Dec. 7th

Charles Rosen

Born: Dec. 7, 1917;

Montreal, Canada
Died: Dec. 8, 2002

At the end of the 1960's, Rosen led the development of Shakey, the first autonomous mobile robot to be able to navigate around obstacles, albeit it at a top speed of 6.5 feet (2 m) per *hour*, and reason about its own actions. The robot was called Shakey because it shook a lot as it moved.

Shakey found its way around the Stanford Research Institute (SRI) with the help of a TV camera, laser range-finder, "cat whiskers," and bump sensors. Data was transmitted via radio link to a DEC PDP-10 and PDP-15 [Nov 00] where the image analysis and reasoning were carried out.

In 2004, Shakey was inducted into the Robot Hall of Fame, together with Star Wars' C-3PO [May 4].

Rosen was the founder of SRI's AI Center, and Shakey was employed as an early collaborative project, combining robotics, computer vision, natural language processing, and reasoning. Some notable results were the A* search algorithm, the Hough image transform, and the STRIPS planner, which was implemented mostly in LISP [Aug 15].

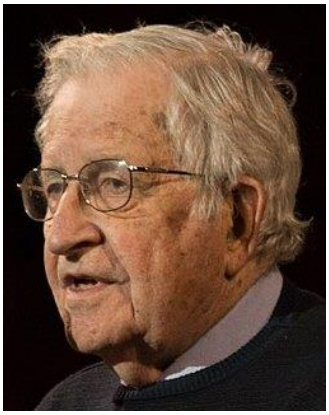
Rosen also helped found one of California's best known wineries, Ridge Vineyards, in the Santa Cruz Mountains. "Charlie was very technically minded but was guided by his tongue with tastes," said Hewitt Crane, another founding member of the winery.

Avram Noam Chomsky

Born: Dec. 7, 1928;

Philadelphia, Pennsylvania

Chomsky is hailed as the father of modern linguistics, is considered a major figure in analytic philosophy, is one of the founders of cognitive science, and is a respected social critic and political activist. Ideologically, he aligns himself with anarcho-syndicalism and libertarian socialism.



Noam Chomsky (2017). Photo by Σ. CC BY-SA 4.0

Within computing, his 1957 textbook, "Syntactic Structures," introduced the "Chomsky's hierarchy" of syntactic forms, and transformational generative grammar theory. These ideas went on to significantly impact programming language theory.

For one example in the book, he invented the now-famous sentence "Colorless green ideas sleep furiously," which has a grammatical structure but no clear meaning.

His theory of Universal Grammar (UG) extends well beyond the computing field. Chomsky argues that it indicates the existence of a genetic component to human language ability, meaning that we are born with a set of built-in syntactic rules for language. As children grow, more specific rules are added to the original UG set.

One quote: "The question of whether a computer is playing chess, or doing long division, or translating Chinese, is like the question of whether robots can murder or airplanes can fly… These are questions of decision, not fact; decision as to whether to adopt a certain metaphoric extension of common usage."

In 2012, he guest-starred in the MIT "Gangnam Style" (aka "Chomsky Style") music video. In 2017 he moved to Arizona.

Dick Grune

Born: Dec. 7, 1939;

Enschede, Netherlands

In the mid-1980's, Grune developed the Concurrent Versions System (CVS). The "concurrent" aspect allows multiple developers to work on the same project at once, with each person editing files inside their own "working copy". To avoid conflicts, the server only accepts updates to the most recent version of a file, which means that the developers must keep regularly checking in their changes, and refreshing their copy from the server.

CVS was originally a front end to the older Revision Control System (RCS), which was aimed at managing updates to individual files rather than whole projects.

Grune was inspired to create CVS while working with two students on the Amsterdam Compiler Kit. The three had widely differing work schedules, and it soon became clear that a tool was needed to manage their changes to the compiler. Grune supposedly came up with the core concepts while standing at a university bus stop in bad weather.

In recent years, CVS has been superseded by Git [Dec 28], a distributed version control system; CVS on the other hand is centralized in a single server.

Atlas Inaugurated

Dec. 7, 1962

At the time, the Atlas was perhaps the fastest computer in the world, running at 200 KFlops, which was said to be equivalent to four IBM 7094s [Nov 30]. (However, some people argue that the IBM 7030 STRETCH [April 26] was faster.) It was said that whenever the Atlas went offline, half of the UK's computer capacity was lost.

