Vignettes: Limited Capacities

The difference between the amoeba and Einstein is that, although both make use of the method of trial and error or elimination, the amoeba dislikes erring while Einstein is intrigued by it: he consciously searches for his errors in the hope of learning by their discovery and elimination.

—*Karl Popper*, 1979, as quoted by Raphael Sassower in *Cultural Collisions: Postmodern Technoscience* (Routledge)

Long before the Star Trek writers conjured up warp fields, Einstein warped spacetime, and, like the Star Trek writers, he was armed with nothing other than his imagination. Instead of imagining twenty-second-century starship technology, however, Einstein imagined an elevator. He was undoubtedly a great physicist, but he probably never would have sold a screenplay.

—*Lawrence M. Krauss*, in *The Physics of Star Trek* (BasicBooks)

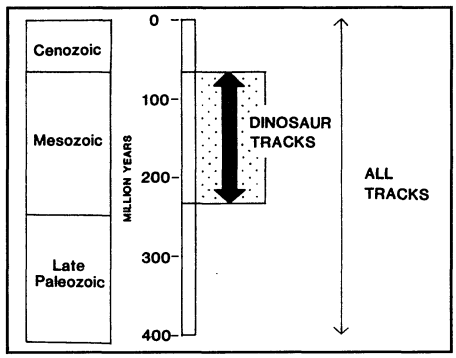
fishes and taxa currently believed to be close tetrapod relatives. While this survey does provide a general overview, coverage is uneven, with description of the clade containing 95 percent of fish diversity (ray-finned fishes) occupying only about 10 pages of text. Furthermore, the use of cute descriptive phraseology ("ray-finned fishes: a winning formula"; "a small step for fish-kind, but a great step for man"; "big teeth, strong fins") represents needless post-hoc rationalization of historical pattern and unsupported functional speculation, both of which detract from the work.

George V. Lauder
Department of Ecology and Evolutionary Biology, University of California, Irvine, CA 92717, USA

Dinosaur Tracks and Other Fossil Footprints of the Western United States. MARTIN LOCKLEY and ADRIAN P. HUNT. Artwork by Paul Koroshetz. Columbia University Press, New York, 1995. xxii, 338 pp., illus. $29.95 or £21.50.

This semi-popular book explains the rudiments of fossil footprints as found in the western United States, with off-road excursions into the biology, habits, and biogeography of the presumed track-makers. Most vertebrate paleontologists will find this familiar ground, though much is usefully collected in one place. The book surveys tracks from the early Paleozoic to the Pleistocene and is unabashed in its advocacy of the (oft-neglected) importance of footprints. Its strengths include the attention it gives to history, site geography, and taxonomy. Given the level of the book, the primary literature is not as fully referenced as a specialist would find useful, and several active controversies are presented a bit unevenly. There is little attention paid to the use of actualistic ichnology in interpreting fossil footprints, so, for example, studies of extant track-makers, as well as of the role of sediment incompetence in the formation and deformation of footprints, are underplayed.

Kevin Padian
Department of Integrative Biology and Museum of Paleontology, University of California, Berkeley, CA 94720–3140, USA



"Vertebrates have been leaving tracks on land since the Devonian period, about 400 million years ago. Even so, much of trackmaking history falls in the Mesozoic 'age of dinosaurs.' " [From *Dinosaur Tracks and Other Fossil Footprints of the Western United States*]

■

Books Received

Android Epistemology. Kenneth M. Ford, Clark Glymour, and Patrick J. Hayes, Eds. AAAI Press, Menlo Park, CA, and MIT Press, Cambridge, MA, 1995. xviii, 316 pp., illus. $25. Based on a workshop, Perdido Key, FL, May 1991.

Beyond Einstein. The Cosmic Quest for the Theory of the Universe. Michio Kaku and Jennifer Thompson. 2nd ed. Anchor (Doubleday), New York, 1995. xii, 227 pp., illus. Paper, $12.95 or $C16.95.

Bioelectromagnetism. Principles and Applications of Bioelectric and Biomagnetic Fields. Jaakko Malmivuo and Robert Plonsey. Oxford University Press, New York, 1995. xxiv, 482 pp., illus. $98.

