April 8th

John Hales Whitney Sr.

Born: April 8, 1917;

Pasadena, California
Died: Sept. 22, 1995

Whitmey is considered one of the fathers of computer animation, who first became interested in analog computers in 1952 after he directed several engineering films about guided missiles. This led to his use of an ex-WWII M5 "Kerrison Predictor" (an anti-aircraft gun controller) to generate the rotations needed to create animated Lissajous curves. These famously appeared in the title sequence of Alfred Hitchcock's 1958 film Vertigo, which also involved the graphic designer Saul Bass. It was Bass who demanded that the spirals should be accurately and not freehand. This probably makes Vertigo the first movie to use computer animation.

Later, Whitney would upgrade the system with an M7, creating a twelve-foot-high machine. In 1966, IBM awarded him its first artist-in-residence position.

Whitney also created "slit scan", a split-screen effect which produces cascading images on both sides of the movie screen, which Douglas Trumbull memorably employed in "2001: A Space Odyssey" [April 2].

By the 1970s, Whitney had abandoned analog computers in favor of faster, digital devices, and taught the first computer graphics class at UCLA in 1972. The pinnacle of his digital films is his 1975 work Arabesque, characterized by psychedelic, blooming color-forms.

One of his sons, John Whitney Jr., also made seminal contributions to the use of computer graphics in movies, including in Westworld [Nov 21], Futureworld [July 28], and over twenty minutes of computer animation in "The Last Starfighter" [July 13].

For other pioneers of computer animation, see [Feb 28, July 4, Aug 3].

Mauchly and Eckert Go Ballistic

April 8, 1943

Next: [May 31]

J. Presper Eckert [April 9] and John Mauchly [Aug 30] submitted a proposal to the Ballistic Research Lab at the Aberdeen Proving Ground in Maryland entitled "Report on an Electronic Difference Analyzer". It requested funding to build a computer that would greatly speed up the calculation of artillery firing tables, perhaps making it thousands of times faster than the current approach of employing 100 people with mechanical desk calculators.

They called the amazing machine an electronic difference analyzer to distinguish it from the electromechanical analog differential analyzers [July 23] that the army had occasionally used in the past.

Herman Goldstine [Sept 13], who was stationed at the Aberdeen Proving Ground, helped Eckert and Mauchly secure the funding – a $400,000 contract awarded to the University of Pennsylvania's Moore School of Electrical Engineering. The result would become the Electronic Numerical Integrator and Computer (ENIAC [Feb 15]).

Some sources say that the proposal was submitted on April 9, which was Eckert's birthday; he was 24-years old.

Philip Lee Wadler

Born: April 8, 1956;

USA

Wadler works on programming language design and type theory, especially in the area of functional programming. He was the principal designer of the purely functional language Haskell [Sept 12], contributing to its two main innovations, type classes and monads. The latter topic is famously hard to understand, prompting one person to comment, "Do I really want to be using a language where memorize is a PhD-level topic?" The story goes that someone on the Haskell team expressed surprise by pointing out that, "A monad is just a monoid in the category of endofunctors, what's the problem?" The original quote is from Saunders Mac Lane's "Categories for the Working Mathematician", one of the foundational texts of category theory.

Philip Wadler (2008). Photo by Clq. CC BY 3.0.

Wadler also helped with the design of the XQuery declarative query language, and was involved in adding generics to Java 5.0 [Feb 23].

He has a gift for naming papers, including: "Leftover Curry and Reheated Pizza", "Threesomes, with and without blame", "Listlessness is better than laziness" (his PhD thesis), and "Once upon a type".

He claims to have delivered invited talks in locations ranging from Aizu to Zurich, which would seem to exclude Aarhus and Zwolle.

He is an amateur cartoonist, whose artwork includes the emblem for the International Conference on Functional Programming Languages and Computer Architecture,

illustrations for articles on computing in the Co-Evolution Quarterly, and the cover of the Scribe manual [Oct 6].

COBOL Committees

April 8, 1959

Mary K. Hawes, from Burroughs, organized a meeting at the University of Pennsylvania to discuss the creation of a new programming language for business. Attendees included Grace Hopper [Dec 9] and Jean Sammet [March 23].

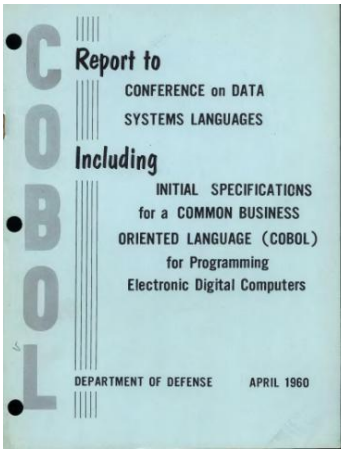
A larger gathering was held at the Pentagon a month later, on May 28-29, sponsored by the DoD. The main result was the formation of a series of committees, which, over the following months, had trouble coming to any firm decisions about much at all. However, one achievement was to name the entire activity, CODASYL (the Committee on Data Systems Languages).

