# Oct. 15th

## Hubert Lederer Dreyfus

### Born: Oct. 15, 1929;

Terre Haute, Indiana
Died: April 22, 2017

Dreyfus was known for his sometimes harsh criticisms of AI, particularly its "biological" and "psychological" assumptions, namely that the brain is analogous to hardware and that the mind performs discrete computations on symbols. His book, "What Computers Can't Do" (1972), discussed these problems at some length.

One of his predictions was that a program would never defeat even a 10-year-old at chess. In 1967, when this argument still seemed plausible, several MIT students and professors (including Seymour Papert [Feb 29]) challenged Dreyfus to play a game against MacHack VI [Dec 25]. Herbert Simon [June 15] watched the match: "It was a wonderful game - a real cliffhanger between two woodpushers with bursts of insights and fiendish plans." MacHack won.

For another famous critic of AI, see [July 31].

## Steve D. Crocker

### Born: Oct. 15, 1944;

Pasadena, California

Crocker was part of the UCLA team that developed the first ARPANET protocols, and also helped send the first message between the first two nodes [Oct 29].

Specifically, he was responsible for the Network Control Protocol (NCP), the first ARPANET host-to-host protocol, upon which services such as email and file transfer were built. NCP was eventually superceded by TCP/IP [Jan 1].

Steve Crocker (2007). Photo by Joi Ito. CC BY 2.0.

Crocker also setup the Network Working Group, the forerunner of the Internet Engineering Task Force (IETF; [Jan 16]) to promote Internet standards, and started the Request for Comment (RFC; [April 7] 1979) series of notes. He wrote the first RFC and numerous others.

Crocker attended the same high school (Van Nuys High School in Los Angeles) as two other Internet pioneers, Jon Postel [Aug 6] and Vint Cerf [June 23].

## Harvard's Robot Super-Brain

### Oct. 15, 1944

An article entitled "Harvard's Robot Super-Brain" appeared in today's issue of the *American Weekly*, written by Gobind Behari Lal (a "noted science analyst"), which described the recently unveiled Automatic Sequence Controlled Calculator (ASCC [Aug 7]).

This piece was arguably the first report on computing to appear in a popular magazine, although a more technical overview of the ASCC ("Robot Mathematician Knows All The Answers") was published in *Popular Science* during the same month.

The next big publicity event for computers was the announcement of the ENIAC on [Feb 15] 1946.

## BBN Founded

### Oct. 15, 1948

In the 1950's and 1960's, BBN Technologies (originally Bolt, Beranek and Newman) was sometimes called the "third university" in Cambridge, after MIT and Harvard. The company was founded by Leo Beranek and Richard Bolt, MIT professors, along with Bolt's former student Robert Newman.

Many computer luminaries have worked at BBN, including Edmund Clarke [July 27], William Crowther [March 11], Ed Fredkin [Oct 2], Bob Kahn [Dec 23], J. C. R. Licklider [March 11], John McCarthy [Sept 4], Marvin Minsky [Aug 9], Severo Ornstein [Oct 23], Seymour Papert [Feb 29], Oliver Selfridge [May 10], Bob Thomas [March 15], and Ray Tomlinson [April 23].

BBN was responsible for building the first Interface Message Processor [Aug 30], and for the development of TCP/IP [Dec 00]. Other innovations include the TENEX OS [Nov 29], mobile ad hoc networks, and the RS statistical software. It's known for its parallel computing systems, including the Pluribus and the BBN Butterfly. The first virus and anti-virus were created there [March 15].

It was also BBN engineers that determined that the 18-minute gap in the Nixon Watergate tapes was made deliberately.

## Radio Paging

### Oct. 15, 1950

The first commercial radio paging service, Telanswerphone of NYC, sent the first message to a doctor (who was playing golf at the time).

Physicians paid $12 per month for the service and had to carry a 7 oz. pager that could receive messages anywhere within 25 miles of a transmitter tower. Call numbers were retransmitted every minute for an hour.

