# August 4th

## The Antikythera Mechanism

### Aug. 4, 1901

The Antikythera mechanism was discovered in 45 meters of water in a shipwreck off the Greek island of Antikythera by a group of Greek sponge divers. It was found amongst numerous other artefacts, including bronze and marble statues, jewelry and coins.

On May 17, 1902, archaeologist Valerios Stais was examining the finds and noticed that one of the pieces of rock had a gear wheel embedded in it. Stais initially believed it was an astronomical clock. Matters rested there until Derek J. de Solla Price examined the 'rock' again in 1951. After painstaking conservation work, he was able to divide it into 82 separate fragments.

Part of the Antikythera Mechanism. Photo by User:Marsyas. CC BY 2.5.

In 1971, Price and Charalampos Karakalos made X-ray and gamma-ray images of the pieces, and Price published a 70-page paper on their findings in 1974. He argued that the device was a complex clockwork mechanism composed of at least 30 meshing bronze gears. It had been used to predict astronomical positions and eclipses, as well as calculate the four-year cycle of athletic games. It was probably created in the late second century BC.

Some popular science writers have claimed that the mechanism is unique. In fact, it's always been known that these kinds of devices existed in antiquity. For example, Cicero (106 – 43 BC) mentions several in "De Re Publica" in book 1, 14. There are at least a half dozen other passages in classical Greek and Roman texts describing related devices. Many of them are associated with Archimedes (c. 287 – c.212 BC), and according to Pappos of Alexandria (c. 290 – c.350 AD), Archimedes [March 8] wrote a treatise on how they worked. Unfortunately, it hasn't survived.

The quality and complexity of the mechanism strongly suggests it must have had predecessors (and perhaps successors). Unfortunately, it's especially rare for metal devices from ancient times to survive; most were melted down.

Later artefacts approaching the same levels of complexity and workmanship don't appear in Western Europe again until the 14th century.

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## Telephones go Silent

### Aug. 4, 1922

All 13 million telephones in North America went silent for the space of a minute at the end of the funeral service for Alexander Graham Bell [March 7] "in honor of the man who had given to mankind the means for direct communication at a distance."

Bell had died on August 2, and was buried in a coffin built by his lab staff, lined with the same red silk fabric used in his tetrahedral kite experiments. The grave's location was chosen by Bell himself, located on Beinn Bhreagh Mountain on his estate, overlooking the town of Baddeck, Cape Breton.

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## Frances (Fran) Elizabeth Allen

### Born: Aug. 4, 1932;

Peru, New York
Died: Aug. 4, 2020

Allen's first assignment at IBM was to teach FORTRAN (released just two months before on [Feb 26]), which she prepared for by studying the source code of the compiler developed by John Backus' team [Dec 3]. In her words, "It set my interest in compiling, and it also set the way I thought about compilers, because it was organized in a way that has a direct heritage to modern compilers."

She was also involved in the development of software for the Stretch/Harvest computer. Stretch [April 26] was one of the first supercomputers, and Harvest was a coprocessor, designed for the NSA, and optimized for codebreaking. Allen's team designed a compiler framework to handle FORTRAN, Autocoder (a business language similar to COBOL [April 8]), and a new language called Alpha which focused on rapidly detecting text patterns. The three compilers shared a common optimizing back-end that could produce code for both Stretch and Harvest.

Later, in Project Y, she collaborated with John Cocke [May 30] on the design of the first "superscalar" processor, and helped lay the groundwork for automatic program optimization.

She also worked on the Parallel Translator (PTRAN), a system for compiling FORTRAN programs to run on parallel architectures. She developed the Static Single Assignment intermediate representation, which is now widely used in both static and just-in-time compilers.

Allen was the first female IBM Fellow, and the first woman to win the Turing Award.

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## Margaret (Meg) Cushing Whitman

### Born: Aug. 4, 1956;

Long Island, New York

Whitman served as President and Chief Executive Officer of eBay [Sept 3], from 1998 to 2008, with her first day marked by the crashing of the site for eight hours. Nevertheless, she oversaw the company's expansion from 30 employees and $5.7 million in annual revenue, to more than 15,000 personnel and $8 billion annually.

In January 2011, Whitman joined Hewlett-Packard's [Jan 1] board of directors, and was the company's CEO from 2011 to 2015, During that time, she oversaw its split into HP Inc. and HPE.

At the start of her illustrious career in the 1990s, she served as an executive at Hasbro, where she managed Mr. Potato Head, and introduced the Teletubbies to an unsuspecting US audience.

## AOL Research Privacy

### Aug. 4, 2006

AOL [Oct 2] Research generously released a file containing 20 million search keywords utilized by 650,000 anonymous users over a three month period, purely as a data set for research purposes.

Although none of the records were labelled with user IDs, some of the keywords did include names, addresses, and social security numbers. This allowed dedicated reporters at the *New York Times* to uncover the identities of several searchers.

This inadvertent breach in privacy led to the resignation of AOL's chief technical officer, Maureen Govern, on August 21, along with the person who released the data, and his supervisor.

## Thailand Halts Grand Theft Auto

### Aug. 4, 2008

Thai video game distributor New Era Interactive Media stopped selling "Grand Theft Auto" [Oct 21] following an incident in which an obsessed 18 year-old, enraged that he couldn't afford to play the game, stabbed a taxi driver to death during a robbery. He later claimed that the incident was an attempt to recreate a scene from the game.

Thailand's Culture Ministry issued a warning that the murder should serve as a wake-up call for the country to pay more attention to violent video games and called for national video game ratings and restrictions.

For more GTA problems, see [Feb 5] and [June 9].