

Other Books of Interest

Hydrocarbon Chemistry. GEORGE A. OLAH and ARPAD MOLNAR. Wiley, New York, 1995. xx, 632 pp., illus. \$69.95 or £55.

Hydrocarbon chemistry is of obvious economic importance, dealing as it does with petroleum and other materials on which we depend for fuel and raw materials. In this book Olah and Molnar have set out to provide "a comprehensive up-to-date treatment" of the field "as an entity encompassing both basic chemistry and practical applications." The book, which is addressed to a readership ranging from research and industrial chemists to advanced students, opens with an introduction defining the basic categories of hydrocarbons, discussing their uses as energy sources, and outlining the processes for their synthesis and conversion. This is followed by chapters discussing in greater detail their production from petroleum and natural gas and their synthesis from C_1 sources such as syngas ($CO + H_2$) and methane and its derivatives. The remaining nine chapters deal with various kinds of transformation: isomerization; alkylation by various (mostly metal) catalysts; electrophilic and cyclo- addition; carbonylation; oxidation or oxygenation (the authors prefer the latter term or "oxyfunctionalization"); heterosubstitution; hydrogenation and reduction (the latter a less developed subject); olefin metathesis; and oligomerization and polymerization. Generally written in a flat and factual style with the focus on chemical structures and reactions, the book does include some historical information about the field and related industrial developments. Practical applications are considered throughout. Each chapter has its own reference list, typically including over 200 entries, with over 1000 for the 122-page chapter on oxygenation, and there is a 27-page subject index.

Katherine Livingston

Vertebrate Paleontological Techniques. Vol. 1. PATRICK LEIGGI and PETER MAY, Eds. Cambridge University Press, New York, 1995. xx, 344 pp., illus. \$69.95 or £45.

The techniques used by the preparators who are responsible for preserving fossil vertebrates for study or display are generally disseminated only informally, and the field of vertebrate paleontology has lacked an up-to-date printed work on the subject. The present volume is offered as the beginning of a presumably ongoing attempt to fill this lack and to standardize techniques of collection, data handling, preparation, and

curation for the field. For it the editors have brought together 35 workers from a variety of museums and other institutions to describe both time-tested methods and new technologies. The volume opens with a general discussion of conservation issues by Sally Y. Shelton. This is followed by chapters on adhesives and consolidants, important for broken or fragile specimens, and on the collection of taphonomic data, bearing on the depositional environment of specimens. A chapter on the collection of macroinvertebrates covers the process from the logistics of setting up camp to the uncovering of bone and casting of specimens, with special sections on collecting in caves—repositories for many Quaternary specimens—and on quarry staking, or the marking of previous excavations. With respect to microvertebrates, Malcolm C. McKenna *et al.* describe their elaboration of wet sieving—"a fully mechanized, large-throughput, economy-of-scale operation"—as a collection technique. The handling of specimens once collected is the subject of the remaining chapters. Mechanical and chemical techniques for removing matrix and preserving specimens are each the subject of a chapter, as is the heavy-liquid separation method. Histological techniques for preparing specimens for study by microscopy, procedures for molding, casting, and painting, and the mounting of skeletons are also subjects of individual chapters, and the work ends with a brief discussion of the use of computerized axial tomography and radiography for nondestructive analysis. The chapters are somewhat variable in approach, but discussions of equipment, lists

of materials, and pertinent illustrations are common features, and some give step-by-step instructions for the procedures described. Each has its own reference list, and there is a subject index for the whole.

Katherine Livingston

Updating

The 54-page paperback *Atlas of Drosophila Development* by Volker Hartenstein that was published in conjunction with *The Development of Drosophila melanogaster* (Michael Bate and Alfonso Martinez Arias, Eds.), reviewed in *Science* **265**, 819 (1994) is now available separately from Cold Spring Harbor Laboratory Press for \$39.

Books Received

Amino Acids and Their Derivatives in Higher Plants. R. M. Wallsgrave, Ed. Cambridge University Press, New York, 1995. xiv, 280 pp., illus. \$64.95. Society for Experimental Biology Seminar Series, 53.

Apoptosis and the Immune Response. Christopher D. Gregory, Ed. Wiley-Liss, New York, 1995. x, 416 pp., illus. \$89.95.

