In Defense of Dumb

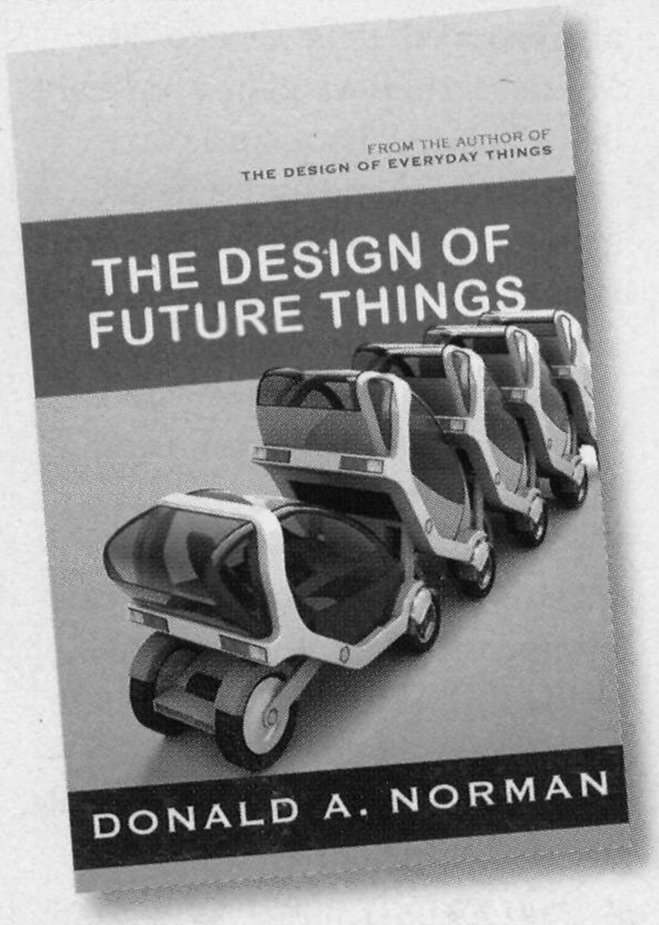
Gadgets don't necessarily get better when you give them brains

"I AM A technologist," says Donald A. Norman in his brief and insightful book *The Design of Future Things*. "I believe in making lives richer and more rewarding through use of science and technology. But that is not where our present path is taking us."

Norman, a professor of electrical engineering and computer science at Northwestern University, became famous for his book *The Design of Everyday Things* (first published in 1988 as *The Psychology of Everyday Things*). In it he called for "user-centered design," a way to make everyday products easier to use and more foolproof. Now he turns to seemingly futuristic technologies that in fact may not be so far away. Many of Norman's examples involve automobiles. For example, some new cars are now equipped with an adaptive form of the familiar cruise control. Like the old form, it keeps the car going at a constant speed; unlike the old form, it automatically slows the car when it gets too close to the car in front of it.

But that extra automation can lull the driver into complacency, Norman says, taking over when the going is easy and unexpectedly giving up when things become difficult. Norman describes how one of his friends had a close call after driving for some time at low speed on a congested highway and then turning onto an exit ramp. The car suddenly accelerated because of the adaptive cruise control, which he had forgotten to disable. A better-designed system would have reminded the driver that the control had been activated. In fact, Norman thinks, automobiles should be designed to appear less safe than they actually are to keep the driver on guard, a suggestion not gladly accepted by some of his automobile-industry clients.

Intelligent systems, he argues, should be understandable and predictable, and when something goes wrong they should send messages that get the user to make the right response intuitively. As an example of good design, he cites the aeronautical system that vibrates the control yoke to warn the pilot of an impending stall. For bad design he offers the writing recognition system in Apple's old Newton personal digital assistant, which could turn a carefully written word into nonsense without giving the user any clue as to how to correct the problem.

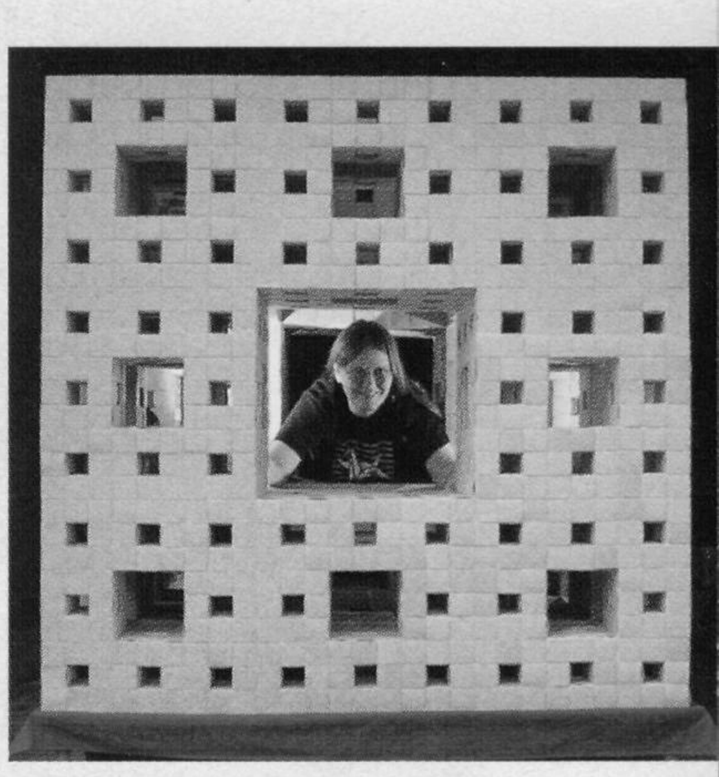


THE DESIGN OF FUTURE THINGS
By Donald A. Norman;
Basic Books, 2007; 231 pp.; US $27.50;
ISBN: 978-0-465-00227-6

It's wrong, Norman argues, to try to make machines too smart. A car with an automatic navigation system that chooses a scenic route when it thinks the driver is in a good mood is unlikely to succeed, he says, because cars will probably never be good at reading human intentions. Instead, he wants machines that augment human capabilities—for example, robots that allow auto-assembly workers to manipulate heavy objects while receiving tactile feedback, to make their operation intuitive to a worker.

The Design of Future Things is short, easy to read, and clearly meant for a lay audience—the very people who most need to be warned not to expect too much from automation. No doubt most engineers would agree with his criteria for good design. The problem is that many subtle usability issues manifest themselves only after somebody has gotten into trouble with a product; that's why designers, consumed by the rush to bring new products to market, overlook them.

Norman inhabits the very particular world of designers of high-end consumer products. Such products chase those so lost in overconsumption that they can contemplate a refrigerator that locks its doors when a dieter approaches. Where is the guru for the bottom billion people in the world's economic order, who have too little to put in their nonexistent refrigerators in the first place? —KENNETH R. FOSTER



mini-profile

By Susan Karlin

JEANNINE MOSELY: PAPER SCULPTOR

It was her Menger sponge, a cube measuring 1.5 meters (5 feet) on one side and made from 66 048 folded business cards, that put her on the map, but Jeannine Mosely has loved origami since the age of 5. It was the perfect background for an MIT Ph.D. in electrical engineering and computer science and a career in three-dimensional modeling. She says she loves to breathe life into numbers: "You can see a mathematical theorem or formula made real when you create a new model." See her work at the Peabody Essex Museum in Salem, Mass., through 8 June; at the Siggraph 2008 Convention in Los Angeles, in August; and online at TheIFF.org, Creased.com, and PEM.org.

PHOTO: RICK FRIEDMAN