

problems, data, and theories of social psychology on the other. A first group of chapters presents the reader with a general introduction to dynamic systems concepts. They do so in a non-technical but certainly not trivial way. Nowak and Lewenstein, for instance, describe notions such as deterministic chaos, attractors, and catastrophe models and apply them to examples from social behavior. Mandell and Selz introduce the reader to statistical dynamics and provide an overview of statistical properties of nonlinear dynamic systems. Those properties are very unlike the properties that can be found in the average social science statistics handbook. Unfortunately (but inevitably in light of the limited space available), this chapter is little more than an invitation to further reading.

A second group of authors employs dynamic systems concepts in a basically metaphorical way. They try to shed new light on old phenomena by recasting existing problem domains in terms like "cusp catastrophe" and "attractor spaces" (examples are chapters by Tesser and Achée on aggression, love, and conformity and by Eiser on attitude change). One could argue that a metaphorical approach is hardly more than a *testimonium pauper-tatis* from the side of poor old psychology, but such a claim clearly disavows the function of metaphor for a scientific discipline that has begun to explore a new theoretical universe. Metaphors play an important role in detaching the existing models from connotations they acquired in the fields where they originated (laminar flow in fluids, for instance) and in assimilating them to data and methods from an entirely different world of thought (such as social relations and behavior).

A third group of chapters presents actual dynamic systems modeling of data from social psychological experiments. Selz and Mandell, for instance, discuss the application of symbolic dynamics to individual differences in behavioral style. Vallacher and Nowak discuss an experiment on "on-line" tracking of changes in judgment and show that the dynamics of judgment is actually more interesting than the final judgments themselves.

In a summarizing chapter, Nowak, Lewenstein, and Vallacher argue for a social psychology that accounts for change instead of states and for the mutual (instead of asymmetric) causality that is typical of human social behavior. They argue that dynamic systems modeling does not merely imply the building of quantitative mathematical models but leaves ample room for qualitative approaches that will greatly enrich social psychology. The book, probably the first of its kind, pro-

vides a very interesting, accessible and informative introduction to a new and exciting approach to social psychology.

Paul van Geert

Department of Psychology,
University of Groningen,
9712 TS Groningen, The Netherlands

Reprints of Books Previously Reviewed

Darwin. Adrian Desmond and James Moore. Norton, New York, 1994. Paper, \$17.95. *Reviewed* 257, 419 (1992).

Global Warming and Biological Diversity. Robert L. Peters and Thomas E. Lovejoy, Eds. Yale University Press, New Haven, CT, 1994. Paper, \$17. *Reviewed* 258, 1505 (1992).

The Smithsonian and the American Indian. Making a Moral Anthropology in Victorian America. Curtis M. Hinsley. Smithsonian Institution Press, Washington, DC, 1994. Paper, \$17.95. *Augmented reprint of* *Savages and Scientists*, *reviewed* 213, 1489 (1981).

The Uses of Life. A History of Biotechnology. Robert Bud. Cambridge University Press, New York, 1994. Paper, \$19.95. *Reviewed* 262, 121 (1993).

Books Received

Arithmetical Functions. An Introduction to Elementary and Analytic Properties of Arithmetic Functions and to Some of Their Almost-Periodic Properties. Wolfgang Schwarz and Jürgen Spilker. Cambridge University Press, New York, 1994. xx, 367 pp., illus. Paper, \$39.95. London Mathematical Society Lecture Note Series, 184.

Atlas of Mesozoic and Cenozoic Coastlines. Alan G. Smith, David G. Smith, and Brian M. Funnell. Cambridge University Press, New York, 1994. x, 99 pp., illus. \$39.95.

Bacterial Pathogenesis. A Molecular Approach. Abigail A. Salyers and Dixie D. Whitt. ASM Press, Washington, DC, 1994. xxviii, 418 pp., illus. Paper, \$44.95.

Before the Rainbow Fades. Susan Grandes Cohen. Lunda Hoyle Gill, illustrator. Crawford House Press, Bathurst, NSW, Australia, 1994 (U.S. distributor, EL-SUCO, New York). x, 125 pp. \$39.95.

Biochemistry. J. A. A. Chambers and D. Rickwood, Eds. Bios Scientific, Oxford, U.K., and Academic Press, San Diego, CA, 1993. xx, 361 pp., illus. Spiral bound, \$59.95. Labfax Series.

A Combinatorial Introduction to Topology. Michael Henle. Dover, New York, 1994. x, 310 pp., illus. Paper, \$8.95. Corrected reprint, 1979 ed.

The Complete T. rex. John R. Horner and Don Lessem. Simon and Schuster, New York, 1994. 239 pp., illus., + plates. Paper, \$14. Reprint, 1993 ed.

Computational Methods in Genome Research. Sándor Suhai, Ed. Plenum, New York, 1994. viii, 227 pp., illus. \$95. From a symposium, Heidelberg, Germany, July 1992.

The Continuum. A Critical Examination of the Foundation of Analysis. Hermann Weyl. Dover, New York, 1994. xxvi, 130 pp., illus. Paper, \$5.95. Translated from the German by Stephen Pollard and Thomas Bole. Corrected reprint, 1987 ed.

Continuum Mechanics. D. S. Chandrasekharaiah and Lokenath Debnath. Academic Press, San Diego, CA, 1994. xiv, 595 pp., illus. \$69.95.

Creative Conservation. Interactive Management of Wild and Captive Animals. P. J. S. Olney, G. M. Mace, and A. T. C. Feistner, Eds. Chapman and Hall, New York, 1994. xxiv, 517 pp., illus. \$94.95.

