April 22nd

Wilhelm Schickard

Born: April 22, 1592;

Herrenberg, Germany
Died: Oct. 24, 1635

Schickard's mechanical calculator predated the release of Blaise Pascal's [June 19] better known device by some twenty years. He called it the "arithmeticum organum" ("arithmetical instrument"), but later renamed it the Rechenuhr (calculating clock).

On Sept. 20, 1623, Schickard wrote to his friend (and astronomer) Johannes Kepler: "I have constructed a machine which, immediately and automatically, calculates with given numbers, which adds, subtracts, multiplies and divides. You will cry out with joy when you see how it carries forward tens and hundreds, or deducts them in subtractions…" He went on to suggest how it would help Kepler in his laborious task of calculating astronomical tables.

Unfortunately, the only built examples were destroyed in a fire in 1624, with only a rudimentary sketch remaining, so there's some doubt over whether the Rechenuhr worked. The sketch became the basis for a postage stamp issued by West Germany in 1973.

Aiken Talks to Monroe

April 22, 1937

Next: [Jan 17]

The Monroe Calculating Machine Company, founded by Jay Randolph Monroe in 1912, became the world's largest manufacturer of calculators in the 1930's. As a result, it was natural that Howard Aiken [March 8] first approach Monroe when looking for financial and engineering support to build the ASCC (Automatic Sequence Controlled Calculator) [April 17].

On this day, Aiken outlined his ideas to Monroe's chief engineer, George C. Chase, who was enthusiastic about the project. Unfortunately, that didn't extend to the Monroe management, and after some months of haggling, they turned Aiken down, probably due to the projected cost.

However, Chase suggested that Aiken contact Theodore Brown at Harvard, a close associate of IBM's Thomas J. Watson [Feb 17]. Brown sent Aiken to IBM's senior engineer James W. Bryce [Sept 5], who approved the project.

Aiken would later describe Chase as "a very, very, scholarly gentleman."

In the late 1950's and 1960's, Monroe made the cleverly-named Monrobot series of computers. The Monrobot III made its public debut in 1952 during NBC's TV broadcast about the national election results [Nov 4].

Amir Pnueli

(pronounced p'new-EL-ee)

Born: April 22, 1941;

Nahalal, Israel
Died: Nov. 2, 2009

Pnueli worked on temporal logic and model checking, particularly applied to the fairness properties of concurrent systems. His fruitful research collaboration with Zohar Manna at Stanford produced many papers and books on those topics.

His work in this area began in the mid 1970s, when he applied the "tense logic" ideas of the philosopher Arthur Prior to computer system properties whose truthfulness change over time; the result was the landmark 1977 paper, "The Temporal Logic of Programs."

This article triggered a shift in the modeling of the dynamic behavior, especially in the area of verifying that hardware and software behave as their designers intended.

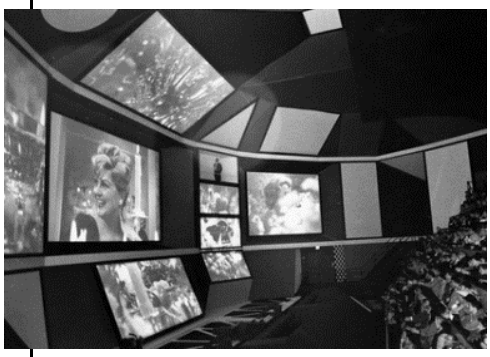
While Pnueli was studying mathematics at the Israel Institute of Technology in the early 1960's, he was introduced to the WEIZAC [Feb 21], the first computer in Israel. According to his family, "that's where his love affair with computers started."

IBM at the Fair

April 22, 1964

The 1964/1965 New York's World's Fair ran for two six-month seasons, April 22 – October 18, 1964, and April 21 – October 17, 1965.

IBM's 54,000-square-foot pavilion included the popular "People Wall", a 500-seat grandstand, which was lifted by hydraulic jacks into an ellipsoidal theater space designed by Eero Saarinen (who was also responsible for IBM's Yorktown Heights lab [Feb 6]). A film by Charles and Ray Eames [Feb 17], entitled "Think", was shown across nine screens, describing computer logic with the help of Sherlock Holmes.



The People Wall (1964). (c) The Eames Office LLC.

This wasn't the Eames' first film for IBM; for the 1958 Brussels World's Fair they produced a ten minute cartoon called "The Information Machine" about how the computer helped to spur on human development.

The NYC pavilion also housed a copy of the company's celebrated "Mathematica: A World of Numbers… and Beyond" exhibition from 1961

(also by the Eames'), alongside demonstrations of IBM products such as the newly released IBM Selectric typewriter [July 31] and an IBM 1460 [Oct 5].

