bright and clean. Printed pulp sheets. 4to. pp. 16-17. Illus. (b/w plates). Good+. Sheets. (#11083) \$200.00

This article presents an accurate scientific discussion of the newly-disclosed Harvard Mark I Calculator (with a photo) alongside fanciful cartoon drawings and

exuberant prose. ("Three Girl Experts With a Battery of Ordinary Calculating Machines, Plus Albert Einstein Himself, Would Need Weeks to Work Out Computations That the Giant Machine Rattles Off in Hours.") "In 1936, Howard Aiken was a graduate student working on his dissertation in physics at Harvard. Because the state of the art computer machinery of the time - Vannevar Bush's analog differential analyzer at MIT - could not make the complex computations facing Aiken, he set out the broad outline of a large-scale digital computer and proposed that the Harvard physics department undertake its construction. Although Harvard and others demurred, by 1939 Aiken had convinced IBM to support the ambitious project with substantial funds and a distinguished team of engineering experts. The Mark I ("Automatic Sequence Controlled Calculator") was completed and tested in secret in 1943 and installed on the Harvard campus in 1944. It was an electro-mechanical calculator of unprecedented size, accuracy and complexity. Once a program was successfully written and input to the Mark I (on punched paper tape), the calculator ran without interruption through the programmed sequence of calculations - sometimes for days when making repetitive computations for mathematical tables. When the Mark I was revealed to the public at a formal "dedication" on August 7, 1944, it "captured the imagination of the public to an extraordinary extent and gave headline writers a field day." [Cambell-Kelly, Computer: A History of the Information Machine.] "Actual witnesses to the developments of the mid 1940's...agree that its dedication inaugurated the computer age." [Cohen, Howard Aikin: Portrait of a Computer Pioneer, 1999, p303]

38. **The Macy Foundation Seminal Conferences on Cybernetics, 1949-1953 [Set of All Published Proceedings].** New York: Macy Foundation, 1950-1955. First Edition. Minor shelf/edge wear, wraps copy shows evening toning to wrappings, else tight, bright, and unmarred; DJs show light shelf/edge wear, minor rubbing/chips, else bright and clean. Green cloth boards, gilt lettering. 8vo. var pag. Illus. (b/w plates). Near Fine to Very Good+ in Very Good DJs. Hardcover/Original Wraps. (#11078) \$1,250.00

The Macy Foundation Seminal Conferences on Cybernetics, 1949-1953 (the only five published)

"The Josiah Macy, Jr., Foundation sponsored a remarkable series of interdisciplinary conferences from 1946 through 1953 promoting open-ended discussion under the wide umbrella of "Cybernetics. Circular Causal, and Feedback Mechanisms in Biological and Social Systems." The members of the Cybernetics group "represented the fields of electrical engineering, mathematics, sociology, anthropology, psychology, psychiatry, biology, physiology, anatomy, zoology."

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*Review of Activities, infra, 21. There were ten such conferences, five in 1946-1948, and five more annually from 1949-1953. The conferences were intended to be informal and unscripted, and the first five were not transcribed and published. Beginning with the sixth conference in 1949, the proceedings were transcribed, edited, and published. This is a set of all five published conferences.*

*Participants in these conferences included, among others, Ross Ashby, Yehoshua Bar-Hillel, Donald MacKay, Warren McCulloch, Margaret Mead, Oskar Morgenstern, Walter Pitts, Arturo Rosenblueth, Claude Shannon, Heinz von Foerster, John von Neumann, Grey Walter, Norbert Wiener, and Jerome Wiesner. "Von Neumann and Wiener were the dramatic costars of the meetings, and the differences in their personal style became part of the excited and dramatic debates that characterized the formative years of cybernetics." [Rheingold, Howard. Tools for Thought. The History and Future of Mind-Expanding Technology. Cambridge, MA: MIT Press 2000, p. 109] These proceedings "ultimately laid the groundwork for much of the future research on a diverse range of sciences, from biological physics to computer science." [NY Times, November 9, 2002, p. 20]*

- von Foerster, Heinz, ed. *Cybernetics. Circular Causal, and Feedback Mechanisms in Biological and Social Systems. Transactions of the Sixth Conference. March 24-25, 1949, New York, N.Y. New York: Josiah Macy, Jr. Foundation.*
- von Foerster, Heinz, ed. *Cybernetics. Circular Causal, and Feedback Mechanisms in Biological and Social Systems. Transactions of the Seventh Conference. March 23-24, 1950, New York, N.Y. New York: Josiah Macy, Jr. Foundation, 1951.*
- von Foerster, Heinz, ed. *Cybernetics. Circular Causal, and Feedback Mechanisms in Biological and Social Systems. Transactions of the Eighth Conference. March 15-16, 1951, New York, N.Y. New York: Josiah Macy, Jr. Foundation, 1952.*
- von Foerster, Heinz, ed. *Cybernetics. Circular Causal, and Feedback Mechanisms in Biological and Social Systems. Transactions of the Ninth Conference. March 20-21, 1952, New York, N.Y. New York: Josiah Macy, Jr. Foundation, 1953.*
- von Foerster, Heinz, ed. *Cybernetics. Circular Causal, and Feedback Mechanisms in Biological and Social Systems. Transactions of the Tenth Conference. April 22, 23, and 24, 1953. New York, N.Y. New York: Josiah Macy, Jr. Foundation, 1955.*

*[together with] - The Josiah Macy, Jr. Foundation. 1930-1955. A Review of Activities. New York: The Josiah*

