

The authors have wisely used the same map of the world through most of the book and have redrawn on it the distributions from the odd and varied projections favored by those of us who have presented the original works. Certainly, zoogeography needs a reductionist approach, and the attempt to distill many patterns of distribution into a tractable number is an essential step to developing an explanation of how all this happened. The authors present a system of classification of zoogeographic patterns using a known species as a "type species" for each pattern. For instance, the distribution pattern for those animals endemic to the North Pacific Central Water Mass is called the "*Sagitta pseudoserrata*dentatoides type." Though the collectivization of many species into a single pattern is valid, this system of nomenclature is fraught with troubles. Several of the patterns are based on poorly known distributions; if in the future we find the distribution pattern of the type species changed, do we change the type species of the original distribution? Or do we change the pattern to fit the type species? For instance, the copepod *Clausocalanus paululus* (misspelled throughout the book as *C. paupulus*) is used as a type for the pattern in which a species does not occur in the Indo-Malayan waters but is found in the Indian and Pacific Oceans on either side. Fleminger and Frost, whose work (*Bull. Scripps Inst. Oceanogr.* 12 [1968]) served as the source for the authors' designation, showed no Indo-Malayan continuity in the distribution, chiefly because they had only two samples from the Indo-Malayan Archipelago. Indeed, their chart 9A indicates they found *C. paululus* in one of those two samples, although it is not reflected in their chart 15A. Tying the nomenclature of a zoogeographic province to something as uncertain as the known range of a poorly known species creates a less than perfect system.

Van der Spoel and Heyman have chosen to locate all references in the back of the book, as is common; however, they have not cited these references in the text or on the maps. It is unnerving to be presented with unsupported statements when a simple citation in the text or a note of the type "after Beklemishev, 1977" on the map would have made the statements seem less arbitrary. To search through a (frequently inaccurate) list of references to try to figure out who made a particular statement is a nuisance.

The authors, who are from Holland, were writing in a language that was not

their maternal tongue; though the intent of their writing is apparent after study, the writing does not flow smoothly. The fault is that of the editors, who should have recast certain sentences, removed or added commas, and checked for misspellings. It is commonplace and acceptable to be required to reread a sentence that deals with a complicated subject. However, it is only irritating to be forced to reread a sentence because it has not been well crafted. The editors also should have indented and cleaned up the figure captions (the decision to print many of the plates in red or blue was perhaps made after the authors had sent in the text, for the legends refer to hatching in black and white).

The usefulness of the book will be to those who describe species or revise genera, and to those who seek generalizations for schemes of climatology, sea-level change, glaciation, and the like. Systematists will be given guidelines within which they can assign expected occurrences of new species. Others will appreciate that van der Spoel and Heyman have condensed an enormous literature into a tangible number of spatial patterns that may be incorporated into hypotheses concerning global phenomena.

CARL M. BOYD
SCOTT WILSON

*Department of Oceanography,
Dalhousie University, Halifax,
Nova Scotia B3H 4J1, Canada*

Some Other Books of Interest

Science in Government. J. RONAYNE. Edward Arnold, Baltimore, 1984. vi, 250 pp., illus. Paper, \$19.95.

This book, which originated in a literature review commissioned by the Australian Science and Technology Council, is intended as a textbook for use in "courses with a science policy studies component" and for the use of public servants and others on whose concerns science policy impinges. An opening chapter traces the history of ideas concerning science policy from the time of Francis Bacon, Antoine de Condorcet, and Charles Babbage to about 1960. A chapter is then devoted to the sources of technological innovation, discussing the literature of the subject and presenting a number of examples from recent (mostly British) history. The third chapter is devoted to governmental support of science—justifications that have been of-

fered for such support, the performance of research by government agencies, mechanisms for enacting science policy, and analytical methods that have been brought to bear on science policy issues. There follows a series of chapters describing science policy systems in various countries: the United States (including brief descriptions of the functions of the Office of Science and Technology Policy, the National Academy of Sciences, the National Science Foundation, and the National Institutes of Health); the United Kingdom; Australia; the Federal Republic of Germany, Canada, and Japan; and Belgium. A final chapter discusses science policy in the "new economic context" (that is, since the 1973 oil crisis). Reference citations are gathered at the end. There is an index but no general bibliography.—K.L.

Uncommon Sense. J. ROBERT OPPENHEIMER. N. Metropolis, Gian-Carlo Rota, and David Sharp, Eds. Birkhäuser, Boston, 1984. x, 195 pp., illus. \$14.95.

