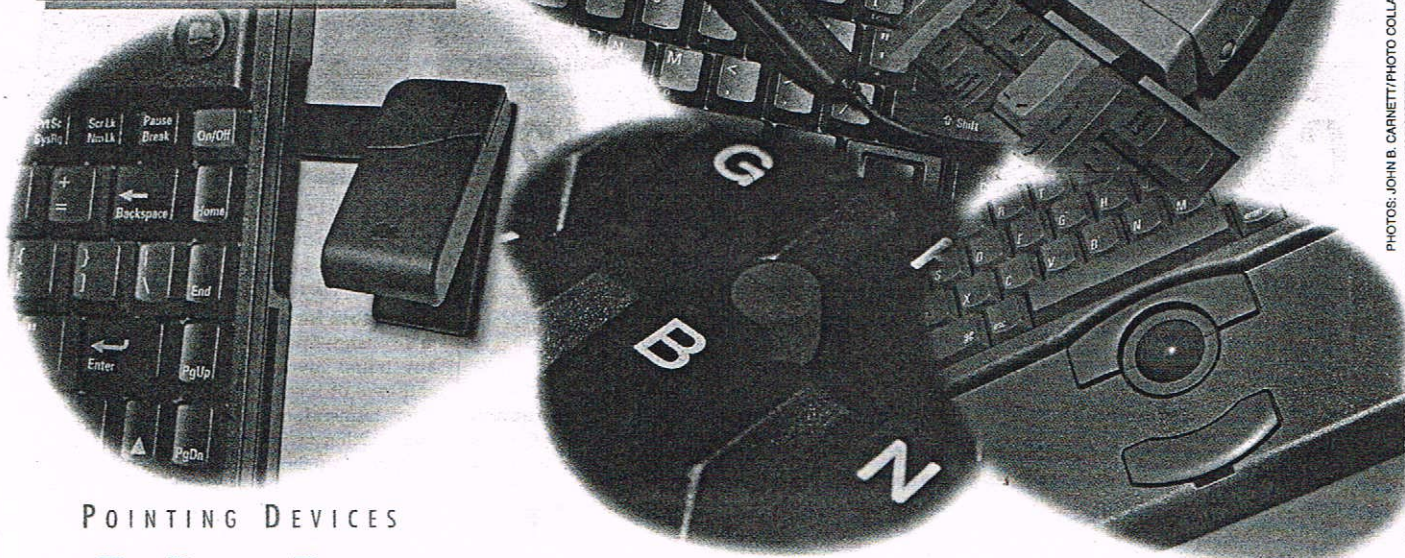


COMPUTERS & SOFTWARE

EDITED BY CHRIS O'MALLEY



POINTING DEVICES

THE ROVING ROAD RODENTS

Because of the popularity of Microsoft's Windows operating system, many business travelers now want to take a pointing device along with their computer on the road. But traditional mice and trackballs don't fit the bill—or, more exactly, the

airplane tray table—a dilemma that has spawned a number of alternatives. Among the many variations of portable pointers are (clockwise from left) Hewlett-Packard's OmniBook pop-out mouse, Canon's handheld trackball, Microsoft's BallPoint clip-on

trackball, Apple's PowerBook built-in trackball, and IBM's TrackPoint II finger-control button. Compaq also builds a mini-trackball into its LTE Lite portables now, as do a growing number of manufacturers of notebook and sub-notebook PCs.—*Suzanne Kantra*

INVENTIONS

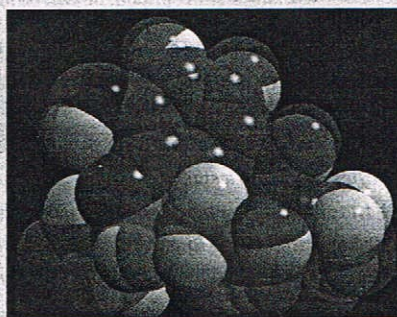
SOFTWARE WITH IDEAS OF ITS OWN

This "scientist" has invented compounds that no one had ever seen, substances that may prove to be potent pain killers. But the name on the patent form is quite different from those of other scientists. This scientist is *Invention*, a unique computer program developed by University of California, Santa Cruz, chemist Todd Wipke.

Recently, Wipke and his students gave the *Invention* software some basic information about morphine: the molecule's size and shape and the position of the crucial nitrogen and oxygen atoms that lock into receptor sites in our brains. Then Wipke turned it loose to design similar molecules fitting those criteria. Several of the resulting "molecules" (they exist only in theory for now, though Wipke is sure they could be synthesized) looked promising enough to patent. "*Invention's* main advantage over hu-

man chemists is that it has no experience and no knowledge beyond what we tell it, so it operates without any preconceptions," explains Wipke. "And computers are able to visualize in three dimensions, which is hard for humans."

Wipke has high hopes for his brainchild—attempting to find a compound that combats the AIDS virus may be next.—*Jonathan Beard*



A theoretical morphine molecule created by *Invention* shows the atom types by color.

CD-ROM

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