

mation that will appear over time. The theoretical advantages of considering memory as a long-range temporal integration are needlessly thrown away if one treats it just as a defense mechanism against a supposedly intrusive world.

Other readers, who may not share my disagreement with the author on this central point, will find other things to criticize. Blumenthal is far too casual about temporal parameters in the millisecond range; for example, he takes every experimental time constant under 250 milliseconds as equivalent to every other. He also has a remarkably old-fashioned idea of the perception of motion, treating it as a failure of simultaneity rather than as an independent process. His reading is not always critical enough: he has a touching faith in a few 1960's studies of cognitive style (that have never been replicated), in the early Quillian-inspired studies of semantic memory, and in many other experiments that just don't work as well as his theoretical enthusiasm would require. But such faults are easily forgiven in an author who writes so well, who reminds us of so much important psychological history, and who has tried so hard and so ingeniously to see cognitive psychology as an intelligible whole.

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Marine Ecology

Biology of Benthic Organisms. Papers from a symposium, Galway, Ireland, Oct. 1976. B. F. KEEGAN, P. O. CÉIDIGH, and P. J. S. BOADEN, Eds. Pergamon, New York, 1977. xxxiv, 630 pp., illus. \$50.

The broad title of this volume belies its contents. Except for an occasional paper on population genetics or physiology, the research discussed can be classified as either population or community ecology, with a strong emphasis on fieldwork. However, even within this narrower context there is an almost fatal lack of focus. The editors never indicate a rationale for a symposium on benthic ecology. There are too many papers, most of which are too short (63 are contained in 630 pages). With the customary accoutrements of illustrations, references, abstract, and the like there is little room for full presentation of data, detailed analysis, or development of new ideas. The internal organization that might have provided a collective focus is also lacking (the papers are merely ar-

ranged alphabetically by author). Obviously related papers, whether by theme, geographical area, habitat, or taxa studied, are scattered throughout, so that any convergent or divergent trends in benthic research are obscured.

Given these constraints, many papers still manage to convey, at least in a cursory way, the present concerns of benthic ecology. First, benthic ecology is still basically a field science with a greater emphasis on methodology and data than on theory, and that is evident in these papers. The book has an abundance of general survey papers, but in addition there are a noticeable number of studies that show imaginative use of new and old methodology to investigate specific hypotheses. These include such papers as Reise's report on the use of caging experiments in contrasting the significant effects of predators in a homogeneous habitat (a mudflat) with the lack of any similar effect in physically heterogeneous environments (seagrass beds), or Jackson's preliminary report on the use of artificial substrates to investigate the effects of habitat size on colonization, competitive interactions, and community structure. Other examples include Arntz's use of an "unsuccessful" cage experiment in examining oxygen depletion and increased predation around secondary habitat islands (the cages), or Buhr and Winter's careful combination of fieldwork and laboratory experiments to link high population densities of the polychaete *Janice conchilega* with its dual methods of feeding.

Second, several papers present stimulating, if not new, concepts for benthic ecology. Certainly the most novel approach is that of Barnes and Barnes. Instead of viewing the water-borne larvae of benthic species as only a means for distribution (the traditional view of most benthic ecologists) they discuss the hypothesis that these larvae are quantitatively and qualitatively necessary (as food) to that planktonic system. Their stimulating and sometimes speculative discussion underscores the great need for research in the most neglected area of benthic ecology, its link to the water above. Ölscher and Fedra examine a very different link with the water column, active and passive suspension feeding. By analyzing feeding efficiency, they show how suspension feeders can shuttle the necessary nutrients and energy from the water into soft-bottom communities, thus justifying their view of these animals as "secondary producers" rather than consumers. In a sense West, de Burgh, and Jeal further this view by cataloging the increasing number and

kinds of benthic species that can absorb dissolved free amino acids from the water. If this process is significant in the gross nutrition of such a wide range of taxa, its importance to benthic populations and communities is in need of evaluation.

