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TOPIC

HISTORICAL DEVELOPMENT OF COMPUTERS

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## Introduction

## We are living in the computer age. Computer has become an indispensible tool in the field of communications. An amazing machine! Most of our day to day activities cannot be accomplished without using computers. We are breathing in the computer age and gradually computer has become such a desire necessity of life that it is difficult to imagine life without it.

## ['](http://wikieducator.org/File:Computer-cat.jpg)For most of the people, computer is a machine used for a calculation or a computation, but actually it is much more than that. Strictly speaking, computer is a calculating device having certain important characteristics like speed, storage capacity, accuracy etc. But, nowadays it is used for many more applications other than computing.

Figure 1: Computer Set

## Nothing epitomizes modern life better than the computer. For better or worse, computers have infiltrated every aspect of our society. Today computers do much more than simply compute. Supermarkets calculate our grocery bill while keeping store inventory; computerized [telephone switching centers](http://www.dca.gov.au/comms_project/ch2.htm) play traffic cop to millions of calls and keep lines of communication untangled; and automatic teller machines (ATMs) let us conduct banking transactions from virtually anywhere in the world. But where did all this technology come from and where is it heading? To fully understand and appreciate the impact computers have on our lives and promises they hold for the future, it is important to understand their evolution.

## 

## Early Computing Machines and Inventors

## The Abacus

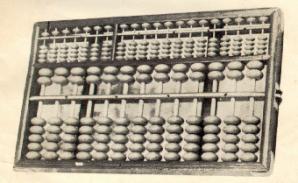
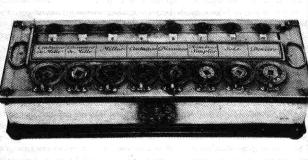
The abacus, which emerged about 5,000 years ago in Asia Minor and is still in use today, may be considered the first computer. This device allows users to make computations using a system of sliding beads arranged on a rack. Early merchants used the abacus to keep trading transactions. But as the use of paper and pencil spread, particularly in Europe, the abacus lost its importance. It took nearly 12 centuries, however, for the next significant advance in computing devices to emerge.

Figure : Abacus Device

**The Napier’s Bones**

****As the necessity demanded, scientist started inventing better calculating device. In thus process John Napier’s of Scotland invented a calculating device, in the year 1617 called the Napier Bones. In the device, Napier’s used the bone rods of the counting purpose where some no. is printed on these rods. These rods can do addition, subtraction, multiplication and division easily.

Figure 3: Napier’s bones

**The Pascal’s Calculator**

In 1642, Blaise Pascal (1623-1662), the 18-year-old son of a French tax collector, invented what he called a numerical wheel calculator to help his father with his duties. This brass rectangular box, also called a Pascaline, used eight movable dials to add sums up to eight figures long. Pascal's device used a base of ten to accomplish this. For example, as one dial moved ten notches, or one complete revolution, it moved the next dial - which represented the ten's column - one place. When the ten's dial moved one revolution, the dial representing the hundred's place moved one notch and so on. The drawback to the Pascaline, of course, was its limitation to addition.

Figure 4: Pascaline

**The Leibniz Calculator**

## http://www.csstc.org/manuals_e-readiness/Images/H_Chap3.jpgIn 1694, a German mathematician and philosopher, Gottfried Wilhem von Leibniz (1646-1716), improved the Pascaline by creating a machine that could also multiply. Like its predecessor, Leibniz's mechanical multiplier worked by a system of gears and dials. Partly by studying Pascal's original notes and drawings, Leibniz was able to refine his machine. The centerpiece of the machine was its stepped-drum gear design, which offered an elongated version of the simple flat gear. It wasn't until 1820, however, that mechanical calculators gained widespread use. Charles Xavier Thomas de Colmar, a Frenchman, invented a machine that could perform the four basic arithmetic functions. Colmar's mechanical calculator, the arithometer, presented a more practical approach to computing because it could add, subtract, multiply and divide. With its enhanced versatility, the arithometer was widely used up until the First World War. Although later inventors refined Colmar's calculator, together with fellow inventors Pascal and Leibniz, he helped define the age of mechanical computation.

Figure 4: Leibniz Calculator

## First Automatic Computing Engine Concept

**Analytical Engine**

In 1822, Charles Babbage purposed and began developing the Difference Engine, considered to be the first automatic computing engine that was capable of computing several sets of numbers and making hard copies of the results. Unfortunately, because of funding he was never able to complete a full-scale functional version of this machine. In June of 1991, the London Science Museum completed the Difference Engine No 2 for the bicentennial year of Babbage's birth and later completed the printing mechanism in 2000. Later, in [1837](http://www.computerhope.com/history/1800.htm) Charles Babbage proposed the first general mechanical computer, the [Analytical Engine](http://www.computerhope.com/jargon/a/analyten.htm). The Analytical Engine contained an [Arithmetic Logic Unit (ALU)](http://www.computerhope.com/jargon/a/alu.htm), basic [flow control](http://www.computerhope.com/jargon/f/flowcont.htm), and integrated [memory](http://www.computerhope.com/jargon/m/memory.htm) and is the first general-purpose computer concept. Unfortunately, because of funding issues this computer was also never built while Charles Babbage's was alive. In [1910](http://www.computerhope.com/history/190040.htm), Henry Babbage, Charles Babbage's youngest son was able to complete a portion of this machine and was able to perform basic calculations.

