

# Books

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**A Dancing Matrix: Voyages Along the Viral Frontier** — Robin Marantz Henig. While researchers conquered many infectious diseases over the last century, viral infections have remained most elusive, as they seem to have no boundaries and many origins. Some viruses jump from species to species: Witness the case in rural England, where 18,000 cattle fell prey to a viral infection that is now spreading to cats and to antelopes at the London Zoo. Henig's fascinating look at a force confronting researchers and the global population encompasses what viruses are, how they are transported, how they thrive, what kind of damage they do, and what progress is being made to halt them. The author also discusses the threat of newly emerging viruses and examines warning systems now in place to prevent worldwide outbreaks such as the AIDS epidemic. Knopf, 1993, 269 p., hardcover, \$23.00.

**Hummingbirds: Jewels in Flight** — Connie Toops. Hummingbirds are found only in the western hemisphere; however, 338 species of them exist. They can fly in any direction and at speeds of 30 miles per hour, or just hover, making them one of the more unique members of the bird world. Toops is a photojournalist who has gathered together a collection of astonishing full-color photographs to accompany well-written prose about the nesting, feeding, mating, and migrating habits of these tiny birds. She also devotes an entire chapter to attracting hummingbirds to your backyard, using feeders and gardens especially attractive to hummingbirds. Voyageur Pr., 1992, 127 p., color illus., hardcover, \$29.95.

**Supercomputing and the Transformation of Science** — William J. Kaufmann III and Larry L. Smarr. Supercomputers today run almost a trillion times faster than the pioneering computers in existence 50 years ago, allowing modern physicists to recreate and manipulate the physical world on a computer screen. The authors explore the evolution and methodology behind this simulation technology and show how it is being used to develop new chemicals, pharmaceuticals, and machinery and to analyze environmental problems. Discussion about the effects and possibilities of futuristic supercomputing, which may allow scientists to restructure elements of nature, is also included. The most unusual aspect of this book is that color pictures produced by the supercomputer define the concepts discussed, instead of complex equations. Scientific Am Lib, 1993, 238 p., color illus., hardcover, \$32.95.

**The Twenty-Four-Hour Society: Understanding Human Limits in a World That Never Stops** — Martin Moore-Ede. As director of the Institute for Circadian Physiology, Moore-Ede has devoted his life's work to examining how the body clock works and the effect 24-hour technology has on the physiology of humans. Some of the biggest accidents of modern industrial times have occurred at night, including the *Exxon Valdez* oil spill and those at Three Mile Island and Chernobyl. The author contends that this may be because the humans in charge were suffering sleep deprivation and exhaustion, which may have hindered their performance. Guidelines for how we may better organize our work schedules and monitor alertness are included, as are ways to combat jet lag and sleep disorders faced by those with hectic and erratic schedules. Addison-Wesley, 1993, 230 p., hardcover, \$22.95.

**Vital Circuits: On Pumps, Pipes, and the Workings of Circulatory Systems** — Steven Vogel. "Over the course of a normal lifetime, a human heart beats about three billion times. . . . This is a book about that pump, the fluid it pushes, and the set of pipes with which it's connected." So begins a lucid explanation of our vital plumbing and how it obeys the laws of fluid dynamics. Vogel gently guides general readers through physical principles such as forced convection, laminar flow, and Bernoulli's law as he introduces the order and oddities of mammalian circulation. Originally published in hardcover in 1992. Oxford U Pr., 1993, 315 p., paperback, illus., \$12.95.

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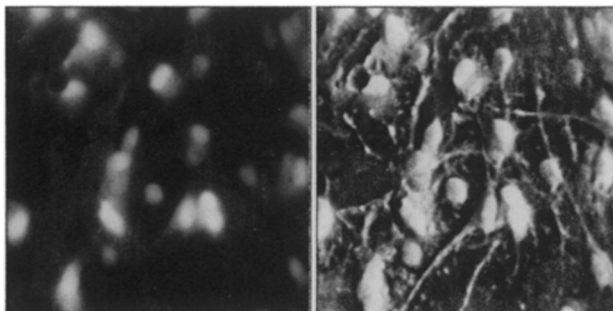
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Neurons and glia cell stained with fura-2.

Left: unprocessed image captured with SIT camera.

Right: image processed with "Micro-Tome" - **The Digital Confocal Microscope.**

Data courtesy of V. Pappura & P. Haydon, Iowa State Univ., Dept. of Zoology and Genetics.

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