

Total 165 missing
TdiH - missing days

Jan 4
Jan 6
Jan 9-10
Jan 14-15
Jan 17-19
Jan 25
Feb 3
Feb 7-9
Feb 12
Feb 16
Feb 21-24
Feb 26, 27
Mar 2
Mar 5-6
Mar 9
Mar 13-14
Mar 17
Mar 19
Mar 21
Mar 24-26
Mar 28, 30
Apr 4
Apr 10
Apr 12-15
Apr 19
Apr 21-22
Apr 28-29
May 4
May 9
May 17, 18
May 20,
May 26
May 29, 30
June 3
June 9
June 12
June 15
June 22-24
June 27,
July 3-5
July 11
July 17-23
July 25-29, 31
Aug 1-3, 6
Aug 10-12
Aug 15, 6
Aug 19-20
Aug 24-25
Aug 28-29
Sep 2, 3, 5-8
Sept 11-13
Sept 19-21

Sept 24-25
Sept 27-30
Oct 1
Oct 6-8
Oct 12-14
Oct 16
Oct 21, 23-24
Oct 28, 29
Nov 5-8, 10, 14
Nov 18
Nov 23, 27, 29
Nov 31
Dec 4
Dec 7
Dec 11, 13, 15
Dec 17-20,
Dec 22, 23
Dec 25
Dec 27
Dec 30-31

January 1, 1987, a computer marketing manager was quoted: "The current computer and software development situation is like building bigger, more powerful cars while the world is running out of gas." Attributed to David Sharon, Tektronix, by William Suydam in *Computer Design*.

January 2, 1979, Software Arts is incorporated with Dan Bricklin and Bob Frankston as principals.

January 3, 1956, Herbert Simon writes a letter to Adriaan deGroot reporting: "You will be interested to learn, I think, that Allen Newell and I have made substantial progress on the chess-playing machine -- except that at the moment it is not a chess-playing machine but a machine that searches out and discovers proofs for theorems in symbolic logic. The reason for the temporary shift in subject matter is that we found the human eye and the portions of the central nervous system most closely connected with it to be doing too much of the work -- at the subconscious level -- in chess-playing, and we found this aspect of human mental process (the perceptual) the most difficult to simulate. Hence, we turned to a problem-solving field that is less "visual" in its context . . . By using a human (myself) to simulate the machine -- operating by rule and without discretion -- this simulated machine has now discovered and worked out proofs for the first twenty five or so theorems in *Principia Mathematica*.

January 3, 1998, "Program Proves Bad Puns Not Limited to Humans" by Laurie Flynn appears in *New York Times*.

January 5, 1983, Michael Dertouzos and Joel Moses write an early plan for MIT's project Athena. They state, "the domain of application programs has not been widely demonstrated across a community as large as the School of Engineering . . . Coherence across a distributed system with several hundred, let alone a few thousand computers has not yet been demonstrated."

January 7, 1949, Engineering Research Associates produce a pamphlet "Preparation and characteristics of magnetic recording surfaces" as part of their Bureau of Ships contract.

January 7, 1998, Jobs announces a projected \$47 million profit for the first quarter at Macworld Expo, finally bringing Apple back to profitability.

January 8, 1889, Herman Hollerith publishes, "Complete Specification, Improvements in the methods of and apparatus for compiling statistics." The original patent specification, and thus the first printed account of the Hollerith electric tabulation machine.

January 8, 1990, evidence shows that Robert Morris' actions were deliberate in accessing computers for which he was an unauthorized user. Look for the outcome January 22.

January 11, 1957, Allen Newell, J. C. Shaw, and Herbert Simon's paper "Empirical Explorations of the Logic Theory Machine" was published by the Rand Corporation as Report P-951. The same day, Rand publishes Newell and Shaw's "Programming the Logic Theory Machine."

January 11, 1994, the Telecommunications Policy Reform release from the Office of the Vice President summarizes four proposals: make the preservation and advancement of "universal service" an explicit objective of the Communications Act; charge the FCC and the states with continuing responsibility to review the definition of universal service to meet

changing technological, economic, and societal circumstances; establish a federal-state joint board to make recommendations concerning the FCC and state action on the fundamental elements of universal service; and oblige those who provide telecommunications services to contribute to the preservation and advancement of universal service.

January 11, 1995, David Letterman's list of Top 10 Sins you bought a bad computer

10. Lower corner of screen has "Etch-a-sketch"
9. Its celebrity spokesman is "hey Vern!"
8. You need jumper cables and car to start it
7. Its got a floppy keyboard instead of disks
6. You type in "Need comedy bit for talk show"; It prints out : "Stunt doubles"
5. Whenever you turn it on, all the dogs in your neighborhood start howling
4. Screen frequently freezes and message comes up: "Aint it break time, Chester?"
3. The manual contains one sentence: "Good Luck."
2. The only chip inside is a Dorito
1. It cyber-sucks.

January 12, 1948, John Mauchly wrote a memo to his staff at the Eckert-Mauchly Computer Corporation in which he listed a total of twenty-two industries, government agencies, or other institutions he had contacted. Optimistically he gauged the status of each as a potential customer for a UNIVAC.

January 12, 1992, is the date that the movie 2001 shows HAL starting up. The book novel says 1997.

January 13, 1947, at MIT's Servomechanisms Lab publishes Jay Forrester's report, "Electronic Storage Tubes".

Photo: Electronic Storage Tudy of the Whirlwind, Computer Museum files

January 13, 1984, *New York Times* headline, "Life in High-Stress Silicon Valley Takes a Toll" by Robert Reinhold. He reported that Advanced Micro Devices was paying for up to eighteen visits per family to "outside counselors for help with alcohol, drug, financial and marital problems."

January 16, 1985, Andrew Grove, in his *San Jose Mercury News* column, consoles a worker maligned by an authoritarian boss in a small firm: " Small (sometimes even large!) owner-run companies often tend to be run in an arbitrary, dictatorial way. That, in fact, tends to be what limits their growth . . . try to evaluate a new employer carefully , so you don't exchange serfdom in one fiefdom for the same position in another."

Photo of Andy Grove

January 20, 1870, the Royal Society publishes the works of William Stanley Jevons who produced the first logic machine with sufficient power to solve a complicated problem faster than the problem could be solved without the machine's aid. The machine, 3 feet high, resembles a miniature upright piano. On the face of the piano are openings through which one can see letters representing the 16 possible combinations of four terms and their negatives. (Each combination forms a vertical row of four terms.)

Drawing of the machine from Martin Gardner, *Logic Machines & Diagrams*, McGraw Hill, 1958, p. 99

John Mauchly's diary, January 20, 1946, notes that in the first paragraph of the first draft of the EDVAC report, "the following were mentioned: Army Ordnance, Dr. von Neumann, the Institute for Advanced Study, Dr. Zworykin and RCA. Not until three

pages latter were there any references to the Moore School, Pres (Eckert), myself, or Herman (Goldstine). This was obviously starting off on the wrong foot.”

Photo of Mauchly with ENIAC

January 21, 1946, Dean Pender of the University of Pennsylvania sent Eckert and Mauchly an ultimatum. He insisted on an answer by 5 PM the same day. if they were to remain at the school, Eckert and Mauchly had to give up future patent considerations and certify that you will devote your efforts first to the University of Pennsylvania and will during the interval of your employment here subjugate your personal commercial interests to the interest of the University. After receiving the ultimatum, Eckert and Mauchly resigned, a mere five weeks after the unveiling of the ENIAC

Photo of Eckert & Mauchly with ENIAC

January 21, 1998 Newsbytes News Network reports NEC's goal is to build a supercomputer with a maximum performance of more than 32 teraflops. Kurzweil, *The Age of Spiritual Machines*, p. 334

January 21, 1947, a prototype 1000-bit Mercury delay line was running at Dollis Hill, England. Lavington, S., Early British Computers, Digital Press, 1980, p. 25.

(photo or diagram)

January 22, 1990, a federal jury found Robert T. Morris guilty. He was sentenced to three years' probation, fined \$10,000, and ordered to perform 400 hours of community service.

January 22, 1992, Steve Jobs announces NeXTstep 3.0, NeXTstep 486, a version of NeXTstep that could run on an Intel 486 simultaneously with MS-DOS. NeXT would eventually move its OS entirely to the Intel x86 platform.

January 23, 1979: An Apple computer patent drawing by Steve Wozniak. (*Inventors at Work*, p. 223)

January 24, 1997,. Mac OS 7.6, the first part of Apple's new OS strategy, is released exactly 13 years after the introduction of the Macintosh.

January 26, 1949, two years after their first government contract, MIT's Servomechanisms Lab publishes "Electrostatic Storage Tubes for Digital Computers and other Information-processing systems", Report No. R-153.

January 26, 1998 issue of *EE Times* publishes Sunny Bains on companies using optical computing for fingerprint recognition and other applications in "Small, Hybrid Digital/Electronic Optical Correlations Ready to Power Commercial Products: Optical Computing Comes into Focus."

January 27, 1948, IBM dedicates the SSEC (Selective Sequence Electronic Calculator). For the assembled guests -- eminent scientists, astronomers, mathematicians, and leaders of education, government and business -- the SSEC ran all afternoon without apparent malfunction. The demonstration was the task of computing the position of the moon, for any given time in the past or future. The task involved complicated equations for evaluation of about 1600 terms. After instructions were read in and a given date was supplied, the calculator computed and checked the desired position. (Bashe, p. 55)
Photo of SSEC

On Friday, January 27, 1950, while Jay Forrester was having lunch with Professor Wieser, he writes in his notebook, "we were joined by George Valley to discuss his

committee work on Air Defense System Engineering.” . . . This was but another of several “leads” he was pursuing as part of his probing operation to find a use for Whirlwind and incidentally either relieve or justify (or both) his heavy dependence on ONR for funds. Wiesner’s role appears to have been that of the unobtrusive broker who, having been deliberately instrumental in setting events in operation, fades gracefully into the background and equally deliberately passes on to the principals involved the responsibility of carrying affairs forward. After lunch Valley accompanies Forrester to the laboratory and the two discuss the possibility of the using the computer in the work of the Valley Committee. Go to January 30, for the next episode. (Redmond & Smith, *Project Whirlwind*, pp. 174-5)

January 28, 1946, Jay W Forrester writes Lt. Comdr. H. C. Knutson, SDD: “The development of electronic digital computation is only beginning, and considerable effort and money will be expended in achieving the equipment to meet the above objectives. Once sufficient development is completed, however, the cost of duplicating electronic computing equipment will be less than for other forms of computers. Beginning with a suitable basic design, new computers could be built with facilities for a specific magnitude of problems by adding to omitting standardized memory or storage units without requiring significant redesign.” Redmond & Smith, *Project Whirlwind*, Digital Press 1980, p. 42

January 29, 1944, Prespert Eckert writes “Disclosure of a Magnetic Calculating Machine” in which he describes the use of discs or drums which have at least their outer edge made of a magnetic alloy.