One demo had a visitor write down a date of their choice on a card (so long as it was after Sept. 18, 1851), The card was read with handwriting recognition, and a list of important events that occurred on that day printed. For many visitors, this was their first hands-on interaction with a computer.

Computer Dating
April 22, 1964

In the Parker Pen Pavilion at New York's World's Fair [previous entry], visitors could fill out a questionnaire, feed it into a machine, and shortly afterwards receive a card with the name and address of a potential pen pal

This attraction inspired Lewis Altfest, a 25-year old accountant, and Robert Ross, an IBM programmer, to develop a similar system aimed at dating. Perhaps not unsurprisingly, a group of Harvard students had already written such a program, called "Operation Match," and Altfest and Ross used it as the basis for their "Project TACT" ("Technical Automated Compatibility Testing"), NYC's first computer-based dating service. Within a year over 5,000 people had signed up.

For a fee of $5, a person filled out a 100-question multiple-choice survey, which was fed into an IBM 1401 [Oct 5] for analysis. The questions covered a wide range of topics: men were asked to rank drawings of women's hair styles, while women were questioned on how they'd prefer to find their ideal man: chopping wood, painting a canvas, or working a drill. (Unfortunately, there wasn't a choice along the lines of "writing a sort routine on a PDP-6".)

After the program had finished evaluating the data, it produced five cards with the names of potential dates (colored blue for female users, pink for the men).

Picturephone Call
April 22, 1964

The first transcontinental Picturephone call was made between the Bell System exhibit at the World's Fair in NYC [two entries back] and Disneyland in California.

The Picturephone was a telephone handset with a small built-in monitor which allowed users to see each other (as a rather fuzzy video image) while they talked.

AT&T Picturephone Mod II. Courtesy of Richard Diehl and LabguysWorld.com. CC BY 3.0.

A set of eight Picturephone booths were set up at the Fair so that attendees could make calls but, due to the paucity of Picturephones around the country, this usually meant a person conversing with someone in an adjacent booth.

AT&T obviously realized this was a problem, so opened a series of Picturephone parlors in NYC, Chicago, and Washington in June 1964. But a three-minute call was far from cheap, costing between $16 and $27, and only 71 calls were made in the first six months.

Bell Labs persevered, and released an improved Picturephone, the MOD II with a larger 5.25 x 5 inch screen that could display a 250-line black and white picture, at 30 frames per second. In its 1969 Annual Report, AT&T confidently predicted that "with perhaps one million sets in use, Picturephone service may be a billion dollar business by 1980".

AT&T switched to commercial Picturephone services in Pittsburgh and Chicago on July 1, 1970, which focused on attracting large business customers who would be less reluctant to pay $160 per month for equipment and services. Disappointingly, the number of sets in Pittsburgh peaked at 32 in 1972.

This was far from the first attempt at video telephony by AT&T, which dates back to [April 7] 1927.

TerraVision
April 22, 1994

The SRI report, "TerraVision: A Terrain Visualization System," written by Yvan G. Leclerc and Stephen Q. Lau Jr. described the first system to provide a networked representation of the Earth based on satellite images [Feb 22], aerial pictures, and altitude and architectural data. TerraVision could also display historical images, which let a user navigate a scene not only spatially but based on time.

By a singular coincidence, Michael Jones (later the CTO of Google Earth [June 11]) and Brian McClendon (later of Google Maps [Feb 8]) were employees of Silicon Graphics (SGI) at the time, and it was SGI that supplied the Onyx workstations used to develop and run TerraVision.

Twenty years later, the German design firm ART+COM, which owned the patent at the core of the method for rendering geographical objects in TerraVision, decided that this was no mere coincidence. In 2014, the filed a lawsuit against Google, seeking more than $100 million for infringements committed by Google Earth.

The lawsuit was eventually thrown out since the patent's priority date was in Dec. 1995, well after TerraVision had

become "public" knowledge.

First Maker Faire

April 22 - 23, 2006

Make: magazine, a quarterly publication devoted to DIY projects and culture, held its first Maker Faire at the San Mateo Fairgrounds. It featured over 100 exhibits, spread across six pavilions.

In 2019 (i.e. before Covid 19), nearly 300 Maker Faires were run in over 40 countries, with nearly 2 million attendees. The two flagship events are the annual Bay Area Maker Faire and the World Maker Faire in NYC.

Make: was first published in 2005 and has been widely credited with jumpstarting the Maker Movement. Naurally, the magazine has been called the “bible” for makers.

Religious fervor seems to have momentarily lapsed in June 2019 when *Make:*’s parent company, Maker Media, shuttered the magazine due to a lack of financial resources. However, it was quickly resurrected. Hallelujah.

Maker Media was born as a spin-off from O’Reilly Media [June 6], with Dale Dougherty its CEO. Before that he was the founder of the Global Network Navigator (GNN [Aug 19]).