The Communications Miracle. The Telecommunication Pioneers from Morse to the Information Superhighway. John Bray. Plenum, New York, 1995. xx, 379 pp., illus. $28.95.

Commuting Stress. Causes, Effects, and Methods of Coping. Meni Koslowsky, Avraham N. Kluger, and Mordechai Reich. Plenum, New York, 1995. xii, 232 pp. $39.50. Plenum Series on Stress and Coping.

Dictionary of Endocrinology and Related Biomedical Sciences. Constance R. Martin. Oxford University Press, New York, 1995. vi, 785 pp., illus. $75; paper, $49.95.

A Dictionary of Epidemiology. John M. Last, Ed. 3rd ed. Oxford University Press, New York, 1995. xviii, 180 pp., illus. $35; paper, $16.95.

Enabling Technologies for Petaflops Computing. Thomas Sterling, Paul Messina, and Paul H. Smith. MIT Press, Cambridge, MA, 1995. xii, 180 pp., illus. Paper, $26.95. Scientific and Engineering Computation.

The End of Evolution. A Journey in Search of Clues to the Third Mass Extinction Facing Planet Earth. Peter Ward. Bantam, New York, 1995. xviii, 302 pp., illus. Paper, $12.95 or $C17.95. Reprint, 1994 ed.

Force and Geometry in Newton's *Principia*. François De Gandt. Princeton University Press, Princeton, NJ, 1995. xiv, 297 pp., illus. $49.50. Translated from the French edition by Curtis Wilson.

Forensic Neuropsychology. Conceptual Foundations and Clinical Practice. Jose A. Valciukas. Haworth, Binghamton, NY, 1995. xiv, 341 pp. $39.95. Haworth Criminal Justice, Forensic Behavioral Science and Offender Rehabilitation.

Genius Talk. Conversations with Nobel Scientists and Other Luminaries. Denis Brian. Plenum, New York, 1995. xii, 423 pp., illus. $28.95.

Handbook of Mathematical Formulas and Integrals. Alan Jeffrey. Academic Press, San Diego, 1995. xxiv, 410 pp., illus. Paper, $19.95.

Introduction to Solid State Physics. Charles Kittel. 7th ed. Wiley, New York, 1995. xii, 673 pp., illus. $79.95.

Life Scientists. Their Convictions, Their Activities, and Their Values. Gerard M. Verschuuren. Genesis, North Andover, MA, 1995. x, 273 pp., illus. $34.50.

The Microprocessor. A Biography. Michael S. Malone. Telos (Springer-Verlag), Santa Clara, CA, 1995. xx, 333 pp., illus. $29.95.

Nonstandard Logics and Nonstandard Metrics in Physics. William M. Honig. World Scientific, River Edge, NJ, 1995. xviii, 280 pp., illus. $55; paper, $32. Series on Knots and Everything, vol. 10.

Of Microbes and Molecules. Food Technology, Nutrition and Applied Biology at M.I.T., 1873-1988. Samuel A. Goldblith. Food and Nutrition, Trumbull, CT, 1995. xvi, 329 pp., illus. $49.

Picturing Plants. An Analytical History of Botanical Illustration. Gill Saunders. Published in association with the Victoria and Albert Museum, London by the University of California Press, Berkeley, 1995. 152 pp., illus. $29.95.

Quantum Mechanics. Concepts and Applications. John D. McGervey. Academic Press, San Diego, 1995. xiv, 408 pp., illus., + diskette. $54.95.

Resonant Anomalous X-Ray Scattering. Theory and Applications. G. Materlik, C. J. Sparks, and K. Fischer, Eds. North-Holland, New York, 1994. xii, 675 pp., illus. $200 or Dfl. 350. From a conference, Malente, Germany, Aug. 1992.

The Science of the Mind. 2001 and Beyond. Robert L. Solso and Dominic W. Massaro, Eds. Oxford University Press, New York, 1995. xii, 339 pp., illus. $35.

A Treatise on the Theory of Bessel Functions. G. N. Watson. Cambridge University Press, New York, 1995. viii, 804 pp., illus. Paper, $29.95. Reprint, 1944 ed. Cambridge Mathematical Library.

Without Miracles. Universal Selection Theory and the Second Darwinian Revolution. Gary Cziko. MIT Press, Cambridge, MA, 1995. xiv, 385 pp., illus. $30.