The first telephone pager was patented in 1949 by Alfred J. Gross, who invented several other communications devices, including the first walkie-talkie, CB radio, the cordless telephone, and Dick Tracy's Walkie Talkie wristwatch [Jan 13].

Roughly 85% of hospitals still use pagers because the buildings can be dead zones for cell service. For example, certain walls may be constructed to keep X-rays from penetrating, which also makes it hard for cell phone signals. Pagers work with very high-frequency radio which avoid this issue.

## John Kenneth Ousterhout

### Born: Oct. 15, 1954;

Solano County, California

At the end of the 1980's, Ousterhout developed the Tcl scripting language (Tool Command Language, or "tickle") and the Tk widget toolkit.

Tcl/Tk became very popular, helped by claims that it could create a GUI 5-10 times faster than the C-based Motif toolkit [Aug 6]. Also, many people wanted to build applications that were scriptable and extensible, but didn't have the time to build a language of their own.

Ousterhout also led the group that designed the Sprite distributed OS (1987), and was the author of the Magic VLSI CAD system.

Some quotes: "The greatest performance improvement of all is when a system goes from not-working to working" and "If it hasn't been used, it doesn't work."

## Computer Space

### Oct. 15-17, 1971

"Computer Space" by Syzygy Engineering (Nolan Bushnell [Feb 5] and Ted Dabney [May 2]) was probably the first arcade video game. It was essentially a derivative of Spacewar! [May 17] but without its two-player ability or a gravity well. Bushnell had seen Spacewar! at the University of Utah when he was a student.

Bushnell and Dabney had wanted to implement the game on a Data General Nova [April 15], but that proved too expensive. They then hit upon the idea of replacing the costly computer with custom hardware. Their final design used 74-series TTL chips, with the game's graphic elements stored in diode arrays.

One element that was lost with the move to TTL chips was the inclusion of gravitation in the game play, a much loved feature of Spacewar!

They ran their first onsite test in Aug, 1971 at the Dutch Goose bar at 3567 Alameda, Menlo Park. This was one month prior to "Galaxy Game" [Sept 00] (the other contender for first arcade game) being installed in Stanford's Tresidder Union building.

The "Computer Space" arcade game. Photo by Hellis.

"Computer Space" officially debuted at the "Music Operators of America" conference on this day, and was released at the end of Nov. Contrary to some accounts, the game wasn't a runaway success. Bushnell later explained, "Sure, I loved it, and all my friends loved it, but all my friends were engineers. It was a little too complicated for the guy with the beer in the bar." However, its curvaceous fiber glass cabinet did earn it a cameo in the 1973 sci-fi movie Soylent Green.

Syzygy was later incorporated as Atari [June 27], and its next game was the enormously successful Pong ([Nov 29] 1972).

## UNIX Presented

### Oct. 15-17, 1973

The first academic paper on UNIX was presented by Dennis Ritchie [Sept 9] and Ken Thompson [Feb 4] at Purdue University during the fourth ACM Symposium on Operating Systems Principles. It was later published in the July 1974 issue of CACM [Sept 15]. However, the first UNIX manual dates from [Nov 3] 1971.

The talk's audience was enthusiastic, and many people asked for copies of the system. Fortunately, the lawyers had decided that Bell could distribute UNIX to academic and research institutions, charging only for the cost of the media plus a shipping charge. However, this license agreement was still enough bother to persuade people to develop their own UNIX variants, including BSD [March 9], Xenix [Aug 25], AIX at IBM, and Solaris [Sept 4].

The name UNIX was a pun on Multics [Nov 30] suggested by Brian Kernighan [Jan 1]. The "U" stands for "uniplexed", which was inspired in opposition to the "multiplexing" in Multics. The original spelling of the name was UNICS which stood for "UNipIexed Information and Computing Service." Thompson and Ritchie disliked Multics' complexity, favoring something small and simple, better suited to the limited hardware of the time.

An alternative origin for "UNIX" is that Peter Neumann watched a demonstration of the prototype and suggested UNICS

(pronounced “Eunuchs”) as a reference to a “castrated Multics”, but Ritchie has denied this story.