The Atlas introduced the concepts of virtual memory and paging, employed separate fixed- and floating-point arithmetic units, and executed its instruction using pipelining.

The system was managed by the "Atlas Supervisor", which some historians consider to be the first OS, although GM-NAA I/O [June 11] and Director [March 8] appeared earlier (both dating from 1955), but were simpler. Per Brinch Hansen [Nov 13] described the Supervisor as "the most significant breakthrough in the history of operating systems."

The Atlas grew out of the University of Manchester's MUSE project led by Tom Kilburn [Aug 11] which aimed to build a computer that could operate at speeds approaching one microsecond per instruction. Hence the project's name: mu, the Greek letter for micro. Ferranti computers [Feb 12], and Plessey were also involved in the project.

A total of six Atlas 1 and Atlas 2's were produced between 1962 and 1966. However, early prototypes were operational by 1959, so the Atlas predates the Burroughs B5000 [Feb 18], the first commercial computer with virtual memory. In any case, the B5000 employed segmentation rather than paging for memory organization

The Atlas owned by the University of London became famous in 1964 when Richard Jarecki, a medical professor at the University of Heidelberg, claimed to have used it to calculate winning slots on roulette wheels. He made headlines after spending six months touring casinos in Europe and winning around £625,000. In fact, Jarecki's bets were based on close observations of particular roulette wheels, whose minor defects caused certain slots to come up more often.

SPACEWAR Article

Dec. 7, 1972

Rolling Stone magazine published Stewart Brand's [Dec 14] 9,000-word article "SPACEWAR: Fanatic Life and Symbolic Death Among the Computer Bums". In keeping with the times, it began:

> "Ready or not, computers are coming to the people. That's good news, maybe the best since psychedelics."

Brand, credited as the magazine's sports reporter, described the "Intergalactic Spacewar Olympics", the first video game tournament [Oct 19], which he had organized. He also covered Spacewar! [May 17], DARPA [Feb 7], Xerox PARC [July 1], Alan Kay's [May 17] research, and the groovy happenings at "Resource One" [Aug 8]. The article's photos, by staff photographer Annie Leibovitz, included a prototype Dynabook. Its appendix listed a grand total of four places where you could play computer games, and included a fragment of Spacewar! coded in Smalltalk.

For more 1970's computing in magazines, see [Oct 00] and [Nov 00].

Microsoft Staff Photo

Dec. 7, 1978

The burgeoning Microsoft [Nov 26], still based in Albuquerque, had grown to 13 employees, 11 of whom appeared in today's well-known picture:

Computer geeks circa 1978 (some quite short). (c) Microsoft.

The top row from left to right features: Steve Wood, Bob Wallace [May 29], and Jim Lane. The middle row: Bob O'Rear [Nov 6], Bob Greenberg, Marc McDonald, and Gordon Letwin. The bottom row: Bill Gates [Oct 28], Andrea Lewis, Marla Wood, and Paul Allen [Jan 21]. The two employees not pictured were Ric Weiland and Miriam Lubow.

In 2009, Gates referred to the snap as "that famous picture that provides indisputable proof that your average computer geek from the late 1970's was not exactly on the cutting edge of fashion."

The photo came about because Greenberg had won a free portraiture session at the Royal Frontier Studios after calling in to a radio talk show and correctly guessing the name of an assassinated US president. (It was probably James Garfield or William McKinley since the other two are too 'easy'.)

The picture was recreated in 2008 when Gates was about to step down as head honcho of Microsoft [June 27]. Of the original employees, only Gates was still at the company. Gordon Letwin had been the second-longest lasting employee pictured, but had left the company in 1993. Sadly, Bob Wallace had died in 2002.

The Great Video Game Crash of 1983

Dec. 7, 1982

In 1983, dozens of US game manufacturers and console producers went out of business. Video game sales plummeted from $3 billion in 1982 to around $100 million in 1985, a drop of some 97%.

The crash was attributed to several factors, including too many console brands (a dozen were available, at least), too many games, and a general waning of interest in consoles in favor of PCs (e.g. the Apple II [June 5] and the Commodore 64 [Jan 7]).

