

Feb. 15th

The Endless Self-Computing Scale Feb. 15, 1844

Aaron Palmer published a manual describing how to use his "Endless Self-Computing Scale", one of the first circular slide rules sold in the US. It could calculate squares and cubes, timber, grain and liquid measures, and interest rates between 3 and 10%.

It also marked the first use of the word 'computer' for a device rather than for a person. Until the 1950's, a computer commonly meant a person who compiled mathematical tables, with or without the assistance of a mechanical calculator.

John Emery Fuller acquired the rights to the slide rule in 1846, and combined it with his 'Fuller's Time Telegraph' (a circular slide rule for calculating date intervals). He put it on show at the Crystal Palace exhibition in London [May 1] in 1851.

Niklaus Emil Wirth Born: Feb. 15, 1934;

Winterthur, Switzerland
Died: Jan. 1, 2024

Wirth was the chief designer of the programming languages Euler (1966), ALGOL-W (1966), Pascal (1970), Modula, Modula-2 (1979), Oberon (1988), Oberon-2, and Oberon-07. Aside from language design, he was also heavily involved in the design of several research OSes and the Lola digital hardware design and simulation system.

Euler embodied Wirth's ideas for extending ALGOL 60 [Jan 11], but his proposals were rejected in favor of the (overly) complex ALGOL 68 [Dec 20], which caused him to resign from the IFIP Working group. He and Tony Hoare [Jan 11] turned their

ideas into ALGOL-W, which became the basis for his most influential language, Pascal [July 00].



Niklaus Wirth (1969). Photo by Robert M. McClure. CC BY-SA 3.0.

Wirth is noted for the clarity of his writing. For example, his classic 1976 text, "Algorithms + Data Structures = Programs," is still an excellent introduction to compilers and virtual machines, and influenced a lot of later work [Oct 22].

Wirth's law: Software is getting slower more rapidly than hardware becomes faster. However, Wirth has claimed that the saying is really due to Martin Reiser.

"Bucky bits" refer to keyboard keys such as alt, control, and command, that modify the meaning of other keys [Jan 26]. The term was invented at Stanford in the mid 1960's, based on Wirth's nickname "Bucky". Wirth was also the first person to suggest the usefulness of an EDIT key to set the eighth bit of a 7-bit ASCII character [June 17].

Adriaan van Wijngaarden [Nov 2] has noted: "Whereas Europeans generally pronounce his name the right way ('Nicklouse Veert'), Americans invariably mangle it into 'Nickel's Worth.' This is to say that Europeans call him by name, but Americans call him by value." This joke has also been attributed to Adele Goldberg [July 7], and to Wirth himself.

Douglas Richard Hofstadter

Born: Feb. 15, 1945;
New York City

In 1979 Hofstadter wrote "Gödel, Escher, Bach: An Eternal Golden Braid" (GEB) which won the Pulitzer Prize for general non-fiction. Through the lives and works of Kurt Gödel [April 28], artist M. C. Escher and composer Johann Sebastian Bach, the book discusses self-reference, rule-based systems, symmetry, emergence, and intelligence.

Martin Gardner's [Oct 21] July 1979 column in *Scientific American* stated, "Every few decades, an unknown author brings out a book of such depth, clarity, range, wit, beauty and originality that it is recognized at once as a major literary event."

Hofstadter coined the word "quine" in GEB to denote a program which produces a copy of its own code as output. He named it in honor of Willard Van Orman Quine who made an extensive study of indirect self-reference, and in particular Quine's paradox:

"Yields falsehood when preceded by its quotation" yields falsehood when preceded by its quotation.

Writing quines in different programming languages is a popular activity. For example in Python 3.8 [Jan 31]:

```
exec(s:= 'print(
"exec(s:=%r) "%s)')
```

The quine concept has been extended to "ouroboros programs", or quine-relays, which generate quines in other languages before eventually returning to the original code. The current longest is by Yusuke Endoh which passes through 128 languages during its execution, starting in Ruby [Feb 24].