*Macy, Jr. Foundation, 1955. [presentation copy from the publisher.*

39. McCarthy, James H [ed]. **American Digest of Business Machines.** Chicago: American Exchange Service, 1924. First Edition. Light shelf/edge wear, gilt heavily toned, else tight, bright, and unmarred. Black coated cloth boards/faux leather, [once] gilt lettering and decorative elements, printed endpages. 12mo. 640pp. Illus. (b/w plates). Very Good+. Stiff Boards. (#11150) \$145.00

*A challenging to find and important aggregation of period business machines (39 different types) with evaluations and richly illustrated. The book is "detailed and very complete for devices from the last quarter of the 1800s to the early 1920s of all types. This is the best source available for used market conditions as well." [Cortada, 873]*

40. **Mechanical Service Manual.** New York: International Business Machines Corporation, [1928]. First Edition. Minor shelf/edge wear, touch of sun at the spine, light even toning throughout, else bright and unmarred. Green paper stiff wraps, black ink lettering, bolt binding. 8vo. Var. pag. Illus. (b/w plates). Laid in ephemera. Very Good in Wraps. Stiff Wraps. (#11158) \$1,500.00

*"Origin, History and Development of Calculating Machines and the Art of Punched Hole Accounting." [pp 1-3] as issued in this manual by The Tabulating Machine Co. Divisions of International Business Machines Corporation. Includes dozens of fold out mechanical plates. Laid in punchcards with notes on the backs.*

*Hard to find in any condition. This an extraordinary copy.*

41. Meyer, Herbert A. [ed]. **Symposium on Monte Carlo Methods [together with] Monte Carlo Method.** Washington DC/New York: Wiley & Sons/US Dept. of Commerce, 1951/1954. First Edition. Minor shelf/edge wear [hardback], touch of sun at spine of wraps, else tight, bright, and unmarred; DJ shows light shelf/edge wear, minor chipping, else bright and clean. Dark blue cloth boards, blue ink labels, gilt lettering. 4to. 382pp. Index. Near Fine in Very Good DJ/Near Fine in Wraps. Hardcover. (#11061) \$750.00

- *United States Department of Commerce, National Bureau of Standards, Monte Carlo Method. Proceedings of a Symposium Held June 28, 29 and July 1, 1949, in Los Angeles, California, under the sponsorship of the RAND Corporation, and the National Bureau of Standards, with the cooperation of the Oak Ridge National Laboratory, Washington, D.C.: Government Printing Office, 1951.*
- *National Bureau of Standards Applied Mathematics Series 12. Fine in original blue wraps. The first*

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*symposium on the Monte Carlo Method, 1949 (OOC 942).*

42. Morse, Philip M.; Kimball, George E. **Methods of Operations Research [OEG Report No. 54] [Declassified Original]**. Washington DC: Operations Evaluation Group, US Navy, 1946. First Edition. Light shelf/edge wear, few small moisture stains on boards, tape residue on front board where "CONFIDENTIAL" was covered up, navel plate and pocket at rear, LoC stamp at ffepp, several stamps/notations on title page and first few others (see below), front hinge cracked, else tight, bright, and unmarred. Burgundy cloth boards, gilt lettering. 4to. 168pp. Illus. (b/w plates). Bibliography. Index. (#11059) \$1,500.00

*Copy No. 13. "Confidential" Classification printed on the bottom of every page [crossed out on first few]. "Declassified" stamp with handwritten note: "Sec. Def. Memo of 2 Aug. 1960."*

*This copy ex Bureau of Naval Personnel Technical Library \*and\* ex Library of Congress.*

*Frequently reprinted, the last noted was 2003. Original 1946 "Confidential" edition is very rare. [Not in OOC]*

43. National Physical Laboratory. **Mechanization of Thought Processes. Proceedings of a Symposium held at the National Physical Laboratory on 24th, 25th, 26th and 27th November 1958 [Complete in Two Volumes]**. London: National Physical Laboratory, 1958. First Edition. Minor shelf/edge wear, ex libris (related stamps, plates, etc), else tight, bright, and unmarred. Green paper boards, green cloth spine, black ink lettering. 8vo. 531; 980pp. Illus. (b/w plates). Appendixes (including attendee list). Very Good+. Hardcover. (#11081) \$450.00

*"Probably the First International Symposium on Artificial Intelligence" 1958 [OOC 809] Includes more than 30 papers; the authors include Marvin L. Minsky, W. S. McCulloch, W. Ross Ashby, Grace Hopper, Stanley Gill, and John McCarthy (who delivered his paper "Programs with Common Sense"). The 1962 edition is easier to locate, the first, however, is genuinely scarce.*

44. **Punched Card Accounting and The Professional Accountant**. London: The British Tabulating Machine Company Limited, [1947]. First Edition. Ex libris with related markings and plates, US distributor stamp on title page, else tight, bright, and unmarred. Blue cloth boards, blue ink lettering. 8vo. 39pp plus Notes. Illus. (b/w plates). Good+. Hardcover. (#11147) \$65.00

45. **Punched Hole Accounting**. New York: International Business Machines Corporation, Tabulating Machine Division, 1924. First Edition. Light shelf/edge wear, pencil notation at ffepp, else tight, bright, and unmarred.

Black coated cloth boards, faded gilt lettering, printed endpages. 12mo. 282pp. Index. Very Good+. Stiff Boards. (#11148) \$245.00

This is an early salesman's manual. It is "the property" of the company, numbered and registered (No. 28), and "subject to return on call."