Monday, January 30, 1950, returns to the Whirlwind laboratory, bringing with him three other members of the committee involved with air defense engineering: John Marchetti of the Air Force Cambridge Research Laboratory, and H. Guyford Stever and Charles S. Draper of MIT’s aeronautical engineering facility. To Forrester, the visitors seemed very enthusiastic about the prospect of making use of Whirlwind and this opinion was given substance by the group’s discussion of the question of funding. Forrester wrote in his notebook: “Valley and the other men seemed well aware of the fact that they would be called upon to share some of the basic \$600,000 a year budget for the laboratory, plus additional charges for special work on their own project. “

January 31, 1947, Science publishes “Grequencey Analysis of Electroencephalograms” by F. A. Gibbs and A. M. Grass.

February 1, 1946, ENIAC was officially opened to the press. Arthur Burks and Kite Sharpless demonstrate the ENIAC with five problems:

1. 5,000 additions in one second.
2. 500 multiplications in one second.
3. Generations of squares and cubes.
4. Generation of a sine and cosine table, to be tabulated.
5. A modification of the E-2 ENIAC run as an illustration of a long and

complicated calculation. (Goldstine, *The Computer from Pascal to von Neumann*, 1972, p. 228)

February 2, 1994, Peter Lewis reports “A Traffic Jam on the Data Highway, “ *New York Times*.

February 4, 1964, Mauchly and Eckert receive the patent for the computer, number 3,120,606, allowing Sperry Rand which had bought the patent rights along with the Eckert-Mauchly division of Remington Rand, to collect royalties from every other

computer maker for 17 years, until 1981. Although Sperry's market share may have been declining it was in a position to control the industry in the 1980s.

February 5, 1850, Parmelee is issued first patent for a key-drive adding machine.
(photo of Parmelee patent)

February 6, 1959, Jack Kilby files patent for integrated circuit.
(photo of Kilby's circuit)

February 10, 1993, Jobs lays off 280 of his 530 NeXT employees on "Black Tuesday". Sells his hardware line to Canon, and tries to become a Microsoft-like company by concentrating only on the NeXTstep OS for the Intel x86 platform.

February 11, 1966, JOSS is taken out of service.

February 13, 1989, *The New York Times* headlines, "Computing in America: A Masculine Mystique" by John Markoff.

February 14, 1985: Associated Press, "Nothing Wrong with 'Hacking' Wozniak Says," *San Jose Mercury News*.

February 15, 1946, the US War Department issues a press release announcing the unveiling of the ENIAC. It includes the invitation, a menu, and the transcript of a radio program aired on SCAV, Philadelphia, with Eckert, Mauchly, and Goldstine.

February 15, 1973, Electronics Magazine reports: "The PDP-11's unified bus architecture (UNIBUS) is 'democratic' in that every part of the computer can be addressed as if it were a location in memory . . . Switches can be arranged to form matrices permitting communications among several bus structures, constrained only by the Imagination of the user . . ."

Photo of PDP-11?? -- photo of UNIBUS, see Pearson 63

February 15, 1987, *The San Francisco Examiner* reports "Silicon Valley -- Palo Alto and Menlo Park in particular -- has the densest concentration of Military Artificial Intelligence (AI) research and development, " according to reporter David Beers.

February 15, 1994, NSF announces major network awards: California, New York and Michigan Groups Win."

February 17, 1874, Thomas Watson is born in East-Campbell, Steuben County, New York. Of Scots-Irish descent, he is educated at the Addison Academy and the School of Commerce in Elmira, New York. In May 1892, he starts work as a bookkeeper at the salary of \$6.00 a week. He sells sewing machines and instruments before joining National Cash Register. From manager in Rochester, to special representative, he becomes General Sales Manager. At that time, to inspire the dispirited NCR salesforce, Watson introduces the motto "THINK," and tells them "I didn't think" cost the company millions. Later, when he took the helm at IBM, he reintroduces the motto "THINK".

February 17, 1985: *San Jose Mercury News* headline: "By Work Obsessed: The Silicon Valley Ethic."

February 18, 1956, Professor Herbert Simon of Carnegie Mellon writes his first file memorandum sketching a possible approach to verbal learning. He states, "the name applied to the scheme, EPAMINONDAS, betrays its interactions with my Greek studies.

In particular, I developed ideas about the usefulness of redundancy for memory. This provided, in turn, a motivation for our later investigations of learning by hindsight.”

February 19, 1985, the *San Jose Mercury* reports, “Nationally only 19% of the workforce works 41-50 hours on the job,” in an article entitled, “For Workaholics, A Never-ending Labor of Love.”

February 20, 1967, *The Wall Street Journal* reports “IBM would finance up to \$7.5 million dollars worth of equipment for any single customer. The terms were 25% down and payment over four years or less, with interest on the balance at a rate of 1.5% above that of the ‘prime’ rate charged by New York City banks at the time of purchase.”

In a letter of February 25, 1946, Jay Forrester presents the research-and-development challenge in terms of an overlapping sequence of four phases:

1. Research, development and construction necessary to demonstrate digital techniques of the type required for the final computer.
2. Design of a computer which is adequate for the aircraft analyzer problem.
3. Construct and assemble the computer and associated equipment for control and stability studies on aircraft.
4. Operation of the complete equipment for the solution of aircraft stability problems and application of the computer to other types of scientific computation.

February 28, 1956, Forrester is issued patent for core memory.
Photo of Forrester and core memory.

February 29, 1860, Herman Hollerith is born. He develops the first punched card system for the US Census of 1890.

March 1, 1950, George Valley confidentially tells Jay Forrester that ADSEC (Air Defense Technical Committee of the Scientific Advisory Board) that the Air Force, if required, might take assume the total cost of Project Whirlwind. Forrester was able to go into the March meetings with ONR with reasonable assurance of Air Force financial support and, moreover, with the confidence that at long last he was to be given the opportunity to demonstrate the concept he, Everett, and Perry Crawford had consistently advanced: the usefulness of the high-speed digital computer to a command and control center.” Redmond & Smith, pp. 176-7)

March 3, 1863, President Lincoln signed the law creating the National Academy of Sciences.

March 6, 1955, *Business Week*: “Free technology demands that engineers learn a whole new discipline: wastefulness. . . It’s hard on designers who take pride in writing tight code and building efficient systems. But why waste time and effort making efficient use of something that isn’t scarce? . . . Microsoft’s Windows 95 will be huge and slow on today’s PCs. But Microsoft knows that customers will simply buy new computers or add memory to their old ones.”

March 7, 1822, Babbage writes to Sir Humphry Davy, the President of the Royal Society, about automating “the intolerable labor and fatiguing monotony” of calculating tables, writing a scientific paper entitled “On the Theoretical Principles of the Machinery for Calculating Tables.”

March 7, 1988, a *New York Times* headline reads, “Novel Technique Shows Japanese Outpace Americans in Innovation.”

March 8, 1960, Jay W. Forrester testifies on the invention of core memory to the United States patent Office before the Examiner of Interferences, *Jay W. Forrester v. Jan A. Rajchman.*”

photo: Forrester & core memory

March 10, 1992, Donald Knuth writes: “CS&E is a field that attracts a different kind of thinker. I believe that one who is a natural computer scientist thinks algorithmically. Such people are especially good at dealing with situations where different rules apply in different cases; they are individuals who can rapidly change levels of abstraction, simultaneously seeing things ‘in the large’ and ‘in the small.’ “

March 11, 1988, with Sun and AT&T allied, UNIX might unseat huge numbers of users previously tied to proprietary systems. Alarmed by Sun’s market-share mentality, the momentum for open systems and UNIX, and AT&T’s deep pockets, industry executives forged an alliance in hopes of crushing the revolt against proprietary computing before it was too late.

Hall and Barry, “Sunburst: The Ascent of Sun Microsystems”, Contemporary Books 1990, p. 86

March 12-17, 1956, the first USSR meeting devoted to computers is held: Development of Soviet Mathematical Machinery and Instrumentation, Moscow University.

March 16, 1987, Daniel Rosenheim, reports in the *San Francisco Chronicle*: “11 million US workers . . . were ‘dislocated’ between 1979 and 1984 by the megamergers, regionalizations, ‘downsizings,’ acquisitions and outright failures that form the warp and weft of an economy in transition.”

March 18, 1946, Dr. Norris Bradbury, who succeeds Robert Oppenheimer as Director of the Los Alamos Scientific Laboratory, writes Major General G. M. Barnes and Gillon thanking them for the successful use of the ENIAC. He says, “The calculations which have already been performed on the ENIAC as well as those now being performed are of very great value to us. . . The complexity of these problems is so great that it would have been almost impossible to arrive at any solution without the aid of the ENIAC.” (Goldstine p. 215)

March 18, 1988, *The Wall Street Journal* kicks off an article about Sun Microsystems with this head: “The Revolutionary Computer Maker Aims to Transform Industry and Become a Giant.” Although the report discussed many aspects of the company, its salient thesis described Sun’s dramatic moves with its SPARC technology, a computer architecture that was strategically presented to the market in such a way that it upset the profitable applegarts of the world’s computer makers.”