Aristotle's Physics. A Guided Study. Joe Sachs. Rutgers University Press, New Brunswick, NJ, 1995. xiv, 261 pp. \$52; paper, \$18. Masterworks of Discovery.

Atomic Force Microscopy/Scanning Tunneling Microscopy. Samuel H. Cohen, Mona T. Bray, and Marcia L. Lightbody, Eds. Plenum, New York, 1995. x, 453 pp., illus. \$125. From a symposium, Natick, MA, June 1993.

Atoms, Radiation, and Radiation Protection. James E. Turner. 2nd ed. Wiley, New York, 1995. xviii, 557 pp., illus. \$69.95.

Atrial Arrhythmias. State of the Art. John P. DiMarco and Eric N. Prystowsky, Eds. Futura, Armonk, NY, 1995. xii, 432 pp., illus. \$70. American Heart Association Monograph Series.

Vignettes: Astronomical Outreach

In Walt Whitman's often quoted poem "When I Heard the Learn'd Astronomer," the poet tells how, being shown the astronomer's charts and diagrams, he became tired and sick and wandered off by himself to look up "in perfect silence at the stars." Generations of scientists have been annoyed by these lines. The sense of beauty does not become atrophied through the work of science, as Whitman implies.

—Steven Weinberg, in *Life in the Universe: Scientific American: A Special Issue* (Freeman)

Astronomy remains what it has been throughout its long history, a playground for unrestrained metaphysical and theological speculation, but this can hardly now be said to lie at its core. When modern astronomers in one breath profess themselves to be agnostic and in the next describe the ripples revealed by COBE [the Cosmic Background Explorer satellite] as "traces of the mind of God," this tells us only that theological sophistry is not what it was.

—John North, in *The Norton History of Astronomy and Cosmology* (Norton)

Attentional Processing. The Brain's Art of Mindfulness. David LaBerge. Harvard University Press, Cambridge, MA, 1995. x, 262 pp., illus. \$35. Perspectives in Cognitive Neuroscience.

Classical Dynamics of Particles and Systems. Jerry B. Marion and Stephen T. Thornton. 4th ed. Saunders, Philadelphia, 1995. xviii, 638 pp., illus. \$53.25.

Classical Electromagnetic Radiation. Mark A. Heald and Jerry B. Marion. 3rd ed. Saunders, Philadelphia, 1995. xii, 572 pp., illus. \$57.25.

Clouds and Storms. David M. Ludlum, Ronald L. Holle, and Richard A. Keen. Knopf, New York, 1995. 192 pp., illus. Paper, \$7.99 or \$10.95. National Audubon Society Pocket Guide.

Colour. Art and Science. Trevor Lamb and Janine Bourriau. Eds. Cambridge University Press, New York, 1995. vi, 237 pp., illus. \$59.95; paper, \$24.95.

The Comparative Analysis of Human Societies. Toward Common Standards for Data Collection and Reporting. Emilio F. Moran, Ed. Rienner, Boulder, CO, 1995. xiv, 202 pp., illus. \$40.

Complex General Relativity. Giampiero Esposito. Kluwer, Norwell, MA, 1995. xii, 201 pp., illus. \$96 or £62 or Dfl. 150. Fundamental Theories of Physics, vol. 69.

Computational Methods for Electron-Molecule Collisions. Winifred M. Huo and Franco A. Gianturco. Eds. Plenum, New York, 1995. xvi, 364 pp., illus. \$105. From a workshop, Cambridge, MA, March 1993.

Concepts of Modern Mathematics. Ian Stewart. Dover, New York, 1995. x, 340 pp., illus. Paper, \$8.95. Reprint, 1975 ed.

Conformational Behavior of Six-Membered Rings. Analysis, Dynamics, and Stereoelectronic Effects. Eusebio Juaristi, Ed. VCH, New York, 1995. xiv, 306 pp., illus. \$100. Methods in Stereochemical Analysis.

Differential Equations. A Dynamical Systems Approach. Part 2, Higher-Dimensional Systems. John H. Hubbard and Beverly H. West. Springer-Verlag, New York, 1995. xiv, 601 pp., illus. \$49. Texts in Applied Mathematics, vol. 18.

