May 9th

Enigma Captured

May 9, 1941

Bletchley Park already possessed an Enigma machine [Feb 23] given to them by Polish Intelligence before the war [Aug 16]. However, to actually decrypt a message on the device required the correct settings for the machine's three rotors.

On this day, the British destroyers HMS Bulldog, HMS Broadway, and HMS Aubrietia captured a German U-110 submarine just south of Iceland, on what was later to be called Operation Primrose. They recovered a naval Enigma machine, its cipher keys, and code books.

HMS Bulldog, April 1944. IWMCollections IWM Photo No.:

The seizure was kept secret, and the Germans continued to use their current codes, thinking that the submarine had been sunk.

The materials were taken to Bletchley, where they allowed U-boat messages to be decrypted for several weeks until the keys expired. Merchant ship losses dropped by over two-thirds in July 1941, and remained low until Nov.

It also meant that Bletchley became familiar with the style and formatting of Naval messages, which helped in breaking the new keys. Unfortunately, this became a lot harder in 1942 when the Germans added a fourth rotor to the Enigma machines on vessels in the Atlantic and Mediterranean. It became essential that one of these new Enigmas [Oct 30] devices could be captured for study.

A heavily altered version of today's events were filmed as the movie "U-571" in 2000. In particular, British sailors were replaced by members of the US Navy played by sturdy Matthew McConaughey and stirling Bill Paxton. UK Prime Minister Tony Blair called the film an "affront".

A German WWII U-Boat commander was asked for his opinion of the film's authenticity. His response: "They got one thing right in the movie. There were U-Boats in the North Atlantic during the Second World War."

Andrew Hopper

Born: 9 May 1953;

Warsaw, Poland
UK citizen since 1964

From the mid 1970's, Hopper worked with Maurice Wilkes [June 26] and Roger Needham [Feb 9] on the Cambridge Ring and its successor the Cambridge Fast Ring (CFR) (which does not imply that the first was slow).

Hopper helped set up Orbis Ltd. In 1978 to commercialize the Cambridge Ring work, and Orbis merged with Acorn Computers [Dec 5] in 1979. Now at Acorn, Hopper designed some of the chips for the BBC Micro [Dec 1] and helped develop the company's ARM project [April 26].

In the early 1990's, he worked on location technologies that became the Active Badge system. A badge transmits a unique infra-red signal every ten seconds which is picked up by networked sensors. This information can be employed by a variety of location-aware applications, often grouped under the exciting heading of sentient computing.

The largest Active Badge system was deployed in the Cambridge University Computer Lab, where over 200 badges and 300 sensors were in daily use. Incidentally, the building includes showers on two floors, for use by staff and students, but it's unclear if location awareness extended into those areas.

The success of the Active Badge system can be judged by its appearance in an "Alex" cartoon in the UK newspaper, *The Daily Telegraph*, on April 27, 1995 (online at https://www.cl.cam.ac.uk/research/dtg/attarchive/cartoon.html).

Hopper is a keen pilot, having logged over 5,000 hours, including a round-the-world flight. His farm near Cambridge includes an airstrip for his six-seater Cessna light aircraft.

Day of Illiaction

May 9, 1970

The ILLIAC IV [Sept 7] was one of the first attempts to build a massively parallel computer. The University of Illinois signed a contract with DARPA [Feb 7] in 1964, and the machine's construction was subcontracted to Burroughs [Feb 18].

Unfortunately, after the university's ties with the Department of Defense (i.e. DARPA) became known, protests began. On Jan. 6, 1970, the student newspaper *The Daily Illini* claimed that the computer would be used to design nuclear weapons.

The Kent State shootings in May triggered anti-war protests across many US university campuses [May 4]. At the University of Illinois, students joined a May 9 nationwide student strike by declaring a "Day of Illiaction". According to a "Smash Illiac IV" flyer, local events would include workshops, talks, teach-ins, and "free music all day", but no smashing of the computer. Indeed, it would have been difficult since its was still being constructed at Burroughs.

Matters became even more heated after the August 24 bombing of the Army

Mathematics Research Center at the University of Wisconsin-Madison. The building was scarcely damaged, but a physics researcher was killed and three others injured.

