

to say that it is sure to become an essential resource for anyone even remotely interested in the biology of aging.

THOMAS B. L. KIRKWOOD
*Laboratory of Mathematical Biology,
National Institute for Medical Research,
London NW7 1AA, U.K.*

Spectrometry for Biology

Biological Mass Spectrometry. A. L. BURLINGAME and J. A. MCCLOSKEY, Eds. Elsevier, New York, 1990. x, 700 pp., illus. \$230.75. From a symposium, San Francisco, CA, Aug. 1989.

Biological mass spectrometry is a field that, for the most part, did not exist only 10 years ago. Mass spectrometry has long demonstrated an exceptional capability to characterize minute quantities of less complex molecular species, but most biomolecules are notoriously resistant to volatilization, which is the necessary adjunct to the production of gas-phase ions. The development in the last decade of a variety of techniques (MeV and keV ion impact, electrospray, and pulsed laser ablation) that can produce intact gas-phase molecular ions and structurally significant fragment ions of peptides and proteins, sugars, nucleotides, and small oligonucleotides has produced an explosion of interest in the use of mass spectrometry for biomolecular characterization.

This book, the proceedings of an international conference, draws together significant contributions from most of the major players in this game and does so in a way that makes it most useful, particularly for newcomers to the field. Most of the 36 papers contained in the volume deal with various aspects of the techniques and applications of biomolecular mass spectrometry, and together they provide a broad overview of the subject. These contributions are usually detailed and of high quality. Protein sequencing is particularly well covered, but applications to oligosaccharides, glycopeptides and glycolipids, nucleosides, and pharmaceutical problems are also discussed. There are also some contributions from people outside the field, both general overviews and discussions of specific problems, that take a biological rather than a mass-spectroscopic viewpoint. These papers retain a chatty style, complete with jokes of varying quality, which indicates that they were largely transcribed from tapes of the original lectures, with appropriate figures usually added so that the sense of the lecture can be followed. By getting close to the spirit of the talks, these papers enhance the volume.

Significant portions of the discussions that followed the oral presentations are in-

cluded, which can be of great value in giving the newcomer a sense of perspective and a feeling for personalities that cannot be gained solely from reading the papers themselves. Attention has been paid to details: the book is printed in an attractive font, figures are scaled so as to be legible, references contain the full titles of works.

The editors mention in their preface that no graduate-level textbook in this area yet exists and express the hope that this volume will prove useful to students and newcomers to the field. I believe that they have succeeded in that endeavor. I recommend the book highly, both to new and existing practitioners of mass spectrometry and to those researchers in the pharmaceutical and life sciences who are not yet fully aware of the new power of this old technique.

PETER WILLIAMS
*Department of Chemistry,
Arizona State University,
Tempe, AZ 85287-1604*

Books Received

Accretion-Powered Compact Binaries. Christopher W. Mauche, Ed. Cambridge University Press, New York, 1991. xxii, 474 pp., illus. \$54.50. From a workshop, Santa Fe, NM, Oct. 1989.

Adolescent Stress. Causes and Consequences. Mary Ellen Colten and Susan Gore, Eds. De Gruyter, New York, 1991. xii, 330 pp., illus. \$42.95; paper, 19.95. Social Institutions and Social Change. From a conference Nov. 1987.

Advances in Core Evaluation. Accuracy and Precision in Reserves Estimation. Paul F. Worthington, Ed. Gordon and Breach, New York, 1990. xii, 555 pp., illus. \$106. From a meeting, London, U.K., May 1990.

Advances in Dental Anthropology. Marc A. Kelley and Clark Spencer Larsen, Eds. Liss (Wiley), New York, 1991. xiv, 389 pp., illus. \$96. From a conference, Kansas City, MO, 1988.

Basic, Clinical, and Therapeutic Aspects of Alzheimer's and Parkinson's Diseases. Vol. 2. Toshiharu Nagatsu, Abraham Fisher, and Mitsuo Yoshida, Eds. Plenum, New York, 1990. xviii, 619 pp., illus. \$115. Advances in Behavioral Biology, vol. 38B. From a conference, Kyoto, Japan, Nov. 1989.

Cerebral Sinus Thrombosis. Experimental and Clinical Aspects. Karl Einhüpf, Oliver Kempfski, and Alexander Baethmann, Eds. Plenum, New York, 1990. viii, 234 pp., illus. \$69.50. From a symposium, Nymphenburg, F.R.G., Sept. 1987.

The Challenging Questions. Antonino Zichichi, Ed. Plenum, New York, 1990. viii, 468 pp., illus. \$120. Subnuclear Series, 27. From a course, Sicily, Italy, July 1989.

Chemical Graph Theory. Introduction and Fundamentals. Danail Bonchev and Dennis H. Rouvray, Eds. Abacus (Gordon and Breach), New York, 1991. xii, 288 pp., illus. \$115. Mathematical Chemistry, vol. 1.

Chemical Signals in Vertebrates 5. D. W. MacDonald, D. Müller-Schwarze, and S. E. Natynczuk, Eds. Oxford University Press, New York, 1990. xxiv, 659 pp., illus. \$95. From a meeting, Oxford, U.K. Aug. 1988.

Chemistry of Nucleosides and Nucleotides. Vol. 2. Leroy B. Townsend, Ed. Plenum, New York, 1991. x, 468 pp., illus. \$95.

Chernobyl. A Policy Response Study. Boris Segers-tahl, Ed. Springer-Verlag, New York, 1991. x, 179 pp., illus. \$59. Springer Series on Environmental Management.