Hall and Barry, “Sunburst: The Ascent of Sun Microsystems”, Contemporary Books 1990, p. 161-2

March 20, 1981, a *New York Times* editorial laments that word processors would deprive future historians of the joy of uncovering a great figure’s early thoughts, as recorded on rough drafts of manuscripts.

March 22, 1946, Dean Pender writes Eckert and Mauchly a letter demanding that they will have to “certify you will devote your efforts first to the interests of the University of

Pennsylvania and will during the interval of your employment here subjugate your personal commercial interests to the interest of the university.”

March 22, 1994, in an address to a United Nations Conference on telecommunications, Vice President Gore refers to an expectation for an “planetary information system” that would be achieved through private investment without US government funding.

March 23, 1945, Curtiss-Wright Corporation publishes “Punched Card Method in Structural Calculations.”

March 25, 1964, RCA and MIT reach an agreement in which the validity of Forrester’s patent was affirmed and IBM paid MIT \$13 million. This was larger than any previous payment on record for a patent, but cheaper than the requested royalty of 2 cents per bit. (Photo Jay Forrester & core memory.)

March 27, 1988, John Markoff writes in the *San Francisco Examiner*, “For many teens, the . . . electronic bulletin boards became a kind of high-tech clubhouse and launching point for exploring a new digital universe. Computers linked by networks created a more compelling world than the most captivating session of Dungeons & Dragons, a role-playing game practiced by teenage science-fiction and fantasy fans. Maybe Mom and Dad wouldn’t let their kid out after dark on a school night, but now he was free to travel anywhere in a far-flung cybernetic world, from the safety and comfort of his bedroom.”

March 27, 1955, a GNN web site comments “on the Internet, feature length is 40 seconds.”

March 29, 1947, *Nature* publishes “Use of Punched Card Tabulating Machines for Crystallographic Fourier Synthesis” by E.G. Cox et. al.

March 30, 1951, UNIVAC

March 31, 1948, Mauchly reports that Pratt & Whitney asks him if he could run an urgent problem the week of April 17. The answer is “no”, ENIAC is fully booked for two years.

March 31, 1951, the Eckert-Mauchly Division of Remington Rand turns over the first UNIVAC to the U.S. Census Bureau.
(Photo of UNIVAC 1 console)

April 1, 1975, Gordon Bell and his engineering team at Digital Equipment Corporation define and design the next computer, the VAX-11. VAX stands for “virtual address extension” and “11” was a reminder to everyone (especially the engineers) that DEC was extending the PDP-11, not just starting from scratch. Appearing that year, VAX soon captures forty percent of the market.
(photo of team and VAX)

April 2, 1943, J.R. Brainerd submits first draft “Report on an Electronic Diff. Analyzer,” submitted to the Ballistic Research Laboratory, Aberdeen Proving Ground, by the Moore School of Electrical Engineering, University of Pennsylvania.
(Goldstine p. 149)

April 2, 1946, Maurice Wilkes writes J.R. Womersley, Superintendent of NPL Mathematics Division: “We are just getting organised and I want to decide what our research programme on new calculating machines shall be. I would like to have a discussion with you so that anything we do may be coordinated with your own activities.”

(Gordon, Do we want to say what NPL's activities were?)
Lavinton, Early British Computers, p. 29

April 3, 1950, a top-level meeting is convened at corporate headquarters to evaluate all IBM product development programs. Tom Watson Jr. chairs the meeting whose purpose is to evaluate electronic developments which can affect business faster than ever before. (Bashe 88)

April 3, 1996, at a Vanguard Conference, Nicholas Negroponte notes, "that a company needs a certain number of buyers in a certain city in order to make money selling products made from atoms such as hydrogen and oxygen -- Evian water, for instance. "With atoms, you need a market where the consumption of those atoms is big enough to justify moving them there. But with bits you don't care. You can have just one person from a city buy your bits."

April 5, 1992, Peter H. Lewis reports in the New York Times: "..despite anticipated future downsizing of its work force, IBM is reported to have a hiring need for Ph.D's in computer science that is greater than the entire supply produced by American universities each year."

April 6, 1947, the Minutes of Conference held at the Moore School of Electrical Engineering to discuss patent ideas, record von Neumann saying, "There are certain items which are clearly one man's . . . the application of the acoustic bank to this problem was an idea we heard from Pres Eckert. There are other ideas where the situation was confused. So confused that the man who had originated the idea had himself talked out of it and changed his mind two or three times. Many times the man who had the idea first may not be the proponent of it. In these cases it would be practically impossible to settle its apostle. (Goldstine p. 198)

April 7, 1949, at Bell Labs, the concept of the transistor was proven to be functional. (Quiesser, p. 60)

April 7, 1964, IBM announces System 360.
Photo of a 360 from collection

April 9, 1919, J. Prespert Eckert, co-developer of ENIAC, is born.
Photo ??

April 11, 1936, Konrad Zuse files a German patent titled "Methods for Automatic Execution of Calculations with the Aid of Computers", portions appear in Brian Randell, *The Origins of Digital Computers*, pp. 159-166.
(photo of Zuse giving a talk at The Computer Museum, note that the video is available)

At the Apple board meeting, 11, 1985, the directors urge Sculley to make it clear that he is Chief Executive Officer. Sculley answers that it was hard to be CEO when the Chairman, Jobs, is also head of the Mac division. The Board then resolves that its chairman would no longer be head of the Mac division.

April 11, 1988, John L. Rutledge writes in *Weekly Review*, Dillon Reed Equity Research: "We are firmly convinced that Sun is unique and is going to be the computer growth company of the 1990s. . . The company is gaining market share and is growing more rapidly than any other computer company in the industry."

April 12, 1981, HP 41 used on first space shuttle flight.
Photo of HP-41 from collection

April 16, 1668, Sir Samuel Morland places an ad in the London Gazette selling his calculating instruments: "the one serving for addition and subtraction of any numbers of Pounds, Shillings, Pence and Farthings or of any other coins, Weights, and Measures. . . the other for the ready performance of Multiplication and Division, together with the Extraction of the Square and Cube Roots and that to any number of Places required."

April 17, 1980, *Electronics* publishes a special commemorative, richly illustrated description of the development of modern microelectronics.

April 18, 1988, Peter Drucker writes in *Business Week*, "Restructuring the organization around information -- something that will, of necessity, have to be done by all large businesses -- invariably results in a drastic cut in the number of management levels and, with it, the number of "general" management jobs."

April 19, 1957: First FORTRAN program is run.

April 20, 1951, the Whirlwind computer successfully tracks a single aircraft and computes the proper magnetic heading instructions to guide the aircraft to an arbitrarily chosen geographic point. The pilot of the intercepting aircraft reports that from a distance of about 40 miles he was brought to within 1,000 yards of his target on each occasion. (Wieser in Lincoln Laboratory, "Quarterly Progress Report, Division 6 -- Digital Computer," June 1, 1952)

(Whirlwind photo from The Computer Museum History collection). See parts of Whirlwind on exhibit at)

April 23, 1948, A. C. Nielsen signs contract for UNIVAC I.
Photo UNIVAC I

April 23, 1957: Gundlach's patent drawing for the Xerox machine, "Inventors at Work" p 103.

April 24, 1938, The *Baltimore Sunday Sun's* photogravure section publishes a portrait of Horace Scudder Uhler, with the caption "Something to paste in your hat" is stated with justification that Dr. Uhler has calculated pi to 261D.

April 25, 1961, Robert Noyce issued patent for semiconductor.

April 26, 1995, headline proclaims "To Aid Pentium, Intel Will Slow Flow of 486's." The article detailed how Intel applies Davidow's Law: "The decision reflects a long-standing Intel strategy of creating faster and smaller microprocessors before its competitors can catch up . . . then tries to drag computer makers and consumers along by cutting off supply of the older chips while lowering prices of its new, faster chips. Using this strategy, Intel has left behind many competitors that may not have developed microprocessors up to the new standard established by Intel." *San Jose Mercury News*.

April 27, 1988, The San Francisco Chronicle reports, "Facelift has San Jose Jittery". And the mayor of San Jose acknowledges, "I don't think you're ever going to meet the demand for housing."

April 30, 1904. George Stibitz born.
(Appropriate photo & explanation of/ about George)

May 1, 1964, at 4 a.m. the first BASIC program runs on the time-sharing system at Dartmouth, implemented on the GE 225 computer.

May 1, 1992, ‘ after four days of deliberation, the jury in the suit between Atari and Nintendo found Nintendo not guilty. It’s licensing program had not hurt Atari. Sources reveal that Atari agreed not to appeal so that it would not have to pay a costs bill from Nintendo of between \$500,000 and \$1 million.’ David Sheff, *Game Over: How NINTENDO Zapped an American Industry, Captured Your Dollars, and Enslaved Your Children*’, Random House, 1993, p, 417.

May 1, 1995, in an interview with *Business Week*, new IBM President Lewis Gerstner comments, “Most of this industry is run by propellerheads.”

May 2, 1989, *The Wall Street Journal* features Timothy Schellhardt and Carol Hymowitz’s article “U.S. Manufacturers Gird for Competition”. They report that GE, challenged by Siemens in the market, concludes that they need quicker response times to customers. “We had to speed up or die,” according to William Sheeran, general manager of GE. (M Malone, *The Virtual Corporation*, Harper Collins 1992, p. 112.

On May 2 (or 3), 1952, according to Martin Gardner. E. W. Veitch published “A Chart Method for Simplifying Truth Functions” in the *Association for Computing Machinery Proceedings*.

