Dec. 9

Grace Brewster Murray Hopper (née Murray)

Born: Dec. 9, 1906;

New York City
Died: Jan. 1, 1992

In 1943 Hopper joined the US Naval Reserve, and was assigned to the Bureau of Ordnance Computation Project at Harvard. She became the third person to program the Harvard Mark I [March 00] in a team headed by Howard Aiken [March 8]. Among her many contributions, she's credited with popularizing the term "debugging" [Sept 9].

Hopper joined the Eckert-Mauchly Computer Corporation (EMCC [Dec 8]) in 1949, first working on the BINAC [April 4] in octal, and later programming with John Mauchly's Short Code [July 00] on the UNIVAC 1 [March 31].

Hopper developed several of her own languages and their compilers: A-0 ([May 2] 1952); A-2, the first to handle symbolic manipulation (1953); and FLOW-MATIC (1957) which greatly influenced the development of COBOL [April 8]. This perhaps explains why Hopper preferred the nom de guerre, "grandmother of COBOL" when Dan McCracken [July 23] asked if he could dedicate his book, "A Simplified Guide to Structured COBOL Programming" (1976), to her as the "mother of COBOL." Owing to her accomplishments, she was also sometimes referred to as "Amazing Grace".

Hopper's work became more widely known after she was interviewed on the popular CBS television show "60 Minutes" in March 1983. US Representative Philip Crane watched the programme, and initiated a bill to have her officially recognized. This included the promotion of Captain Hopper by special appointment to the rank of Commodore. In 1985, she became a Rear Admiral and remained on active duty until 1986.

Grace Hopper at the UNIVAC keyboard, c. 1960. Smithsonian Institution. CC BY 2.0.

The USS Hopper [Sept 6] was named for her, as was the Cray XE6 "Hopper" supercomputer. She was awarded the Data Processing Management Association's "Man-of-the-Year" Award in 1969.

Some quotes: "Humans are allergic to change. They love to say, 'We've always done it this way.' I try to fight that. That's why I have a clock on my wall that runs counter-clockwise."

"When you have a good idea and you've tried it and you know it's going to work, go ahead and do it, because it's much easier to apologize afterwards than it is to get permission."

Irving John Good;

originally Isidore Jacob Gudak

Born: Dec. 9, 1916;

London, UK
Died: April 5, 2009

Good worked with Alan Turing at Bletchley Park [Aug 15], [June 23] for two years, and then joined Donald Michie [Nov 11] in Max Newman's [Feb 7] group, where the Heath Robinson [June 1] and Colossus [Jan 18] were developed.

In 1947, Newman invited Good and Turing to join him at the University of Manchester. Good went on to work on the Manchester Mark 1 [June 16].

In an essay called "Speculations Concerning the First Ultraintelligent Machine" in 1965 he originated the idea of "intelligence explosion" (now known as "the singularity" [March 30]) which argued for the eventual advent of superhuman machine intelligence. This essay led Stanley Kubrick to consult with him while filming "2001: A Space Odyssey" ([April 2] 1968).

He owned the vanity license plate "007 IJG," a reference to his intelligence work.

The Stylator

Dec. 9 - 13, 1957

Tom Dimond of Bell Labs described his Stylator (short for "stylus translator"), a graphics tablet with a stylus, in a talk in Washington.

The tablet contained copper conductors laid out so that when the stylus was dragged across its surface any numerical character could be recognized. It was only necessary to process signals from three lines consisting of seven conductors to produce a result. Later the system was expanded to recognize letters.

The Stylator greatly improved on Goldberg's Controller [Nov 23], and the next step was the RAND Tablet [Aug 00].

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lp0 on Fire

Dec. 9 1957

"lp0 on fire" (or "Printer on Fire") is an error message generated by some versions of UNIX [Oct 15]. lp0 refers to a line printer, but the message is an indication of a general error, not necessarily that the device is aflame.

