

valuable contributions being made by bat ecologists at the present time. Namely, they are beginning to use the extraordinary ecological diversity of bats to test current hypotheses about the evolution of morphology, physiology, and behavior. Even if bat ecology remains primarily descriptive, this vast interspecific and intraspecific variation provides raw material for powerful comparative studies. This volume will have achieved its primary objective if it helps communicate that fact to researchers both inside and outside the field.

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## Development of a Coral Reef

**The Geomorphology of the Great Barrier Reef.** Quaternary Development of Coral Reefs. DAVID HOPLEY. Wiley-Interscience, New York, 1982. xvi, 454 pp., illus. \$59.95.

Captain Cook's ship, the H.M.S. *Endeavour*, ran aground on the Australian Great Barrier Reef late one night in 1770. So entered this, the greatest of all coral reefs, into the annals of science. This and other bits of information make David Hopley's book interesting as historical reading, as well as valuable as a statement about coral reefs in general and this very large coral reef province in particular.

Most students of coral reefs realize that "Great Barrier Reef" is a misnomer referring not to a single reef but rather to an entire province containing at least 2500 coral reefs and covering more than 200,000 square kilometers (somewhat more than a third of the estimated reef area of the entire globe). The climatic, oceanographic, geological, and biological diversity of these reefs is considerable, so a description of the Great Barrier Reef is a fair start at a description of the characteristics of the coral reefs of the world.

Four of the 13 chapters plus miscellaneous other information scattered throughout the book might be described as geomorphological, classifying coral reefs or parts thereof. Another chapter might be described as physical geography, dealing with environmental factors that influence reef development in the Great Barrier Reef province. The remainder of the book is very much directed toward the processes that contribute to the formation of coral reefs. Three

chapters review our present knowledge about biological, physical, and chemical processes acting on coral reefs. I was mildly disappointed that the chapter on chemical processes is restricted to diagenesis, although in all fairness other aspects of chemical processes on reefs receive attention elsewhere in the book. Despite a few weaknesses of this sort, these chapters provide an excellent summary of our knowledge (up to about 1978, although there are a few more recent citations).

Three chapters contain the core of Hopley's original scientific contribution in this book, drawing heavily on his own research in the Great Barrier Reef over the past 15 years. These chapters deal with the Holocene flooding of preexisting limestone platforms and the accumulation of Holocene reef material on these platforms. Hopley specifically considers the so-called antecedent karst hypothesis: "The essence of the problem of reef morphology is the extent to which it is karst-induced as opposed to growth-determined." Hopley considers direct evidence from the Great Barrier Reef, analogy with karst topography elsewhere, small-scale experimental data, and the diverse opinions on this topic. He concludes that, though small-scale features related to underlying karst topography are clearly in evidence, "more influential in providing the relief of both the pre-Holocene foundation and the Holocene morphology is the pattern of growth during submergence that will favor the colonization of prominences at the expense of depressions."

This general conclusion is then synthesized with data on sea level over the past 125,000 years and with estimates of  $\text{CaCO}_3$  sediment production in various reef zones to construct a generalized model of Holocene reef growth and erosion toward the observed morphology. Hopley has clearly not had the last say in the debate on reef growth and morphology in the Great Barrier Reef, but he has provided a lucid and carefully considered view for further discussion.

The last comprehensive geomorphological look at the Great Barrier Reef province was W. G. H. Maxwell's *Atlas of the Great Barrier Reef* (1968). Increasing access to the reef and a variety of environmental and political considerations have contributed enormously to our knowledge of it since that time, so a successor to Maxwell's book was in order. Hopley's contribution is a worthy successor.

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## Books Received

**Absent-Minded?** The Psychology of Mental Lapses and Everyday Errors. James Reason and Klara Mycielska. Prentice-Hall, Englewood Cliffs, N.J., 1982. x, 264 pp., illus. Cloth, \$13.95; paper, \$6.95.

**Activated Prothrombin Complex Concentrates.** Managing Hemophilia with Factor VIII Inhibitor. Papers from a meeting, Rome, Mar. 1981. G. Mariani, M. A. Russo, and F. Mandelli, Eds. Praeger, New York, 1982. xviii, 240 pp., illus. \$34.50.

**Children's Language.** Vol. 3. Keith E. Nelson, Ed. Erlbaum, Hillsdale, N.J., 1982. xviii, 506 pp. \$49.95.

**Clustering of Large Data Sets.** Jure Zupan. Research Studies Press (Wiley), New York, 1982. xviii, 122 pp., illus. \$31.95.

**Color and Color Vision.** Selected Reprints. Paul L. Pease, Ed. American Association of Physics Teachers, Stony Brook, N.Y., 1982. iv, 130 pp., illus. Paper, \$4.