The Atanasoff Berry Computer in its final state, May 5, 1942. The control panel, card reader, and mechanical conversion drum are shown.
(photo Randell p. 325)

When the EDSAC first operates on May 6, 1949, in Cambridge, England, it is a complete machine with paper tape for input and a teleprinter for output with a full repertoire of instructions.
(photo of EDSAC)

May 7, 1954, IBM announces the 704 with electrostatic memory. The pricing according to Cuthbert Hurd is based on the forecasting of 50 machines. This forecasting is exceeded especially with the addition of core memory.
(photo of 704)

May 7, 1997, The New York Times quotes Garry Kasparov: “. . . having spent days matching wits with the box. The machine, he said, appeared to be developing a mind of its own, occasionally making moves that defied convention. . . . It showed a sign of intelligence . . . I think that this machine understands that it’s time to think.”

May 7 & 8, 1835, General Meeting of the Royal Academy of Sciences at Brussels. A letter from Mr. Babbage announces that he has for six months been engaged in making the drawings of a new calculating machine so far greater power than the first. “I am myself astonished at the power I have been enabled to give to this machine; a year ago I should not have believed this result possible. This machine is intended to contain a hundred variables (or numbers susceptible of changing); each of these numbers may consist of twenty-five figures. Mr. Babbage announces, in conclusion, that the greatest difficulties of the invention have already been surmounted, and that the plans will be finished in a few months.” B. V. Bowden, “Faster than thought,” p. 343

May 8, 1945, von Neumann writes Herman Goldstine saying that if the EDVAC could sort as well as punched-card sorting machines, it would qualify as an all-purpose machine. Ceruzzi, p. 89

May 10, 1950, NPL's Pilot Model of the ACE runs with its first program. This version of Alan Turing's ACE proposal was lead by Dr. J. H. Wilkinson (a former colleague of Turing) and E. A. Newman. (fig. 8.2 Lavington)

May 11, 1951, Jay Forrester files patent for core memory.
Photo of Forrester & core.

Friday, May 13, 1988, a virus is discovered at the Hebrew University in Israel designed to wipe out all files on that day. It was discovered before the target date because it was also designed to wreak havoc on Fridays and the 13th of each prior month. An inherent flaw in the virus aided the investigators. Instead of merely replicating itself once in a program or data file, the malignant copies replicated themselves over and over. This resulted in programs and data consuming increasing amounts of memory. (Lynn B. Montz in Denning, Peter J., ed. "Computers Under Attack", ACM Press, New York, Addison-Wesley Publishing Co. 1990)

May 14, 1952, the US Navy issues list of commercially available small computers based on a Symposium on Commercially Available General-Purpose Electronic Digital Computers of Moderate Price (Washington D.C.) Table in Ceruzzi, p. 47

May 14, 1958, GPS (General Problem Solving) is first publicly described (but not named) in paper read by Herbert Simon at a University of Colorado symposium. Simon recalls that the suggestion that computers could simulate even creative activity created a stir at the Colorado meeting, not unmixed with a large quantity of skepticism -- a reasonable reaction. (Herbert Simon, *Models of My Life*, Basic Books, 1991, p. 221)

May 15, 1946, John von Neumann delivers an address to meeting of the Mathematical Computing Advisory Panel of the Office of Research and Inventions, U.S. Navy: "The Principles of Large-Scale Computing Machines."

May 15, 1989, the Subcommittee on Technology and the Law of the Senate Judiciary Committee holds its first hearing on computer viruses. Chaired by Sen. Patrick Leahy (D-VT), it features panelists William S. Sessions, director of the FBI, and hacker, sleuth Cliff Stoll.

May 16, 1949, F. C. Williams and T. Kilburn file for a U.S. patent for "Information Storage Means" (the Williams tube). Granted Jan. 15, 1957, US patent 2,777,971.
Bashe p. 106
(photo of Williams tube from TCM collection)

May 16, 1960, a machine translation of a May 7th speech by Khrushchev to the supreme Soviet of the USSR, as reported in Pravda on the following day.

Comrade deputy!

All appearing on session expressed full consent with/from positions, advanced in reports, and unanimous supported offer Soviet government about cancellation taxes with/from worker and employee and other measures, directed on increase welfare Soviet

people, and about completion in 1960 year translation all worker and employee on abbreviated worker day. In own appearances deputy unanimous approved inside and foreign policy Soviet government.

A human translation of the same passage is:

Comrade deputies!

All those who spoke at the session expressed complete agreement with the positions advanced in the reports, and unanimously supported the proposals of the Soviet government for abolition of taxes collected from industrial, office, and professional workers and for other measures directed at improving the welfare of the Soviet people, and for the completion in 1960 of the transition of all industrial, office, and professional workers to a shorter working day. In their speeches the deputies unanimously approved the internal and foreign policy of the Soviet government.

May 19, 1942, J. Prespert Eckert is granted his first patent: "Light Modulating Methods and Apparatus."

May 21, 1952, IBM announces the 701.
photo of IBM 701

May 22, 1973, Just a few hours after finishing his doctoral dissertation, Robert Metcalfe writes Ethernet invention memo at Xerox Parc.
(photo of ethernet in The Computer Museum History Center and appropriate copy.)

May 23, 1985, Steve Jobs calls his chief executives together. He tearfully declares he is resigning from Apple. His aides convince him he has some kind of future at Apple.

May 24, 1953, The debugging of part of Alan Turing's morphogenesis programs for a Ferranti Mark I, shows a fragment of computer print-out and Turing's notes.
(Lavington P. 93)

May 27, 1959, at approximately 10 P.M. Whirlwind is shut down as part of MIT's computing facilities. It is to run for another decade at Wolf R&D Corporation in West Concord, Mass. In the early 70s the computer is permanently shut down. When dismantled, selected components are deposited with the Smithsonian Institution in Washington, D. C., and The Computer Museum in Marlboro, Mass.
(photo of Whirlwind at TCM)

May 28, 1951, Air Force Chief of Staff Vandenberg observes in a letter to George Valley that the "successfully accomplished digital computation of interception courses with the Whirlwind Computer" gives "real hope of being able to eliminate some of the delays and inaccuracies inherent in conventional manual Air Defense control systems." (R&S p. 194)

May 31, 1985, Sculley announces Apple's new structure: Yocam runs engineering, manufacturing and distribution; Gasse who reports to Yocam is head of product development; and Campbell is head of US marketing and sales.

On June 1, 1944, the first MARK II COLOSSUS (built to break the German code) starts to work, five days before D-day.

June 1, 1946, the Moore School of Engineering, University of Pennsylvania, publishes "Report on the ENIAC, Technical Report 1."

June 1, 1968, Business Week reports that leasing companies hold title to about 5% of all computers in use.

June 1, 1985, Datamation reports a group of hobbyists met in Kansas City and establishes the "Kansas City Standard" for the audio use of one computer to another.

June 1, 1986, Gary Dessler, "Jumping Jobs Could be Step to the Fast Tract," San Jose Mercury News.

June 2, 1961, IBM announces the 1301 Disk Storage unit with two storage modules. In the context of the 7000 series computer, the capacity was 28 million characters. As many as five units could be attached to a computer system. Disks rotated at 1800 rpm, tracks (to to the inch) were recorded at up to 520 bits per inch, and typical head-to-disk spacing was 250 microinches. (Bashe p. 309)

Photo of IBM 1301

June 4, 1989, Sun announces a key deal in the process to legitimize SPARC and make it a number-one RISC CPU. Toshiba agrees to build low-cost desktop and portable systems using the SPARC chip. Hailed as "the biggest boost yet in Sun's controversial strategy to create a new breed of computer clones," the pact is heavily criticized by protectionists as being anti-American. Likened to the selling of F-16 technology to the Japanese, the Toshiba agreement even provoked name calling: one pundit resorts to calling Sun's young CEO "Scott McGreedy."

Hall and Barry, "Sunburst: The Ascent of Sun Microsystems", Contemporary Books 1990, p. 86

June 5, 1833, Ada, Countess of Lovelace, meets Charles Babbage.

June 6, 1951, Wes Clark describes concept of LINCtapes.
(page from Clark's notebook, or photo of LINC tapes on LINC at history center)

June 7, 1981, Herb Greenberg reports in the San Francisco Examiner, when French-born Bernard Lacroute left Sun for DEC, CEO Scott McNealy did not search for a replacement but was reported to be "relishing his added duties."

June 8, 1935, D.R. Hartree publishes an article on the differential analyzer in Nature.

June 10, 1977, First Apple II delivered.

Photo: Apple II in collection

June 11, 1987, *Electronics* publishes, "Fingerprint Reader Restricts Access to Terminals and Pcs" by Wesley Iversen.

June 13, 1988, in a *Forbes* article "How the Computer Companies Lost Their Memories" George Gilder writes: "In 1988 the 1-megabyte DRAM chips were the most popular, used by Sun, Apple, IBM, and the rest of the industry. Through either collusion or poor planning the 1-megabyte DRAMs nearly vanished from the market. Controlled by Japanese manufacturers, the DRAM shortage caused most of the computer industry to raise its prices. At Sun, where products were already priced aggressively at the expense of margins, the lack of DRAMs caused a backlog headache for both Sun and its customers."

No photo

June 14, 1951: UNIVAC I dedicated.
(Photo from History Centr)

June 14, 1965, *EDP Weekly* reports, Max Palevsky, the President of SDS asserts, "IBM's strength is in their cash flow, which is approximately \$600 million a year. With this financial edge, IBM has structured the business so that leasing is the preferred method of acquiring computers, and they have made the leasing business one in which the terms are more difficult for the leaser of equipment than anywhere in American enterprise."

June 16, 1947, ENIAC patent filed.
(copy of patent)

June 16, 1986, *Business Week* reports how Odex and other robots are being used to increase safety for human workers in nuclear power plants.
(Odex at Computer Museum)

On June 17, 1949, the Manchester "baby MARK I" although having gone through continual enhancement, runs an overnight error -free program.
(photo of Mark I)

June 17, 1948, Bardeen, Brattain, Shockly file patent for transistor.
(patent drawing - or photo from file)

June 18, 1951, Jerrier Haddad reports that so many new men arrived at IBM engineering that he interviewed them two at a time before assigning them to experienced engineers. Each was given work space consisting of a table measuring 2 by 3 feet and half a file drawer.