For this volume the editors "have collected . . . some of Oppenheimer's opinions on science, society and mankind, expressed . . . in his numerous public lectures and addresses." The 16 essays included, some apparently in shortened form, range in date from 1948 to 1966. Eight have not been published previously, according to the editors. The remainder are reprinted from various sources, including Oppenheimer's *Science and the Common Understanding* (1954) and *The Open Mind* (1955). A brief biographical foreword by the editors and 15 photographs are included.

—K.L.

Explorations in the History of Psychology in the United States. JOSEF BROŽEK, Ed. Bucknell University Press, Lewisburg, Pa., 1984 (distributor, Associated University Presses, Cranbury, N.J.). 333 pp. \$39.50.

Six monographic studies make up this volume. In the first, Rand B. Evans traces the origins of American academic psychology from the 1630's to the 1880's. James G. Blight then examines the "applications and implications" of Jonathan Edwards's theory of the mind. The career of David Jayne Hill (to whose memory the book is dedicated) is recounted by Josef Brožek. William R. Woodward examines William James's psychology of will and its impact on the thought of various figures in American psychology. Psychology laboratories in clinical settings between the 1890's and

about 1912 are the subject of a study by John A. Popplestone and Marion White McPherson. The volume concludes with an account by Michael M. Sokal of developments in American psychology in the 1920's. A detailed index to the contributions is included.—K.L.