It is particularly interesting because 'Computing-Tabulating-Recording Company' (CTR) was only rebranded International Business Machines (IBM) in 1924. There were no IBM-labeled products until 1933.

46. Rees, Mina; Hart, C.B. **A Symposium on Commercially Available General-Purpose Electronic Digital Computers of Moderate Price [together with] A Survey of Automatic Digital Computers**.

Washington, DC: Office of Naval Research, 1952-3. First Edition. Exlibris (UC Engineering Library) with discrete markings reflecting such, rebound in stiff library boards, else tight, bright, and unmarred. Heavy stiff pale green boards, cloth tape spine. 8vo. 41; 109pp. Very Good. Stiff Boards. (#11072) \$2,250.00

*Two early and important surveys of automatic digital computers running in the US, at a time when one could list, with relative ease, every significant piece of hardware running. The first, issued in 1952 was, 'A Symposium on Commercially Available General-Purpose Electronic Digital Computers of Moderate Price', edited by Mina Rees. She writes:*

*"Until recently, all commercially available general-purpose digital computers were large and cost many hundreds of thousands of dollars. Within the past year, however, a number of manufacturers have smaller, more compact (usually slower) automatic computers for sale at less than one hundred thousand dollars." [Introduction] Hart notes that the first survey of large scale computers was undertaken between 1947-48 and updated in 1950. However, "a large number of machines that were then only in the design stage are now in successful operation." [Preface]*

*Includes:*

- *A Survey of Automatic Digital Computers*. Washington, DC, 1953. *The theory, design principles and fields of usefulness of the various forms of automatic controllers commonly used in the process industry, are discussed. Some of the computer techniques in the field of instrumentation and control engineering are described. [OOC 944]*

- *[Rees, Mina] Office of Naval Research, A Symposium on Commercially Available General-Purpose Electronic Digital Computers of Moderate Price. [OOC 853]*

47. Rees, Mina. **Mina Rees on Digital Computers [American Mathematical Monthly. Vol. 62, No. 6]**. Menasha, WI: American Mathematical Monthly, 1955.

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First Edition. Minor shelf/edge wear, sunning to spine, else tight, bright, and unmarred. Printed blue paper wrappers, black ink lettering. 8vo. 395-472pp. Very Good in Wraps. Original Wraps. (#11074) \$125.00

*The subject article at pp. 414-423. Scarce.*

"Mina Spiegel Rees (1902 – 1997) was an American mathematician. She was the first female President of the American Association for the Advancement of Science (1971) and head of the mathematics department of the Office of Naval Research of the United States. Rees was a pioneer in the history of computing and helped establish funding streams and institutional infrastructure for research." [Not in OOC]

48. Set of the "remarkable" IBM Computation Proceedings, 1948-1951. New York: IBM Corp., 1948-1951. First Edition. Minor shelf/edge wear, else tight, bright, and unmarred. Cloth bound (blue, burgundy, green, and brown), gilt lettering. 4to. 126; 109; 173; 103; 148pp. Illus. (b/w plates). Very Good+. Hardcover. (#11064) \$1,750.00

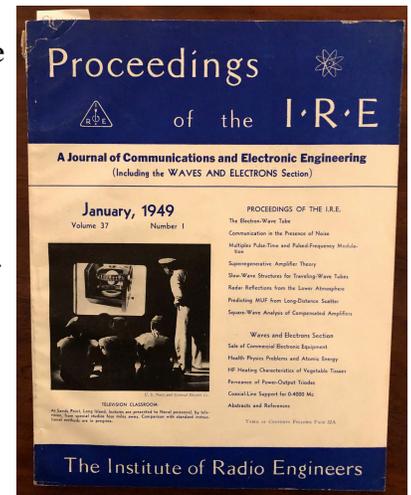
- "Proceedings, Scientific Computation Forum," 1948. (OOC 683)
- "Proceedings, Seminar on Scientific Computation," November 1949. (OOC 684)
- "Proceedings, Computation Seminar," December 1949. (OOC 685). Includes von Neumann on "The Future of High-Speed Computing," disputing the "major concern which is frequently voiced in connection with very fast computing machines . . . that they will do themselves out of business," that is, "run out of work."
- "Proceedings, Industrial Computation Seminar," September 1950. (OOC 689)
- "Proceedings, Computation Seminar," August 1951. (OOC 690) "The five Proceedings volumes, 1948-1951, form a record of the remarkable versatility of punched-card equipment, including the 604 and CPC, in the hands of ingenious scientists and engineers." Bashe, Charles J. et al, IBM's Early Computers. Cambridge, Mass.: The MIT Press, 1986, p. 617.

49. Shannon, Claude E. **A Chess-Playing Machine** [Scientific American. Vol. 182, No. 2]. New York: Scientific American, 1950. Minor shelf/edge wear, else tight, bright, and unmarred. Color printed wraps. 4to. Illus. (color and b/w plates). Very Good+ in Wraps. Original Wraps. (#11077) \$450.00

"The relevant history [of computer chess] begins with a paper by Claude Shannon in 1949. He did not present a particular chess program, but discussed many of the basic problems involved. The framework he introduced has guided most of the subsequent analysis of the problem. . . . It remained for A.M. Turing (1950) to

describe a program along [Shannon's] lines that was sufficiently simple to be simulated by hand, without the aid of a digital computer." Newell, Shaw & Simon, "Chess-Playing Programs and the Problem of Complexity," in Feigenbaum & Feldman (eds.), Computers and Thought (1963), pp. 42, 44. Shannon's paper was first published in February 1950 in Scientific American. A more detailed version was published the following month in Philosophical Magazine, under the title "Programming a Digital Computer for Playing Chess." [OOC 882] Shannon's February 1950 article in Scientific American is the first published work on computer chess.

