

edition as well). The eclecticism of Young's conception, admirable as it is, has led him to include a number of short essays, such as that on the growth of human populations, that are so brief as to be mere adumbrations. Some will object, too, to the occasional lapses into teleological phrasing. These are metaphors, to be sure, but they tend to beguile the student away from rigorous thinking on the nature and mechanisms of selection. I found confusing the use of the term *lungfishes* for both Rhipidistia and Dipnoi, especially as the question of the diphyletic origin of tetrapods is not explicitly discussed.

But these are minor reservations. *The Life of Vertebrates* remains almost unique in its sweep and stimulation and in its synthetic treatment of the living animal as a whole. At a time when study of the unhomogenized, unextracted, and unfractionated organism is less fashionable than it once was, Young's contribution is more valuable than ever.

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Notes

Marine Sciences

William J. Cromie's *Exploring the Secrets of the Sea* (Prentice-Hall, Englewood Cliffs, N.J., 1962. 300 pp. \$5.95) is another "rewrite" of the marine sciences. Like many of its counterparts, Cromie's book suffers in comparison with Rachel Carson's *The Sea Around Us*, in which painstaking research and a certain freshness in writing and subject matter resulted in a most stimulating book. Cromie's effort can best be described as a somewhat unsatisfactory collation of scientific material of interest to the author combined with a collection of fantasy and adventure stories. The pages are liberally sprinkled with scientific errors and trivial information.

The book is distinguished by some rather delightful and imaginative illustrations, but they do not compensate for either the book's inadequacies or its rather high price. One secret is worth exploring: What motivated the publisher to bring out the volume in its present form?

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Oceanography

Oceanographic Vessels of the World (U.S. Hydrographic Office, Washington, D.C., 1961. \$4.50) compiled by Luis Capurro, Albert Bargeski, and William Myers and published jointly by the IGY World Data Center A for Oceanography (at the Agricultural and Mechanical College of Texas) and the National Oceanographic Data Center, is an alphabetically arranged (by country and by name of the vessel) descriptive list of the vessels, which provides information about their specifications, equipment, and scientific capabilities. There is an index of ship names.

New Books

Mathematics, Physical Sciences, and Engineering

Advances in Chemical Physics. vol. 4. I. Prigogine, Ed. Interscience (Wiley), New York, 1962. 410 pp. Illus. \$16.50.

Advances in Tracer Methodology. vol. 1. Proceedings of the fifth annual symposium on tracer methodology, October 1961. Seymour Rothchild, Ed. Plenum Press, New York, 1963. 344 pp. Illus. \$12.

Analogue Computing at Ultra-High Speed. An experimental and theoretical study. Donald M. McKay and Michael E. Fisher. Wiley, New York, 1962. 411 pp. Illus. \$11.50.

The Brittleness of Steel. M. Szepeanski. Wiley, New York, 1963. 478 pp. Illus. \$17.50.

Chemical Bonding and the Geometry of Molecules. George E. Ryschewitsch. Reinhold, New York; Chapman and Hall, London, 1963. 126 pp. Illus. Paper, \$1.95.

The Chemistry of Heterocyclic Compounds. vol. 17, *Five- and Six-Membered Compounds with Nitrogen and Oxygen (Excluding Oxazoles)*. Richard H. Wiley, Ed. Interscience (Wiley), New York, 1962. 511 pp. Illus. \$35.

Computer Applications, 1961. Proceedings of a symposium, October 1961. 206 pp. Illus. \$8.95.

Design of Thin Concrete Shells. vol. 1, *Positive Curvature Index*. A. M. Haas. Wiley, New York, 1962. 137 pp. Illus. \$7.50.

The Distribution and Motion of Interstellar Matter in Galaxies. Proceedings of a conference (Princeton, N.J.), April 1961. L. Woltjer, Ed. Benjamin, New York, 1962. 344 pp. Illus. \$11.75.