June 19, 1623, Blaise Pascal born.
(photo and explanation of Pascaline)

June 20, 1950, SEAC dedicated
(photo of SEAC and explanation)

June 21, 1948, the Manchester "baby MARK I" runs a 52-minute program, and is believed to be the first stored-program computer to come into operation. The Manchester project attracts government interest and the firm of Ferranti Ltd. is given support to build a production version of the university prototype.
(photo of Mark I)

June 22, 1910: Konrad Zuse born.
Photo of Zuse at Museum and some explanation)

June 23, 1912, Alan Turing born.
Photo of Turing and description.

June 25, 1876, simultaneously Alexander Graham Bell is beginning the first public demonstration of his telephone and General George Custer is loosing in the battle of the Little Big Horn River in Montana.

June 26, 1920, Leonardo Torres y Quevedo, Member of the Royal Academy of Sciences of Madrid, Corresponding Member of the Institute de France, presents his paper, "Electromechanical Calculating Machine."

June 26, 1947, three years after they start on the patent, Eckert and Mauchly finally file a two-hundred-page document written by Eckert and a patent attorney. The patent is broad and unfocused and attempts to make more than one hundred claims covering the computing waterfront.

June 28, 1946, A. Burks, H. Goldstine, and J. von Neumann's, *Preliminary Discussion of the Logical Design of an Electronic Computing Instrument* is published by the Research and Development Service, Ordnance Department, US. Army and the Institute for Advanced Study, Princeton, N.J.

June 29, 1950, MIT's Whirlwind project is officially extended. The ONR funding continues through June 30, 1951.

June 30, 1949, is determined as the final extension of the Whirlwind project with ONR funding, providing a total of \$1.2 million. (See the next event, a year later, next June 29).

June 30, 1843. Babbage to the Countess of Lovelace.

Only three kinds of variable cards are used.

1st. Those which give off a variable from the store to the mill and leave zeros for the variable itself.

2nd. Those which give off a variable from the store to the mill and at the same time (or in the same turn of the hand) retain the same variable in the same place.

3rd. Those which order any variable in which only zeroes exist to receive a result from the mill.

June 30, 1945. J. von Neumann. First Draft of a Report on the EDVAC. Contract No. W-670-ORD-492

July 1, 1646: Gottfried Leibniz born.
(Photo of Leibniz calculator and description)

July 2, 1953, IBM announces 650 Magnetic Drum Calculator.
(Photo of 650 and description)

July 6, 1948, U.S. Coast and Geodetic Survey publishes Computing Magnetic Observatory Results with Punched Cards

July 7, 1752: The birthdate of Joseph-Marie Jacquard, who developed a loom using punched-cards to create a pattern in the fabric.
(portrait of Jacquard in silk produced by the loom)

July 9, 1836, Charles Babbage writes in his notebook: "This day I had for the first time a general but very indistinct conception of the possibility of making an engine work out *algebraic* developments. I mean without *any* reference to the *value* of the letters. My notion is that as the cards of the Calc. engine direct a series of operations and then recommence with the first so it might perhaps be possible to cause the same cards to punch others equivalent to any given number of repetitions. But their hole (their holes?) might perhaps be small pieces of formulae previously made by the first cards."

July 9, 1951: Ferranti Mark I computer is inaugurated..
(photo of Mark I)

July 10, 1951, Maurice Wilkes formally introduces the concept of microprogramming.

July 12, 1956, Allen Newell and Herbert A. Simon publish "The Logic Theory Machine," Rand Corporation Report P-868.

July 13, 1971: Patent drawing for Ted Hoff's cell for MOS (metal-oxide semiconductors) random-access integrated circuit memory.

July 14, 1918, Jay Forrester is born.
The photo shows Forrester with his project, the Whirlwind Computer at MIT, for which he invented core memory.

July 15, 1948, J. Bardeen and W. H. Brattain, publish "The Transistor, A Semi-conductor Triode" in Physical Review.

July 16, 1969, first moon landing mission under computer control.

July 24, 1916, three months after President Wilson had turned down the first proposal to create a National Research Council, he approved the plan and sent a confirming letter to Hale, the first chairman.

July 30, 1996, Microsoft formally asks Netscape to "cease and desist" promoting its Web server software for use on Microsoft's Windows NT workstation product. Watch for the next move on August 13.

July 30, 1959, Robert Noyce files patent for semiconductor.
Drawing from patent

August 5, 1996, *San Jose Mercury News* headlines: "Women.com Definitely Not Your Typical Ladies' Mag".

August 7, 1944. IBM officially dedicates Mark I to Harvard University.
Photo of Harvard Mark I and more explanation.

August 8, 1953, the first bank of core storage was wired into Whirlwind. A second bank of cores went in on September 5. The Computer's access time dropped from 25 microseconds for tube storage to nine microseconds for the magnetic cores.
Photo: Bank of Core Storage, Whirlwind Computer. The Computer Museum History Center.

August 9, 1995, Netscape's IPO went out at \$28 a share. It reached a high that day of \$74. Wait for December 6 to see its peak.

August 13, 1996, Microsoft announces agreements with the top seven Web sites and offers them incentives to use Microsoft's browser instead of Netscape's. Microsoft allegedly made deals with AT&T, America Online, and many PC manufacturers -- deals that those companies could not refuse.

Friday, August 13, 1982, Gordon Bell, Vice President of Engineering at Digital Equipment Corp. when to a design review for VENUS (VAX 8600). Bell asked if the design had been simulated or thoroughly reviewed. It hadn't, since the group was in such a hurry to meet the schedule that they wanted to skip the checking stage. On Saturday, I visited the project team and found that four individuals each regarded himself as the project's sole architect and wanted the credit. The project had about four design styles, because it consisted of four subsystems. By Thursday, no one wanted credit. . . . Within six months the project was brought under control . . . The product shipped two years later than scheduled.

August 14, 1962, FORTRAN standardization begins.

August 17, 1950: SWAC, the Bureau of Standards Western Automatic Computer, is dedicated.
Photo of SWAC

August 18, 1955, Tom Watson Jr. meeting with key engineers in Poughkeepsie, chided them for hesitating to use ferrite cores in commercial products because of Wang's patent. He quoted his father saying, "That's the most ridiculous reason for not moving into a new area that I've ever heard of because, one way or another, we can negotiate with Wang."

August 21, 1888, patent issued for Burroughs calculating machine.
Patent illustration

August 21, 1997, GE and EG&G sign collaboration pact to produce digital X-ray detectors.

August 22, 1955: First SHARE users group meeting.
(Photo of meeting -- I think I have)

August 22, 1996, Simson Garfinkel reports Massachusetts Registry of Motor Vehicles have created what they believe is one of the first on-line motor vehicle departments. Consumers can log onto the registry's Web site to renew vehicle registration, order vanity plates, and pay their speeding ticket with a credit card.

August 23, 1976 *Business Week* reports, "War Rooms' Plug into the Computer": Gould is combining the visual display board, which has now become a fixture in many boardrooms, with a computer information system. Information on everything from inventories to receivables will come directly from the computer in an assortment of charts and tables that will make comparisons easy and lend instant perspective.

August 24, 1992, *Computer Reseller News* reports: "Wang Files for Chapter 11, Plans to Let go 5,000."

August 26, 1987, an article on Carver Mead and his special chips for vision processing is published in *The New York Times*: Andrew Pollack, "Chips that Emulate the Function of the Retina".

August 27, 1979, *Business Week* headline, "Computer Revolution at Dun & Bradstreet" is followed by the story that Dun & Bradstreet's computer technology -- above and beyond its contribution to management as an administrative tool -- became the essence of a brand new product and the delivery vehicle for an existing product using on-line database systems.

August 30, 1907: John Mauchley is born.
(photo of Mauchley and ENIAC and description)

August 30, 1976, *People Magazine* headlines "In His Own Words: An MIT Expert (Michael Dertouzos) Foresees Computers That Clean, Mow Lawns and Become Playmates."

September 1, 1945, *Aero Digest* prints "Use of Automatic Calculation Methods in Aeronautical Research" by Max Munk.

September 4, 1956, IBM announces RAMAC 305 with a 323 punch, 340 power supply, 350 disk storage, 370 printer and 380 console. Capacity of the fifty-disk array was 5 million characters. Disks rotated at 1200 rpm, tracks (20 to the inch) were recorded at up to 100 bits per inch, and typical head-to-disk spacing was 800 microinches." (Bashe p. 299)\nPhoto of RAMAC

September 9, 1945, Grace Murray Hopper logs first computer "bug" at 15:45 hours. She actually pastes the bug, a moth that got stuck in the relays of the Harvard Mark I, in the log. (Copy of log book page)

September 10, 1944, Mauchley's diary entry on the ENIAC: "Dr. Brainerd was pooh-poohing the idea."
The function table from the ENIAC, on exhibit at The Computer Museum History Center, Mountain. View.

September 14, 1987, the broadening of robot use is observed: A robot named Oracle is shearing sheep in western Australia. RM3 is washing, debarnaciling, and painting the hulls of ships in France. Doctors use of robot arm for brain operations in Long Beach Memorial Hospital, California. A Dallas policeman used a robot to break into an apartment in which a suspect had barricaded himself. The frightened fugitive ran out of the apartment and surrendered. Gene Bylinsky, "Invasion of the Service Robots," *Fortune*.

September 15, 1947: ACM (Association of Computing Machinery) is founded. (Get photo from ACM headquarters)

September 16, 1958, McCarthy writes the first memorandum on LISP, Gene Bylinsky reports in *Fortune*

September 17, 1970, Sony became the first Japanese corporation to be traded on the New York Stock exchange. From left to right: Robert Haack, president of NYSE, Akio Morita, and Albert Fried, NYSE specialist for Sony.

September 18, 1990: The NeXT station is released for \$4995 and the NeXT station color for \$7995 with a 16" monitor capable of 4,096 colors and 12 MB RAM. The \$7995 NeXTcube was next, with the same configuration as a NeXTstation Color except it could use a 32-bit video board for 16.7 million colors in Adobe's Display Postscript.