50. Shannon, Claude E. **Communication in the Presence of Noise** [Vol. 37, No. 1]. Proceedings of the I.R.E., 1949. First Printing. Light shelf/edge wear, bump at head with small area of related damage to spine, else tight, bright, and unmarred. Glossy printed wrappers. 4to. 112pp plus adverts. Illus. (b/w plates). Very Good in Wraps. Original Wraps. (#11038) \$2,500.00



Entire issue in original wraps, subject article pp. 10-21. See note page 10: "Original manuscript received by the Institute July 23, 1940."

Shannon presented this paper at the Institute of Radio Engineers National Convention, New York on March 24, 1948, and again at the IRE New York Section on November 12, 1947. This issue presented here, "Proceedings of the Institute of Radio Engineers" was the first publication of this paper. There was a subsequent IRE offprint of this paper and it was reprinted in the Bell System Technical Monograph series (#B-1644: 1949). In 1948 Shannon's classic paper, "A Mathematical Theory of Communication" was published in the Bell System Technical Journal. "[That first] paper founded the discipline of information theory . . . Several months later, he published a second paper, "Communication in the Presence of Noise," in "The Proceedings of the Institute of Radio Engineers." "The paper here is integrally related to the first, this one effectively exploring and elaborating a focused area of the first work and attempting to contextualize it in an 'engineering' rather than strictly mathematical framework. [Kuenzig Books] [Not in OOC]

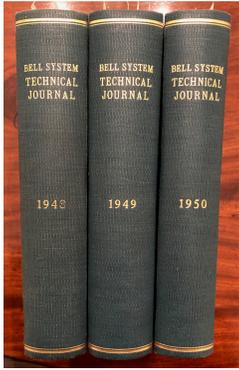
51. Redacted

52. Shannon, Claude E.; Weaver, Warren. **The Mathematical Theory of Communication.** Urbana: University of Illinois Press, 1949. First Edition. Minor shelf/edge wear, touch of wear to head and tail, owner signature at ffep, else tight, bright, and unmarred. Red cloth boards, silver gilt lettering. 8vo. 117pp. Illus. (b/w plates). Very Good+. No DJ. Hardcover. (#11087) \$1,750.00

*First Hard-Copy Edition of The Mathematical Theory of Communication, first published in the Bell System Technical Journal in 1948, with minor corrections and additional references. Also includes Weaver's, 'Recent*

## HISTORY OF COMPUTING 2023

*Contributions to the Mathematical Theory of Communication.' Overall, a very handsome copy of this cornerstone work.*



53. Shannon, et al. **Bell System Technical Journal [Vol. 27] [Including "A Mathematical Theory of Communication"]**. New York: American Telephone and Telegraph Company, 1948. First Edition. Minor shelf/edge wear, light toning to the '8' in 1948 at spine, else tight, bright, and unmmared. Blue cloth boards, gilt lettering at spine. 8vo. 752pp [[379]-423 & [623]-656pp for Shannon]. Near Fine. Hardcover. (#11124) \$5,500.00

*Includes:*

- Shannon, "A Mathematical Theory of Communication," two parts (OOC 880).

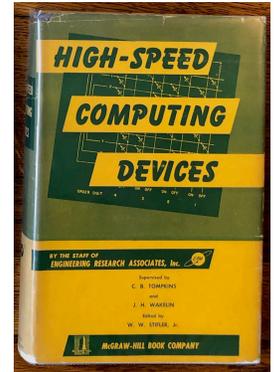
*"At the heart of [Shannon's] theory was a new conceptualization of information. . . . a general theory of communication applicable to telegraph, telephone, radio, television, and computing machines - in fact, to any system, physical or biological, in which information is being transferred or manipulated through time or space."* [Aspray 1985 pp. 119-122].

*The first appearance of Shannon's monumental paper on a mathematical theory of communication. The paper is the foundation of the modern information age. "American mathematician Claude Shannon developed information theory by 1948. He reduced the notion of information to a series of yes/no choices, which could be presented by a binary code. Each choice, or piece of information, he called a 'bit.' In this way, complex information could be organized according to strict mathematical principles. His methods, although devised in the context of engineering and technology, were soon seen to have applications not only to computer design but to virtually every subject in which language was important, such as linguistics, psychology, cryptography, and phonetics; further applications were possible in any area where the transmission of information in any form was important".* [Mount and List, Milestones, 65; OOC 880; Tomash & Williams S94-95]

54. Staff of Engineering Research Associates, Inc. **High-Speed Computing Devices**. New York: McGraw-Hill, 1950. First Edition. Minor shelf/edge wear, discrete stamp at ffep, else tight, bright, and unmarred. DJ shows light self/edge wear, chips at head and tail and near bottom of flap at rear, small closed tear, else bright and clean. 8vo. 451pp. Illus. (b/w plates). Near Fine in Very Good- DJ. Hardcover. (#11067) \$1,200.00

*Small security "removal authorization" stamp on ffep. Uncommon generally, scarce in DJ.*