Energy Conversion. Sheldon S. L. Chang. Prentice-Hall, Englewood Cliffs, N.J., 1963. 251 pp. Illus. Trade ed., \$9.25; text ed., \$6.95.

Engineering. Samuel Rapport and Helen Wright, Eds. New York Univ. Press, New York, 1963. 396 pp. Illus. \$4.95.

Entropy. The significance of the concept of entropy and its applications in science and technology. J. D. Fast. Translated from the second German edition (1960)

by Mulder-Woolcock. McGraw-Hill, New York, 1962. 325 pp. Illus. \$10.75.

Evolution of Stars and Galaxies. Walter Baade. Cecilia Payne-Gaposchkin, Ed. Harvard Univ. Press, Cambridge, Mass., 1963. 335 pp. Illus. \$6.75.

Flat Rolled Products. vol. 16. Proceedings of the fourth technical conference sponsored by the Metallurgical Society and the American Institute of Mining, Metallurgical, and Petroleum Engineers, January 1962. E. W. Earhart, Ed. Interscience (Wiley), New York, 1962. 171 pp. Illus. \$8.

Lasers. Generation of light by stimulated emission. Bela A. Lengyel. Wiley, New York, 1962. 137 pp. Illus. \$6.95.

Mathematics. Samuel Rapport and Helen Wright, Eds. New York Univ. Press, New York, 1963. 335 pp. Illus. \$4.95.

Metallic Corrosion. First International Congress, April 1961. Butterworth, Washington, D.C., 1962. 728 pp. Illus. \$35.

Microchemical Techniques. A symposium, Pennsylvania State University, August 1961. Nicholas D. Cheronis, Ed. Interscience (Wiley), New York, 1962. 1199 pp. Illus.

Molecules Today and Tomorrow. Margaret O. Hyde. McGraw-Hill, New York, 1963. 144 pp. Illus. \$3.25 (juvenile book).

Nuclear Physics. Robert A. Howard. Wadsworth, Belmont, Calif., 1963. 592 pp. Illus.

Physics of Heat Exchange and Gas Dynamics. A. S. Predvoditelev, Ed. Authorized translation from the Russian edition, (Moscow 1961). Consultants Bureau, New York, 1963. 275 pp. Illus. Paper, \$17.50.

Progress in Inorganic Chemistry. vol. 4. F. Albert Cotton, Ed. Interscience (Wiley), New York, 1962. 585 pp. Illus. \$15.

Propositional Calculus. P. H. Nidditch. Free Press (Macmillan), New York, 1963. 91 pp. Illus. Paper, \$1.25.

Rheology of Polymers. Edward T. Severs, Reinhold, New York; Chapman and Hall, London, 1962. 192 pp. Illus.

Royal Society (London) International Geophysical Year Antarctic Expedition. Halley Bay. Coats Land, Falkland Islands Dependencies, 1955-59. vols. 2 and 3. vol. 2, *Radio Astronomy, Ionospheric Physics* (305 pp.); vol. 3, *Seismology, Meteorology* (400 pp.). Sir David Brunt, Ed. Royal Soc., London, 1962. Illus. \$23 each.

Soviet Progress in Neutron Physics. P. A. Krupchitskii, Ed. Translated from the Russian edition (Moscow, 1961). Consultants Bureau, New York, 1963. 275 pp. Illus. Paper, \$40.

Superconductors. Proceedings of sessions sponsored by the American Institute of Mining, Metallurgical, and Petroleum Engineers (New York), February 1962. M. Tanenbaum and W. V. Wright, Eds. Interscience (Wiley), New York, 1962. 161 pp. Illus. \$7.

Tables of Random Permutations. Lincoln E. Moses and Robert V. Oakford. Stanford Univ. Press, Stanford, Calif., 1963. 239 pp. \$7.

Thermodynamic Properties of Helium. To 50,000°K. Wilbert J. Lick and Howard W. Emmons. Harvard Univ. Press, Cambridge, Mass., 1962. 127 pp. Charts. Illus.