September 22, 1967: Science publishes a letter, "What is Computer Science?" by Allen Newell, Alan J. Perlis, and Herbert A. Simon

September 22, 1970: Patent drawings for one of Stanford Ovshinsky's devices for information storage and retrieval (Inventors at Work, p. 162)

September 23, 1884: Hollerith files patent for tabulating machine that will be used for the 1890 census, and its descendants thereafter.

September 26, 1985, Nature publishes "Computational Vision and Regulation Theory" by Tomaso Poggio, Vincent Torre, and Christof Koch.

September 30, 1980, Digital Equipment Corporation, Intel Corporation, and Xerox Corporation publish "The Ethernet", a Local Area Network, Data Link Layer and Physical Layer Specifications. This becomes the ethernet standard.

October 2, 1956 letter to Earl Russell from Herbert Simon, Carnegie-Mellon University:
Dear Earl Russell:

Mr. Newell and I thought you might like to see the enclosed report of our work in simulating certain human problem-solving processes with the aid of an electronic computer. We took as our subject matter Chapter 2 of Principia, and sought to specify a program that would discover proofs for the theorems, similar to the proofs given there. We denied ourselves devices like the deduction theorem and systematic decision procedures of an algorithmic sort; for our aim was to simulate as closely as possible the processes employed by humans when systematic procedures are unavailable and the solution of the problem involves genuine "discovery."

The program described in the paper has now been translated into computer language for the "Johnniac" computer in Santa Monica, and Johnniac produced its first proof about two months ago."

wait for November 2 to read Russell's reply. The Johnniac is on view at The Computer Museum History Center, Mountain View.

October 2, 1991: The Apple/IBM alliance becomes official. Among the many agreements, Apple and IBM will create PowerPC-based machines and produce two companies, Taligent and Kaleida. the former a now defunct company that worked on the now-defunct Pink. the latter a company that produces multimedia tools.

October 3, 1950: Bardeen, Brattain and Shockley are issued patent for the transistor. (drawing of transistor from patent)

October 3, 1983: Newsweek report Intel's President, Andrew S. Grove: "Since our business depends on what it knows to survive, we mix 'knowledge-power people' with 'position-power people' daily, so that together they make the decisions that will affect us for years to come. We at Intel frequently ask junior members of the organization to participate jointly in a decision-making meeting with senior managers. This only works if everybody at the meeting voices opinions and beliefs as *equals*, forgetting or ignoring status differentials. And it is much easier to achieve this if the organization doesn't separate its senior and junior people with limousines, plush offices and private dining rooms."

October 4, 1903, John Atanasoff is born, who later goes on to build what is recognized as the first digital computer.
(photo "Recreation of the Atanasoff Berry Computer at The Computer Museum History Center.)

October 5, 1981, Fortune prints: "The news for the 1980s isn't that the experience curve has been proved wrong. Indeed, its logic has been refined, its implications plumbed for new ideas such as shared costs and the life cycle of technologies. What's happening now, though, is that the curve is being consigned to a much reduced place in the firmament of strategic concepts. With it is going a good bit of the importance originally attached to market share."

October 9, 1947, the contract is let for the BINAC.
(photo of BINAC and description)

October 11, 1887, D. E. Felt issued patent for Comptometer.
(photo of Comptometer from the collection of the Computer Museum History Center)

October 11, 1999, Information Week reports that ORACLE Chairman Larry Ellison states: "Unless the board of directors removes me from my job, unless I'm fired, we will never, under any circumstances, sell Oracle application to other ASPs."

October 12, 1985, was accepted by Storage Tech's creditors as a "bar date". No claims after that date against Storage Tech for debts incurred before the Chapter 11 filing will be accepted. The agreement meant that the creditors and management believe that Storage Tech has a future.

Sunday, October 15, 1978, Herbert Simon received a phone call from his friend and former student Sven-Ivan Sundquist, who reported that he had met a member of the Nobel Committee on the street that day, who told him he would not be disappointed by that year's award. After considering what that might mean, he decided that I would be the winner and called to alert me. The call came at 6 A. M. on Monday. (get photo from Simon if possible)

October 17, 1969, "Computer-Assisted Instruction" by Patrick Suppes and Mona Morningstar appears in *Science*.

October 18, *Science* publishes "Punched Card Technique for Computing Means, Standard Deviations, and the Product Moment Correlation Coefficient, and for Listing Scattergrams" by N. R. Bartlett.

October 19, 1973, File no. 4-67, Civ. 138, Honeywell Inc. vs. Sperry Rand Corp. and Illinois Scientific Development Inc. brought out thousands of pages of material on early computers, valuable to the computer historian. R Kurzweil, *The Age of Intelligent Machines*, 1990, MIT Press, Cambridge, Ma.

October 20, 1975, *Electronic News* reports: "Eight scientists and engineers have left Shockley Semiconductor Laboratory in nearby Mountain View [California] to set up this own firm, Fairchild Semiconductor Corp. here . . . [to make] high speed computer transistors . . . [including] Dr. Robert Noyce, Gordon E. Moore, Julius Blank, J.W. English, Philip Haas, Richard Hodgson and Eugene Kleiner."

October 22, 1979, Michael Porter writes a column in *The Wall Street Journal* pointing out the limitations of the experience curve as a device for formulating strategy.

October 25, 1976, *ComputerWorld* headline, "Users Wish they had Taken more Time Picking DBMS"

October 25, 1977, at the introduction of DEC's VAX, Ken Olsen makes these remarks: The best of what we've learned about interactive computers in our first 20 years has gone into this machine. We have spent more than 300 man-years of intensive engineering effort in its development, and during that time I have sensed more excitement and enthusiasm among the developers of VAX than I remember seeing at any other time in Digital's history." (Pearson, p. 68)

October 26, 1986, Scott Fisher describes "Telepresence Master Glove Controller for Dexterous Robotic End-Effectors" SPIE Cambridge Symposium on Optical and Optoelectronic Engineering."

October 27, 1952, MIT issues a letter of intent under the terms of which IBM commences a cooperative project with Lincoln Laboratory. The contract ultimately involves the Western Electric Company, the Bell Telephone Laboratories, the Burroughs Corporation, and the Systems Development Corporation, and culminates in the development and construction of the SAGE continental air defense system. It is Whirlwind's sequel and a story involves research and development issues that Project Whirlwind never had to face. (Photo of part of Sage, The Computer Museum History Center, Mountain View, California.)

October 30, 1991, John Markoff reports that American Express and Schlumberger, both stalwarts of the American business community, will be among the first organizations to purchase a massively parallel computer recently offered for sale by the Thinking Machines Corporation. (Photo of TMC-1 at The Computer Museum History Center, Mountain View, Ca.)

October 31, 1978, the first International Convocation of Engineering Academies and Like Organizations was hosted by the NAE in Washington, D.C. Total attendance was ten, including representatives from four other academies -- the Royal Swedish Academy of Engineering Sciences, the Australian Academy of Technological Sciences, the Mexican national Academy of Engineering and the British Fellowship of Engineering.

November 1, 1949, Moore School of Electrical Engineering, University of Pennsylvania submit "Functional Description of the EDVAC, Research Division Report 50-59, under contract with the Ordnance Department, Department of the Army.

November 2, 1948, Jay Forrester explains that the Whirlwind computer had never been intended to be the airplane analyzer, but rather a working model of the type of computer which could be used in the airplane stability and control analyzer. The working model, he cautioned, would have limited applicability to the analyzer. Throughout his remarks was the implication that he and his associates were seeking to design and construct a computer

that would be in truth a general-purpose computer that could be applied to “limited, real-time aircraft simulation.” In addition, it could be used for scientific calculations.”
(Photo of Whirlwind, The Computer Museum History Center)

November 2, 1956, Bertrand Russell writes Herbert Simon: “Thank you for your letter of October 2 and for the very interesting enclosure. I am delighted to know that *Principia Mathematica* can now be done by machinery. I wish Whitehead and I had known of this possibility before we both wasted ten years doing it by hand. I am quite willing to believe that every in deductive logic can be done by machine.”

November 2, 1988, Robert T. Morris Jr. introduces the worm to the Internet.

November 3, 1963, Rev. A. Q. Morton of Culross, Fife, describes how he and Professor G. H. C. Macgregor of Glasgow University, both biblical scholars, solved the problem of the Pauline epistles. With the aid of a Mercury computer they analysed about 400 samples of Greek prose texts -- some 600,000 words in all -- drawn from more than a dozen different authors. “We discovered by applying the help of our computer the seven tests of authorship, that each one gave the same result. Five of the fourteen Epistles were indistinguishable: Romans, first and second Corinthians, Galatians, and Philemon. The remaining nine came from at least five other hands. Since Paul is universally accepted as the author of Galatians, these five are the genuine epistles.

November 3, 1983, Newsweek reports Andrew Grove, President of Intel saying: “The real benefit . . . is to team up people with hands-on knowledge with those in position of power to create the best solutions in the interest of both.”

November 4, 1952: UNIVAC I correctly predicts the election results.
(Photo UNIVAC I console at Computer Museum History Center)

November 8, 1995: Borland International to deliver tools for Sun’s Java Internet programming language.”

November 9, 1960: JOSS created.

November 11, 1991, *Business Week* headlines: “Compaq’s New Boss Doesn’t Even Have Time to Wince”. After weeks of high-level wrangling aimed at pulling the company out of a six-month decline in revenues, profits, and market share . . . [Compaq Chairman Benjamin M.] Rosen stepped in.”

November 12, 1936: Turing paper “On Computable Numbers” published.

November 15, 1989, Constance Perin presents “Electronic Social Fields in Bureaucracies,” in a session “Egalitarian Ideologies and Class Contradictions in American Society”, American Anthropological Association.

November 15, 1999, PC Week quotes ORACLE senior vice president worldwide marketing Mark Jarvis on the greater efficiency of remote hosting: “People used to have their own electrical generators, but nobody does that anymore. We believe this is exactly what’s going to happen in computing: People will rely on experts to host their applications.”