*"The first treatise on how to build an electronic digital computer. It provided a 'cookbook' describing the available ingredients and how they worked for both digital and analog computers. Because it also explained the principles involved and gave examples, it was extremely useful."* [OOC 584]



55. Stibitz, George Robert; Tropp, Henry S; Russell, Jerome A. G. [preface]. **The Zeroth Generation. A scientist's recollections (1937-1955). From the early Binary Relay Digital Computers at Bell Telephone Laboratory and OSRD to a fledgling minicomputer at the Barber-Colman Company [Association Copy]**. self-published, 1993. First Edition. Touch of sun to the spine, ownership signature at ffep, else tight, bright, and unmarred. Grey printed paper wrappers. 8vo. 334pp plus plates and notes. Laid in signed letter from the author. Near Fine in Wraps. Original Wraps. (#11045) \$1,200.00

*Stibitz's self-published memoir, with signed letter (not in OOC)*

*Ownership signature: "Ex Libris Alice and Harold James."*

*The Zeroth generation refers to the age of mechanical computers (1642-1945), prior to the advent of the vacuum tube era (first generation) and beyond.*

*With unaddressed, signed letter dated December 10, 1993, forwarding the "private printing of a manuscript on which I have been working during the most recent five years" and which "reveals several aspects of the times." "On May 14, 1986, Denison University dedicated a permanent exhibit honoring computer pioneer George Robert Stibitz, a member of the class of 1926. The exhibit, housed in the William Howard Doane Library, was initiated and funded by Harold James and his wife Alice, who were classmates of Stibitz the class of 1926. Mr. James credits Stibitz with introducing him to Alice." [IEEEExplore]*

*Self published recollections of an early pioneer. A lovely copy with a strong association. Very scarce with a small handful of copies in institutional collections and none to the market in recent records.*

56. "Symposium: The Design of Machines to Simulate the Behavior of the Human Brain." [IRE Transactions on Electronic Computers. Vol. EC-5, No.4]. New York: Professional Group on Electronic Computers, 1955. First Edition. Minor shelf/edge wear, else tight, bright, and

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unmarred. Green and white printed wrappers. 4to. 273pp. Illus. (b/w plates) Near Fine in Wraps. Original Wraps. (#11079) \$325.00

*Subject article found at pp. 240-255 within, presented here, the entire issue. "Perhaps the best summary of ideas on the computer and the human brain in 1955-1956." [historyofinformation[dot]com/detail.php?id=4100]*  
*The Symposium occurred at the IRE convention in March, 1955. The four panel members were Warren McCulloch of MIT, Anthony G. Oettinger of Harvard, Otto H. Schmitt of the University of Minnesota, and Nathaniel Rochester of IBM. After prepared statements and a brief discussion by the panel members, they were cross examined by a group of invited questioners: Marvin Minsky, then of Harvard, Morris Rubinoff of the University of Pennsylvania, Elliot L. Gruenberg of the W. L. Maxson Corporation, John Mauchly, of what was then Remington Rand, M. E. Maron of IBM, and Walter Pitts of MIT.*  
*Very scarce.*

**57. 'The First Published Report of a Chess-Playing Computer Program'. [Journal of the Association for Computing Machinery. Vol. 1-7].** Journal of the Association for Computing Machinery/Johnson Reprinting, 1954-60. First Edition/Reprint. Minor shelf/edge wear, V1-3 shows ownership stamp at each of three textblock edges, V4 shows private library plate at front pastedown and pocket and label at rear, else tight, bright, and unmarred. Blue and grey cloth boards, gilt lettering, original wrappers bound into V4. 8vo. 200; 298; 404; 409pp. Very Good. Hardcover. (#11076) \$450.00

*Vol. Four includes the first published paper on a chess-playing computer program: Kister, J., et al, "Experiments in Chess," April 1957, pp. 174-177. [OOC 749]*  
*Also includes reprint volume including Vols 1-3.*  
 • *Volumes 1-3, 1954-1956, first reprinting, Johnson Reprinting, 1961, single volume bound in grey cloth, gold stamping on spine, ex-library with minimal markings, very good.*  
 • *Volumes 4-7, 1957-1960, separately bound in matching blue cloth, gold stamping on spine, wraps bound in, ex-library Burroughs Corporation, very good.*

**58. Thomas de Colmar's Arithmometer [Journal of the Institute of Actuaries and Assurance Magazine, Vol. 16].** London: Journal of the Institute of Actuaries and Assurance Magazine/Charles & Edwin Layton, 1872. Minor shelf/edge wear, rear joint split, touch of foxing, else tight, bright, and unmarred. Original brown cloth boards. 8vo. 467pp. Very Good. Hardcover. (#11031) \$450.00

*Three 1871 papers in the on "The first commercially produced calculating machine to have any real degree of*

*reliability and usefulness." [OOC 406]*

• *Hannington, Major-General, "On the Use of M. Thomas de Colmar's Arithmometer in Actuarial and Other Computations," pp. 244-53.*

• *Sang, Edward, "On Mechanical Aids to Calculation," pp. 253-265.* • *Baden, A., "Notes on the Use of the Arithmometer," pp. 265-269.*

**59. Turck, J.A.V. Origin of Modern Calculating Machines.** Chicago: Western Society of Engineers, 1921. First Edition. Light shelf/edge wear, wear at the head, ex libris (plates at front endpages and discrete markings), tips through, light tonight to textblock, else tight, bright, and unmarred. Black pebbled cloth boards, embossed lettering and decorative elements. 8vo. 196pp. Illus. (b/w plates). Good+. Hardcover. (#11159) \$245.00

