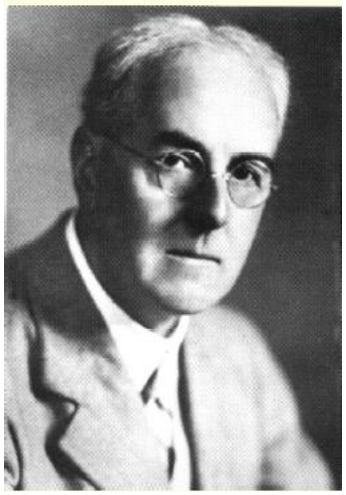
May 20th

Weather Forecast Computation

May 20, 1910

One of Richardson 's most celebrated achievements was his retroactive attempt to forecast the weather during a single day – May 20, 1910 – by direct computation. The results were presented in his 1922 book, "Weather Prediction by Numerical Process".

Richardson's mathematical model represented the principal features of the atmosphere, and was fed data collected at 7am on that day in order to calculate the weather six hours later.



Lewis Fry Richardson. From a NOAA presentation.

The resulting forecast was wildly inaccurate unfortunately, but a detailed analysis decades later showed that the cause was a failure to apply smoothing to the input. When suitably modified, Richardson's results were fairly accurate.

His book also described an imaginary weather forecast "factory" of 64,000 human computers working in "a large hall like a theatre." Their job would be to forecast the world's weather based on meteorological data supplied by weather balloons spaced 200km apart all around the world.

The "computers" would sit in tiers facing a giant globe, with each person responsible for solving the differential equations related to the weather in their sector of the globe.

A "conductor" would orchestrate the work from a platform located in the center of the globe (i.e. at the Earth's core), by shining a beam of light on sectors where the "computers" were falling behind or moving too fast for their neighbors.

Richardson's book was reviewed favorably, but criticized for the impracticality of the forecasting method. That changed in 1946, when John von Neumann [Dec 28] stated that it was feasible to integrate Richardson's equations on the ENIAC [Nov 1].

William Redington Hewlett

Born: May 20, 1913;

Ann Arbor, Michigan
Died: January 12, 2001

Of course, Hewlett and David Packard [Sept 7] were the founders of Hewlett-Packard (HP) [Jan 1], initially based in Packard's modest garage at 367 Addison Ave in Palo Alto [May 17]. Packard concentrated on the administrative and production sides, while Hewlett was more proficient technically, and built the company's first product, an audio oscillator.

A young Steve Jobs [Feb 24], then aged 12, called Hewlett (whose number was in the phone book) and asked for parts for a frequency counter he was building. Hewlett, impressed with Jobs' tenacity, offered him a summer job assembling frequency counters.

From the 1960's onwards, Hewlett committed much of his time to philanthropic causes. The William and Flora Hewlett Foundation, formed in 1966, became one of the largest in the US. It gave millions to universities, schools, museums, non-profits, and other organizations. Stanford University (his alma mater) was a large recipient.

Hewlett was a committed conservationist, avid outdoorsman, keen amateur photographer, and botanist.

A quote: "Never try to take a fortified hill, especially if the Army on top is bigger than you are."

ST-506 Hard Drive

May 20, 1980

Shugart Technologies [Nov 1] released the ST-506 MicroWinchester, the first 5.25 inch hard disk drive (HDD). It could store a massive 5 MB of data after formatting, and reach astounding transfer speeds of 625 KB/sec.

Even more gargantuan drives followed – the 10MB ST-412 in 1981, and the 20MB ST-225 soon after.

Shugart based their controllers on his earlier work on floppy disk drives, and also cunningly designed the HDDs to fit into the same space as Shugart's 5.25-inch "mini-floppy" drive [Aug 27], making an upgrade simple.

The ST-506 established Shugart as a leader in the industry, and its interface was quickly adopted by other manufacturers as a de facto standard until the advent of IDE/ATA and SCSI [March 3] in the early 1990's.

The ST-506 was preceded by decades of HDDs– the first commercial one being the IBM 350 Disk Storage Unit Model 1 [Sept 14] from 1946. Incidentally, it also offered 5 MB, but was housed in a cabinet the size of two refrigerators, and weighed around one ton. Shugart had been a member of the team that developed it.

IBM hadn't stopped working on HDDs in the interim; just three weeks after the ST-506's debut, IBM released the IBM 3380 Direct Access Storage Device [June 11], the first HDD to break the 1 GB barrier.

AppleLink
May 20, 1988

Apple debuted the AppleLink network in July 1985, but only for its employees and certified dealers, and later for select software developers. Remote servers were displayed as folders on the desktop, and the system supported public bulletin boards and email.