As the delivery date for the machine grew nearer in Jan. 1971, the Director of the ILLIAC IV project, Dan Slotnick [Nov 12] decided that the university couldn't guarantee its safety. It was agreed to have it sent to the NASA Ames Research Center instead, which being a US Navy base was protected by marines.

For more May protests, see [May 4], [May 19].

Hunting the Wumpus

May 9-13, 1973

"Hunt the Wumpus" was an early game involving the search for a mysterious monster (the Wumpus) lurking deep inside a network of rooms. When a player gets near to it, the message "I smell a Wumpus" is printed.

It was written in BASIC by Gregory Yob in response to the many grid-based hunting games he'd seen. Yob wanted to play a map-based game instead.

He dropped the game off with the People's Computer Company (PCC [Oct 00]), expecting it to appear in a future newsletter, and a few weeks later attended the Synergy Conference at Stanford; he remembers:

"PCC had a few terminals running in a conference room and I dropped by. To my vast surprise, all of the terminals were running Wumpus and scraps of paper on the floor with scrawled numbers and lines testified that much dedicated Wumpus-hunting was in progress. I had spawned a hit computer game!!!"

Although the game was mentioned in the Sept. 1973 issue of the PCC newsletter, the code was first published in the Oct. 1975 issue of *Creative Computing* [May 17], and later reprinted in "The Best of Creative Computing, Vol. 1". It was ported to many other languages and platforms, and graphical versions soon appeared.

The Wumpus makes several appearances in the card game "Magic: The Gathering", is a guest star in NetHack [July 28], and occupies an entire chapter of "Land of Lisp [April 15]" by Conrad Barski.

Tux the Penguin

May 9, 1996

Linus Torvalds [Dec 28] adopted Tux the penguin as a mascot for Linux, taking inspiration from a penguin drawing in the style of a "Creature Comforts" character. "Creature Comforts" is a stop-motion clay animation comedy TV series, where zoo animals are interviewed. The show was created by Nick Park and Aardman Animations.

Torvalds chose a penguin because he was bitten by one (of the species Eudyptula minor), during a visit to the National Zoo and Aquarium in Canberra, probably in 1993.

Eudyptula minor at Canberra Zoo. Photo by Stephen Dann. CC BY-SA 2.0.

The mascot's name, Tux, was suggested by James Hughes as a derivative of Torvalds' UniX, as well as being short for tuxedo, the attire favored by most penguins.

Larry Ewing did the first drawing of Tux, as a submission for a Linux logo contest. Three such competitions took place. and Tux won none of them. As a consequence, Tux is formally the Linux mascot, not the logo.

Shakespearian Monkey Business

May 9, 2003

The "infinite monkey theorem" states that an infinite number of monkeys typing on an infinite number of typewriters, will eventually produce the works of Shakespeare.

The theorem is sometimes attributed to Thomas Huxley, an English biologist, known as "Darwin's Bulldog" because of his spirited advocacy of Charles Darwin's theory of evolution.

Huxley supposedly proposed the theorem during a debate over Darwin's "On the Origin of Species" with the Anglican Bishop of Oxford, Samuel Wilberforce, held at Oxford on June 30, 1860. The veracity of this account sadly suffers from the fact that the typewriter had yet to be invented (a patent for the Sholes and Glidden "Type-Writer" was granted on [June 23] 1868).

Nevertheless, researchers from Plymouth University's MediaLab decided to test the theorem. For some reason, rather than typewriters, and an infinite number, they chose six Celebes crested macaques (named Elmo, Gum, Heather, Holly, Mistletoe and Rowan) at Paignton zoo in Devon, one computer, and a time limit of a month.

The results were somewhat disappointing: the macaques produced just five pages of text between them, primarily consisting of the letter "s". Indeed, the monkeys were observed to be much more interested in urinating and defecating over the keyboard.

Director of the university's Institute of Digital Arts and Technology (i-DAT), Mike

Phillips, denied the project was a disaster and claimed they had learnt “an awful lot”. He also explained that “It wasn’t actually an experiment as such, it was more like a little performance.”

The macaques’ typed work was later published in a limited edition entitled “Notes Towards The Complete Works of Shakespeare”.

The experiment was part of the wider Vivaria Project, which aims to install computers in zoos across Europe to study the differences between animal and artificial life. It was helped by a generous grant of £2,000 from the UK Arts Council.