Douglas Rayner Hartree

Born: March 27, 1897; Cambridge, UK
Died: Feb. 12, 1958

Hartree played a key role in the setting up of digital computer research in the UK at the end of WWII, first at the National Physical Laboratory (NPL) [Oct 1], and later at Cambridge and Manchester. He's also known for his work on numerical analysis, and for constructing the first differential analyser in the UK, built out of Meccano [Jan 24].

Douglas Hartree (1934). Photo by GFHund. CC BY-SA 4.0.

Hartree visited several computing sites in the USA at the end of 1945 and briefed Maurice Wilkes [June 26] at the University of Cambridge upon his return. Wilkes subsequently received an invitation to attend the Moore School lectures [July 8].

In Feb. 1946, Max Newman [Feb 7] submitted an application to the Royal Society for funds to start building a computer at the University of Manchester. The Royal Society referred the request to Hartree and C.G. Darwin, Director of the NPL. Hartree recommended the grant but Darwin opposed it on the grounds that Turing's ACE [Feb 19] at NPL would be sufficient for all the future needs of the country. Thankfully, Hartree's view won the day.

Hartree visted the ENIAC [Feb 15] for a second time in the summer of 1946, and became the first civilian to program it – to solve a problem involving the flow of a compressible fluid.

In Oct. 1946, Hartree became Cambridge's Professor of Mathematical Physics, but still strongly supported Wilkes's efforts to build a computer. Part of that involved inviting representatives from Lyon's (the tea company) to Cambridge in 1947, forging a link that led to the development of a commercial version of Wilkes' EDSAC [May 6], the LEO [Sept 5].

Hartree published, "Calculating Instruments and Machines," in May 1949 which described computer development, with sections on Kelvin's Differential Analyzer [June 20], Babbage's Analytical Engine [Dec 23], the Harvard Mark 1 [Aug 7], the IBM SSEC [Jan 27], and the ENIAC [Feb 15]. It could claim to be the first popular book on computing, although Edmund Berkeley's "Giant Brains, or Machines That Think", was completed at about the same time ([June 30] 1949).

Thomas J. Watson's [Feb 17] famous quote, "I think there's a world market for maybe five computers," is probably apocryphal, but Hartree did say something similar in 1951: "all the calculations that would ever be needed in this country could be done on the three digital computers being built – one in Cambridge, one in Teddington [at the NPL], and one in Manchester."

László Kalmár

Born: March 27, 1905; Lake Balaton, Hungary
Died: Aug. 2, 1976

Kalmár was the founder of mathematical logic and theoretical computer science in Hungary. He proved that certain kinds of first order predicate calculus formulae are decidable, and that predicate calculus could be formulated using a single binary predicate, if the recursive definition of a term was sufficiently rich.

He developed the first computer science curriculum in Hungary , and established the Cybernetic Lab in Szeged in 1963. The university had no computer at that time so Kalmár designed a machine out of relays, that was built by Daniel Muszka, his assistant. Its official name was the Szeged logic machine.

John Robinson Pierce

Born: March 27, 1910; Des Moines, Iowa
Died: April 2, 2002

Pierce jointly developed the concept of Pulse Code Modulation (PCM) with his Bell Labs colleagues Barney Oliver and Claude Shannon [April 30].

Arthur C. Clarke [Dec 16] characterized Pierce as "one of the two fathers of the communications satellite" (along with Harold Rosen) due to his role in the development of two of the earliest satellites, Echo 1 [Aug 12] and Telstar. Pierce was also a writer of science fiction, under the pseudonym J.J. Coupling.

Before and during WWII, Pierce made important contributions to the development of microwave electron tubes, including the "traveling-wave" tube, and after the war he supervised the Bell Labs team which built the first transistor [Dec 16].

At the request of Walter Brattain [Feb 10], Pierce coined the name "transistor", an occasion he later recalled like so: "at that time, it was supposed to be the dual of the vacuum tube. The vacuum tube had transconductance, so the transistor would have 'transresistance.' And the name should fit in with the names of other devices, such as varistor and thermistor. And. . . I suggested the name 'transistor."

Pierce is also widely credited as coining the phrase "Nature abhors a vacuum tube", but he

attributed that quip to Myron Glass, with help from Aristotle. Other Piercian bon mots (perhaps): "Funding Artificial Intelligence is real stupidity", and "I thought of it the first time I saw it".

Pierce was the head of the ALPAC (Automatic Language Processing Advisory Committee) which investigated the state of research in machine translation in the early 1960's, and found it wanting [April 00].

In later life, he became interested in computer music [Nov 13], and was an active member of E.A.T. [March 15].

The World Altair Convention
March 27-28, 1976

The first (and only) Annual World Altair [Dec 19] Computer Convention was organized by David Bunnell [July 25] of MITS, and held over two days at the Airport Marina Hotel outside Albuquerque. It was probably the world's first PC conference, with 700 people from 46 states and seven countries attending.