To broaden its usage, Apple approached Steve Case [Aug 21] of Quantum Computer Services, who ran a somewhat similar system called QuantumLink [Nov 5] for Commodore 64 [Jan 7] users.

On this day, Quantum and Apple launched AppleLink Personal Edition (ALPE) for the Apple II [June 5] and Mac [Jan 24], while the original AppleLink was rebranded "AppleLink Industrial Edition". ALPE fared poorly – Apple users were disappointed that the service didn't give them access to the "real" AppleLink.

AppleLink's fifteen minutes of fame probably occurred when the crew of the Space Shuttle Atlantis used it to send the first email from space on [August 28] 1991.

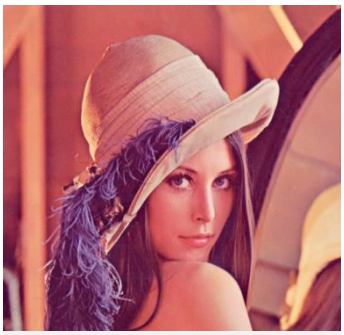
Although ALPE was eventually shuttered, Quantum cannily retained rights to the software, and released a version for both the Mac and MS Windows in 1989, calling it America Online (AOL [Oct 2]).

Apple, encouraged by AOL's success, decided to re-enter the market. In June 1989 they paid $2.5 million to Quantum to recover the rights to use their own Apple logo in the context of an online service, and licensed the defunct ALPE back from AOL. After a quick slap of paint, it was launched as eWorld [June 20] in 1994.

Lenna Appears
May 20-21, 1997

Lenna, or Lena, is the name of a test picture used widely in image processing. For example, in one 1999 issue of "IEEE Transactions on Image Processing", it appeared in three separate articles.

The photo is of Lena Forsén (previously Söderberg, born Sjööblom), shot by photographer Dwight Hooker for the centerfold in the Nov. 1972 issue of *Playboy* magazine.



Lena Söderberg. *Playboy* Magazine. Nov. 1972. Photo by Dwight Hooker.

Lena joined the image processing fraternity in June or July 1973 when Alexander Sawchuk and others at the USC Signal and Image Processing Institute (SIPI) were searching for a suitable photo for a colleague's conference paper.

The picture had to be glossy to offer a good dynamic range, have a pleasing mix of detail, flat regions, shading, and texturing, and they wanted a human face. Just then, somebody walked in with a recent issue of *Playboy*.

They cut out the top third of the centerfold so they could easily attach it to the drum of their Muirhead wirephoto scanner. The Muirhead had a fixed resolution of 100 lines per inch and the researchers needed a 512×512 image, so they limited the scan to the top 5.12 inches of the picture, whch fortuitously meant that it was cropped at the subject's shoulders.

Much later, Lenna Söderberg was honored as a guest at the 50th Annual Conference of the Society for Imaging Science and Technology (IS&T) in May 1997. "They must be so tired of me … looking at the same picture for all these years!" she commented.

It's often said that Lenna's issue of *Playboy* is the bestselling one ever, having sold 7,161,561 copies, but some experts claim that the La Toya Jackson issue from March 1989 peaked at 8,000,000 copies.

In 2019, a documentary entitled "Losing Lena" was part of a promotional campaign aimed at removing Lenna from the image processing field. In a press release, Forsén was quoted as saying, "I retired from modelling a long time ago. It's time I retired from tech, too."

Her wish was partially granted from April 2024, when the IEEE Computer Society stated that it would no longer accept papers that included the image.

Bluetooth SIG Announced
May 20, 1998

The Bluetooth Special Interest Group was established by Ericsson, IBM, Intel, Toshiba, and Nokia to develop a single short-range radio standard for exchanging data. At the time, there were a number of competing protocols: Intel's Biz-RF, Ericsson's MC-Link, and Nokia had Low Power RF.

The group was named after the tenth-century king, Harald Bluetooth who united Danish tribes into a single kingdom. The implication was that the Bluetooth standard would similarly unite the "warring" communication protocols. "Bluetooth" was Harald's nickname, and probably a reference to his poor dental hygiene.

The Bluetooth name was proposed by Jim Kardach of Intel in 1997. At the time he was reading Frans G. Bengtsson's Viking novel, "The Long Ships" (1941), one of the most popular

books in Sweden. The main character is Röde Orm - called “Red” for his hair, and his temper. Harald Bluetooth appears as a secondary character, as the father of Yiva who Orm marries.

The Bluetooth logo is a combination of the two Scandinavian runes representing Harold Bluetooth’s initials.