When it was suggested to Hofstadter that his work had

inspired many students to study computing and AI, he replied that he was pleased, but had “no interest in computers” himself. Indeed, he has expressed profound skepticism about several prominent AI projects. For example, after Garry Kasparov was defeated by Deep Blue [Feb 10], he commented “It was a watershed event, but it doesn’t have to do with computers becoming intelligent”.

On April 3, 1995, Hofstadter’s “Fluid Concepts & Creative Analogies” was the first book ever sold by Amazon.com [July 16].

In 1976, during his Ph.D work, he discovered the fractal now known as the Hofstadter butterfly. However, at the time he called it a “recursive structure” since Benoit Mandelbrot [Nov 20] hadn’t yet coined the word “fractal”

ENIAC Unveiled

Feb. 15, 1946

Prev: [Nov 30] Next: [July 15]

After enjoying lobster bisque and filet mignon at Houston Hall, guests walked over to the University of Pennsylvania’s Moore School of Engineering, where J. Presper Eckert [April 9] and John Mauchly [Aug 30] unveiled the Electronic Numerical Integrator and Computer (ENIAC), the first ever electronic, general purpose computer.

It was dedicated by US Army General Gladeon Marcus Barnes, who had signed off on the classified project back on [May 31] 1943.

Eckert and Mauchly then ran a demo which had ENIAC calculate the trajectory of a shell in less time than it would take for that shell to hit its target. The program had been coded by Jean Bartik [Dec 27] and Betty Holberton [March 7].

For the event, neon bulbs had been attached to some of ENIAC’s vacuum tubes so that

there would be some visible activity during the calculation. In subsequent demos, the team stuck Ping-Pong balls over the bulbs, with a digit written on each one, so that numerical results could be read by the audience.

Two common ENIAC myths were that the lights dimmed across Philadelphia when the device was switched on, and that military personnel had to salute the machine when they entered the room.



Major General Gladeon M. Barnes. Photo by the US Army. (1943).

At the time, “ENIAC” was pronounced with a short ‘e’ (as in “EHNIAC”), not a long e (as in “EENIAC”), or with a “u” sound (as in “UHNIAC”).

Many reports say that the ENIAC was unveiled on the 14th (i.e. yesterday), and this explains why several anniversaries have been held on that day [Feb 14]. The confusion seems to have been caused by the fact that the press were given a preview of the ENIAC on Feb. 1 but were told they couldn’t print their stories until the 15th. They were told that the unveiling would be on the 14th, so that date appeared in their articles.

Mitnick Arrested

Feb. 15, 1995; 2am

Tsutomu Shimomura and the FBI closed in on the nefarious hacker Kevin Mitnick, who had

gone to ground in Raleigh, North Carolina [Dec 25].

To locate Mitnick’s cell phone (and therefore Mitnick), Shimomura walked the mean streets of Raleigh for two days equipped with a communications detector.

On this day, the FBI and Shimomura burst into Mitnick’s apartment. When Mitnick saw his adversary, the fugitive exclaimed: “Hi, Tsutomu! Congratulations!”

Police accused the miscreant, who liked to call himself “Condor,” of stealing software worth millions of dollars from major computer corporations. The maximum possible sentence was 200 years, but Condor ended up serving just five, which still seemed a tad excessive.

According to Mitnick, law enforcement officials had convinced the judge that he had the ability to “start a nuclear war by whistling into a pay phone”

GIMP Released

Feb. 15, 1996

GIMP (General Image Manipulation Program) is an open-source raster graphics editor developed by Spencer Kimball and Peter Mattis in 1995 as a course project at the University of California, Berkeley. The actual assignment was to write a compiler in Scheme or Lisp.