Five Generations of Modern Computers

**First Generation of Computers (1946-55)**The computers manufactured between 1945 -55 are called first Generation Computers. They were extremely large in size with vacuum tubes in their circuitry which generated considerable heat. Hence, special air conditioning arrangements were required to dissipate this heat.  
They were extremely slow and their storage capacity was also very less compared to today’s computers. In these computers punched cards were used to enter data in to the computer. These were cards with rectangular holes punched in them using some punching devices. UNIVACI was the first commercially available computer, built in 1951 by Remington Rand Company. It had storage capacity of about 2000 words. These were used mostly for payroll, billing and some mathematical computing. **Second Generation Computers (1956-1965)**  
The computers, in which vacuum tubes were replaced by transistors made from semiconductors, were called second generation computers. The use of transistors reduced the heat generated during the operation. It also decreased the size and increased storage capacity. It required less power to operate and were much faster than first generation computers. Magnetic media was being used as an auxiliary storage of data. These computers used high level languages for writing computer programs. FORTRAN and COBOL were the languages used.   
 **Third Generation Computers (1966-1976)**  
The third generation computers started in 1966 with incorporation of integrated circuits (IC) in the circuitry. IC is a monolithic circuit comprising a circuitry equivalent to tens of transistors on a single chip of semiconductor having a small area a number of pins for external circuit connections. IBM 360 series computers in this generation had provision for facilitating time sharing and multiprograms also. These were small size and cost effective computers compared to Second generation computers. Storage capacity and speed of these computers was increased many folds as include user friendly package programs, word processing and remote terminals. Remote terminals could use central computer facilities and get the result, instantaneously.  
**Fourth Generation Computers**Fourth Generation Computers were introduced after 1976 and in these computers electronic components were further miniaturized through Large Scale Integration (LSI) techniques Microprocessor which are programmable Ics fabricated using LSI technique are used in these computers. Micro computers were developed by combing microprocessor with other LSI Chips, with compact size, increased speed and increased storage capacity. In recent days, Ics fabricated using VLSI (Very Large Scale Integration) techniques are used in Computers. Through this techniques, the storage capacity is increased many folds. Not only that, the speed of these computers is also very high as compared to earlier computers.  
During 1980s, some computers called as super computers were introduced in the market. These computers perform operation with exceptionally high speed (approx 100 million operations per sec). This speed is attained by employing number of microprocessors consequently there cost is also very high. These are normally used in very complex application like artificial intelligence etc.

### Fifth Generation (Present and Beyond)

Defining the fifth generation of computers is somewhat difficult because the field is in its infancy. The most famous example of a fifth generation computer is the fictional [HAL9000](http://www.tardis.ed.ac.uk/~martin/hal9000) from [Arthur C. Clarke](http://www.lsi.usp.br/~rbianchi/clarke/ACC.Homepage.html)'s novel, [2001: A Space Odyssey](http://pubweb.acns.nwu.edu/~gdd816/2001.html). HAL performed all of the functions currently envisioned for real-life fifth generation computers. With [artificial intelligence](http://www.cs.washington.edu/research/jair/home.html), HAL could reason well enough to hold conversations with its human operators, use visual input, and learn from its own experiences. (Unfortunately, HAL was a little too human and had a psychotic breakdown, commandeering a spaceship and killing most humans on board.)

Though the wayward HAL9000 may be far from the reach of real-life computer designers, many of its functions are not. Using recent engineering advances, computers may be able to accept [spoken word instructions](http://159.226.21.1/nlpr/Index.html) and imitate human reasoning. The ability to translate a foreign language is also a major goal of fifth generation computers. This feat seemed a simple objective at first, but appeared much more difficult when programmers realized that human understanding relies as much on context and meaning as it does on the simple translation of words.

Conclusion

Many advances in the science of computer design and technology are coming together to enable the creation of fifth-generation computers. Two such engineering advances are parallel processing, which replaces von Neumann's single central processing unit design with a system harnessing the power of many CPUs to work as one. Another advance is [superconductor](http://www.nist.gov/item/NIST_Superconductor_Integrated-Circuit_Fabircation_Laboratory.html) technology, which allows the flow of electricity with little or no resistance, greatly improving the speed of information flow. Computers today have some attributes of fifth generation computers. For example, expert systems assist doctors in making diagnoses by applying the problem-solving steps a doctor might use in assessing a patient's needs. It will take several more years of development before expert systems are in widespread use.

References

1. *Computers!,*Timothy Trainor and Diane Trainor
2. *Infoculture The Smithsonian Book of Information Age Inventions*, Steven Lubar. Houghton Mifflin Company, 1993.
3. *Alan Turing: The Enigma* Andrew Hodges, 1983. Simon & Schuster, New York.
4. "Insanely Great," Steven Levy. *Popular Science,*February, 1994.
5. "Stevie Wonder," Joseph Nocera. *GQ*, October, 1993.
6. "Reading Apple's Uncertain Future," *MacWorld*, October, 1993.
7. "Ripe For Change," Michael Myer. *Newsweek,*August 29, 1994.
8. "Future Games," James K. Willcox. *Popular Mechanics*, December, 1993
9. "Electronic Worlds Without End," Keith Ferrell, *Omni*, October 1993.
10. "Mario's Big Brother," David Sheff. *Rolling Stone*, January 9, 1992.
11. "The PC Week Stat Sheet: A Decade of Computing," *PC Week*. February 28, 1994.
12. "R.I.P Commodore, 1954-1994," Tom R. Halfhill. *Byte*, August, 1994.
13. "Playing Catch Up…" Jim Carlton, *Wall Street Journal* October 17, 1994.
14. *Breakthrough to the Computer Age*, Harry Wulforst
15. *IBM's Early Computers,*Charles J. Bashe, Lyle R. Johnson, John H. Palmer, Emerson Pugh.
16. *The Computer Comes of Age*, R. Moreau
17. *The Computer Pioneers*, David Ritchie
18. *Zap: The Rise and Fall of Atari*, Scott Cohen
19. *1993 Grolier's Encyclopedia*, Grolier Electronic Publishing, Inc.