*Reasonably important early overview of various machines.*

**60. Var. Calculating Machines & Punched Card Computing, 1900-1965 [21 items].** Var.: Var. publishers, 1940-1996. Most all appear to be first editions/printings. Minimal to light shelf/edge wear, a few show ex libris markings, one has remainder mark at bottom of textblock, etc., overall tight, bright, and unmarred. Various bindings (cloth and wraps). 8vo-4to. Var. pag. Illus. (b/w plates). Very Good to Fine. Hardcover and Wraps. (#11090) \$1,250.00

1. *Cortada, James W. Before the Computer. IBM, Burroughs, & Remington Rand & the Industry They Created. Princeton: Princeton University Press, 1993. Fine in fine dj.*

2. *De Brabandere, Luc. Calculus. Non-Electric Calculating Machines. Liege, Belgium: Mardaga, 1994. Page 146 torn, missing piece; otherwise vg in fine dj. In French, Dutch, and English.*

3. *A Calculator Chronicle. 300 Years of Counting and Reckoning Tools. Armonk, New York: International Business Machines Corporation, [1983]. Soft cover exhibition catalog, heavily illustrated in color. Historical Materials, in Chronological Order*

4. *"Contract with the Tabulating Machine Company." In War Department, Office Director Census of Cuba. Report on the Census of Cuba, 1899. Washington: Government Printing Office, 1900. Appendix XIV, pp. 695-96.*

5. *Gaines, Morrell W. "Tabulating Machine Cost Accounting for General Manufactories." The Engineering Magazine, December, 1905, pp. 364-373.*

6. *Short Cuts and Money-Making Methods. Chicago: The Addressograph Company, 1910.*

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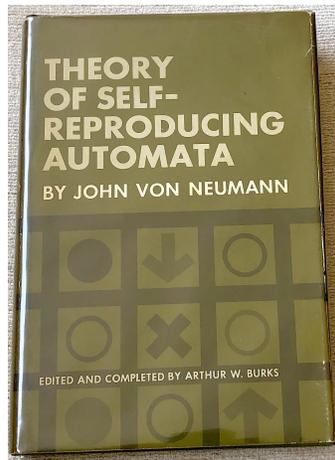
7. *Applied Mechanical Arithmetic. As Practiced on the Comptometer.* Chicago: Felt & Tarrant Manufacturing Company, 1st rev. ed., 1920. Extensive, over 500 pages.
8. Leffingwell, William Henry, ed. *The Office Appliance Manual.* N.p.: National Association of Office Appliance Manufacturers, 1926. A comprehensive and massive work; over 800 pages. (Important.)
9. Schnackel, H.G. and Henry C. Lang. *Accounting by Machine Methods. The Design and Operation of Modern Systems.* New York: The Ronald Press Company, 1929.
10. Morse, Perley. *Business Machines. Their Practical Application and Educational Requirements.* London: Longmans, Green and Co., 1932.
11. *Modern Methods for Modern Business Needs.* New York: International Business Machines Corporation, [1933].
12. Comrie, L.J. "Calculating Machines." In Connor, L.R., ed. *Statistics in Theory and Practice*, 3rd edn. London: Sir Issac Pitman & Sons, Ltd., 1938. App. III, pp. 349-371.
13. *International Business Machines.* New York: International Business Machines Corporation, [1940]. (An updated version of the 1933 edition, above.)
14. Comrie, L.J. "Recent Progress in Scientific Computing." In Lang, H.R., ed., *Journal of Scientific Instruments*, v. 21, n. 8, August 1944, pp. 129-135.
15. Hazel, Bernard. *Local Authority Accounting by Punched Card Methods.* London: Gee and Company, 1945.
16. Eckert, W.J. "Electronic and Electromagnetic Measuring, Computing and Recording Devices." In *Harvard Observatory Monograph No. 7, Centennial Symposia.* December 1946. Cambridge: Published by the Observatory, pp. 169-178.
17. Doss, M.P., ed. *Information Processing Equipment.* New York: Reinhold Publishing Corporation, 1955.
18. Love, Brig. Gen. Albert G. et al. *Tabulating Equipment and Army Medical Statistics.* Washington: Government Printing Office, 1958.
19. Scheele, Martin. *Punch-Card Methods in Research and Documentation. With Special Reference to Biology.* 1st American edition, New York: Interscience Publishers, Inc., 1961, trans. From the 2nd German edition, 1959.
20. Fisher, Harrison. *Today's Business Machines.* Chicago: American Technical Society, 1959, 2nd printing 1960.
21. Truesdell, Leon E. *The Development of Punch Card Tabulation in the Bureau of the Census 1890-1940. With Outlines of Actual Tabulation Programs.* Washington: Government Printing Office, 1965.
61. Various. **Transistor Issue. Proceedings of the I.R.E., [Vol. 40, No. 11].** Institute of Radio Engineers, 1952. First Edition. Light shelf/edge wear, small closed tear at heel with related creasing, light soiling to wrappers, else tight, bright, and unmarred. Glossy printed wraps. 4to. pp. 1,281 - 1,632 [351pp] plus 176pp adverts. Illus. (b/w plates). Very Good in Wraps. Original Wraps. (#11047) \$450.00  
*A special issue containing forty-eight papers on the subject of transistors. Front wrap features a drawing of the Atomic Structure of Germanium Crystal. Includes papers by virtually all of the major figures of the time. [Not in OOC]*
62. Various. **The Transistor. Selected Reference Material on Characteristics and Applications.** New York: Bell Telephone Laboratories, 1951. First Edition. Minimal shelf/edge wear, else tight, bright, and unmarred. Grey cloth wraps, black lettering. 4to. 792pp. Ilus. (b/w plates). Near Fine in Wraps. Original Wraps. (#11046) \$2,500.00  
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63. Von Neumann, John & H. H. Goldstine. **Numerical Inverting of Matrices of High Order. [Bulletin of the American Mathematical Society, Vol. 53, Pt. 2].** Bulletin of the American Mathematical Society, 1947. First Edition. Minor shelf/edge wear, library stamps at textblock edges, ownership plate at the front and rear. else tight, bright, and unmarred. Dark yellow buckram boards, black ink lettering. 8vo. 637-1204. Illus. (b/w plates). Index. Very Good. Hardcover. (#11060) \$1,000.00  
*Von Neumann's paper that "laid the foundation of modern error analysis," included in the entire volume [ex-Wright Field Library].  
"The mathematician J. H. Wilkinson described [this paper] as having laid the foundation of modern error analysis (quoted in Goldstine 1972, 290-91). Alan Turing, who had been working independently along similar lines, produced results in accord with those of von Neumann and Goldstine, which he published in 1948." [OOC]*