Most gaming historians point to this day as the start of the crash – at a shareholders meeting, Atari projected a 10-15% profit increase, way below the 50% people had predicted. Part of the downturn was caused by the poor reception of the Atari E.T [Aug 18] game, and the rushed Atari 2600 port of Pac-Man [April 3]. The story goes that Atari produced 12 million copies of that game, of which just 7 million were sold.

The stock of Warner Communications, Atari's parent company, dropped 33% the next day, and a mini-scandal erupted when it was discovered that the Atari president had sold 5,000 shares a half-hour before he had made the fateful announcement.

By the end of 1984, the industry consisted of just Atari [June 27], Coleco [Oct 15] (ColecoVision), and Mattel (Intellivision), although the crash wasn't as severe in Europe or Japan. Europe was already more oriented to 8-bit home computers, such as the Sinclair ZX Spectrum [April 23] and the Commodore 64, while Japan had less of a console glut.

The downturn is considered to have ended on [Oct 18] 1985 when Nintendo released the Nintendo Entertainment System (NES). It and the 16-bit Super NES [Nov 21] dominated the console market for the rest of the 1980's and early 1990's.

Lotus Notes Released

Dec. 7, 1989

Lotus Notes was the first commercially successful business groupware, allowing users to share email, calendars, to-do lists, contacts, discussion forums, and more. During its first year, more than 35,000 copies were sold.

The core team behind the product were Tim Halvorsen, Len Kawell, and Ray Ozzie [Nov 20], who had met while using PLATO [July 00] in the 1970's, and were inspired by PLATO Notes created by David R. Woolley in 1973 as a message board. Before the Lotus software, Kawell had implemented PDP-11 Notes and VAX Notes.

Ozzie saw the potential of moving the Notes idea over to the PC, and persuaded Lotus' Mitch Kapor [Nov 1] to support the formation of a new company, Iris Associates, in 1984 to develop PC networking products. In 1994, Lotus purchased Iris, and IBM purchased Lotus in 1995.

Another early groupware system was EIES [June 00], developed by Murray Turoff [Feb 13] in the mid-1970's.

The Sleeping Giant Awakes

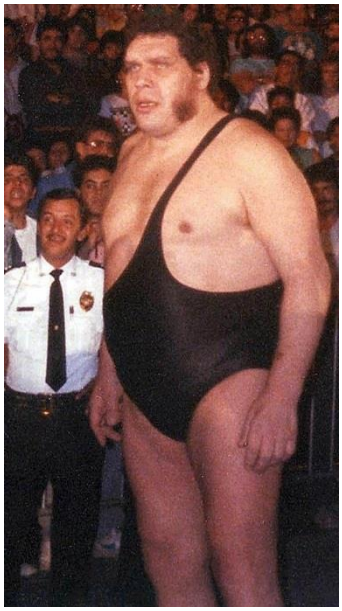
Dec. 7. 1995

Bill Gates [Oct 28] and other Microsoft executives held a workshop in Seattle to thrash out the details of the company's Internet strategy.

Gates told a group of reporters and financial analysts: "We are hard core about the Internet," and summarized Microsoft's position with the phrase "the sleeping giant has awakened".

Unfortunately, Dec. 7 was also Pearl Harbor day, and the quote was quite similar to that supposedly made by the main architect of the attack, Admiral Isoroku Yamamoto: "I fear all we have done is to awaken a sleeping giant and fill him with a terrible resolve."

However, there's no evidence that Yamamoto ever said this. Indeed, it seems to have originated with the 1970 film "Tora! Tora! Tora!". Nevertheless, Gates and Yamamoto did both study at Harvard (at different times).



André the Giant (1980s). Photo by John McKeon. CC BY-SA 2.0.

Jagger at CompuServe

Dec. 7, 1995

Mick Jagger of "The Rolling Stones" held the first live online chat session with visuals and sound, using CompuServe CB Simulator [Feb 21].

The event was hosted by *Rolling Stone* magazine at the CompuServe Convention Center in London. Most attendees typed in their questions and read Jagger's replies in text form only, but the aging rocker did spend

more than an hour responding to questions.

Jagger was there to publicize the group's "Stripped" live album, and remarked: "Unfortunately, as the CD does appeal to a younger audience, some of the flagellation had to be omitted. The rest of the smut is still intact."