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In defense of computers

In your article "Beyond virtual vaccinations" (SN: 7/31/99, p. 77), you mentioned that the first computer virus was a 1987 bug called "Brain." I also remember a virus named "Scores" that attacked MacIntosh systems around the same time.

*Steve Dana
Irvine, Calif.*

The July 31 issue contained an interesting summary of research into antiviral strategies for computer systems. One consequence of such elaborate immune systems could be autoimmune diseases and resistance to "transplants." Imagine an operating system's immune system attacking itself because the patterns of its users change (maybe in a school computer at the beginning of a new year). Or imagine having to supply immunosuppressive software in order to add a hard drive and not have it be rejected. Imagine viruses with the ability to snare and present "self" tags from the host

to avoid detection. I'm sure that researchers will overcome this fox-and-rabbit arms race after a few more iterations, but one can't help but be impressed by the depth of the biological metaphor.

*David Honig
Irvine, Calif.*

Mainframe computer operating systems provide safeguards that prevent a program from addressing areas of memory outside a specified region or writing to data sets critical to the system. The Microsoft Windows operating system used by virtually all personal computers provides none of these safeguards. Windows is inherently incapable of protecting itself, which, in my opinion, is a fatal flaw in the design of the operating system.

Instead of resorting to methodologies that are inordinately complex, computationally expensive, and probably temporary, researchers should be working to build safeguards into the PC operating system itself.

*Virgil H. Soule
Frederick, Md*

Cover: Russia's Vostok Station is one of the loneliest outposts on Earth. Researchers will soon, however, flock to this part of East Antarctica to explore a giant lake, hidden beneath almost 4 kilometers of ice. Lake Vostok may be home to a unique community of extreme microorganisms. **Page 216**
(Photo: Jean-Robert Petit/Extrapôle/Eurelios)



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The research done by Steve R. White at IBM's Thomas J. Watson Research Center seems almost identical to that attributed to computer scientist Jeffrey O. Kephart at that same facility, as reported in *SCIENTIFIC AMERICAN* and *DISCOVER* in 1994. Is this research in any way related to that now being reported?

*Roberto De Leon
San Juan, Puerto Rico*

Yes. Kephart works with Steve White's team at IBM. The work we reported is the latest version of IBM's digital immune system, of which Kephart's work was a part. In fact, in an earlier report in *SCIENCE NEWS* (SN: 7/23/94, p. 63), we spoke to Kephart. —D. Christensen

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