November 16, 1992, makes the beginning of the US wide ISDN telephone serve, as local and national carriers were networked for the first time. This historic moment became known as the Golden Splice.

November 17, 1985, New York Times headlines: "Hewlett Bets the Store on Spectrum".
(Do we have a photo of Spectrum?)

November 19, 1981, Adam Osborne writes Tom Davidson: Subject, Quality Control. "I wish to commend your quality control department for the egalitarian approach they take toward doing a crummy job. Not only do our customers have to suffer for the lack of proper product inspection, I do too.

I brought to your attention the fact that my OSBORNE I, when upgraded, was returned to me with velcro on the power receptacle cover positioned so that it could do no good. In addition, I was given one side catch that constantly slips open, and a strip on the bottom that would not stay attached to the case.

It is necessary that we check product for physical as well as electronic integrity.

November 20, 1990, "Operation Midnight Shipping" commenced with Super Family Computers, "super Mario World" and "F-Zero" (a racing game). The next morning, store managers braced themselves before announcing that the next Nintendo generation had arrived. . . Three hundred thousand Super Famicoms were delivered that night, though orders numbered 1.5 million. Four out of five customers were disappointed. (David Sheff, Game Over, "How Nintendo zapped an American industry, captured your dollars, and enslaved your children," Random House, 1993, p 360-1.)

November 21, 1983: Business Week headlines: "Marketing: The New Priority."

November 22, 1993, in a Business Week Article, "What Appled Learned from the Newton." The point was made: "Instead of accolades, Newton became a running joke on no less visible a platform than Gary Trudeau's Doonesbury comic strip."

November 24, 1996, San Jose Mercury News headline: "Home-shopping Programs put Western Wares in Beijing Homes".

November 25, 1985, Infoworld reports "Regardless of the size of the purchasing company, the most important factor in a microcomputer buying decision is the reputation of the manufacturer. Price, often thought of as an important factor, is a surprisingly minor consideration.

November 26, 1894: Norbert Wiener, author of "Cybernetics" is born.
(Wiener -- from Museum)

November 28, 1977, Charles Babbage Institute Incorporated.

November 30, 1948, Engineering Research Associates complete report for the National Bureau of Standards: "Selective Alteration of Digital Data in a Magnetic Drum Computer Memory."

December 1, 1947, Tom Kilburn at the University of Manchester writes "A storage system for use with binary digital computing machines."
photo of Manchester storage output

December 1, 1947, Engineering Research Associates in St. Paul, Minnesota, complete report "Selective Alteration of Digital Data in a Magnetic Drum Computer Memory."
photo of Drum memory from collection of the History Center

December 2, 1954: NORC dedicated.

photo of NORC

December 3, 1924, John Backus born.

December 4, 1995: Netscape and Sun announce JavaScript, the open, cross-platform object scripting language for enterprise networks and the internet.

December 5, 1994, *Time Magazine* says "Marc Andreessen had barely come of age when he co-wrote the program that is helping to tame the Internet . . . he is often cited as one of the few people who have a road map for the 'infobahn'."

Photo of Marc Andressen by Bachrach from Wizards

December 6, 1995: Netscape's stock that had an IPO at \$28 on August 9th, peaked at \$174.

December 8, 1947: Eckert-Mauchly Computer company incorporated.

December 8, 1948: Prudential Insurance signs contract for UNIVAC I.

Photo of UNIVAC I at Museum

December 9, 1908: Grace Hopper born.

Photo of Admirable Grace Hopper becoming The Computer Museum's first Fellow.

December 10, 1815: Augusta Ada Byron is born, who was to become known as the first programmer for Babbage's machines.

December 11, 1947 ACM holds a meeting at Aberdeen Proving Ground, Md., where R. F. Clippinger presents a paper "Airflow Problem Planned for the ENIAC".

December 12, 1890: the first US census to use Hollerith's tabulating machinery was completed.

(A replica of the 1890 tabulator at The Computer Museum History Center.)

December 14, 1944, the Navy issued a formal Letter of Intent, and four days later MIT officially accepted it and the program for the development of airplane stability and control analyzer was launched. Thus launching the Whirlwind computer.

(Photo of Whirlwind at Computer Museum)

December 16, 1999, *The Wall Street Journal* quotes Microsoft group vice president James Allchin on finally finishing Windows 2000: "There were many people who thought we'd never fishing this. But my background suggests that betting against me is a bad idea."

December 21, 1968: Integrated circuits, priced at \$125 each, are used in the Apollo Guidance Computer to save space and offer the needed performance. These are the first integrated circuits to be used in any computer.

(Photo of the IC Unit of the Apollo Guidance Computer, Computer Museum History Center)

December 24, 1947: Laboratory notebook entry by Walter H. Brattain records the events when the transistor effect was first observed.

(xerox of page)

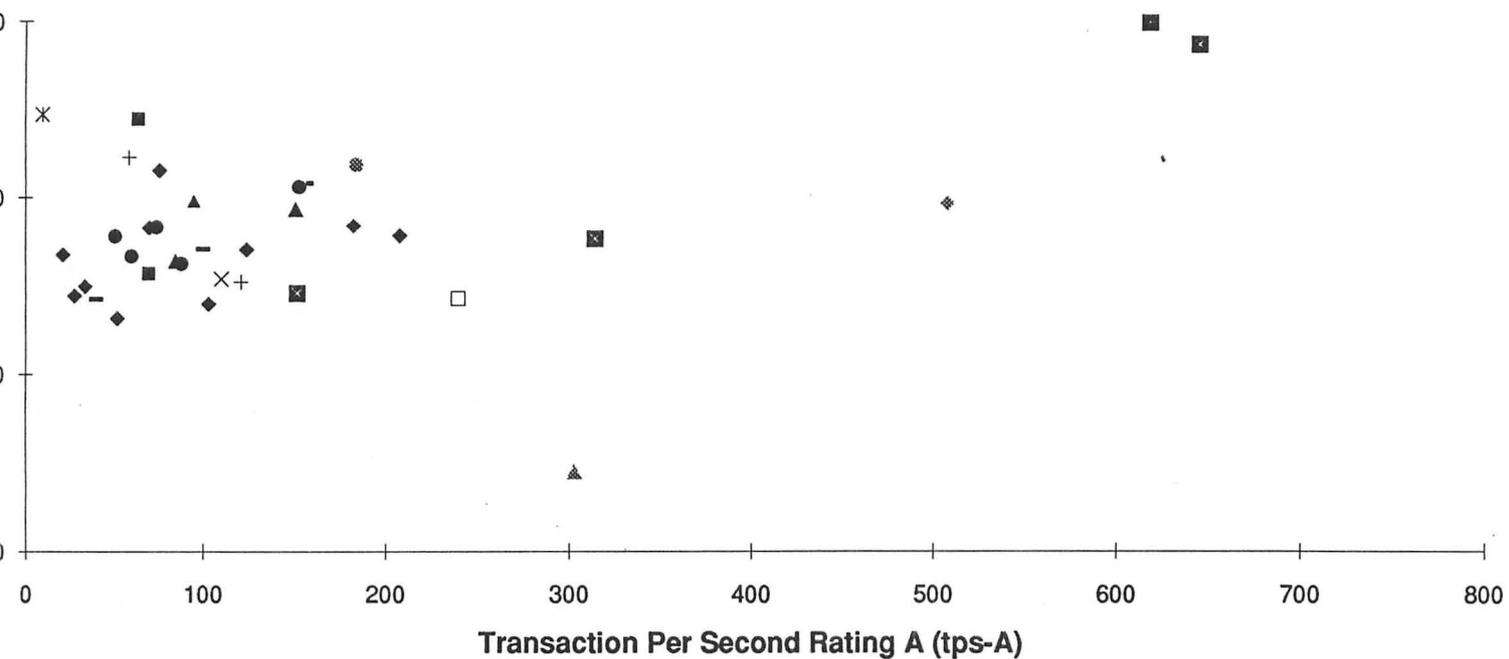
December 26, 1791: Charles Babbage is born, and authors his manuscript on the "On the Mathematical Powers of the Calculating Machine" on his 46th birthday.

(photo of Charles Babbage)

December 28, 1903: John von Neumann is born, for whom the “stored program computer” will forever be referred to as a “von Neumann machine”.
(photo of John von Neumann)

December 29, 1959, Richard P. Feynman, a Nobel laureate, issued an “invitation to enter a new field of physics.” His address was titled “There’s Plenty of Room at the Bottom.” His challenge was “Why cannot we write the entire twenty-four volumes of the *Encyclopaedia Britannica* on the head of a pin?”

