

Nov. 21st

## First Commercial Telex Network

Nov. 21, 1931

AT&T's Teletypewriter Exchange Service (TWX) was the first commercial teletype service. It could only manage transmission speeds of around 60 words per minute, which may explain why an average of just 50 TWX messages were sent daily during its first year.

Depending on your definition, teleprinters date back to the 1910's, when they communicated via dedicated telegraph lines. TWX was cheaper because it employed voice telephone lines, with the messages routed by modified telephone switches.

Telex was superseded by fax, email, and text messaging, but was still being used in some countries into the 2000's. Indeed, radiotelex – telex via HF radio – is still widely employed in the shipping industry.

Although TWX was the first commercial telex network, the first public one was opened between Berlin and Hamburg by the German Reichspost on Oct. 16, 1933.

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## Bertrand Meyer

Born: Nov. 21, 1950;

France

Meyer is responsible for the Eiffel object-oriented language (1985), and "design by contract" which extends abstract data types with preconditions, postconditions, and invariants. Indeed, a key element of Eiffel is its promotion of programming methodologies, including design by contract, and command-query separation.

On Dec. 28, 2005, a reckless individual modified Meyer's German Wikipedia's [Jan 15] article to state that he was dead.



Bertrand Meyer (not dead). Photo by Fuchsias. CC BY-SA 4.0.

The hoax lasted for five days before the article was corrected. Meyer responded in a gentlemanly fashion, publishing a positive evaluation of Wikipedia that concluded: "The system succumbed to one of its potential flaws, and quickly healed itself."

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## Mary Ann Horton

formerly Mark R. Horton

Born: Nov. 21, 1955;

Richland, Washington

Horton contributions to Berkeley UNIX (BSD [March 9]), included work on vi, the terminfo database, and uuencode, the first email attachment tool, which proved invaluable for the growth of USENET [Jan 29] in the 1980's.

In Google's USENET collection (<https://groups.google.com>), the earliest archived post is from Horton, dated May 11, 1981, a response to a message from Rusty Wright from an hour before that wasn't saved.

In 1981, Matt Glickman (still in high school) and Horton created "B News", which offered performance and user interface improvements over the very first news reader, "A News", by Steve Daniel and Tom Truscott. "B News" was eventually superseded by a newsreader written by Geoff Collyer and Henry Spencer [?? 1955], which

they (perhaps unsurprisingly) called "C News".

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## Westworld Released

Nov. 21, 1973

Westworld is a SF western movie, written and directed by Michael Crichton. It starred Yul Brynner as a somewhat faulty android working in a Wild West-themed amusement park, and Richard Benjamin and James Brolin as two ill-fated guests.

Westworld was the first feature to use digital effects to pixellate images, in this case to simulate android vision. It took eight hours to produce each 10 seconds of footage, which lasted for a total of 2.5 minutes in the film.

Crichton had originally wanted the work done at the Jet Propulsion Lab, but was disheartened to hear that two minutes of animation would take nine months and cost \$200,000. Eventually it was completed more quickly and cheaply by John Whitney Jr. [April 8] and Gary Demos at Information International Inc. (III; aka "Triple I" [Oct 00]).

They employed a FR-80 film recorder (a modified PDP-15 [Nov 00] that could process graphical information read from magnetic tape). Its machine code also appeared on screens in the Westworld main control room, as realistic set decoration

Westworld also featured the first comparison of a computer malfunction to a disease. One character (wearing a lab coat) says "...there's a clear pattern here which suggests an analogy to an infectious disease process, spreading from one...area to the next." One of the replies is: "I must confess I find it difficult to believe in a disease of machinery." However, the movie never used the word "virus", whose computing application dates from [Nov 3] 1983.

A sequel, called Futureworld was released on [July 28], 1976,

and the movie was remade as a TV series in 2016.

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## Super Famicon (SNES) Released Nov. 21, 1990

The Super Nintendo Entertainment System was a 16-bit game console with a variety of names: "Super NES", SNES, and in Japan, the Super Famicom (its predecessor, the NES [Oct 18], had been called the Famicom in Japan). In South Korea, the SNES was the "Super Comboy," because the NES had been sold as the Comboy.

Its release in Tokyo caused such fevered excitement that the government subsequently asked Nintendo and other game companies to restrict hardware releases to weekends.



The North American SNES (c.1991). Photo by Evan-Amos.

The first 300,000 units were sold in just three days, and it eventually became the best-selling console of the 16-bit era despite its relatively late start, and fierce competition from Sega's Genesis/Mega Drive [Oct 29]. The battle between them was sometimes called the "console war".