Diffusion and Transport of Pollutants in Atmospheric Mesoscale Flow Fields. Albert Gyr and Franz S. Rys, Eds. Kluwer, Norwell, MA, 1995. xii, 216 pp., illus. \$102.50 or £67.50 or Dfl. 160. ERCOFTAC Series, vol. 1. From a school, Manno, Switzerland, Aug. 1993.

Dissociative Identity Disorder. Theoretical and Treatment Controversies. Lewis M. Cohen, Joan N. Berzoff, and Mark R. Elin, Eds. Jason Aronson, Northvale, NJ, 1995. xxii, 560 pp. \$50.

DNA and Nucleoprotein Structure In Vivo. Hans Peter Saluz and Karin Wiebauer. Landes, Austin, TX, 1995 (distributor, CRC Press, Boca Raton, FL). xvi, 163 pp., illus. \$69. Molecular Biology Intelligence Unit.

Drosophila Retrotransposons. Irina R. Arkhipova, Natalia V. Lyubonirskaya, and Yuri V. Ilyin. Landes, Austin, TX, 1995 (distributor, CRC Press, Boca Raton, FL). viii, 134 pp., illus. \$59. Molecular Biology Intelligence Unit.

Elastic and Inelastic Scattering in Electron Diffraction and Imaging. Zhong Lin Wang. Plenum, New York, 1995. xxviii, 448 pp., illus. \$85.

Electron Transfer and Radical Processes in Transition-Metal Chemistry. Didier Astruc. VCH, New York, 1995. xxii, 630 pp., illus. \$140.

Electroweak Physics and the Early Universe. Jorge C. Romão and Filipe Freire, Eds. Plenum, New York, 1995. x, 410 pp., illus. \$125. NATO ASI Series B, vol. 338. From an institute, Sintra, Portugal, March 1994.

Explanatory Style. Gregory McClellan Buchanan and Martin E. P. Seligman, Eds. Erlbaum, Hillsdale, NJ, 1995. x, 303 pp., illus. \$69.95; paper, \$29.95.

Exploring Affect. The Selected Writings of Silvan S. Tomkins. E. Virginia Demos, Ed. Cambridge University Press, New York, and Editions de la Maison des Sciences de l'Homme, 1995. xx, 517 pp., illus. Paper, \$24.95. Studies in Emotion and Social Interaction.

The Extra Mile. Rethinking Energy Policy for Automotive Transportation. Pietro S. Nivola and Robert W. Crandall. Brookings Institution, Washington, DC, 1995. xvi, 180 pp., illus. \$31.95 or £24.95; paper, \$12.95 or £9.95. Twentieth Century Fund Book.

From Neural Networks and Biomolecular Engineering to Bioelectronics. Claudio Nicolini, Ed. Plenum, New York, 1995. x, 251 pp., illus. \$85. Electronics and Biotechnology Advanced (EL.B.A.) Forum Series, vol. 1. From a workshop, Isle of Elba, Italy, July 1993.

Groups '93 Galway/St Andrews. Galway 1993. Vol. 2. C. M. Campbell et al., Eds. Cambridge University Press, New York, 1995. xii, 309 pp., illus. Paper, \$39.95. London Mathematical Society Lecture Note Series, 212. From a conference, Galway, Ireland, Aug. 1993.

Human Evolution, Reproduction, and Morality. Lewis Petrino. Plenum, New York, 1995. xvi, 339 pp. \$49.50.

Human Selective Brain Cooling. Michel Cabanac. Landes, Austin, TX, 1995 (distributor, CRC Press, Boca Raton, FL). x, 114 pp., illus. \$69. Neuroscience Intelligence Unit.

Hyperacute Xenograft Rejection. Jeffrey L. Platt. Landes, Austin, TX, 1995 (distributor, CRC Press, Boca Raton, FL). vi, 194 pp., illus. \$79. Medical Intelligence Unit.

Illustrated Dictionary of Science. Michael Allaby et al., Eds. Facts on File, New York, 1995. 256 pp., illus. \$29.95 or \$C39.95. Revised edition of *The Encyclopedic Dictionary of Science* (1990).