## HISTORY OF COMPUTING 2023

957-958]

"In sum, von Neumann's paper contains much that is unappreciated or at least unattributed to him. The contents are so familiar, it is easy to forget von Neumann is not repeating what everyone knows. He anticipated many of the developments in the field he originated, and his theorems on the accuracy of Gaussian elimination have not been encompassed in half a century. The paper is among von Neumann's many firsts in computer science. It is the first paper in modern numerical analysis, and the most recent by a person of von Neumann's genius." [Joe Grcar]

64. Von Neumann, John; Burks, Arthur [ed/ completed]. **Theory of Self-Reproducing Automata.** Urbana: University of Illinois Press, 1966. First Edition. Very light stain at foredge of the text block, else tight, bright, and unmarred; DJ shows light shelf/edge wear, two small closed tears, else bright, and clean. Green cloth boards, black ink letter. 8vo. 388pp. Illus. (b/w plates). Index. Near Fine in Very Good DJ. Hardcover. (#11082)



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Presented here are Von Neumann's unfinished manuscripts, edited and completed by Burks and embody Von Neumann's final construct of his theory of automata. [OOC 971] JVon Neumann's theory of self-reproducing automata is widely considered as one of the greatest theoretical achievements made in early stages of artificial life research.

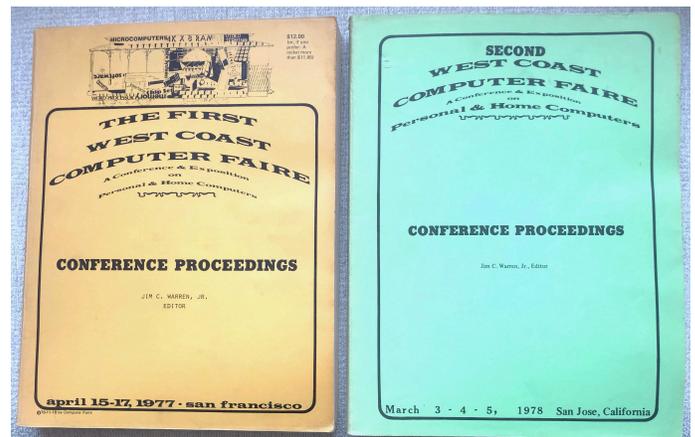
65. Von Neumann, John. **The Computer and the Brain.** New Haven and London: Yale University Press, 1958. First Edition. Minimal shelf/edge wear, ownership signature at ffep, else tight, bright, and unmarred; DJ shows minor shelf/edge wear. Gray cloth boards, black ink lettering; pictorial DJ. Small 8vo. 82pp plus np history of the lecture series (4pp). Near Fine in Near Fine Dustjacket. Hardcover. (#11230)

\$3,500.00

Von Neumann's fifth and last work on automata theory—his 1956 Silliman Lectures, left incomplete at his death and never delivered. The lectures present “an approach toward the understanding of the nervous system from the mathematician's point of view” (p. 1); they discuss the principles underlying “the systematics and the practice of computing machines” (p.3) and how these resemble or differ from the way the brain functions.

“Von Neumann's war-related computer activities spurred his further interest in theoretical issues of the information sciences. His main concern was for developing a general, logical theory of automata. His hope was that this general theory would unify the work of Turing on theoretical machines, of McCulloch and Pitts on neural networks, and of Shannon on communication theory. Whereas Wiener attempted to unify cybernetics around the idea of feedback and control problems, von Neumann hoped to unify the various results, in both the biological and mechanical realms, around the concept of an information processor—which he called an ‘automaton.’ (The term automaton had been in use since antiquity to refer to a device that carries out actions through the use of a hidden motive power; von Neumann was concerned with those automata whose primary action was the processing of information.)

“The task of constructing a general and logical theory of automata was too large for von Neumann to carry out in detail with the final few years of his career. Instead, he attempted to provide a programmatic framework for the future development of the general theory and limited himself to developing specific aspects, including the logical theory of automata, the statistical theory of automata, the theory of complexity and self-replication, and the comparison of the computer and the brain.” (Aspray 1958, 133–34) Minsky 1963, 506. Ownership signature of GE Wright (presumably the noted biblical scholar).