The first public release, v0.54, went online today, and a year later Richard Stallman [March 16] gave his blessing to change GIMP’s “General” to “GNU”

After Mattis became disillusioned with building GIMP’s GUI using Motif, he wrote his own. GTK (GIMP toolkit), and its successor GTK+ (1998), eventually gained a life of its own as a general-purpose GUI toolkit. It’s now used by many Linux distributions and applications.

Wilber, the official GIMP mascot, was created in 1997 by Tuomas Kuosmanen, and has also moved

beyond GIMP. For example, he's been seen driving a car in the SuperTuxKart racing game, and has appeared on the side of the Bibliothèque Nationale de France as part of Project Blinkenlights [Sept 11].

SuperTuxKart is chock-full of open source mascots, including Tux [May 9], Gnu [Sept 27], Thunderbird [Dec 7], Konqi [Oct 14], and Beastie [March 13]. Tux was originally designed by Larry Ewing with the help of GIMP 0.54.

Das Bus Feb. 15, 1998

The Simpsons episode "Das Bus.", the fourteenth of the ninth season, mostly featured an extended parody of "Lord of the Flies". However, back in Springfield, Homer forms his own Internet company: Compu-Global-Hyper-Mega-Net in response to his discovery that Ned Flanders is raking in cash with his own home-based Internet business, Flancrest Enterprises, that sells religious book rugs.

Homer thinks that he's hit pay-dirt when Bill Gates [Oct 28] becomes interested in acquiring the company. Unfortunately, Gates' "buying" process involves having his goons wreck Homer's office, while pointing out that he didn't become rich by writing a lot of checks.

Generally, reviewers preferred the "Lord of the Flies" part of the show.

For more Simpsons, see: [Jan 12], [Nov 8], [Nov 13] and [Nov 30].

March on Microsoft Feb. 15, 1999

About a 100 open source OS users marched on Microsoft's offices in Foster City, California demanding a refund for the unused copies of Windows 95

[Aug 24] bundled with their computers. The event was coordinated by the CABAL (the Consortium of All Bay Area Linux).

According to Microsoft's licensing terms, a user may return the software to the retailer for a refund, but the process is rife with difficulties. However, a plucky Australian, Geoffrey Bennett, did manage to get an AU\$110 refund from Toshiba, after a four-month battle.

The march was met outside Microsoft's offices by a large banner reading "Microsoft Welcomes the Linux Community," which proved a dire miscalculation since the mob featured many irate FreeBSD [Nov 1] and SCO [Jan 00] users.

Some of the braver participants entered the building but discovered that the main elevator had been reprogrammed not to stop at the 9th floor (where Microsoft was based). They tried going to the 10th floor and taking the stairs down, but the fire doors to the floor wouldn't open. Apparently this was due to the office being closed for President's Day.

A Microsoft representative came out to speak to the protestors, and the company served lemonade and iced tea. Eric Raymond [Dec 4] was present, dressed as a Jedi.

PayPal IPO Feb. 15, 2002

PayPal began its life in late 1998 as Confinity, founded by Max Levchin, Peter Thiel, Luke Nosek, and Ken Howery. Their original plan was to beam money to people via Palm Pilots [March 10], which was voted one of the worst ten business ideas of 1999. However, the group eventually developed a way to send money transfers as email.

Shortly before Confinity's launch, Thiel told journalists that the new product would be

free. That was news to the engineers, who quickly removed fees from the website.

Confinity merged with Elon Musk's [June 28] online banking company X.com, and adopted the name PayPal in June 2001.

PayPal burned through large amounts of cash to attract new customers, was sued repeatedly, and was subject to numerous frauds. For almost a month a loophole in X.com's security allowed people to steal using only bank account and routing numbers, both of which were easily available on checks. Splits among the top honchos led to two chief executives being ousted in coups in a six-month period.

The company was acquired by eBay (under the leadership of Meg Whitman [Aug 4]) in 2002 for a cool \$1.5 billion. During its first four years within eBay's happy family, all but 12 of the original 50 employees left.

For more about former PayPal members, see the "PayPal Mafia" [Nov 26].