Books Received

- Acoustic Waveguides.** Applications to Oceanic Science. C. Allan Boyles. Wiley-Interscience, New York, 1984. xii, 321 pp., illus. \$46.95.
- Adhesives Handbook.** J. Shields. 3rd ed. Butterworths, Boston, 1984. xii, 360 pp., illus. \$79.95.
- Advanced Plant Physiology.** Malcolm B. Wilkins, Ed. Pitman, Marshfield, Mass., 1984. xii, 514 pp., illus. \$35.95.
- Advances in Data Base Theory.** Vol. 2. Hervé Gallaire, Jack Minker, and Jean Marie Nicolas, Eds. Plenum, New York, 1984. xiv, 428 pp., illus. \$59.50. From a workshop, Toulouse, France, Dec. 1982.
- Advances in Immunobiology.** Blood Cell Antigens and Bone Marrow Transplantation. Jeffrey McCullough and N. Gerald Sandler, Eds. Liss, New York, 1984. xxii, 435 pp., illus. \$58. Progress in Clinical and Biological Research, vol. 149. From a symposium, Washington, D.C., May 1983.
- Affinity Chromatography and Biological Recognition.** Irwin M. Chaiken, Meir Wilchek, and Indu Parikh, Eds. Academic Press, New York, 1983. xxvi, 515 pp., illus. \$43.50. From a symposium, Annapolis, Md., June 1983.
- Afrique de l'Ouest.** West Africa. Geological Introduction and Stratigraphic Terms. J. Fabre, Ed. Pergamon, New York, 1984. 396 pp., illus. \$65. Lexique Stratigraphique International, Nouvelle Série, No. 1.
- Aging and Cell Function.** John E. Johnson, Jr., Ed. Plenum, New York, 1984. xiv, 283 pp., illus. \$42.50.
- Aging and Recovery of Function in the Central Nervous System.** Stephen W. Scheff, Ed. Plenum, New York, 1984. xiv, 221 pp., illus. \$35.
- AIDS.** The Medical Mystery. Frederick P. Siegal and Marta Siegal. Grove, New York, 1984. xiv, 270 pp. \$19.50; paper, \$7.95.
- The Brain, Biochemistry, and Behavior.** Robert L. Habig, Ed. American Association for Clinical Chemistry, Washington, D.C., 1984. xxviii, 360 pp., illus. \$35. From a conference, Tarpon Springs, Fla., Jan. 1983.
- Calculus.** Basic Concepts and Applications. R. A. Rosenbaum and G. Philip Johnson. Cambridge University Press, New York, 1984. xvi, 422 pp., illus. \$24.95.
- A Complete Guide to Monkeys, Apes and Other Primates.** Michael Kavanagh. Viking, New York, 1984. 224 pp., illus. \$19.95.
- Contemporary Hematology/Oncology.** Vol. 3. Albert S. Gordon, Joseph LoBue, and Robert Silber, Eds. Plenum, New York, 1984. xvi, 271 pp., illus. \$39.50.
- Contributions to the History of North American Natural History.** Alwyne Wheeler, Ed. Society for the Bibliography of Natural History, London, 1983 (U.S. distributor, Department of Library Services, American Museum of Natural History, New York). vi, 97 pp., illus. Paper, \$16. Society for the Bibliography of Natural History Special Publication No. 2. From a conference, Philadelphia, Oct. 1981.
- Controlled Wildlife.** A Three-Volume Guide to U.S. Wildlife Laws and Permit Procedures. Vol. 2, Federally Controlled Species. Carol Estes and Keith W. Sessions, Eds. Association of Systematics Collections, Lawrence, Kans., 1983. viii, 327 pp. Paper, \$55.
- Current Trends in Atomic Spectroscopy.** National Academy Press, Washington, D.C., 1984. x, 81 pp., illus. Paper. From a workshop, Tucson, Ariz., Oct. 1982.
- Cyclic Nucleotide Phosphodiesterases.** Samuel J. Strada and W. Joseph Thompson, Eds. Raven, New York, 1984. xviii, 442 pp., illus. \$49. Advances in Cyclic Nucleotide and Protein Phosphorylation Research, vol. 16. From a symposium.
- Dear Lord Rothschild.** Birds, Butterflies and History. Miriam Rothschild. Balaban, Philadelphia, and Hutchinson, London, 1984 (U.S. distributor, ISI Press, Philadelphia). xxiv, 398 pp. + plates. \$29.95.
- Deposition Both Wet and Dry.** Bruce B. Hicks, Ed. Butterworths, Boston, 1984. xvi, 197 pp., illus. \$32.50. Acid Precipitation Series, vol. 4. An Ann Arbor Science Book. From a symposium, Las Vegas, March 1982.
- The Development and Sustainance of Self-Esteem in Childhood.** John E. Mack and Steven L. Ablon, Eds. International Universities Press, New York, 1984. xiv, 304 pp., illus. \$30.
- Diabetes Mellitus.** Etiopathogenesis and Metabolic Aspects. F. Belfiore, D. J. Galton, and G. M. Reaven, Eds. Karger, Basel, 1984. x, 282 pp., illus. \$127. Frontiers in Diabetes, vol. 4. From a conference, Catania, Sicily, Nov. 1982.
- Dictionary of Geological Terms.** Robert L. Bates and Julia A. Jackson, Eds. 3rd ed. Anchor/Double-day, Garden City, N.Y., 1984. iv, 571 pp. Paper, \$7.95.
