Sept. 5th

James Wares Bryce

Born: Sept. 5, 1880;

New York City
Died: March 1949

Bryce was described by the US Patent Office in 1936 as one of the world's "ten greatest living inventors". By the time of his death, he had been awarded over five hundred US and foreign patents.

He began worked for the Computing-Tabulating-Recording Company (C-T-R [June 16], later IBM) in 1917, and at the start of the 1930's began a project to use vacuum tubes to perform mathematical operations. This culminated in 1946 with the production of the first commercial electronic multiplier using tubes, which became the IBM 603 [July 00].

In Nov. 1937 Bryce was approached by Howard Aiken [March 8], who asked him to persuade IBM to fund Aiken's programmable calculator. This became the Automatic Sequence Controlled Calculator (ASCC) [April 17], later known as the Harvard Mark I [Aug 7].

The machine was controlled by a "control tape", but that term originated at Harvard. The IBM patents (e.g. US2616626) also called it a "program tape" and the sequences of operations are occasionally called "programs". This terminology is probably due to Clair D. Lake and Bryce. Indeed Bryce already had a patent from 1941 (US2244241A) in which a "programming plugboard" was capable of automatic transfer of control and other operations. This terminology predates von Neumann's [Dec 28] better known use of "to program" although the IBM patents weren't filed until Feb. 1945.

Bryce later adapted the IBM 603 to become the ALU of IBM's Selective Sequence Electronic Calculator (SSEC) [Jan 27], which was the company's response to the rather acrimonious outcome of their ASCC collaboration.

LEO's First Program

Sept. 5, 1951

The construction of the LEO (Lyons Electronic Office), the world's first business computer, had begun in Aug. 1949, and its first business application, a bakery costs calculator, was run on this day.

LEO was built by J. Lyons and Co., best known for their chain of Lyons' Corner House teashops in London.

A Lyons' Corner House (1942). Photograph D 6573 from the collections of the Imperial War Museums.

The machine was designed by John Pinkerton [Aug 2] with the help of David Caminer, and based on Maurice Wilkes' EDSAC design [May 6]. However, LEO's valve reliability was improved, and an extensive suite of test procedures were written for the hardware.

After the bakery costs program proved to work correctly, all of Lyon's bakery calculations were handed over to LEO at the end of Nov. 1951, although the machine was only deemed officially operational on Dec. 24 1953.

The calculations used data obtained from orders phoned in every afternoon from Lyons' teashops. The outputs included overnight bakery production requirements, assembly instructions, delivery schedules, invoices, and management reports. In effect, this application was probably the first example of an integrated management information system.

It took up 2,500 square feet of floor space at Lyons' headquarters at Cadby Hall in Hammersmith, London. Versions of LEO were used right up until 1981, when the last Lyons teashop closed.

LEO was also a pioneer in outsourcing, after Lyons started using it to do the payroll calculations for Ford UK and other companies in 1956.

Leo Fantl [Aug 8] was one of the machine's main programmers, developing software for tax calculations on large payrolls amongst other things. The fact that his first name was the same as the computer's was always said to be a coincidence.

Martin Odersky

Born: Sept. 5, 1958;

Lausanne, Switzerland

Odersky designed the Scala programming language (a fusion of object oriented and functional programming), which he first released on Jan 20, 2004.

Before Scala, Odersky had worked on a 'purer' combination of functional and object-oriented programming called Funnel. Scala was intended to be a more practical language, while still being more advanced than Java. The name Scala is a portmanteau of scalable and language.

Back in 1995 Odersky had teamed up with Philip Wadler [April 8] to write a functional language that compiled to Java bytecodes. That effort became the Pizza language, which led to the addition of generics to Java 5.

WABOT-1 Finished

Sept. 5-8, 1973

Ichiro Kato of Tokyo's Waseda University completed the WABOT-1 (WAseda roBOT), the first full-scale humanoid robot, although it lacked a head.

Its two-camera vision system could recognize objects, calculate distances and directions. The robot could manipulate objects with two hands equipped with tactile-sensors, and walk (actually 'shuffle') on biped legs. A single step could take 45 seconds to carry out, and its "stride" length was 10 cms. It could also understand spoken commands and speak in Japanese.

Kato's group went on to develop a WABOT-2 in 1984, which was able to read a musical score, and play the tune on an electronic organ with its 10 fingers and two feet.

For more humanoid robots, see [March 16], [Oct 21], [Dec 20].

Hacker in the Media

Sept. 5, 1983

17-year-old Neal Patrick of the hacking group "The 414s" was featured on the cover of *Newsweek* as part of a story entitled "Beware: Hackers at Play." The cover marked the start of the popularization of 'hacking' by the mainstream media in the word's modern negative sense, although "WarGames" [June 3] had started the hype machine rolling.

"The 414s" were eventually identified as six Milwaukee teenagers, who had taken their nom de plume from their telephone area code, and had first met at Boy Scouts while attending one of IBM's sponsored Explorers clubs.

The group had been caught after they had hacked into machines owned by the US hospital giant, Sloan-Kettering. One of the accounts they had cracked employed the username and password "test".