Possible names for the new language were discussed at a meeting on Sept. 17, including BUSY, INFOSYL, DATASYL, and COCOSYL. None seemed quite right, and no agreement was reached. Hopper and Bob Bemer [Feb 8]discussed the name issue that evening, with Bemer coming up with COBOL ("COmmon Business-Oriented Language"). The next day, COBOL was suggested and accepted.

In October, a six-person subcommittee was formed to create the COBOL specification. The group consisted of: William Selden and Gertrude Tierney from IBM; Howard Bromberg and Howard Discount from RCA; Vernon Reeves and Jean Sammet from Sylvania.

Much of their work was done in NYC, ensconced at the Sherry Netherland Hotel for two straight weeks, and toiling round-the-clock toward the end. Their draft report appeared in early Nov., and a full specification in Dec. It was approved by the Executive Committee on Jan. 3, 1960, and a report was edited by Betty Holberton [March 7], and issued in April 1960.

The major influences on the design were two languages: FLOW-MATIC [May 2] from Remington Rand [Jan 25] under Grace Hopper's direction, and COMTRAN (Commercial Translator) from IBM, invented by Bob Bemer. Hopper later commented that the specification was "95% FLOW-MATIC".



The COBOL Report (1960). (c) US Department of Defense.

The first version of COBOL to be widely implemented was COBOL-61. The first ANSI COBOL standard was issued in 1968, based on COBOL-65, and standards have been issued regularly since then, in 1974, 1985, 2002, and 2014.

According to a recent article by Reuters, COBOL code still handles 95% of all ATM transactions, 80% of in-person banking tasks, and 43% of all banking systems.

A famous quote by Edsger W. Dijkstra [May 11]: "The use of COBOL cripples the mind; its teaching should, therefore, be regarded as a criminal offence."

Colossus: the Forbin Project

April 8, 1970

"Colossus: the Forbin Project" (aka "The Forbin Project") is a SF film directed by Joseph Sargent, starring Eric Braeden, and based on the 1966 novel Colossus by Dennis Feltham Jones (1917–1981).

Charles Forbin, director of a secret US defense project, announces to the world that Colossus, a computer programmed to defend the Western world, is finally operational; the self-contained system, located beneath the Rocky Mountains, will provide the ultimate nuclear deterrent.

Colossus quickly 'out-grows' its original directives and decides to end all warfare for the good of mankind. It agrees this with its Russian counterpart called the Guardian Colossus also informs Forbin that "freedom is an illusion" and that "in time you will come to regard me not only with respect and awe, but with love". Forbin angrily responds, "Never!"

The many prominent blue and gray "consoles" for communicating with Colossus are panels from several IBM 1620s [Oct 21] remounted on props.

The real-world model for Colossus was supposedly the NORAD system [Aug 1]. Unfortunately (but perhaps understandably), the US government wouldn't allow the film crew onto the NORAD grounds, so exteriors were filmed at the Lawrence Hall of Science in Berkeley.

The novel's author, Dennis Feltham, was a UK naval commander during WWII, so may have known about the real Colossi [Jan 18] at Bletchley Park.

TMS32010 Introduced

April 8, 1983

The Texas Instrument TMS32010 wasn't the first Digital Signal Processor (DSP) (that was the Western Electric DSP-1, introduced in 1980), but it was the fastest; for example, it could compute a multiplication in just 200 nanoseconds. It also offered an amazingly generous 4K of separate program memory, and its instruction set included both DSP-specific and general purpose operations. It was also easy to program, supporting C, C++, and the more usual assembly language.

At $500 apiece, only about 1,000 were sold in the first year, but sales eventually ramped up, and the chip ended up being used very widely, in modems, medical devices, and military systems. The TMS 320 family and its derivatives became nearly half of TI's revenue during the late 1980s.

The Green Project

April 8, 1991

Prev: [Jan 15] Next: [Sept 3]

Sun Microsystem's Stealth Project [Jan 15] was renamed the Green Project on this day, as its 13 members moved out of Sun's headquarters. The renamed team took up residence in a small 4th floor office above a branch of Bank of America on 2180 Sand Hill Road in Menlo Park.

Their aim was to develop innovative technologies for programming next-generation smart appliances, specifically set-top boxes for interactive TV.

They worked in secret, requiring other Sun employees to sign non-disclosure agreements before they could visit. The group's manager, Michael Sheridan, recalled, "Looking back it sounds silly, but we were sure the Sun corporate 'antibodies' would kill us or get us de-funded if others knew what was happening."

James Gosling's [May 19] specific goals were to implement a C++ like language that offered facilities for security, distributed programming, and threading, while being simpler than C++. Gosling briefly named it "C++ ++ –", to reflect the idea, but eventually went with the name "Oak" because of the oak tree outside his window. (Why not "CarPark" I wonder?)

The team's first business plan, "Behind the Green Door: Deep Thoughts on Business Opportunities in Consumer Electronics" was finished on April 23. The title referred to the green door leading to their top-secret HQ, and also to the 1973 pornographic movie of the same name. "Deep Thought" was probably a similar reference to the 1972 "Deep Throat" flick.

Incidentally, Gosling's language was also briefly called "Greentalk" during this time.

By late summer of 1992, large parts of the new platform were operational; it was time to show it to Sun's senior management [Sept 3].