Guest speakers included Ted Nelson [June 17], David Ahl [May 17], and Carl Helmers of BYTE magazine. Twenty-year old Bill Gates [Oct 28] gave the opening address, explaining his position on software piracy [Jan 31]. Nelson's keynote speech apparently sent the audience into hysterics, due to his somewhat risqué predictions about the digital world of the future.

Don Alexander of Columbus, Ohio came first in the demonstration contest by having his Altair 8800 control a radio station transmitter and receiver.

Farewell to the Magic Incubator
March 27, 1998

MIT's Building 20 (aka "the Plywood Palace") was a three-story wooden structure hastily erected in Dec. 1943 to house the Radiation Lab (aka "the Rad Lab"). It was meant to last for the duration of the war and perhaps six months after.

It let in the rain, was poorly lit, inadequately ventilated, and was scorching in the summer and freezing in the winter. It remained in use for 45 years.

Even though the Rad Lab was closed down at the end of the war, the building was soon colonized by many small research groups and student activities. So much so that it earned another nickname, "the Magic Incubator".

A few of its research highlights included Noam Chomsky's [Dec 7] development of generative grammars while working from "a miserable hole" of an office. Prolific analog circuit designer and technical writer Jim Williams ran an electronics lab there for almost a decade. Jerome A. Lettvin was based in the building when he wrote one of the more famous papers on cognitive science, ''What the frog's eye tells the frog's brain.''

MIT Building 20. Photo by the MIT Museum. CC BY 3.0.

Perhaps most legendarily, it was the home of the Tech Model Railroad Club (TMRC [Sept 6]), where many elements of hacker culture were born. More recently, the MIT Electronic Research Society (MITERS) was founded there in 1973, becoming an early form of student-run hackerspace.

Stewart Brand [Dec 14] argued in his book, "How Buildings Learn", that Building 20's lack of style and 'temporary' status allowed its occupants to be more creative.

A farewell celebration was held on this day before the building was demolished. A time capsule was prepared, which is now on display in the Ray and Maria Stata Center which was erected on the cleared site. The center cost $300 million to build, and has windows that cannot be opened.

During the demolition, a disused elevator shaft was revealed. with labels for "G" and "B1" through "B5". These presumably indicate the existence of secret underground labs.

Heathrow Terminal 5
March 27, 2008

Heathrow Airport's new Terminal 5 (T5) cost British Airways (BA) and the British Airports Authority (BAA) £4.3 billion to build and outfit. BA said around £75 million of that was for technology, while BAA invested at least £175 million in the IT systems. The work involved 180 computing suppliers and around 160 separate systems.

In particular, the new baggage handling system employed 175 lifts, 131 escalators, and 18 km of conveyor belts. According to BAA, "It has taken 400,000 man-hours of software engineering just to develop the complex system, and coding work is set to continue even after the initial installation begins." This statement alone should have set alarm bells ringing.

Of course, devoted engineers had thoroughly tested the system with over 12,000 test luggage items, and the system had supposedly worked flawlessly on every run.

The terminal officially opened on this day, and by mid-morning

the baggage handling system had failed.

Over the following ten days some 42,000 bags didn't travel with their owners, and over 500 flights had to be cancelled due to baggage problems. BA blamed the 'glitches' on problems with "staff familiarisation".

One baggage worker (who wished to remain anonymous) told the BBC: "They have been doing tests on the belt system for the last few weeks and knew it wasn't going right."

The Algorithm Auction
March 27, 2015

The first "Algorithm Auction" was held at the Smithsonian Design Museum The seven lots were:

- A signed, handwritten copy of the original "Hello, World!" C program [July 21] by its creator Brian Kernighan [Jan 1] printed on dot-matrix paper. It received the most bids;

- 5,000 lines of assembly code for the earliest known version of the "Turtle Graphics" software, signed by its creator, Hal Abelson [April 26];

- A cobalt blue necktie decorated with the six-line qrpff [Feb 00] algorithm (coded in Perl) by Keith Winstein and Marc Horowitz;

- Two framed Scheme-81 chips, the hardware version of Guy L. Steele Jr. [Oct 2] and Gerald Jay Sussman's Scheme [Dec 22];

- A pair of drawings representing OKCupid's "Compatibility Calculation" algorithm, signed by the company founders;

- JavaScript tools for building applications for the visually impaired, developed by Chris Maury who suffers from Stargardt macular degeneration, a degenerative eye disease;

- Anthony Ferraro's "Hypothetical Beats" program that converts code into music.

Also on show was a facsimile of the "Plimpton 322" Babylonian clay tablet which lists Pythagorean triples, and was compiled in about 1800 BC. However, the chose of values, and their ordering, on the tablet (i.e. the algorithm used to generate them) is still a matter of debate.