Nov. 9th

First Facsimiles

Nov. 9, 1907

Édouard Belin used his Bélinographe to transmit a photograph of a Alsatian chapel over telegraph lines in a circuit spanning 1,717km from Paris to Lyon, Bordeaux, and back to Paris, in just 22 minutes.

Édouard Belin in his lab (1920). Photo by the Bain News Service.

His invention used a light beam to scan an image wrapped around a cylinder, and convert the reflected light into electrical impulses via a photoelectric cell.

The process used the basic principle upon which all subsequent fax machines were based although several inventors contributed to the overall fax design. For example, the Bélinographe was a successor to Ernest A. Hummel's Telediagraph of 1895, which had transmitted electrically scanned shellac-on-foil pictures between US newspapers. Other contributors included Alexander Bain [Oct 12], Giovanni Caselli [April 25], and Elisha Gray [Aug 2].

By 1920, Belin had extended his process to support the transmission of photographs via radio. The first test took place on June 17, 1921 from Bordeaux to Paris. On Aug. 4, the first facsimile was transmitted by radio across the Atlantic, from the offices of *The New York Times* to *Le Matin* in Paris; it took seven minutes.

Western Union began transmitting halftone photographs in 1921, and the Associated Press began a service in 1935. By then the images were being referred to as "wire photos" or "belinos."

Alan Kotok

Born: Nov. 9, 1941;

Philadelphia, Pennsylvania
Died: May 26, 2006

Kotok began studying electrical engineering at MIT when he was only 16. He soon discovered the Tech Model Railroad Club (TMRC [Sept 6]), and programming on the TX-0 [Nov 20] and PDP-1 [Nov 00] which Jack Dennis had made available to TMRC members.

Kotok was the main developer of John McCarthy's [Sept 4] IBM 704 chess-playing software in 1959, which he wrote up as AI Project Memo 41 and as his bachelor's thesis.

He and Robert A. Saunders built the game controllers for Spacewar! [May 17] which let two people play side by side. Kotok and Peter Samson [Aug 16] later used one of these as an input device for their T-Square drafting program.

At DEC [Aug 23], Kotok was the principal architect and designer of several important machines, including the PDP-10 [Jan 5] and VAX 8600.

Kotok helped found the World Wide Web Consortium (W3C [Oct 1]). For example, in April 1994, Kotok, Steve Fink, Gail Grant and Brian Reid [Oct 6] traveled to CERN [Dec 16] to persuade Tim Berners-Lee [June 8] to form the consortium to promote open standards. Berners-Lee later described Kotok as "one of the early wise men of computer science."

Kotok's love of model trains came about because his father owned a hardware store in New Jersey that sold toy trains at Christmas; Kotok would help set up the displays.

The Soviets Attack

Nov. 9, 1979

At 3:00am the North American Aerospace Defense Command (NORAD [Aug 1]) notified national security adviser Zbigniew Brzezinski that the Soviet Union had launched 250 ballistic missiles at the US.

President Jimmy Carter only had a few minutes to decide how to respond. Meanwhile, NORAD computers helpfully revised their estimate of the number of incoming missiles to 2,200. Fortunately, before Carter's deadline, satellite and radar systems revealed that NORAD's report was a false alarm.

It was later determined that the incident was triggered after a training scenario had been loaded onto a computer. More worryingly, NORAD's Commander-in-chief also noted that the "precise mode of failure could not be replicated."

The possibility of Accidental Armageddon continued – over the next few months there were three more false alarms, caused by faulty computer chips (see [June 3]). There have been many other close calls, caused by a variety of factors: low battery charge, poor wiring, a power outage, a solar flare, and moonrise in Norway. For a Soviet incident, see [Sept 26].

On a happier note, NORAD has much better success tracking Santa [Dec 24].

Apple III Revised

Nov. 9, 1981

Apple released an upgraded version of the Apple III [May 19] which addressed the model's many reliability issues. It featured sturdier hardware sockets, twice as much memory (256 KB of RAM), an optional 5

MB external hard drive, and updated software.

Despite the hard drive doubling the system's price, it briefly provided Apple with a crucial market advantage as IBM's PC [Aug 12] didn't yet support one. However, the Apple III's reputation never really recovered.

The Apple III. Photo by Alexander Schaelss. CC BY-SA 3.0.

Apple tried again with the Apple III Plus released in Dec. 1983, which ran the "Sophisticated Operating System (a great name, but poor acronym – SOS). It lasted around four months, before the III series was finally discontinued [April 24].

Firefox 1.0

Nov. 9, 2004

The Mozilla Foundation [Jan 23] released version 1.0 of the Firefox web browser, created by Dave Hyatt, Joe Hewitt, and Blake Ross. It represented the first serious attack upon the dominance of Microsoft's Internet Explorer (IE) [Aug 16] since the downfall of Netscape [March 17].

Ironically, although Netscape had been beaten by IE, its codebase contributed to the Mozilla Suite, which eventually led to Firefox [Feb 23]. Indeed, Firefox's original name had been "Phoenix" to reflect the browser's "rise from the ashes". Unfortunately, it had to be changed (to "Firebird") because of a trademark dispute with the BIOS manufacturer, Phoenix Technologies. Unfortunately (again), "Firebird" was also taken, by the Firebird database server, so another change was necessitated.

Although "Firefox" is the nickname of the red panda native to the Himalayas and southwestern China, it proved to be unique in the computing industry. However, a close examination of Firefox's logo shows it to be a fox not a panda because, according to Jon Hicks (the designer), a panda "didn't really conjure up the right imagery".

By many estimates, IE 6 [Aug 27] had over 90% of the browser market at the time, but within nine months, an estimated 60 million people had downloaded Firefox. Firefox's share continued to grow, reaching 32% at the end of 2009, temporarily making it the world's most popular browser. Usage then declined after Google Chrome [Sept 8] was released.

USS Gerald R. Ford

Nov. 9, 2013

Although construction began in Aug. 2005, the USS Gerald R. Ford was formerly christened by the US Navy on this day. When it was eventually finished (in 2015) it became the world's most technically advanced aircraft, along with costing an estimated $15.5 billion to develop. Its actual official delivery to the navy occurred in May 2017.

The lengthy construction period was partly due to it being the world's largest aircraft carrier, but it was also plagued by problems with its brand-new technologies. For example, the Electromagnetic Aircraft Launch System, or EMALS, was found to have issues launching heavier planes, but a software change fixed that.

President Donald Trump had a typically forthright alternative solution, which he suggested in an interview with *Time* Magazine – a return to "goddamn steam" for the carrier catapults, as the new digital technology was too unreliable and expensive.

"She is truly a technological marvel," Chief of Naval Operations Adm. Jonathan Greenert said in a webcast ceremony at today's christening.