Dennis and Ken built UNICS (its original name) on their experiences with Multics following Bell Labs' withdrawal from the Multics project in spring 1969. Many important features (like the "pipe") were suggested or instantiated by others. Pipe was suggested by Doug McIlroy and coded by Brian Kernighan.

At the 1979 USENIX Conference in Toronto, AT&T announced its new licensing fees, including $7,500 per CPU for academic institutions. This led Andrew Tanenbaum of the Free University in Amsterdam to create MINIX: I decided to write a new operating system from scratch that would be compatible with UNIX from the user's point of view, but completely different inside. By not using even one line of AT&T code, this system avoids the licensing restrictions, so it can be used for class or individual study. (A.S. Tanenbaum, Operating Systems, Design and Implementation, 1987)

Several years later, a student in Helsinki, Finland, wrote an operating system, "just for fun," which he based on MINIX. Linus Torvalds was going to call it "Freax," but his sysadmin persuaded him to use "Linux."

Linux was just a kernel. Thanks to the near-universality of the Internet, it has been augmented and improved by tens of thousands of users.

So here we are—Linux is part of an implementation of a UNIX-like operating system, inspired by MINIX, and using a large number of GNU tools and applications.

Be ashamed, Mr. Brown!

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Twenty Years Ago . . . and More

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The USENIX 1984 Summer Conference was held in Salt Lake City, June 12 through 15. The keynote was given by Stuart I. Feldman. Today, Stu is Vice President for Internet Technology in the Systems and Technology Group at IBM. In 1984, he was at Bellcore in New Jersey.

"An Architecture History of the UNIX System" is my favorite of all the many (too many) keynotes I have experienced.

Stu began with the idea that operating systems are a curious blend of art and technology and went on to construct a number of analogies between the metaphorical architecture of OSES and "the last thousand years of Western architecture." As his first slide was of Hagia Sofia in Istanbul, originally built in the sixth century, clearly his history was of more than a millennium. But Stu forged through Romanesque, Gothic, the Renaissance, the Baroque, and Rococo, his last slide being the Zwinger Palace in Dresden, built in the early 18th century in echo of Versailles.

It was a wonderful talk. Only Stu's more recent keynote and that of Penn Jillette (a decade ago in Boston) have even come close in entertainment value.

The June 1984 Conference, incidentally, celebrated the 15th anniversary of both UNIX and the ARPANET/Internet. UNIX is now 35. And Linux 1.0 celebrated its 10th birthday in March.

In answer to several queries, let me clarify the name(s) of this august publication. When Mel Ferentz began sending out his "dittoed" newsletter, it was called UNIX NEWS. The first issue was dated July 30, 1975. But only up to the June 1977 issue was it called UNIX NEWS. The July 1977 issue carried the name ;login:, so the publication is 29 years old, and the name is 27.

The name change surgery (like that of the name of the organization) was the direct result of a threatening phone call from a lawyer at AT&T, informing Mel that permission to use "UNIX" (a registered trademark) had not been granted by Western Electric. (UNIX is not now, nor has it ever been, a trademark of the Santa Cruz Operation, Caldera, or Darl McBride.)

Mel, Lou Katz, and Reidar Bornholdt had called the informal group "UNIX USERS." Which they were. It was at the May 24–27, 1978, meeting at Columbia's College of Physicians and Surgeons that the organization was renamed USENIX, a name suggested by Margaret Law. (This gave rise to a letter from Stephen J. Phillips, a patent lawyer at AT&T, which Mel wryly published in ;login:.)