Patrick spoke before the US House of Representatives on Sept. 26, 1983 about the dangers of computer hacking. Six bills concerning computer crime were introduced in the House later that year.

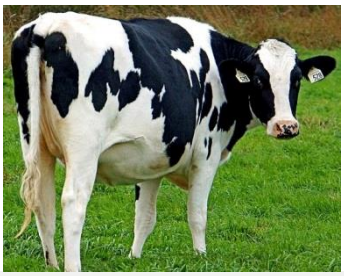
Gateway 2000 Founded

Sept. 5, 1985

Brothers Ted and Norman Waitt, and their friend Mike Hammond, started computer manufacturer Gateway 2000 in a farmhouse in Sioux City, Iowa. They had a $10,000 loan from Waitts' grandmother and a three-page business plan.

Gateway became one of the first successful direct sales computer companies, greatly helped by their following of Dell's [May 3] business model and by cannily playing up their Iowa roots. For instance, they shipped computers in spotted boxes patterned after Holstein cows, and opened a chain of farm-styled retail outlets called Gateway Country Stores. However, they missed a trick by never utilizing the following joke: Q: What's the hardware inside a cow's computer called? A: The moo-ther board.

They dropped the "2000" from their name on Oct. 31, 1998.



A Holstein cow. Photo by Dennis Jarvis. CC BY-SA 2.0.

Gateway was also an innovator in low-end computers, and offered the first sub-$1,000 name-brand PC, the all-in-one Astro. In addition, they introduced one of the first affordable portable computers (the Nomad), the first reasonably-priced Windows sub-notebook (the Handbook), and one of the first Pentium-based notebooks (the Solo).

The company suffered huge losses during the dot-com bust [March 10], and was acquired by Acer in Oct. 2007.

Soyuz TM-5 Descends

Sept. 5, 1988

Soyuz TM-5 was the fifth spacecraft to visit the Russian Space Station Mir. On this day, cosmonauts Lyakhov and Mohmand undocked from Mir, to return to Earth. However, 30 seconds before the reentry braking maneuver, the orientation system failed due to a combined software and sunlight sensor problem. This caused a seven-minute delay in the engine's firing, and when it did fire, Lyakhov quickly shut it off, since he had no idea where the delayed trajectory would take the craft.

Two orbits later, they made a second attempt, but this time the system, confused by instructions left over from an earlier mission, shut the engines down and launched a countdown to jettison the propulsion module, including the braking engine. Fortunately, Lyakhov managed to cancel the countdown, less than a minute before such a fatal step.

The cosmonauts were forced to remain in orbit for an extra day, waiting for another re-entry window, in a craft with little water and no sanitary facilities.

This was the first spaceflight for Abdul Ahad Mohmand, the first Afghan, and the fourth Muslim, to visit outer space. He was probably the first to take a copy of the Qur'an with him.

First Live Audio Streaming

Sept. 5, 1995

ESPN streamed a live radio broadcast of a baseball game between the Seattle Mariners and the New York Yankees using Progressive Networks' RealAudio format [April 3]. It was the world's first live streaming event, and the game's outcome was a 6-5 Mariners' victory over the Yankees.

Progressive Networks was founded in 1994 by Rob Glaser, and became RealNetworks in Sept. 1997. At the time, Glaser was also a part owner of the Mariners.

Silverlight

Sept. 5, 2007

Microsoft's Silverlight application framework was designed for writing and running rich web applications, and intended as a rival to Adobe Flash [Jan 6]. Early versions focused on streaming media, but soon expanded to support multimedia, graphics, and animation.

Developers flocked to the tool, only to see Microsoft deprecate it in favor of HTML5 [Oct 28].

Microsoft only officially dropped support for Silverlight on Oct. 12, 2021, but it effectively died in 2011 when the last version, Silverlight 5, was released. Browser after browser dropped the plugin, basically leaving only Internet Explorer 11 on Windows [Aug 16].

This situation was immortalized with the phase "silverlighted," in which a product invested in heavily by developers is abandoned.

CryptoLocker

Sept. 5, 2013

The CryptoLocker ransomware attacked MS Windows by encrypting system files using RSA public key cryptography [Sept 6], and spread itself using email and the Zeus botnet [July 17]. Although it was easy enough to remove the malware itself, the files would remain encrypted, and the only way to unlock them was to pay a ransom, either through Bitcoin [Jan 3] or with a pre-paid cash voucher.

Eventually law enforcement managed to take control of part of the botnet during their "Operation Tovar", and the encryption keys were made public. In the meantime, perhaps 500,000 machines had been infected, with about 1.3% of those paying the ransom, which amounted to several million dollars.

CryptoLocker wasn't the first example of ransomware (that was the AIDS Trojan [Dec 19]), but it was the first profitable one. Naturally, it's success spawned several similar attacks (e.g. WannaCry [May 12]).

For more virus nasties, see [Jan 26; March 26; April 30; May 5; July 13; July 15; July 17; Oct 26; Nov 21].