66. Warren, Jim [ed]. **The First Two “West Coast Computer Faire” Conference Proceedings [1977 and 1978].** San Francisco, CA: Computer Faire, 1977-1978. First Edition. Minor shelf/edge wear, else tight, bright, and unmarred. Yellow and green printed paper wraps, black in lettering and decorative elements. 4to. 334; 505pp plus adverts. Illus. (b/w plates). Near Fine in Wraps. Original Wraps. (#11086)

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## HISTORY OF COMPUTING 2023

*The First West Coast Computer Faire has been called "one of the most significant events in the history of personal computing."*

*[www[dot]computerhistory[dot]org/tdih/april/15/]. An unexpectedly large crowd of some 12,000 attended and saw the introduction of three of the most popular personal computers of the time: the Apple II, the Commodore PET, and the Radio Shack TRS-80. Steve Jobs was photographed demonstrating the Apple II, which his partner Steve Wozniak had barely completed in time for the show. The Proceedings contain some 100 articles and tutorials on 25 aspects of personal computing along with numerous advertisements.*

*There is one tiny mention on page 332, among a long list of exhibitors, of "Apple Computer, 20863 Stevens Creek Blvd, Cupertino, CA." The company had moved to that small space only months before, from Jobs' bedroom and garage. At the time it had eight employees, but purchased two booth spaces at the faire and debuted the Apple II. "Right there at the entrance, the wave of the future, was Apple, running a kaleidoscopic video graphics program on a huge Advent display monitor. 'It was crazy,' Randy Wigginton, who was working in the booth with Woz and Chris Espinosa and the others, later recalled. 'Everybody was coming by and asking for demonstrations, and it was fun because people were excited about it'" [Levy, Steven. Hackers. Penguin. p266].*

*The second is an even more extensive set of Proceedings, with more than 500 pages of articles, tutorials, and advertisements.*

*Ted Nelson, the author of Computer Lib/Dream Machines, opened his presentation with, "Here we are at the brink of a new world. Small computers are about to remake our society, and you know it."*

*Articles in the 1977 edition include:*

*"Robots You Can Make for Fun and Profit" by Frederik Pohl*

*"The 1940s: The First Personal Computing Era" by Henry Tropp*

*"The Unforgettable Next Two Years" by Ted Nelson*

*"Computer Power to the People" by David H. Ahl*

*"The Potential of Microcomputers for the Physically Handicapped" by Peter J. Nelson and J.G. Cossalter*

*"Roaming Around in Abstract 3-D Spaces" by Tom DeFanti, Dan Sandin and Larry Leske*

*"A Pipe Organ/Micro Computer System" by Jef Raskin*

*"Community Memory — a 'Soft' Computer System" by Lee Felsenstein*

*"Sharing Your Computer Hobby with the Kids" by Liza Loop*

*"Use of a Personal Computer in Engineering Education" by Roger Broucke*

*"Home Text Editing" by Larry Tesler*

*"The New Microprocessor Low Cost Development Systems" by Phil Roybal.*

*The 1978 edition includes a biographical sketch of Alan Kay and:*

*"Significant Personal Computing Events for 1978" by Adam Osborne "Introduction to Personal Computing, a Beginner's Approach" by Robert Moody "Microcomputer Communication for the Handicapped" by Tim Scully "The Design of a Voice Output Adapter for Computer" by William Jolitz "'Ambitious Games for Small Computers" by Larry Tesler*

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*"An Introduction to Programming in PASCAL" by Chip Weems, and many more....*

67. Wilkes, M. V. **Journal of Scientific Instruments and of Physics in Industry [Vol. 26]**. London: The Institute of Physics, 1949. First Edition. Light shelf/edge wear, ex-libris with discrete markings and one plate, else tight, bright, and unmarred. Dark blue cloth boards, gilt lettering, tan endpapers. 4to. 427pp. Illus. (b/w plates). Index. Very Good+. Hardcover. (#11056) \$1,250.00

*All of Volume 26, notably including Wilkes's two 1949 articles on EDSAC. [OOC 1021, 1023] The two critical articles include:*

• *Wilkes, M. V., "Programme Design for a High-Speed Automatic Calculating Machine," pp. 217-220.*

• *Wilkes, M. V. & W. Renwick, "The EDSAC — an Electronic Calculating Machine," pp. 385-391.*

*Ex libris from the library of The Armament Research & Development Establishment (ARDE), and R&D group within the Indian Defense Research and Development Organization (DRDO).*

68. Wilkes, M. V. **"Programme Design for a High-Speed Automatic Calculating Machine" [in Journal of Scientific Instruments and of Physics in Industry. Vol. 26, No. 6]**. London: Institute of Physics, 1949. First Edition. Minor shelf/edge wear, hint of toning at spine, else tight, bright, and unmarred. Printed blue paper wraps. 4to. 177-224pp plus adverts. Illus. (b/w plates). Near Fine in Wraps. Original Wraps. (#11054) \$1,500.00

*"Wilkes's first paper on computer programming." [OOC 1021]*

*Entire issue, subject article at pp. 217-220. "Wilkes's first paper on computer programming is notable for having been submitted for publication . . . three months before EDSAC was officially operating. It confirms that the*



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Original Wraps. (#11040) \$250.00

*Entire issue, subject article pp. 49-54. "A well-illustrated general account of the Bell Laboratories Model V computer." [Randall 1973, 440]*

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