The SNES was designed by Masayuki Uemura, who gave it more advanced graphics and sound capabilities than other systems of the time. On the downside, the SNES had a reputation of being hard to program due to its reliance on custom chips to produce effects. For example, the mysterious "mode 7" distorted a flat image into a 3D shape, and was applied to background images to create landscape with perspective.

The custom chips were necessary since the main CPU was a slow, modified 8-bit chip with a 16-bit bus.

SNES games could include third party enhancement chips in the games cartridge which were 'plugged' into the main architecture when loaded. The best known of these was the Super FX chip, used to render 3D shapes in games such as "Star Fox" [Feb 21] and "Stunt Race FX".

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## Legend of Zelda Nov. 21, 1998

"Legend of Zelda: Ocarina of Time" (aka OoT) was a fantasy action-adventure game for the Nintendo 64. It was the fifth game in the Zelda series [Feb 21], and the first to use 3D graphics. The game introduced several features that have since become common in 3D games, such as a target-lock system and context-sensitive buttons. The game engine was re-used for later installments in the series.

The storyline is set in the kingdom of Hyrule, where a callow youth named Link must prevent the evil Ganondorf from obtaining the Triforce, a magical relic of awesome power.

The game employed a time-travel element which allowed for the inclusion of some nice puzzles, and there's even a fishing mini-game included, which is a welcome break from saving the world.

OoT comes near the top of many "greatest games of all time" lists, and sold nearly 8 million copies over its lifetime. It's listed by Guinness World Records as the highest-rated video game in history, with a Metacritic score of 99 out of 100.

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## Papal Internet Nov. 21, 2001

St John Paul II sent the first papal email, a letter of apology

for the sins of the clergy against the Australian Aborigines.

His successor, Pope Benedict XVI, was the first with a Twitter [March 21] account; his first tweet on Dec. 12, 2012 was:

"Dear friends, I am pleased to get in touch with you through Twitter. Thank you for your generous response. I bless all of you from my heart."

An hour later, he had amassed some 700,000 followers. He tweeted in Latin for the first time on Jan. 20, 2013:

"Unitati christifidelium integre studentes quid iubet Dominus? Orare semper, iustitiam factitare, amare probitatem, humiles Secum ambulare."

The Holy See, where even ATM transactions are available in Latin, is one of the last bastions of the language [Nov 28]. The 2003 Lexicon Recentis Latinitatis is a dictionary of modern words in the ancient tongue. "Inscriptio cursus electronici" is the word "e-mail", while "brevisimae braciae femineae" means hotpants.

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## Nintendo DS Released Nov. 21, 2004

The Nintendo DS's ("Developers' System" or "Dual Screen") had two color LCD screens. The upper one was the main display while the lower one was touch-sensitive so could serve as an input device.

There was a built-in microphone, a stylus for writing or drawing on the touch screen, and wireless connectivity within a range of about thirty feet. This allowed consoles to communicate with each other locally, which was ideal for multiplayer games.

Prior to its release, the DS was marketed as an experimental, "third pillar" in Nintendo's console lineup, complementing the "Game Boy Advance" [March 23] and GameCube [Sept 14]. However, backward

compatibility with "Game Boy Advance" titles and strong sales soon established it as the successor to the Game Boy series.

The system's promotional slogans revolved around the word "Touch", with the US slogan promoting "Touching is good."

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## Conficker Worm Detected

Nov. 21, 2008

Conficker (aka Downup, Downadup, and Kido) was a worm targeting MS Windows, which may have infected over ten million computers.

It exploited a network service vulnerability in Windows, and also used dictionary attacks to uncover administrator passwords. Once on a machine, the worm turned into a botnet slave and installed scare-ware to scam money off the user.

Microsoft issued a patch against the networking vulnerability almost a month before the first Conficker attack was reported, which perhaps illustrates the effectiveness of voluntary software upgrades.

On Feb. 12, 2009, Microsoft offered a \$250,000 reward for information leading to the arrest of the Conficker developer, with George Stathakopoulos, of Microsoft's Trustworthy Computing Group, saying "People who write this malware have to be held accountable." The US Department of Homeland Security also formed a Conficker Working Group, with members from CISCO, Facebook, ICANN [Sept 18], Microsoft, and other companies, to investigate Conficker's long-term impact.

Conficker is also reported to have affected IoT devices [Sept 21], including MRI machines and police body cameras.

For more virus nasties, see [Jan 26; March 26; April 30; May 5; July 13; July 15; July 17; Sept 5; Oct 26].