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American Academy of Pediatrics Guide to Your Child's Symptoms: The Official, Complete Home Reference, Birth Through Adolescence—Donald Schiff and Steven P. Shelov, eds. In an effort to quell the fears of parents—especially novice ones of very small children—this quick reference lists alphabetically almost 200 general ailments and circumstances. It helps the reader to understand symptoms and to take appropriate action either at home or by calling the pediatrician. Villard, 1997, 256 p., b&w illus., hardcover, \$25.00.

Before the Beginning: Our Universe and Others—Martin Rees. A prophet of the theory that our universe is just "one atom . . . in an infinite ensemble: a cosmic archipelago," renowned British astronomer Rees melds his own research and ideas about black holes and cosmic evolution with the ideas most fervently pursued by astrophysicists over the last 30 to 40 years. In pondering galaxies beyond the view of our telescopes, Rees questions whether the Milky Way is a mere stepchild of universes with far superior chemical compositions. Addison-Wesley, 1997, 291 p., hardcover, \$25.00.

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Crystal Fire: The Birth of the Information Age—Michael Riordan and Lillian Hoddeson. Remarkably, the transistor is a baby-boomer that will celebrate its 50th birthday this December. Seemingly remedially constructed, the transistor boosted an electric signal almost 100-fold. It was met with little fanfare—its inventors were not the Bill Gates of their day. However, the technology did spawn the supermicroprocessors behind modern, multibillion-dollar industries such as personal computers, ATMs, and fax machines. The intriguing history of the transistor—its inventors, physics, and stunning impact on society and the economy—unfolds here in a richly told tale. Norton, 1997, 352 p., b&w photos/illus., hardcover, \$27.50.

Does It Run in the Family? A Consumer's Guide to DNA Testing for Genetic Disorders—Doris Teichler Zallen. As it becomes more feasible to gain firsthand knowledge of what diseases and conditions can strike us, our children, and grandchildren, Zallen strives to translate the associated jargon and explain what kinds of genetic tests are available, how best to seek those examinations, and what the possibility is of using gene therapy to correct bad genes. Case studies of families facing decisions about testing help define the issues at hand. Rutgers U Pr, 1997, 201 p., b&w illus., hardcover, \$24.95.

Keys to Infinity—Clifford A. Pickover. Computer tools, games, puzzles, numbers, and mathematical relations are the means by which Pickover stimulates creativity and curiosity about infinite things. He poses a number of scenarios and questions, such as the exceptional Leviathan number and fractal milkshakes, comprised of Ford circles, then shows how scientists view them. Originally published in hardcover in 1995. Wiley, 1997, 332 p., color plates/b&w photos/illus., paperback, \$16.95.

Rachel Carson: Witness for Nature—Linda Lear. Seemingly most every new book about the environment is touted by publishers as the next *Silent Spring*. While that landmark publication dominates Carson's public image even to this day, Lear eloquently adds great depth to the life and times of this renowned naturalist, whose life was curtailed by cancer at a relatively young age. Lear researched her subject diligently and benefited from hundreds of interviews with those who knew Carson. Close ties to her impoverished family placed a special burden upon Carson, who longed to earn her living as an author. Her struggle as a young woman scientist also offers an inspirational story of life in pre-feminist times. Lear deftly weaves a rich opus at once respectful of Carson's private life and awestruck by her genius. H Holt & Co, 1997, 634 p., b&w plates, hardcover, \$35.00.

What Is Mathematics Really?—Reuben Hersh. How many parts has a four-dimensional cube? Even if you can figure it out, does it exist? Questions such as these have always taunted mathematicians. Traditionally, Platonism—the realist philosophy that mathematical entities exist outside space and time—has satisfied most concerned parties. Formalism, a prevalent alternative, reduces mathematics to "a meaningless game." Hersh stirs the mix by proposing a third philosophical alternative: humanism. This viewpoint supposes that mathematics is a "social phenomenon, part of human culture, historically evolved, and intelligible only in social context." He picks apart the competition as he surveys mathematical philosophers through time. Numerical and equational support is saved for a dense summary section. OUP, 1997, 343 p., hardcover, \$35.00.

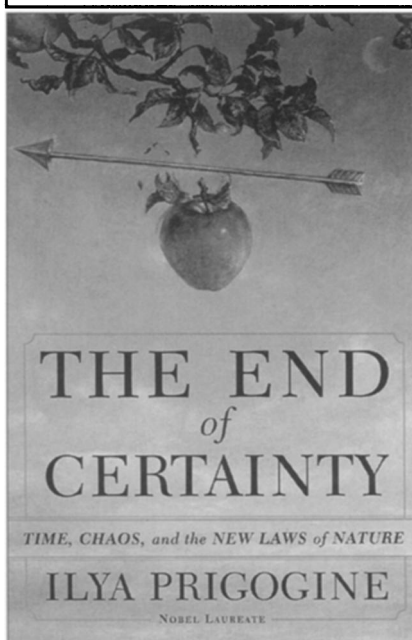
Common sense says time moves forward, never backward, from cradle to grave. Nevertheless, Einstein said that time is an illusion. Nature's laws, as he and Newton defined them, describe a timeless, deterministic universe within which we can make predictions with certainty. In effect, these great physicists contended that time is reversible and thus meaningless.

Nobel laureate Ilya Prigogine here presents his profound break with the classical description of nature, examining the Western approach to time and showing that, as we follow the probabilistic processes of the real world, we travel far beyond the dead mechanics of determinism. In expounding his argument, he leads us on a marvelous intellectual adventure, beginning with the Greeks, continuing through Newtonian trajectory and deterministic chaos, and traveling onward to the heights of a unified formulation of quantum theory and "free lunch" cosmology. He finds that quantum mechanics can be extended to demonstrate time's natural irreversibility, and he argues that time actually preceded the Big Bang.

Prigogine argues that we live in a world of definable probabilities, where life and matter evolve continuously in the direction of time and certainty itself is the illusion. Notions such as "self-organization," which Prigogine introduced in previous work, now take their place within a rigorous and consistent scientific worldview. As this watershed book shows, the end of certainty is the birth of a whole new formulation of the natural laws of both science and culture.

—from Free Press

Free Press, 1997, 224 pages, 5 1/4" x 7 1/4" hardcover, \$24.00



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"For much of the past century, physicists have suggested that the arrow of time is due to the Second Law of Thermodynamics, with its unidirectional increase in entropy. Ilya Prigogine, in this bold book, takes a different stance. One does not have to agree with his solution to find the problems profound and the argument entrancing." —Stuart Kauffman, Santa Fe Institute

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