- The Enigma of Daniel Home.** Medium or Fraud? Trevor H. Hall. Prometheus, Buffalo, N.Y., 1984. 148 pp. \$16.95.
- Environmental Influences on Fertility, Pregnancy, and Development.** Strategies for Measurement and Evaluation. Marvin S. Legator, Michael J. Rosenberg, and Harold Zenick, Eds. Liss, New York, 1984. x, 177 pp., illus. \$39. Also published in *Teratogenesis, Carcinogenesis and Mutagenesis*, vol. 4, No. 1. From a meeting, Cincinnati, May 1982.
- Eukaryotic Cell Cultures.** Basics and Applications. Ronald T. Acton and J. Daniel Lynn, Eds. Plenum, New York, 1984. x, 556 pp., illus. \$75. Advances in Experimental Medicine and Biology, vol. 172. From a congress, Birmingham, Ala., Sept. 1981.
- Excimer Lasers.** Ch. K. Rhodes, Ed. 2nd ed. Springer-Verlag, New York, 1984. xii, 271 pp., illus. Paper, \$25. Topics in Applied Physics, vol. 30.
- Excitotoxins.** Kjell Fuxe, Peter Roberts, and Robert Schwarzw, Eds. Plenum, New York, 1984. xii, 363 pp., illus. \$55. Wenner-Gren Center International Symposium Series, vol. 39. From a symposium, Stockholm, Aug. 1982.
- Exploration Seismology.** Vol. 2, Data-Processing and Interpretation. R. E. Sheriff and L. P. Geldart. Cambridge University Press, New York, 1984. xiv, 221 pp., illus. \$29.95.
- Farm Animals.** Husbandry, Behavior, and Veterinary Practice (Viewpoints of a Critic). Michael W. Fox. University Park Press, Baltimore, 1984. xvi, 285 pp., illus. \$24.95.
- Female Primates.** Studies by Women Primatologists. Meredith F. Small, Ed. Liss, New York, 1984. x, 272 pp., illus. \$58. Monographs in Primatology, vol. 4.
- Fetal Alcohol Syndrome and Fetal Alcohol Effects.** Ernest L. Abel. Plenum, New York, 1984. x, 246 pp., illus. \$27.50.
- Fetal Nutrition, Metabolism, and Immunology.** The Role of the Placenta. Richard K. Miller and Henry A. Thiede, Eds. Plenum, New York, 1984. xii, 387 pp., illus. \$52.50. Trophoblast Research, vol. 1. From a conference, Rochester, N.Y., Oct. 1983.
- A Field Guide to Birds of the USSR.** Including Eastern Europe and Central Asia. V. E. Flint *et al.* Princeton University Press, Princeton, N.J., 1984. xxxvi, 353 pp., illus., + plates. \$65. Translated from the Russian edition (1968) by Natalia Bourso-Leland.
- Genes and Antigens in Cancer Cells.** The Monoclonal Antibody Approach. G. Riethmüller *et al.*, Eds. Karger, Basel, 1984. x, 192 pp., illus. \$37.75. Contributions to Oncology, vol. 19. From a meeting, Bonn, June 1983.
- Genetics.** Charlotte J. Avers. 2nd ed. Willard Grant, Boston, 1984. xii, 644 pp., illus. \$29.70.
- Geological Aspects of Acid Deposition.** Owen P. Bricker, Ed. Butterworths, Boston, 1984. xiv, 143 pp., illus. \$32.50. Acid Precipitation Series, vol. 7. An Ann Arbor Science Book. From a symposium, Las Vegas, March 1982.
- Geomorphology of Europe.** Clifford Embleton, Ed. Wiley-Interscience, New York, 1984. x, 465 pp., illus. \$79.95.
- Giardia and Giardiasis.** Biology, Pathogenesis, and Epidemiology. Stanley L. Erlandsen and Ernest A. Meyer, Eds. Plenum, New York, 1984. xxiv, 407 pp., illus. \$65.
- Glimpsing an Invisible Universe.** The Emergence of X-Ray Astronomy. Richard F. Hirsh. Cambridge University Press, New York, 1983. viii, 186 pp., illus. \$39.50.
- Glucocorticoid Effects and Their Biological Consequences.** Louis V. Avioli, Carlo Gennari, and Bruno Imbimbo, Eds. Plenum, New York, 1984. xii, 419 pp., illus. \$57.50. Advances in Experimental Medicine and Biology, vol. 171. From a colloquium, Siena, Italy, Sept. 1982.
- The Great Pyramid Speaks to You.** Joseph B. Gill. Philosophical Library, New York, 1984. 174 pp., illus. \$13.95.
- Growth of the Heart in Health and Disease.** Radovan Zak, Ed. Raven, New York, 1984. x, 480 pp., illus. \$79.
- Handbook of Chemical Industry Labeling.** Charles J. O'Connor and Sidney I. Lirtzman, Eds. Noyes, Park Ridge, N.J., 1984. xxii, 487 pp., illus. \$64.
- Handbook of Mutagenicity Test Procedures.** B. J. Kilbey *et al.*, Eds. 2nd ed. Elsevier, New York, 1984. xvi, 859 pp., illus. \$150.
- Handbook of Neurochemistry.** Vol. 6, Receptors in the Nervous System. Abel Lajtha, Ed. 2nd ed. Plenum, New York, 1984. xxvi, 668 pp., illus. \$89.50.
- Human Intestinal Microflora in Health and Disease.** David J. Hentges, Ed. Academic Press, New York, 1983. xviii, 568 pp., illus. \$65.50.