**Communications and the Future.** Prospects, Promises, and Problems. Howard F. Didsbury, Jr., Ed. World Future Society, Bethesda, Md., 1982. viii, 360 pp. Paper, \$14.50.

**Consistency in Social Behavior.** Papers from a symposium, Waterloo, Ontario, Canada, Oct. 1979. Mark P. Zanna, E. Tory Higgins, and C. Peter Herman, Eds. Erlbaum, Hillsdale, N.J., 1982. xiv, 314 pp. \$29.95. The Ontario Symposium, vol. 2.

**Control Science and Technology for the Progress of Society.** Proceedings of a congress, Kyoto, Japan, Aug. 1981. H. Akashi, Ed. Published for the International Federation of Automatic Control by Pergamon, New York, 1982. Seven volumes. lxxxii, 2914 pp., illus., + appendixes. \$750.

**Controlled Release Nitroglycerin in Buccal and Oral Form.** Papers from a workshop, Kronberg, Sept. 1981. W.-D. Bussmann, R.-R. Dries, and W. Wagner, Eds. Karger, Basel, 1982. xii, 218 pp., illus. \$69.50. Advances in Pharmacotherapy, vol. 1.

**Creation and Evolution.** Hilary Cruz. Catholic Publications Bureau, Colombo, Sri Lanka, 1982. xiv, 82 pp., illus. Paper, Rs. 25.

**Current Topics in Cellular Regulation.** Vol. 21. Bernard L. Horecker and Earl R. Stadtman, Eds. Academic Press, New York, 1982. xii, 316 pp., illus. \$43.

**Desertification.** A Bibliography with Regional Emphasis on Africa. Gunter Leng. Universitat Bremen, Bremen, Germany, 1982. xviii, 178 pp. Paper, DM 15. Bremer Beiträge zur Geographie und Raumplanung, Heft 4.

**Electroanalytical Chemistry.** Basic Principles and Applications. James A. Plambeck. Wiley-Interscience, New York, 1982. xxii, 404 pp., illus. \$35.

**Electron Distributions and the Chemical Bond.** Proceedings of a symposium, Atlanta, Mar. 1981. Philip Coppens and Michael B. Hall, Eds. Plenum, New York, 1982. x, 480 pp., illus. \$55.

**Elements of Optical Coherence Theory.** Arvind S. Marathay. Wiley, New York, 1928. xx, 316 pp., illus. \$39.95. Wiley Series in Pure and Applied Optics.

**Ellie.** A Child's Fight Against Leukemia. Jonathan B. Tucker. Holt, Rinehart and Winston, New York, 1982. xiv, 338 pp., illus. \$15.95.

**Emotion and Early Interaction.** Papers from a symposium. Tiffany Field and Alan Fogel, Eds. Erlbaum, Hillsdale, N.J., 1982. xvi, 300 pp., illus. \$29.95.

**Encyclopedia of Statistical Sciences.** Vol. 2, Classification to Eye Estimate. Samuel Kotz, Norman L. Johnson, and Campbell B. Read, Eds. Wiley-Interscience, New York, 1982. x, 614 pp., illus. \$75.

**Endorphins and Opiate Antagonists in Psychiatric Research.** Clinical Implications. Nandkumar S. Shah and Alexander G. Donald, Eds. Plenum, New York, 1982. xxii, 488 pp., illus. \$39.50.

**Endotoxins and Their Detection with the Limulus Amebocyte Lysate Test.** Proceeding of a conference, Woods Hole, Mass., Sept. 1981. Stanley W. Watson, Jack Levin, and Thomas J. Novitsky, Eds. Liss, New York, 1982. xx, 420 pp., illus. \$44. Progress in Clinical and Biological Research, vol. 93.

**Energy in Perspective.** Jerry B. Marion and Marvin L. Roush. Academic Press, New York, ed. 2, 1982. xiv, 204 pp., illus. Paper, \$9.75.

**Ergodic Theory and Dynamical Systems II.** Proceedings, Special Year, Maryland 1979-80. A. Katok, Ed. Birkhäuser, Boston, 1982. xii, 214 pp., illus. \$15. Progress in Mathematics, vol. 21.

**Essentials of COBOL Programming.** A Structured Approach. Gerald N. Pitts and Barry L. Bateman. Computer Science Press, Rockville, Md., 1982. x, 146 pp., illus. Paper, \$14.95.

**Essentials of Nuclear Chemistry.** Hari Jeevan Arnikar. Halsted (Wiley), New York, 1982. xii, 336 pp., illus. \$17.95.

**Immunity and Concomitant Immunity in Infectious Diseases.** Paul Kallós, Ed. Karger, Basel, 1982. xvi, (Continued on page 1000)