Current Practices in Health Sciences Librarianship. Vol. 1, Reference and Information Services in Health Sciences Libraries. M. Sandra Wood, Ed. Medical Library Association and Scarecrow, Metuchen, NJ, 1994. xxii, 371 pp., illus. \$39.50.

Dynamics. Numerical Explorations. Helena E. Nusse

and James A. Yorke. Eric J. Kostelich, computer program coauthor. Springer-Verlag, New York, 1994. xiv, 484 pp., illus., + plates and diskette. Paper, \$49.95. Applied Mathematical Sciences, vol. 101.

The Ecology of Commerce. A Declaration of Sustainability. Paul Hawken. HarperBusiness, New York, 1994. xviii, 250 pp. Paper, \$13. Reprint, 1993 ed.

Economic Incentives and Environmental Policies. Principles and Practice. Hans Opschoor and Kerry Turner, Eds. Kluwer, Norwell, MA, 1994. viii, 309 pp., illus. \$120 or £82 or Dfl. 210.

The Facts on File Dictionary of Biotechnology and Genetic Engineering. Mark L. Steinberg, Sharon D. Cosloy, and Edmund H. Immergut, Eds. Facts on File, New York, 1994. x, 200 pp., illus. \$27.95.

Fire on the Mountain. The Nature of Volcanoes. Carl Johnson. Dorian Weisel, photographer. Chronicle, San Francisco, 1994. 132 pp. \$29.95; paper, \$18.95.

Geophysical Inverse Theory. Robert L. Parker. Princeton University Press, Princeton, NJ, 1994. xii, 386 pp., illus. \$39.50 or £30.

Missionaries of Science. The Rockefeller Foundation and Latin America. Marcos Cueto, Ed. Indiana University Press, Bloomington, 1994. xx, 171 pp. \$24.95. Philanthropic Studies. Based on a conference, North Tarrytown, NY, Nov. 1991.

Museums and the Making of "Ourselves". The Role of Objects in National Identity. Flora E. S. Kaplan, Ed. Leicester University Press (Pinter), London, 1994 (U.S. distributor, St. Martin's, New York). xii, 430 pp., illus. \$69.

Physiology of the Gastrointestinal Tract. Leonard R. Johnson *et al.*, Eds. 3rd ed. Raven, New York, 1994. 2 vols. Various pages, illus. \$345.

Platelet-Dependent Vascular Occlusion. Garrett A. FitzGerald, Lisa K. Jennings, and Carlo Patrono, Eds. New York Academy of Sciences, New York, 1994. viii, 328 pp., illus. Paper, \$90. *Annals of the New York Academy of Sciences*, vol. 714. From a meeting, Santa Fe, NM, June 1993.

Prenatal Exposure to Toxicants. Developmental Consequences. Herbert L. Needleman and David Bellinger, Eds. Johns Hopkins University Press, Baltimore, MD, 1994. x, 321 pp., illus. \$90. Johns Hopkins Series in Environmental Toxicology.

Principles and Methods of Toxicology. A. Wallace Hayes, Ed. 3rd ed. Raven, New York, 1994. xx, 1468 pp., illus. \$125.

Proceedings of the Zoological Society. J. B. S. Haldane Commemoration Volume 1993. A. S. Mukherjee *et al.*, Eds. Zoological Society, Calcutta, 1993. iv, 227 pp., illus. Paper, \$30 or £20 or Rs 500.

Reflecting on Nature. Readings in Environmental Philosophy. Lori Gruen and Dale Jamieson, Eds. Oxford University Press, New York, 1994. xviii, 362 pp. Paper, \$19.95.

Regulation of Cellular Signal Transduction Pathways by Desensitization [sic] and Amplification. David R. Sibley and Miles D. Houslay, Eds. Wiley, New York, 1994. xii, 368 pp., illus. \$115. Wiley Series on Molecular Pharmacology of Cell Regulation, vol. 3.

Schools for Thought. A Science of Learning in the Classroom. John T. Bruer. MIT Press, Cambridge, MA, 1994. xii, 324 pp., illus. \$29.95; paper, \$14.95.

Science Has No National Borders. Harry C. Kelly and the Reconstruction of Science and Technology in Post-war Japan. Hideo Yoshikawa and Joanne Kauffman. MIT Press, Cambridge, MA, 1994. xx, 137 pp. + plates. \$22.50.

Trials of an Ordinary Doctor. Joannes Groenevelt in Seventeenth-Century London. Harold J. Cook. Johns Hopkins University Press, Baltimore, MD, 1994. xx, 301 pp., illus. \$45.

The Tribe of Tiger. Cats and Their Culture. Elizabeth Marshall Thomas. Jared Taylor Williams, illustrator. Simon and Schuster, New York, 1994. 240 pp. \$21.

Twists and Turns and Tangles in Math and Physics. Instructional Material for Developing Scientific and Logical Thinking. Samuel Katzoff. Johns Hopkins University Center for Talented Youth, Baltimore, MD, 1992. 2 vols. xxxiv, 428 pp., illus. Paper, \$40.

Vaccines and World Health. Science, Policy, and Practice. Paul F. Basch. Oxford University Press, New York, 1994. xiv, 274 pp., illus. \$49.95.

We're in This War, Too. World War II Letters From American Women in Uniform. Judy Barrett Litoff and David C. Smith, Eds. Oxford University Press, New York, 1994. xii, 272 pp., illus., + plates. \$25.