One example of UNIX's simplicity was highlighted by the Multics developer Tom van Vleck [Dec 00]: “I remarked to Dennis [Ritchie] that easily half the code I was writing in Multics was error recovery code. He said, ”We left all that stuff out. If there’s an error, we have this routine called panic, and when it is called, the machine crashes, and you holler down the hall, ‘Hey, reboot it.’"

A quote from the programmer Doug Gwyn: "UNIX was not designed to stop its users from doing stupid things, as that would also stop them from doing clever things. "

Another quote, this time from Scott Adams, the Dilbert [April 16] cartoonist: "If you have any trouble sounding condescending, find a UNIX user to show you how it’s done."

## Coleco Adam

### Oct. 15, 1983

After the shipping date had slipped a few time, the Coleco Adam was eventually released as a follow up to the successful ColecoVision console. It appeared to offer a lot for a low-price of $599, including a daisy-wheel printer, a sturdy keyboard, a 512 KB tape drive, and bundled software. However, a few design problems remained. For example, every time the user switched the system on or off , the power supply emitted a strong electromagnetic pulse that could scramble or erase the data stored on the tape cassettes; this issue was soon nicknamed the “Adam bomb.”

In addition, the Adam wouldn't work without the bulky printer being attached to it, since the main power supply and switch were on the printer. This also meant that if the printer failed, then the entire system was out of commission.

## Token Ring

### Oct. 15, 1985

IBM announced software to support its Token Ring network architecture developed at its Zurich Research Lab by Werner Bux and Hans Müller.

The protocol was based on continually passing a "token" around the network, and only allowing a device to transmit data when it had possession of that token. This made the network's behavior more predictable compared to Ethernet’s [June 23] contention-based approach for sending messages. It also offered high transmission speeds (of about 4 Mbps) over ordinary telephone wiring, and was relatively cheap to install. In addition, IBM argued that Token Ring was superior to Ethernet when the network was heavily loaded, but that claim was more open to debate.

Backed by IBM, the Token Ring was quickly adopted by virtually all of the company's large corporate customers.

## Jerusalem Found

### Oct. 15, 1987

The Jerusalem MS-DOS [Aug 12] virus was so named because it was first detected in Jerusalem.

Once memory resident, it would set about infecting every executing .com and .exe file by hooking into DOS's interrupt processing services. As a result, a typical PC XT [March 8] could slow down to one fifth of its normal speed. The virus would also delete any program run on a Friday the 13th. That date turned out to be good "marketing", and the rechristened “Friday the 13th” virus was one of the earliest to make headlines. It also encouraged hackers to quickly knock together a large number of variants.

Fortunately, this partcular hack went away when MS Windows stopped using DOS interrupts [Aug 24]. Nevertheless, the last reported Jerusalem incident was in 1995, nearly eight years after the virus was discovered.

## The Dogcow

### Oct. 15 1987

There were ten system fonts on the Apple Mac [Jan 24], all designed, with the exception of Bill Atkinson’s [April 27] Venice typeface, by Susan Kare [Feb 5], who also created most of the Mac’s icons.

Apple engineer Annette Wagner modified the “dog” glyph in Kare’s Cairo font, to create a larger icon for illustrating LaserWriter options [March 1].

The new graphic had a somewhat bovine look (the animal was spotted), and on this day was dubbed “the dogcow” by Scott Zimmerman (or perhaps by Ginger Jernigan). In April 1989, it was named “Clarus” by Mark Harlan, as a joking reference to Claris [July 10], Apple’s software unit.

DogCow in the Page setup dialog of the LaserWriter 8. Author: Apple Inc.

In the early to mid-1990's, Clarus was spotted everywhere: in versions of QuickTime [Dec 2] (where it was revealed that when a dogcow barks, it makes the sound “Moof”), on mouse pads, t-shirts, and in the Icon Garden on Apple’s campus at Infinite Loop (other icons in the garden included the watch, paint can, and eraser).

Clarus became much harder to find after Steve Jobs’ return to Apple [Sept 16] – the Icon Garden was removed, and Mac OS X [March 24] eschewed the notion of whimsy.