Intriguing Puzzles in Math and Logic. Stephen Barr. Dover, New York, 1995. viii, 164 pp., illus. Paper, \$5.95. Reprint, 1965 ed.

Lifelines and Risks. Pathways of Youth in Our Time. Robert B. Cairns and Beverley D. Cairns. Harvester Wheatsheaf (Simon and Schuster), Hemel Hempstead, UK, 1994. x, 315 pp., illus. Paper, \$25.95.

The Light at the Edge of the Universe. Dispatches from the Front Lines of Cosmology. Michael D. Lemonick. Princeton University Press, Princeton, NJ, 1995. xiv, 339 pp., illus., + plates. Paper, \$12.95 or £11.95. Reprint, 1993 ed.

Local Analysis for the Odd Order Theorem. Helmut Bender and George Glauberman. Cambridge University Press, New York, 1995. xii, 174 pp. Paper, \$29.95. London Mathematical Society Lecture Note Series, 188.

Mathematical Foundations of Quantum Statistical Mechanics. Continuous Systems. D. Ya. Petrina. Kluwer, Norwell, MA, 1995. xvi, 444 pp., illus. \$224.50 or £139.50 or Dfl. 340. Mathematical Physics Studies, vol. 17.

Medicine and the Media. A Changing Relationship. Robert R. McCormick Tribune Foundation, Chicago, IL, 1995. 106 pp. Cantigny Conference Series. Based on a conference, Wheaton, IL, Oct. 1994.

Metabolic and Systemic Responses Following Intraoperative Laparoscopy. Ricardo Vitor Cohen, Ed. Landes, Austin, TX, 1994 (distributor, CRC Press, Boca Raton, FL). viii, 111 pp., illus. \$89.95. Medical Intelligence Unit.

Meteorites. Messengers from Space. F. Heide and F. Wlotzka. Springer-Verlag, New York, 1995. x, 231 pp., illus. Paper, \$24.95. Translated from the German edition (Berlin, 1988) by R. S. Clarke, Jr.

Micro Total Analysis Systems. A. van den Berg and P. Bergveld, Eds. Kluwer, Norwell, MA, 1994. x, 311 pp., illus. \$125 or £82 or Dfl. 195. MESA Monographs. From a workshop, Enschede, The Netherlands, Nov. 1994.

Microbial Biotechnology. Fundamentals of Applied Microbiology. Alexander N. Glazer and Hiroshi Nikaïdo. Freeman, New York, 1995. xviii, 662 pp., illus. \$59.95.

Out from Behind the Eight-Ball. A History of Project Echo. Donald C. Elder. American Astronautical Society, San Diego, CA, 1995 (distributor, Univelt, San Diego, CA). xiv, 162 pp., illus. \$50; paper, \$30. AAS History Series, vol. 16.

Out of Control. The New Biology of Machines, Social Systems and the Economic World. Kevin Kelly. Addison-Wesley, Reading, MA, 1995. vi, 522 pp. Paper, \$16. Reprint, 1994 ed.

Ovarian Autoimmunity. Clinical and Experimental Data. Roy Moncayo and Helga E. Moncayo. Landes, Austin, TX, 1995 (distributor, CRC Press, Boca Raton, FL). xii, 171 pp., illus. \$59. Medical Intelligence Unit.

Plant Lipid Metabolism. Jean-Claude Kader and Paul Mazliak, Eds. Kluwer, Norwell, MA, 1995. xx, 588 pp., illus. \$241 or £109 or Dfl. 365. From a meeting, Paris, France, June-July 1994.

The Prairie Keepers. Secrets of the Grasslands. Marcy Houle. Addison-Wesley, Reading, MA, 1995. vi, 266 pp. \$20.

The Private Science of Louis Pasteur. Gerald L. Geison. Princeton University Press, Princeton, NJ, 1995. xiv, 378 pp., illus., + plates. \$29.95 or £24.95.

Prizes. A Novel. Erich Segal. Fawcett Columbine (Ballantine), New York, 1995. viii, 471 pp. \$23.95 or \$C33.50.