Third, there are an appreciable number of very different but generally well-conceived studies, whose merit may depend on the tastes of the individual reader. Some that I found to be of particular interest include Gerdes's linking of *Amphiura* colonization with long-term current history; Hartnoll's contrasting of the reproductive strategies of two coexisting species of *Alcyonium*, one basically sexual and the other asexual; Rex's correlation of deep-sea zonation rates with trophic level; and Warner's modeling of the ideal shape for filter-feeding organisms.

However, even with these and many other interesting papers, this volume cannot rise above its format. There is neither the detail the specialist would want nor the overall organization, evaluation, and perspective to attract the generalist.

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Books Received

Cryobiochemistry. An Introduction. Pierre Douzou. Academic Press, New York, 1977. x, 286 pp., illus. \$24.65.

Cutaneous Toxicity. Victor A. Drill and Paul Lazar, Eds. Academic Press, New York, 1977. x, 278 pp., illus. \$14.50.

Desertification. Environmental Degradation in and around Arid Lands. Michael H. Glantz, Ed. Westview Press, Boulder, 1977. xix, 346 pp., illus. \$20.

Developmental Art Theory. Geraldine H. Williams and Mary M. Wood. University Park Press, Baltimore, 1977. x, 198 pp., illus. Paper, \$9.75.

Disturbances in Body Fluid Osmolality. Thomas E. Andreoli, Jared J. Grantham, and Floyd C. Rector, Jr., Eds. American Physiological Society, Bethesda, Md., 1977 (distributor, Williams and Wilkins, Baltimore). viii, 50 pp., illus. \$25.

Early History of Planck's Radiation Law. Hans Kangro. Translated from the German edition (Wiesbaden, 1970). Crane, Russak, New York, 1977. xviii, 282 pp., illus. \$39.50.

Ecological Perspectives in Behavior Analysis. Papers from a conference, Lawrence, Kans., Oct. 1976. Ann Rogers-Warren and Steven F. Warren, Eds. University Park Press, Baltimore, 1977. xiv, 250 pp. \$15.75.

Ecology and Systematics of Foraminifera in Two Thalassia Habitats, Jamaica, West Indies. Martin A. Buzas, Roberta K. Smith, and Kenneth A. Beem, Smithsonian Institution Press, Washington, 1977. 139 pp., illus. Paper.

Essays on Individuality. Felix Morley, Ed. (Continued on page 210)

BOOKS RECEIVED

(Continued from page 107)

Liberty Press, Indianapolis, ed. 2, 1977. 380 pp. \$8.

Family Formation in an Age of Nascent Capitalism. David Levine. Academic Press, New York, 1977. xiv, 194 pp. \$14.50.

The Foot Book. Healing the Body through Foot Reflexology. Davaki Berkson. Funk and Wagnalls, New York, 1977 (distributor, Crowell, New York). xii, 212 pp., illus. \$10.

Fundamentals of Quark Models. Proceedings of a NATO Advanced Study Institute, St. Andrews, Scotland, Aug. 1976. I. M. Barbour and A. T. Davies, Eds. SUSSP Publications, Edinburgh, 1977. xx, 588 pp., illus. £12.

Genera of the Eastern Plants. Wade T. Batson. Wiley, New York, ed. 3, 1977. iv, 204 pp., illus. Paper, \$5.50.

Guide to Fitness after Fifty. Raymond Harris, Lawrence J. Frankel, and Sara Harris, Eds. Plenum, New York, 1977. xvii, 356 pp., illus. \$24.50.

Icebound. Journeys to the Northwest Sea. J. M. Scott. Gordon and Cremonesi, London, 1977 (U.S. distributor, Atheneum, New York). vi, 156 pp. + plates. \$16.95.

Inter-relationships of the Evolutionary Systems. Bahman K. Shahrokh. Binford and Mort, Portland, Ore., 1977. xvi, 304 pp., illus. \$16.50.

Language Development and Neurological Theory. Sidney J. Segalowitz and Frederic A.