One of the two known fire-starting printers was the Stromberg-Carlson S-C 5000 xerographic device (similar to a modern laser printer, but with a CRT as the light source rather

than a laser). It was first publicly demonstrated at the New York Coliseum in Feb. 1958, but the name had been copyrighted on this day.

A S-C 5000 was installed at the Lawrence Livermore Lab in 1959, and modified to print an impressive one page per second. This required an expansion of its toner fusing oven, which proved to be a mistake. The moving paper would often catch fire, which the device was unable to detect, so it would happily keep ejecting burning scraps at high speed. Sadly, no variation of the "lp0 on fire" message was reported.

In 1964, the S-C 5000 was replaced by the "Radiation Printer", which sounds even worse, but the name refers to where it was located, the Radiation lab, not its printing process.

The other fire-starting printer was also a Xerographic device [Feb 26]. For something similar, but with CPUs, see [April 7].

First MOS Computer

Dec. 9-11, 1968

R. K. "Bob" Booher presented the paper, "MOS GP Computer," at the AFIPS 68 conference in San Francisco. He described the development of the D200, the first general-purpose computer with a CPU fashioned from just 24 MOS chips [May 17]. It had been completed early in 1967.

The D200 only weighed a few kilograms, and was later used for guidance control in Poseidon submarine-launched ballistic missiles and for fuel management on the B-1 bomber. It was even considered for the space shuttle.

The D200's CPU is sometimes called the first microprocessor, along with two other claimants: Ray Holt's MP944 [Dec 28] for the F-14 Tomcat fighter [Dec 21], and Lee Boysel's AL1 [Dec 31]. However, all of these required multiple chips to implement a fully functional CPU, and so most historians believe the honor of first microprocessor belongs to the Intel 4004 [Nov 15].

Booher, an engineer at Autonetics in Anaheim, had earlier invented four-phase logic. It used four separate clock signals, each with a different on-off pattern, to change transistor states, allowing the circuitry to be substantially simplified.

Using this technique, he made the first working four-phase MOS chip in Feb. 1966, the Autonetics DDA integrator, a digital implementation of a differential analyzer [July 23].

The Mother of all Demos

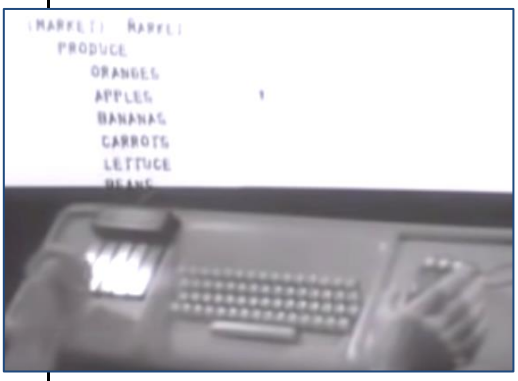
Dec. 9, 1968

Douglas Engelbart [Jan 30] and his group at Stanford's Augmentation Research Center (ARC) demonstrated their NLS ("oNLine System") to a packed audience of 1000 people at the AFIPS Fall Joint Computer Conference in San Francisco [prev. entry].

The 90-minute presentation introduced the world to a system that combined a mouse [Nov 14], a GUI, hypertext [April 18], word processing, collaborative real-time editing, e-mail, revision control, and dynamic file linking.

The demo was conducted via real-time video conferencing between Engelbert and his lab 30 miles away. This required Bill English [Jan 27] and other ARC members to build two customized 1200 baud modems, linked via a leased line. For the live two-way video, two microwave links were also setup. Engelbart later remarked, "The demo really never would have flown if it weren't for Bill English."

Engelbart thanked English as he concluded his presentation, and also his wife, Ballard, for the patience she showed "to a husband who is dedicated in a very mono-maniacal way to something that is very wild."



Screenshot from the video of 'The Mother of All Demos". Uploaded to YouTube by MarcelVEVO.

Two massive Eidophor video projectors displayed Engelbart's actions on a 22-foot high screen, together with video insets of the ARC team back at Stanford.