Children's Drawings. Iconic Coding of the Environment. Martin Krampen. Plenum, New York, 1991. x, 238 pp., illus. \$45. Topics in Contemporary Semiotics.

Dynamics of Polyatomic Van der Waals Complexes. Nadine Halberstadt and Kenneth C. Janda, Eds. Plenum, New York, 1990. x, 542 pp., illus. \$120. NATO Advanced Science Institutes Series, vol. 227. Series B, Physics. From a workshop, Castéra-Verduzan, France, Aug. 1989.

The Economic Organization of the Household. W. Keith Bryant. Cambridge University Press, New York, 1991. xviii, 286 pp., illus. \$64.50; paper, \$19.95.

Groundwater Geomorphology. The Role of Sub-surface Water in Earth-Surface Processes and Landforms. Charles G. Higgins and Donald R. Coates, Eds. Geological Society of America, Boulder, CO, 1990. xii, 368 pp., illus. Paper, \$60. Geological Society of America Special Paper 252. From a symposium, Reno, NV, 1984.

Handbook of Mental Retardation. Johnny L. Matson and James A. Mulick, Eds. Pergamon, New York, 1991. xvi, 672 pp., illus. \$100. Pergamon General Psychology Series, 121.

International Law and Pollution. Daniel Barstow Magraw, Ed. University of Pennsylvania Press, Philadelphia, 1991. xviii, 368 pp. \$37.95. From a colloquium, Charlottesville, VA, April 1988.

Neotectonics in Earthquake Evaluation. Ellis L. Kiritzsky and D. Burton Slemmons, Eds. Geological Society of America, Boulder, CO, 1990. vi, 160 pp., illus. \$37.50. Reviews in Engineering Geology, vol. 8. From a symposium.

Preparative Polar Organometallic Chemistry. Vol. 2. L. Brandsma. Springer-Verlag, New York, 1990. xii, 227 pp., illus. \$49.

Principles of Geology. Vol. 2. Charles Lyell. University of Chicago Press, Chicago, IL, 1991. xii, 330 pp., illus. Paper, \$15.95. Reprint, 1832 ed.

The Psychology of War and Peace. The Image of the Enemy. Robert W. Rieber, Ed. Plenum, New York, 1991. xx, 282 pp., illus. \$39.50.

Quasicrystals, Networks, and Molecules of Five-fold Symmetry. István Hargittai, Ed. VCH, New York, 1990. xiv, 314 pp., illus., + plates. \$85.

Radar and Sonar. Part 1. Richard E. Balahut, Willard Miller, Jr., and Calvin H. Wilcox. Springer-Verlag, New York, 1991. xii, 260 pp., illus. \$34. Institute for Mathematics Volumes in Mathematics and Its Applications, vol. 32. From a summer school, June 1990.

Relativistic Quantum Mechanics and Quantum Fields. T.-Y. Wu and W.-Y. Pauchy Hwang. World Scientific, Teaneck, NJ, 1991. xiv, 405 pp., illus. \$68; paper, \$38.

Reproductive Behavior of Insects. Individuals and Populations. W. J. Bailey and J. Ridsdill-Smith, Eds. Chapman and Hall (Routledge, Chapman, and Hall), New York, 1991. x, 339 pp., illus. \$95.

Reptiles and Amphibians. Eastern/Central North America. Roger Conant and Joseph T. Collins. Illustrations by Isabelle Hunt Conant and Tom R. Johnson. 3rd ed. Houghton Mifflin, Boston, MA, 1991. xx, 450 pp., + plates. \$22.95; paper, \$15.95. Peterson Field Guide Series.

The Role of Women in the Development of Science and Technology in the Third World. A. M. Farugui, M. H. A. Hassan, and G. Sandri, Eds. World Scientific, Teaneck, NJ, 1991. xx, 970 pp., illus. \$58. From a conference, Trieste, Italy, Oct. 1988.

Salt Diapirs of the Great Kavir, Central Iran. M. P. A. Jackson et al. Geological Society of America, Boulder, CO, 1990. x, 139 pp., illus., + plates. \$36.25. Geological Society of America Memoir 177.

The Stockholm School of Economics Revisited. Lars Jonung, Ed. Cambridge University Press, New York, 1991. xxii, 471 pp., illus. \$64.50. Historical Perspectives on Modern Economics. From a conference, Stockholm, Sweden, Aug. 1987.

Tectonic Evolution of the North Sea Rifts. D. J. Blundell and A. D. Gibbs, Eds. Clarendon (Oxford University Press), New York, 1990. xiv, 272 pp., illus. \$125. International Lithosphere Programme Publication no. 181.

The Virgin and the Mousetrap. Essays in Search of the Soul of Science. Chet Raymo. Viking, New York, 1991. xx, 182 pp. \$18.95.

Voices of the Mind. A Sociocultural Approach to Mediated Action. James V. Wertsch. Harvard University Press, Cambridge, MA, 1991. xii, 169 pp. \$24.95.

What is Integrability? V. E. Zakharov, Ed. Springer-Verlag, New York, 1991. xiv, 321 pp., illus. \$69. Springer Series in Nonlinear Dynamics.

Youth and Drugs. Society's Mixed Messages. Hank Resnik et al., Eds. Office for Substance Abuse Prevention, U.S. Department of Health and Human Services, Rockville, MD, 1991 (distributor, National Clearinghouse for Alcohol and Drug Information, Rockville, MD). viii, 174 pp. OSAP Prevention Monograph, 6.