Gruber, Eds. Academic Press, New York, 1977. xvi, 376 pp., illus. \$19.50. Perspectives in Neurolinguistics and Psycholinguistics.

Legacy of Flight. The Guggenheim Contribution to American Aviation. Richard P. Hallion. University of Washington Press, Seattle, 1977. xvi, 292 pp. + plates. \$15.

Liquid Semiconductors. Melvin Cutler. Academic Press, New York, 1977. xii, 226 pp., illus. \$19.50.

Mehinaku. The Drama of Daily Life in a Brazilian Indian Village. Thomas Gregor. University of Chicago Press, Chicago, 1977. xvi, 382 pp., illus. \$24.

Metabolic Diseases of Bone. Jenifer Jowsey. Saunders, Philadelphia, 1977. xiv, 312 pp., illus. \$22. Saunders Monographs in Clinical Orthopaedics, vol. 1.

Methods in Cell Biology. David M. Prescott, Ed. Vol. 16, Chromatin and Chromosomal Protein Research, I. Gary Stein, Janet Stein, and Lewis J. Kleinsmith, Eds. Academic Press, New York, 1977. xx, 494 pp., illus. \$38.

Monitoring Underground Nuclear Explosions. Ola Dahlman and Hans Israelson. Elsevier, New York, 1977. x, 440 pp., illus. \$49.

A Nature Conservation Review. The Selection of Biological Sites of National Importance to Nature Conservation in Britain. Derek Ratcliffe, Ed. Cambridge University Press, New York, 1977. Two volumes. Vol. 1. xvi, 402 pp. + plates. \$69.50. Vol. 2, Site Accounts. viii, 320 pp. \$49.50.

Nongonococcal Urethritis and Related Infections. Proceedings of a workshop, Lake Placid, N.Y., 1976. Derek Hobson and King K. Holmes, Eds. American Society for Microbiology, Washington, D.C., 1977. xvi, 392 pp., illus. \$14.

Nutrition of the Chicken. Milton L. Scott, Malden C. Nesheim, and Robert J. Young. M. L. Scott and Associates, Ithaca, N.Y., ed. 2, 1976. 556 pp., illus. \$19.

The Obelisks of Egypt. Skyscrapers of the Past. Labib Habachi. Charles C. Van Siclen III, Ed. Scribner, New York, 1977. xvi, 204 pp., illus. \$12.95.

The Origin and Early Evolution of Animals. Earl D. Hanson. Wesleyan University Press, Middletown, Conn., 1977. x, 670 pp., illus. \$35.

Parasite Invasion. Papers from a symposium, London, Oct. 1976. Angela E. R. Taylor and Ralph Muller, Eds. Blackwell, Oxford, 1977 (U.S. distributor, Lippincott, Philadelphia). viii, 156 pp., illus. Paper, \$13. Symposia of the British Society for Parasitology, vol. 15.

A Passion for Equality. George Wiley and the Movement. Nick Kotz and Mary Lynn Kotz. Norton, New York, 1977. 372 pp., illus., \$8.95.

Pesticide Management and Insecticide Resistance. Papers from a congress, Washington, D.C., Aug. 1976. David L. Watson and A. W. A. Brown, Eds. Academic Press, New York, 1977. xx, 638 pp., illus. \$26.

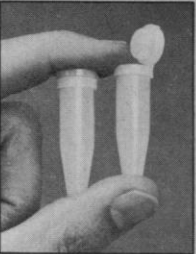
Through the Keyhole at Gifted Men and Women. A Study of 159 Adults of High IQ. Joanne Decker Denko. Published for Mensa Education and Research Foundation by University Microfilms International, Ann Arbor, Mich., 1977. xvi, 380 pp. Paper, \$20.

Topics in Cognitive Development. Vol. 1, Equilibration: Theory, Research, and Application. Papers from two symposia, 1971 and 1972. Marilyn H. Appel and Lois S. Goldberg, Eds. Plenum, New York, 1977. xvi, 220 pp. \$18.50.

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