- Human in Vitro Fertilization and Embryo Transfer.** Don P. Wolf and Martin M. Quigley, Eds. Plenum, New York, 1984. xiv, 440 pp., illus. \$59.50.
- Hypertension and the Angiotensin System.** Therapeutic Approaches. Austin E. Doyle and Alexander G. Bearn, Eds. Raven, New York, 1984. xvi, 304 pp., illus. \$39.50. From a meeting, Strasbourg, France, June 1983.
- Imaging of Infections and Inflammations of the Central Nervous System.** Computed Tomography, Ultrasound, and Nuclear Magnetic Resonance. Dieter R. Enzmann. Raven, New York, 1984. xii, 348 pp., illus. \$55.
- Integrated Optics.** Theory and Technology. Robert G. Hunsperger. 2nd ed. Springer-Verlag, New York, 1984. xvi, 321 pp., illus. \$29. Springer Series in Optical Sciences, vol. 33.
- The International Karakoram Project.** K. J. Miller, Ed. Cambridge University Press, New York, 1984. Two volumes. Vol. 1. xxx, 412 pp., illus. \$79.50. Vol. 2. xxviii, 635 pp., illus. \$89.50. From two conferences, Islamabad, Pakistan, June 1980, and London, Sept. 1981.
- Jeunes Déviants ou Délinquants Juveniles?** Michel Born. Mardaga, Brussels, 1983. 160 pp. Paper, 590 BF. Psychologie et Sciences Humaines, 128.
- Kulturwandel bei den Samen.** Eine ethnohistorische Untersuchung zum Kulturkontakt in Schwedisch-Lappland. Erich Kasten. Dietrich Reimer Verlag, Berlin, 1983. viii, 197 pp. Paper, DM 32.
- Laboratory Exercises in Human Anatomy with Cat Dissections.** Gerard J. Tortora. Burgess, Minneapolis, 1984. x, 383 pp., illus. Paper, \$16.95.
- Language, Thought, and Other Biological Categories.** New Foundations for Realism. Ruth Garrett Millikan. MIT Press, Cambridge, Mass., 1984. xii, 355 pp. \$29.95. A Bradford Book.
- Methods of Protein and Nucleic Acid Research.** Lev A. Osterman. Springer-Verlag, New York, 1984. Vol. 1, Electrophoresis, Isoelectric Focusing, Ultracentrifugation. x, 342 pp., illus. \$59. Vol. 2, Immunoelectrophoresis, Application of Radioisotopes. x, 204 pp., illus. \$38.
- Methylation of DNA.** Thomas A. Trautner, Ed. Springer-Verlag, New York, 1984. x, 176 pp., illus. \$36. Current Topics in Microbiology and Immunology, 108.
- Microbial Ecology.** R. Campbell. 2nd ed. Blackwell Scientific, Palo Alto, Calif., 1984. x, 191 pp., illus. Paper, \$17. Basic Microbiology, vol. 5.
- Microbial Geochemistry.** W. E. Krumbein, Ed. Blackwell Scientific, Palo Alto, Calif., 1983. xii, 330 pp., illus. \$60.
- A Modern Introduction to Food Microbiology.** R. G. Board. Blackwell Scientific, Palo Alto, Calif., 1983. x, 236 pp., illus. Paper, \$17.50. Basic Microbiology, vol. 8.
- National Strategies and Agricultural Change in a Mexican Community.** Kathleen Musante DeWalt. UMI Research Press, Ann Arbor, Mich., 1984. xx, 211 pp., illus. \$39.95. Studies in Cultural Anthropology, No. 6.
- Neuronal Operations in the Visual Cortex.** Guy A. Orban. Springer-Verlag, New York, 1984. xvi, 367 pp., illus. \$38. Studies of Brain Function, vol. 11.
- Neutron Activation Analysis for Clinical Trace Element Research.** K. Heydorn. CRC Press, Boca Raton, Fla., 1984. Two volumes. Vol. 1. xiv, 217 pp., illus. \$75. Vol. 2. xiv, 172 pp., illus. \$60.
- The Omni Interviews.** Pamela Weintraub, Ed. Ticknor and Fields, New York, 1984. xiv, 364 pp., illus. \$17.95; paper, \$9.95. An Omni Press Book.
- Orchid Biology.** Reviews and Perspectives, III. Joseph Arditti, Ed. Comstock (Cornell University Press), Ithaca, N.Y., 1984. 432 pp., illus. \$49.50.
- Organic Analysis Using Atomic Absorption Spectrometry.** Saad S. M. Hassan. Horwood, Chichester, England, and Halsted (Wiley), New York, 1984. 384 pp., illus. \$89.95. Ellis Horwood Series in Analytical Chemistry.
- P.C.B. Levels in Human Fluids.** Sheboygan Case Study. B. Jill Smith. University of Wisconsin Sea Grant Institute, Madison, 1984. xii, 104 pp. Paper, \$4. Technical Report WIS-SG-83-240.
- Petroleum Geochemistry and Exploration of Europe.** J. Brooks, Ed. Published for the Geological Society by Blackwell Scientific, Palo Alto, Calif., 1983. xvi, 379 pp., illus. \$60. From a conference, Glasgow, Sept. 1982.
- Pharmaceutical Microbiology.** W. B. Hugo and A. D. Russell, Eds. 3rd ed. Blackwell Scientific, Palo Alto, Calif., 1983. x, 470 pp., illus. Paper, \$29.
- The Pharmacology of Nerve and Muscle in Tissue Culture.** Alan L. Harvey. Liss, New York, 1984. x, 252 pp., illus. \$48.
- Philosophy, Evolution and Human Nature.** Florian (Continued on page 647)