

important new tool."

"There's a great need for tactual tools in teaching chemistry to students who are blind, or disabled, or who simply learn better by holding something in their hands," adds Scadden. "Tactile models reinforce the learning process better than drawings."

Roughly 1.1 million U.S. residents are legally blind, according to the American Foundation for the Blind. Best estimates hold that several thousand working scientists are blind or visually impaired.

Yet "blind and disabled people are severely underrepresented in the scientific community," Scadden says. "With the right educational technologies, more students with disabilities could participate in science and choose it as a career."

"There's still a great barrier for blind people in mathematics and science," concurs Virginia W. Stern, director of the project on science, technology, and disability at the American Association for the Advancement of Science in Washington, D.C. "There's a tremendous need for better teaching tools at every academic level."

Skawinski expects people in many fields — biology, physics, toxicology — to benefit from his system. "We're trying to expand the system to model other three-dimensional physical phenomena, like electrical or gravitational fields around an object, or even mathematical functions."

"The limit, really," he observes, "is a person's imagination." □

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Cleopatra's Nose: Essays on the Unexpected — Daniel J. Boorstin. The title of this collection of essays dealing with discovery and surprises in history comes from Pascal: "Cleopatra's nose, had it been shorter, the whole face of the world would have been changed." Boorstin, the Pulitzer Prize-winning author of *The Discoverers* and *The Creators*, ponders, among other themes, how discoveries sometimes increase our ignorance and how the fourth kingdom — the kingdom of machines — has run counter to Darwinian expectations. Random, 1994, 210 p., hardcover, \$23.00.

Designing Engineers — Louis L. Bucciarelli. Most folks know little about engineering design, though it shapes objects we encounter daily. Form and function fascinate Bucciarelli, an engineer and educator who here takes readers beyond slick surfaces and molded forms. Using three design projects in which he participated, including an airport X-ray inspection system, he explains the ins and outs of designing and engineering a product. MIT Pr, 1994, 220 p., b&w drawings, hardcover, \$24.95.

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Nature on the Rampage — H.J. de Blij, et. al. Geographer H.J. de Blij opens this lavishly illustrated volume with an essay that captures Earth at its most violent. Four science writers, including Richard Lipkin and Richard Monastersky of *SCIENCE NEWS*, go on to describe natural phenomena older than the first myths and as current as today's newscasts. The book is divided into four sections, covering hurricanes, earthquakes, tornadoes, floods, wildfires, blizzards, and other forces of nature and ending with an essay on the nature of risk. Smithsonian, 1994, 224 p. color photos, paperback, \$19.95.

Reflections of Eden: My Years with the Orangutans of Borneo — Biruté M.F. Galdikas. In the tradition of Jane Goodall (chimpanzees) and Dian Fossey (mountain gorillas), Galdikas details her life among another society of primates — orangutans. Encouraged by Louis Leakey, she ventured into the Indonesian jungle in 1971 and, with her husband, devoted her personal and scholarly attention to some formerly captive orangutans. Here she chronicles the animals' personalities, their life cycle, and the threats that menace them. Little, 1995, 408 p., b&w photos, hardcover, \$24.95.

Solving Prostate Problems: Answers and Advice from a Leading Expert — Martin Gelbard with William Bentley. Physicians in the United States diagnose about 165,000 new cases of prostate cancer each year, and some 35,000 men die of it annually. Gelbard, a urologist, describes the prostate's function, its aging, its diseases, and their symptoms and treatments in forthright, easily understood prose. Fireside, 1995, 255 p., b&w illus., paperback, \$12.00.

In the past few years, a new line of scientific inquiry called "chaos theory" has caught the popular imagination. Young people, in particular, have taken to the complex, computer-generated patterns that seem to teeter precariously between order and randomness.

Chaos theory, it turns out, has a deeper meaning for our understanding of nature. All sorts of phenomena — from swinging pendulums to heart rhythms to gold futures — are best perceived through the prism of chaos theory.

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