important biological features that are closely associated with the activity rhythm.

Although more detailed reconstruction of prosimian evolution will depend on synthesis of information from a wider range of biological disciplines, this book clearly demonstrates that detailed study of behavioral and ecological relationships can yield information of great significance for interpreting both the anatomical characteristics of extant species and past evolutionary trends. Although on first sight it might appear to be of interest only to the behavioral primatologist, the book has a far wider appeal. It is a model of behavioral ecology and as such will be welcomed by those interested in the interaction between animals and their environment.

G. A. DOYLE Primate Behaviour Research Group, University of the Witwatersrand, Johannesburg, South Africa

## **Forams**

**Recent Foraminifera**. ESTEBAN BOLTOVSKOY and RAMIL WRIGHT. Junk, The Hague, 1976. xviii, 516 pp., illus. Dfl. 125. Revision of *Los Foraminiferos Recientes*.

By virtue of their common occurrence in all marine environments—past and present—the shells of foraminifera have been utilized as stratigraphic and paleoecologic tools in petroleum exploration and, more recently, in the analysis of hundreds of Cenozoic and late Mesozoic sediment cores raised from the ocean basins by the Deep Sea Drilling Project. A foraminiferal organism may be considered to carry a paleobiological message within its shell that awaits decoding by the micropaleontologist, ecologist, cytologist, geochemist, and biochemist.

The results of investigations of Recent foraminifera from these diverse points of view are the subject of Boltovskoy and Wright's timely work, which fills a nearvacuum that exists in this field. Neither a treatise nor a textbook, it is rather a compendium, truly international in scope, of an astonishingly large number (1686) of publications.

The authors succeed in presenting an integrative summary of the burgeoning but widely scattered literature stemming from modern research on both planktonic and benthic foraminifera. They have brought together isolated observations and ideas under a series of wideranging headings, albeit the arrangement is somewhat illogical. The chapters on sample collection and preparation are replete with a vast array of gear and methods, some of historical interest but bewildering to the initiate who is seeking a "standard" instrument or procedure.

The abundance and diversity of benthic foraminifera are clearly apparent from their occurrence in the entire spectrum of marine environments. Many species exhibit a wide range of morphological variability in response to a host of environmental factors, such as temperature, salinity, depth, food, substrate, and pH. The lack of agreement among contemporary workers on a single, world-wide depth zonation also reflects the complex interaction between highly diverse foraminiferal faunas and variable bottom conditions and substrates. Boltovskoy and Wright present tables of generalized depth distribution for 81 genera and of substrate preferences for 68 species, a bold attempt toward a synthesis.

The horizontal and vertical distributions of planktonic foraminifera are discussed succinctly, but the discussion suffers somewhat from a lack of critical assessment. Five schemes of biogeographic zonation are presented without evaluation. The importance of calcium carbonate and foraminiferal solubility on the deep-sea floor is obscured by the listing of incidental descriptive papers, which should have been replaced by a physical-chemical explanation.

Of particular interest are the many new and "forgotten" aspects of the living organism, its cytology, life cycle, symbiotic algae, shell structure and morphological variability, and chemical composition. A surprising omission in the encyclopedic coverage is that of a taxonomic scheme and criteria for identifying the major foraminiferal families and genera, with illustrations of at least the common species. Such information would have been helpful to beginning as well as advanced students in that the reader of the book would not be required to have prior knowledge of foraminiferal classification.

One might criticize some misspellings, omissions of references, the lack of evaluation, and occasional misinterpretations of published results. However, these defects are far outweighed by Boltovskoy and Wright's paramount success in synthesizing the problems and concepts in the mainstream of foraminiferal research.

Allan W. H. Bé

Lamont-Doherty Geological Observatory, Columbia University, Palisades, New York 10964

## **Books Received**

Acoustical Oceanography. Principles and Applications. Clarence S. Clay and Herman Medwin. Wiley-Interscience, New York, 1977. xx, 544 pp., illus. \$27.50. Ocean Engineering.

Adult Learning. Psychological Research and Applications. Michael J. A. Howe, Ed. Wiley, New York, 1977. xviii, 292 pp., illus. \$19.95.

Air Pollution and Cancer in Man. Proceedings of a meeting, Hanover, Germany, Oct. 1975. U. Mohr, D. Schmähl, L. Tomatis, and W. Davis, Eds. International Agency for Research on Cancer, Lyon, 1977 (U.S. distributor, WHO Publications Centre USA, Albany, N.Y.). xviii, 332 pp., illus. \$35. IARC Scientific Publications No. 16.

Alternate States of Consciousness. Papers from a conference, Apr. 1975. Norman E. Zinberg, Ed. Free Press (Macmillan), New York, and Collier Macmillan, London, 1977. x, 294 pp. \$14.95.

American Urban Malls. A Compendium. Roberto Brambilla, Gianni Longo, and Virginia Dzurinko. Institute for Environmental Action, New York, and Columbia University Center for Advanced Research in Urban and Environmental Affairs, New York, 1976 (available from the Superintendent of Documents, Washington, D.C.). xxii, 144 pp., illus. Paper, \$2.10. Footnotes Number Four. Stock No. 023-000-00376-7.

The Futures Directory. An International Listing and Description of Organizations and Individuals Active in Future Studies and Long-Range Planning. Compiled by John McHale and Magda Cordell McHale with Guy Streatfeild and Laurence Tobias. IPC Science and Technology Press, Guildford, Surrey, England, and Westview Press, Boulder, Colo., 1977. xii, 396 pp. \$38.50.

Geothermal Energy Utilization. Edward F. Wahl. Wiley-Interscience, New York, 1977. xvi, 302 pp., illus. \$22.

Growth Kinetics and Biochemical Regulation of Normal and Malignant Cells. Papers from a symposium, Houston, 1976. Benjamin Drewinko and Ronald M. Humphrey, Eds. Published for the University of Texas System Cancer Center by Williams and Wilkins, Baltimore, 1977. xxxviii, 900 pp., illus. \$45.95.

Handbook of Teratology. Vol. 2, Mechanisms and Pathogenesis. James G. Wilson and F. Clarke Fraser, Eds. Plenum, New York, 1977. xii, 492 pp., illus. \$39.

Handbook on the Prevention and Treatment of Schistosomiasis. Translated from the Chinese edition (Shanghai). National Institutes of Health, Bethesda, Md., 1977 (available from the Superintendent of Documents, Washington, D.C.). xii, 172 pp., illus. Paper, \$2.50. A Publication of the Geographic Health Studies, John E. Fogarty International Center.

Impact of Acid Precipitation on Forest and Freshwater Ecosystems in Norway. Summary Report on the Research Results from Phase I (1972-1975) of the SNSF-Project. Finn H. Braekke, Ed. Agricultural Research Council of Norway and Norwegian Council for Scientific and Industrial Research, Oslo, 1976. 112 pp., illus. Paper. Research Report 6/76.

Introduction to Microprocessors. D. Aspinall and E. L. Dagless, Eds. Pitman, London, and Academic Press, New York, 1977. viii, 162 pp., illus. Paper, \$9.50.

Introduction to Semimicro Qualitative Analysis. C. H. Sorum and J. J. Lagowski. Prentice-Hall, Englewood Cliffs, N.J., ed. 5, 1977. x, 310 pp., illus. Paper, \$8.95.