

acid, ectocarpene, oogonial, antheridiol) are mentioned. These compounds and their derivatives can also be used as a basis for speculation about the relation between the various genera, thus contributing to construction of natural pedigrees.

Although van den Ende wants to stimulate study of the molecular aspects of cell interactions, his presentation of some experimental methods is so brief that details have to be taken from the original papers, which are cited in 22 pages of references.

The book is easily readable, clear, and up to date through 1975. It is a fine introduction to a field in which progress has been rapid, and it should be useful to students as well as teachers of reproductive physiology, microbiology, and phytochemistry.

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Neurochemistry

Metabolic Compartmentation and Neurotransmission. Relation to Brain Structure and Function. Proceedings of a NATO Advanced Study Institute, Oxford, England, Sept. 1974. SOLL BERL, D. D. CLARKE, and DIANA SCHNEIDER, Eds. Plenum, New York, 1975. xxiv, 722 pp., illus. \$49.50. NATO Advanced Study Institutes Series A, vol. 6.

This volume contains 36 contributions from many major laboratories working in neurochemistry. The papers are wide-ranging and cover such subjects as the localization, metabolism, and release of putative neurotransmitters; variation of metabolic compartments and neurotransmitter pools with maturation and after experimental manipulation; and the use of specialized preparations to study metabolic and anatomic compartmentation of neurotransmitters in brain. The papers are well written and illustrated, and most have ample bibliographies. It would have been useful, however, if related papers had been grouped and a synthesis provided. As is to be expected in a volume containing reports from a meeting, most of the work described has already been published elsewhere. Also, there is little discussion of the results of others working in the same field. This is an unfortunate limitation since some laboratories are overrepresented. On the other hand, the book is valuable for the insight it provides into the strategies and accomplishments of the individual laboratories.

More broadly, the book calls attention

to the strengths and weaknesses of modern neurochemistry. The use of radioactive labels has led to an understanding of precursor-product relationships in the nervous system and to the development of the concept of metabolic compartmentation, that is, the recognition that a given metabolite may have different functions in the nervous system, suggesting differently regulated pools and differing rates of metabolism. This volume represents an attempt to extend this concept to the study of neurotransmitter pools. It seems to me, however, that the end result is largely a reinvestigation of metabolic phenomenology with few new insights into fundamental mechanisms. Perhaps this is due in part to limitations imposed by some of the complex preparations used, such as brain slices, but it does suggest that other approaches may be more useful for gaining an understanding of synaptic function at the molecular level. Fortunately, some new approaches that show great promise are also represented in this volume. A number of papers deal with work in which highly specific tools are used to investigate the molecular biology of synaptic function. These include the cellular localization of highly specific uptake systems, the identification and regulation of specific proteins that play a role in neurotransmitter release and axonal transport, and the use of specialized preparations to study neurotransmitter metabolism. These chapters enhance the timeliness and value of this publication.

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Alcohol and Opiates. Neurochemical and Behavioral Mechanisms. Proceedings of a conference, New York, Mar. 1976. Kenneth Blum, Diana L. Bard, and Murray G. Hamilton, Eds. Academic Press, New York, 1977. xxiv, 404 pp., illus. \$17.50. *To order this book circle No. 350 on Readers' Service Card.*

Alternativen medizinischer Datenverarbeitung. Papers from a meeting, Munich-Grosshadern, Feb. 1976. H. K. Selbmann, K. Überla, and R. Greiller, Eds. Springer-Verlag, New York, 1976. vi, 176 pp., illus. Paper,

\$11.10. *Medizinische Informatik und Statistik, Band 2.*

Analytical Calorimetry. Vol. 4. Papers from a symposium, Aug. 1976. Roger S. Porter and Julian F. Johnson, Eds. Plenum, New York, 1977. x, 252 pp., illus. \$27.50.

Animal Communication. Hubert and Mable Frings. University of Oklahoma Press, Norman, ed. 2, 1977. xiv, 208 pp., illus. Cloth, \$9.95; paper, \$4.95.

Anisotropy Effects in Superconductors. Proceedings of a meeting, Vienna, Apr. 1976. Harald W. Weber, Ed. Plenum, New York, 1977. iv, 316 pp., illus. \$32.50.

Annual Review of Physiology. Vol. 39. Ernst Knobil, Ralph R. Sonnenschein, and I. S. Edelman, Eds. Annual Reviews, Palo Alto, Calif., 1977. viii, 640 pp. \$17.

Applied and Fundamental Aspects of Plant Cell, Tissue, and Organ Culture. J. Reinert and Y. P. S. Bajaj, Eds. Springer-Verlag, New York, 1977. xviii, 806 pp., illus. \$83.60. *To order this book circle No. 351 on Readers' Service Card.*

Assessment of Persons. Norman D. Sundberg. Prentice-Hall, Englewood Cliffs, N.J., 1977. xiv, 354 pp., illus. \$11.95. The Prentice-Hall Series in Personality.

Basic Lubrication Theory. A. Cameron. Horwood, Chichester, England, and Halsted (Wiley), New York, ed. 2, 1977. xx, 196 pp., illus. \$15.50. Ellis Horwood Series in Engineering Science. *To order this book circle No. 352 on Readers' Service Card.*

Beautiful Swimmers. Watermen, Crabs and the Chesapeake Bay. William W. Warner. Penguin, New York, 1977. xvi, 304 pp., illus. Paper, \$2.95. Reprint of the 1976 edition.

Breast Cancer. A Multidisciplinary Approach. Proceedings of a conference, Montreal, Oct. 1975. G. St-Arneault, P. Band, and L. Israël, Eds. Springer-Verlag, New York, 1976. x, 198 pp., illus. \$30. Recent Results in Cancer Research, 57. *To order this book circle No. 353 on Readers' Service Card.*

The British National Health Service. Conversations with Sir George E. Godber. National Institutes of Health, Bethesda, Md., 1976 (available from the Superintendent of Documents, Washington, D.C.). x, 160 pp. Paper, \$1.80. A Publication of the Geographic Health Studies Program, John E. Fogarty International Center.

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Coffee, Tea, and Cocoa. Market Prospects and Development Lending. Shamsher Singh, Jos de Vries, John C. L. Hulley, and Patrick Yeung. Published for the World Bank by Johns Hopkins University Press, Baltimore, 1977. xii, 130 pp., illus. Paper, \$5.50. World Bank Staff Occasional Papers, No. 22.

Color Atlas of Medical Mycology. Jean Delacrétaz, Dodé Grigoriu, and Georges Ducl. Translated from the French edition (Bern, 1974). Hans Huber, Bern, 1976 (U.S. distributor, Year Book Medical Publishers, Chicago). 188 pp. \$59.50.

Color Atlas of Tropical Medicine and Parasitology. Wallace Peters and Herbert M. Gilles. Year Book Medical Publishers, Chicago, 1977. 416 pp., illus. \$45.

Comprehensive Virology. Vol. 7, Reproduction: Bacterial DNA Viruses. Heinz Fraenkel-Conrat and Robert R. Wagner, Eds. Plenum, New York, 1977. xii, 300 pp., illus. \$25.