

April 23rd

Walter Harry Pitts, Jr.

Born: April 23, 1923;

Detroit, Michigan
Died: May 14, 1969

Pitts was pivotal in establishing the theoretical foundations for viewing the brain as a kind of neural network-based computer, starting with a paper that he wrote with Warren McCulloch [Nov 16], "A Logical Calculus of Ideas Immanent in Nervous Activity" (1943). He was also a core member of the organization behind the Macy cybernetics conferences [March 21].

At the age of 12, he spent three days reading "Principia Mathematica" and sent a letter to Bertrand Russell [May 18] pointing out what he considered serious problems with the work. Russell responded by inviting him to study at Cambridge, unaware of how old he was. When Russell visited the University of Chicago in the fall of 1938, he suggested Pitts study with the logician Rudolf Carnap.

In 1943, Pitts moved to Boston to become the unofficial student of Norbert Wiener [Nov 26]. Sadly, their friendship ended suddenly in 1952, triggered by Wiener's acrimonious break with McCulloch.

Pitts subsequently joined the Electronics Research Laboratory at MIT, where his reputation for eccentricity grew. For example, he refused several offers of advanced degrees and positions, in part because they would require him to sign his name.

In June 1954, *Fortune* magazine ran an article featuring the twenty most talented scientists under 40; Pitts was featured, next to Claude Shannon [April 30] and James Watson.

Raymond Samuel Tomlinson

Born: April 23, 1941;

Amsterdam, New York
Died: March 5, 2016

In 1971, Tomlinson implemented the first program that could send mail between machines connected to the ARPANET [Oct 29], thereby creating email. (Tomlinson always said that he preferred "email" over "e-mail", because "I'm simply trying to conserve the world's supply of hyphens".)



Ray Tomlinson (2004). Photo by Andreu Veà. CC BY-SA 3.0.

At the time, he was working at BBN [Oct 15], and had already written a program called CPYNET to transfer files across the network. He'd also been tasked with modifying SNDMSG which sent messages between users on a time-sharing computer running the TENEX OS [Nov 29]. Tomlinson's bright idea was to add the ARPANET networking code in CPYNET to SNDMSG.

Incidentally, SNDMSG wasn't the first message-sending program for a time-shared computer – that was probably CTSS MAIL [Dec 00] in 1964-65.

Tomlinson's first email traveled a grand total of 100 yards – from a computer known as BBN-TENEXB to a router elsewhere in the building, and then onto BBN-TENEXA (i.e. from B to A). Nevertheless, it had used ARPANET-based routing for its

trip. When Tomlinson demoed his work to a colleague, he remarked, "Don't tell anyone! This isn't what we're supposed to be working on".

At the time, Tomlinson programmed on a Teletype Model 33 ASR keyboard [April 00], and so decided to use its '@' symbol to separate the user name from the machine name in an address, a scheme that's been used ever since.

The '@' had begun appearing on typewriter keyboards in the 19th century, used almost exclusively in financial transactions to indicate "at the rate of." Its probable first appearance for that purpose was on May 4, 1536. Florentine merchant Francesco Lapi employed it as a measure of capacity in terms of the number of terracotta jars (amphora) needed to transport grain or liquid.

Tomlinson was a co-author of RFC 561 (Sept. 1973), the first standard for Internet email message formats. He was also partly responsible for the first virus program, and wholly responsible for the first anti-virus application [March 15].

Digital Coined April 23, 1942

In early April, George Stibitz [April 30] attended a meeting at the Office of Scientific Research and Development (OSRD) that was charged with evaluating various proposals for anti-aircraft fire-control devices for tracking and hitting targets.

On this day, Stibitz released a memorandum entitled "Digital Computation for A.A. Directors", ("A.A." stands for Anti Aircraft) which summed up the advantages of using computers for these tasks.

In the process, Stibitz coined the term "digital computer" as a counterpart to the better-known analog computers of the time. Stibitz preferred his phrase over "pulse computer" which had

occasionally been used up until then.

Open University Founded April 23, 1969

The Open University (OU) is a distance learning and research university, and the largest academic institution in the UK by student numbers. It was founded by the government as part of its commitment to modernizing British society.

The OU uses a variety of methods for teaching, including the Internet, disc-based software, and video programming distributed by DVD. TV broadcasts on the BBC were also utilized for many years, but were sadly discontinued in 2006. An important part of the OU's success is its non-distance teaching elements, such as tutors who are available face-to-face and OU campus meetings.

In recent years the OU's distance learning approach has been rebranded as the MOOC [Sept 15] by newcomers such as Coursera [April 18] and Udacity [Feb 20].

The plot of the movie "Educating Rita" (1993) has the working class character studying English literature through the OU.

ZX Spectrum April 23, 1982

The ZX Spectrum was launched by Sinclair [July 30] Research to build upon the success of the ZX81, released a year before [March 5]. It became one of the most popular European computers of the 1980's, with about 5 million sold worldwide.

Inside a tiny box (23 x 14.4 x 3 cm), the Spectrum used a Zilog Z80 chip [March 9], with 16K of ROM and either 16K or 48K of RAM. Video output was designed to go to a TV set at a resolution of 256 x 192 pixels, with a

palette of eight colors. This plethora of colors is why the machine was called the Spectrum, and a feature that helped kickstart the UK games industry which produced many fine games such as "Jet Set Willy", "Lords of Midnight", and "The Hobbit".



A Sinclair 48K ZX Spectrum.
Photo by Bill Bertram. CC BY-SA 2.5.

One unpleasant feature of the device was its rubbery keys which some critics referred to as 'dead flesh'. Also, a bug in the ULA (Uncommitted Logic Array) chip meant that the keyboard didn't always scan correctly. This could be rectified by installing a "dead cockroach" (a small circuit board mounted upside down).

The Spectrum's audio-visual performance was inferior to its main competitor, the Commodore 64 [Jan 7], and their fight over market share led to one of the first PC price wars in the UK.

The Spectrum included a version of BASIC that could issue the error message: "Nonsense in BASIC."

Seinfeld's "The Frogger" April 23, 1998

The 174th episode of Seinfeld, "The Frogger," aired on NBC. George Costanza, played by Jason Alexander, reminisces about his days playing the Frogger arcade game at the local pizza parlor where he achieved the high score. (Frogger was released in the US on Oct 23, 1981.)

George hears that the restaurant is going out of business, and so buys the machine, but now has the problem of getting it home.

Due to a strange turn of events, he's forced to move the arcade machine across a busy street in an imitation of the game. The sound effects heard during the move are actual sounds from the game.

According to the official Twin Galaxies' [May 14] world rankings, Costanza's fictional Frogger high score of 860,630 would have been the top score in the world at the time.

On Sept 24, 2005, Twin Galaxies offered a \$1,000 prize to the first player who could break that score before the end of the year. No one managed it within the time limit, but there are currently three higher scores; the highest belongs to Pat Laffaye with 1,029,990 points, set on Aug. 15, 2017, the first and only person ever to pass one million.

First YouTube Video April 23, 2005

The first video was uploaded to YouTube [Feb 14] by co-founder Jawed Karim at 8:27pm: "Me at the zoo." The 18-second video was shot by Yakov Lapitsky at the San Diego Zoo and shows Karim standing in front of several elephants, explaining how interesting he finds their "really, really, really long trunks." It has been viewed almost 100 million times.

As of Feb. 2021, 5 videos had exceeded 4 billion views, with the number 1 position, at 8.1 billion views, held by "Baby Shark Dance".