The Reporter's Environmental Handbook. Bernadette West, Peter M. Sandman, and Michael R. Greenberg. Rutgers University Press, New Brunswick, NJ, 1995. x, 346 pp., illus. \$40; paper, \$16.95. New edition of *The Environmental Reporter's Handbook*.

Research Proposals. A Guide to Success. Thomas E. Ogden and Israel A. Goldberg. 2nd ed. Raven, New York, 1995. xiv, 448 pp. Paper, \$49.

A Revision of the South American Spiders of the Family Nemesiidae (Araneae, Mygalomorphae). Part I, Species from Peru, Chile, Argentina, and Uruguay. Pablo A. Goloboff. American Museum of Natural History, New York, 1995. 189 pp., illus. Paper, \$16. Bulletin, no. 224.

Rewriting the Soul. Multiple Personality and the Sciences of Memory. Ian Hacking. Princeton University Press, Princeton, NJ, 1995. x, 336 pp. \$24.95 or £19.95.

Rogue Asteroids and Doomsday Comets. The Search for the Million Megaton Menace That Threatens Life on Earth. Duncan Steel. Wiley, New York, 1995. xii, 308 pp., + plates. \$24.95.

The Ross Orogen of the Transantarctic Mountains. Edmund Stump. Cambridge University Press, New York, 1995. xvi, 284 pp., illus. \$99.95.

The Sciences of Cognition. Theory and Research in Psychology and Artificial Intelligence. Morton Wagman. Praeger, Westport, CT, 1995. xiv, 169 pp. \$55.

Sea Change. A Message of the Oceans. Sylvia Alice Earle. Putnam, New York, 1995. xxii, 362 pp., + plates. \$25.95 or \$C33.95.

The Sea of Galilee Boat. An Extraordinary 2000 Year Old Discovery. Shelley Wachsmann. Plenum, New York, 1995. xviii, 420 pp., illus. \$24.95.

Selective Detectors. Environmental, Industrial, and Biomedical Applications. Robert E. Sievers, Ed. Wiley, New York, 1995. xxii, 261 pp., illus. \$59.95. Chemical Analysis.

Self-Organizing Maps. Teuvo Kohonen. Springer-Verlag, New York, 1995. xvi, 362 pp., illus. \$49.50. Springer Series in Information Sciences, 30.

Signal Transduction Protocols. David A. Kendall and Stephen J. Hill, Eds. Humana, Totowa, NJ, 1995. xii, 305 pp., illus. Spiralbound, \$64.50. Methods in Molecular Biology, vol. 41.

Social Science in the Crucible. The American Debate Over Objectivity and Purpose, 1918-1941. Mark C. Smith. Duke University Press, Durham, NC, 1994. vi, 354 pp., illus. \$49.95; paper, \$15.95.

Societies of Brains. A Study in the Neuroscience of Love and Hate. Walter J. Freeman. Erlbaum, Hillsdale, NJ, 1995. viii, 204 pp., illus. \$39.95; paper, \$18.50. Spinoza Lectures. International Neural Networks Society Series.

Soul Search. A Scientist Explores the Afterlife. David Darling. Villard, New York, 1995. xxvi, 195 pp. \$20.

Wear of Rock Cutting Tools. Laboratory Experiments on the Abrasivity of Rock. H. J. R. Deketh. Balkema, Brookfield, VT, 1995. viii, 144 pp., illus. \$70.

Wind Energy Comes of Age. Paul Gipe. Wiley, New York, 1995. xxii, 536 pp., illus. \$59.95. Wiley Series in Sustainable Design.

Publishers' Addresses

Below is information about how to direct orders for books reviewed in this issue. A fuller list of addresses of publishers represented in *Science* appears in the issue of 26 May 1995, page 1220.

Cambridge University Press, 110 Midland Ave., Port Chester, NY 10573-4930. Phone: 800-872-7423; 914-937-9600. Fax: 914-937-4712.

University of Chicago Press, 11030 S. Langley Ave., Chicago, IL 60628. Phone: 800-621-2736; 312-568-1550. Fax: 800-621-8476; 312-660-2235.

John Wiley and Sons, Inc., Eastern Distribution Center, 1 Wiley Dr., Somerset, NY 08875-1272. Phone: 800-225-5945, x2497; 908-469-4400. Fax: 908-302-2320.