The demonstration was dubbed "The Mother of All Demos" by Steven Levy [Jan 26] in his 1994 book, "Insanely Great". He argued that the presentation helped inspire the creation of the Alto at Xerox PARC [March 1], which in turn spawned the Mac [Dec 00] and Windows GUI [March 17]; [Dec 14].

Bill Paxton (one of Engelbart's ARC group) has said that perhaps 90% of the computer science community thought Engelbart was "a crackpot" back then. "It's hard to believe now," he explained, "but at the time, even we had trouble understanding what he was doing. Think of everyone else out there."

The Sword of Damocles

Dec. 9 - 11, 1968

Ivan Sutherland [May 16] presented the paper, "A head-mounted three dimensional display" in San Francisco (at the same conference as "The Mother of all Demos" [prev. entry]). The device is better known as the "Sword of Damocles", and widely considered to be the first virtual reality (VR) head-

mounted display (HMD), although the very first VR device is probably Helig's Sensorama [Aug 28].

The Sword was built by Sutherland, with the help of his student Bob Sproull, as a stereoscopic display of wireframe objects. It utilized perspective that varied with the direction of the user's gaze, which made head tracking necessary. It was intended to help pilots land helicopters at night.

Its functionality and weight required the HMD to be attached to a mechanical arm suspended from the lab's ceiling, and the user's head had to be securely fastened into the rig at all times. The resulting appearance inspired the Sword of Damocles name. The original was a mythical Greek weapon that was suspended above the king's throne.

It's Christmas

Dec. 9, 1987

The "Christmas Tree" worm was a REXX script that drew a Christmas tree in ASCII, and sent a copy of itself to everyone in the user's email contacts.

The worm started on EARNet (the European Academic Research Network) but quickly spread to BITNET [May 5]. It ended up circulated for six days, causing many mail servers to crash, and so became the first widely disruptive replicating network program.

The worm had been written by a German university student, who later claimed that the damage was unintentional; the program was only meant to send Christmas greetings to his friends.

"Christmas Tree" resurfaced on USENET [Jan 29] in 1990, and forced IBM to briefly shut down its 350,000-terminal network in order to purge it.

Incidentally, the core mechanism employed by the ILOVEYOU worm [May 5] in 2000 was basically the same as "Christmas Tree", although coded in VBScript.

Windows 2.0

Dec. 9, 1987

Prev: [Nov 20] Next: [May 22]

The notable new feature of MS Windows 2.0 was that application windows could overlap. The user could also minimize them and drag them around the desktop with a mouse.

Updates to Microsoft Word [Sept 29] and Excel [May 2] made use of the improvments, which gave them an edge over their main competitors, WordPerfect [Nov 26] and Lotus 1-2-3 [Jan 26], which were still primarily text-based.

But it wasn't enough to lure people away from MS-DOS, and Windows' glory days only really started with version 3.0. However, this release did trigger a lawsuit from Apple [Aug 24]. Also, IBM licensed the GUI for OS/2 1.1 [Dec 4], but renamed it the Presentation Manager.

Microsoft officially supported Windows 2.0 until Dec. 31, 2001, a period of 14 years.

Al Gore 'Creates' the Internet

Dec. 9, 1991

The US High Performance Computing and Communication Act of 1991 was enacted. It had been drafted by Al Gore, and so was more commonly called "The Gore Bill".

The Act kicked off the creation of a national high-speed fiber optic network, the National Information Infrastructure (NII), by funding the National Centre for Supercomputing Applications (NCSA [Jan 15]) at the University of Illinois. NCSA later became the home of the Mosaic web browser [Sept 28].

A few years later, on March 9 1999, Vice President Gore gave a fateful interview to CNN's "Late Edition" in which he stated: "During my service in the United States Congress, I took the initiative in creating the Internet." From that day forward he was mercilessly mocked, although he often tried to explain that he was only referring to his creation of the Act.

Gore had also claimed to have coined the term "information superhighway" [Jan 3].