

again probably lost on the intended reader. That "... the lineages of ancestors leading to the existing species are considered to be the evolutionary species" (p. 23) all but removes the word species from usefulness. Statements like "All chemical reactions in the body are coded in the DNA" (p. 167) would trouble the chemist led to believe that a lot of it is driven by valences, bond sites, and the like quite apart from the presence or absence of encoding DNA. They would assert that if sodium and chlorine ions are around a certain amount of salt will be formed, code or no code. The treatment of genetic drift (p. 130) may bother some readers in that no mention is made of the founder principle or its possible importance.

There are other difficulties that might bother the knowledgeable reader. It is futile to specify them. I come back instead to my main point. The book is a primer. It is valuable as a first exposure. If one allows that programmed texts can be fun to use and that, accordingly, some may learn something of a subject they would otherwise know nothing of, it is valuable, indeed. If you perceive that my views are mixed on the subject, you are a perceptive reviewer of reviews.

Try it. You may like it. At the same time, be careful; the story is more difficult to tell than 320 frames will allow.

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## General Biology

### BIOLOGY

by Clyde F. Herreid II. 1977. Macmillan Publishing Company (866 Third Avenue, New York 10022). 905 p. \$14.95.

The author states in the preface that the world does not really need another general biology textbook and, then, justifies his contribution on the basis of its unique approach. In actuality the 32 individual chapters are not unlike those found in most general biology textbooks, and each chapter concludes with a succinct summary, list of suggested readings, and a number of student questions. The placement of the chapters is somewhat unique; i.e., populations, communities, and organisms are considered prior to a detailed study of the cell and molecular biology.

The textbook is organized into three sections and concludes with an extensive glossary and index. The first section on populations and communities as regulatory units consists of 15 chapters. Among the specific topics covered are galaxy formation, fossils, Darwinian perspective,

population genetics, species formation, systematics, ecology, animal behavior, populations, energy, matter, and biogeochemical cycles. Nine chapters devoted to the organism as a regulatory unit make up the second section. It examines the nervous system, sensory system, muscle and other effectors, hormone and chemical communication, circulation and transport systems, gas exchange, nutrition and metabolism, immunity, disease, and excretion. The final 8 chapters cover the cell as a regulatory unit and include such concepts as cellular organization, biological molecules and information, energy at the cellular level, cellular division and genetics, carriers of genetic information, regulation of cellular metabolism, development and cellular differentiation, and origin of life. Each section stands separately and may be read in any order, providing the potential for greater flexibility in the general biology course.

The textbook does not differ substantially from the many traditional general biology textbooks that are currently available. As such it suffers the same limitation of giving only cursory treatment to the relationship of biology to society, historical aspects of biology, and various concepts such as biological clocks, mimicry, aging, and death. Regardless, the textbook does provide an excellent introduction to general biology. It is well-written and contains numerous informative illustrations, diagrams, and photographs. The textbook is recommended for general biology courses at the college or university level.

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### OXFORD/CAROLINA BIOLOGY READER

by J. J. Head, general editor. 1977. Carolina Biological Supply Company (2700 York Road, Burlington, North Carolina 27215). 80 single readers (16 pages each) and 6 double readers (32 pages each), \$1.50 softback, 10 or more of one kind—\$1.15 each and topical sets can be purchased.

The sample set of the *Carolina Biology Reader* reviewed contained "Primates and Their Adaptation" by J. R. Napier, "The Synapse" by E. G. Gray, "ATP" by J. B. Chappell, "The Development of Pattern and Form in Animals" by L. Wolpert, and "Cellular Immunology" by J. L. Gowans.

A brief synopsis of the five "Readers" in the sampler follows. No. 28 "Primates and Their Adaptation" deals with the classification, the zoogeography and the

behavior plasticity of primates. Six different aspects of primate evolution are discussed in some detail. No. 35, "The Synapse" discussion is presented in relation to the central nervous system and its structure function as a synapse. Illustration and a great deal in this presentation, No. 50, "ATP" presents a thorough and detailed explanation of the chemistry of ATP, and the energy and chemical relationship of ATP. "ATP" is probably quite advanced for average general biology students. No. 51, "The Development of Pattern and Form in Animals" deals with the expression of genetics in pattern and form during embryological development. A thorough treatment of the development of pattern and form in cellular terms for the student and teacher of biology, No. 87, "Cellular Immunology" obviously is concerned with immunological responses in animals which also discusses the lymphatic system, antibiotic formation and cell mediated immunities.

In general these short (16 or 32 pages) monographs written by specialists, are designed to provide the reader with the latest knowledge in that specific area, but not necessarily the last word; as by design, unsolved problems in each subject are included by the authors. The series is primarily for high school and college biology. The monographs are well written, clearly illustrated, and provide the reader with excellent and accurate in-depth coverage. The "Further Reading" sections provide sources for the reader that list more references for study. The information presented might be considered too detailed for some readers; that, of course, relates to the prior knowledge of the reader. These are excellent references for biology students and biology teachers, whether college, university or high school.

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### TOPICS-AIDS: BIOLOGY, A CATALOG OF INSTRUCTIONAL MEDIA FOR COLLEGE BIOLOGY

by Robert S. Egan, ed. 1977. Texas A & M University Press (Drawer C, College Station, Texas 77843). 286 p. \$5.

This catalog is a guide to instructional media available to teachers of introductory college biology courses. Included are references to available 16mm films (color and black-and-white), 8mm films, super 8 films, 35mm color slides, filmstrips, 35mm slides with audiocassettes, audiocassette programs, charts, models and model sets.