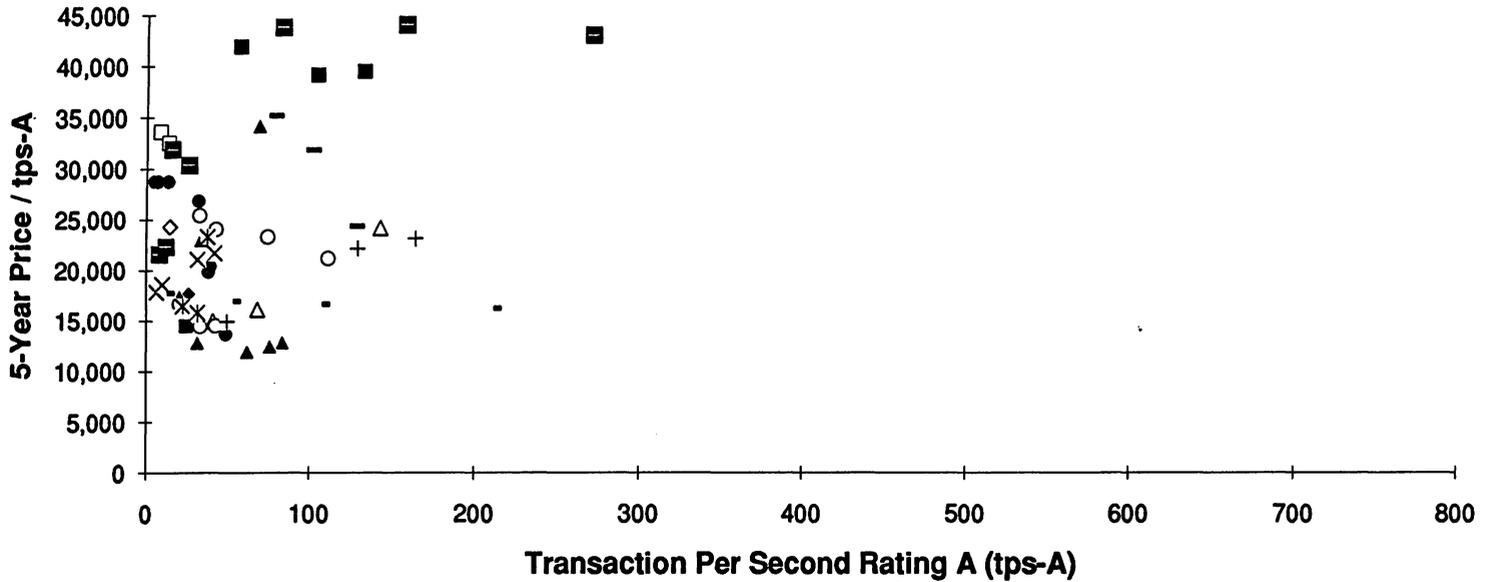
TPC -A Results (under 11k\$/tps-A) as of 1 January 1993



Informix	□ DG/Informix/Oracle	◆ Digital VAX/ACMS/Rdb	◆ Digital/Oracle	▲ HP3000/Allbase	▲ HP9000/Adabase
Informix	● HP9000/Oracle	× HP9000/Sybase	× IBM AS/400/SQL	+ IBM RS/6000/Informix	- IBM/RS6000/Oracle
Informix	■ NCR/Oracle	■ Pyramid/Oracle	■ Sequent/Oracle	◆ Sequent/Sybase	▲ Sun/Sybase

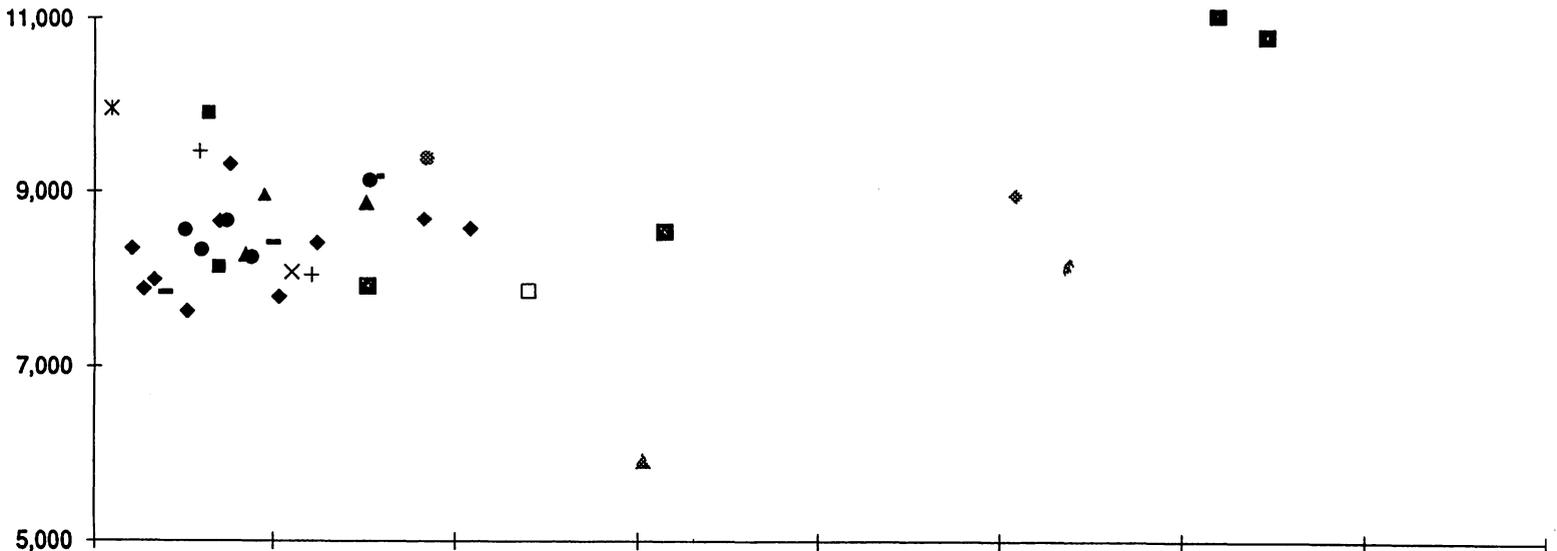
At the tps scale was not changed from 1991 to 1993, but the \$/tps scale was reduced in both cases to ignore systems 40% more expensive on average. The average 1993 numbers are well below the best 1991 numbers. Also, notice the diseconomy of scale: the general trend line rises as tps rises. Appendix B has the full list of TPC-A, TPC-B, and TPC-C results as of January, 1993.

TPC -A Results as of 1 November 1991



■ ATT Star Server/Informix	□ Bull DPS6000/IDS	◆ Bull DPX/Informix	◇ Bull DPX/Oracle	▲ Digital VAX/ACMS/Rdb
△ Digital VAX/DSM	● HP3000/Allbase	○ HP9000/Informix	× IBM AS/400/SQL	× IBM RS/6000/Informix
+ Sequent Symmetry/Informix	▪ Tandem CLX/SQL	— Unisys U6000/Informix	■ Unisys Axx/DMSII	■ Unisys 2200/DMS

TPC -A Results (under 11k\$/tps-A) as of 1 January 1993



DATE Dec 24 1947
CASE No. 3P179-7

We obtained the following A. C. values at 1000 cycles

$$E_g = .016 \text{ R.M.S. volts} \quad E_p = 1.5 \text{ R.M.S. volts}$$

$$P_g = \cancel{6.4 \times 10^{-7}} \text{ watts} \quad P_p = 2.25 \times 10^{-5} \text{ watts}$$

Voltage gain 100 Power gain 40

Current less $\frac{1}{2.5}$

This unit was then connected in the following circuit.



This circuit was actually spoken into and by switching the switch in and out a distinct gain in speech level could be heard and seen on the scope presentation with no noticeable change in ~~power~~ quality. By measurements at a fixed frequency

A laboratory notebook entry by Walter H. Brattain records the events of December 24, 1947, when the transistor effect was first observed.

To: Karen <mathews@computerhistory.org>
From: Gwen Bell <bell@computerhistory.org>
Subject: Significant non-US speakers (and funding)
Cc:
Bcc:
X-Attachments:

One claim that we have over other "computer collections" in Museums is that we take an international approach. The Smithsonian and London's Science Museum and the Deutsches Museum are all quite national in their view of computing.

One way to become more international is to bring over non-US speakers and then lure them into giving or identifying artifacts to preserve as well as videotaping their talk. I'd really like to write a proposal to fund such a program. And here are some of the speakers:

Dick Grimsdale from Manchester, UK, apparently built a transistor based processor prior to the Tradic at Bell Labs (that takes the claim at the first transistorized computer). Dick has a board, and according to Simon Lavington is in good shape. If we asked him to speak about it, we could potentially get this Board -- a real FIRST.

Niklaus Wirth -- the author of the language Pascal-- is still going. And here is a person on software, not hardware . . . something that we also need to think about.

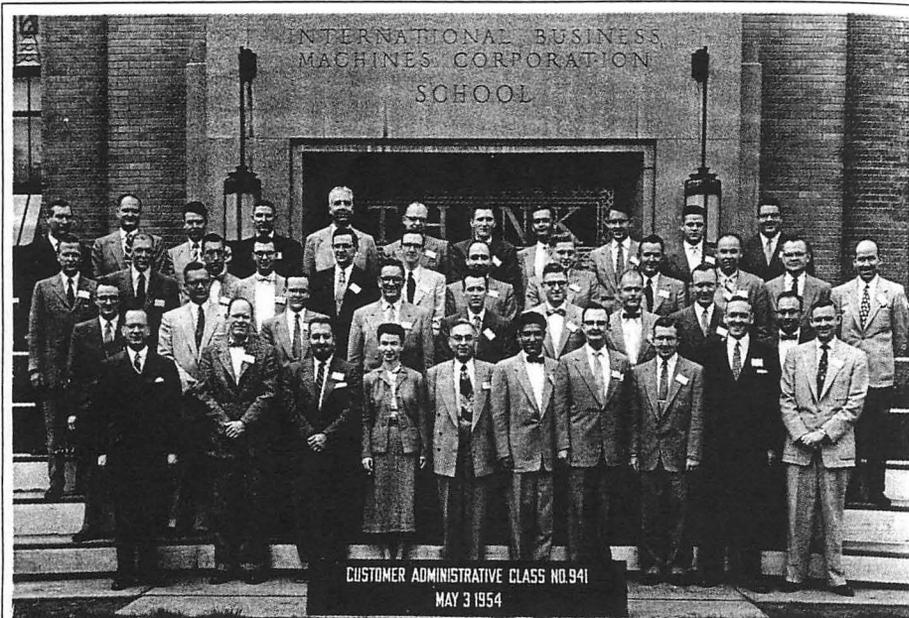
I am sure there are still some Japanese worth having -- that were involved with either NEC or Fujitsu.

Fortunately we had Zuse and Kobayashi-- both who were significant. And we had a very good turnout to hear them, because they were legends and not on "the circuit."

I have not done my research on this and don't want to get emotionally caught up in such if there is no sympathy to do this. But clearly this is something that my enthusiasm would really zoom on.

And maybe fits into the plan that you are thinking of . . .

Cheers, Gwen



This was the cream of the cream of the IBM customer bucket—the “Band of Brothers” and one lady from NSA.



Welcoming Washington big shots and distinguished foreign visitors to our annual American Rocket Society Meeting.