

more change in man's outlook on the world, and his power over nature, than any other advance in natural knowledge that can be clearly foreseen"—there is no explicit treatment of man's responsibilities in using our current genetic knowledge. The authors' piety before the god of scientific knowledge is hollow and deserving of the scathing criticism that critics of irresponsible technology are also addressing to science today.

At most, this well-made book can be a supplementary text for advanced undergraduates or a useful reference for teachers wanting a solid, brief review of microbial and biochemical genetics.

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## History

**SIR CHRISTOPHER WREN**, by Heywood Gould. 1970. Franklin Watts, Inc., New York. 226 pp. \$3.95.

This is essentially a short history of 17th-century England as reflected in Wren's life. The style is low-keyed, and the author avoids much of the bias often found in books about the period. This muted approach may make the book less interesting to children (grade 7 and up).

In the introduction, Gould points out the 17th-century criteria of an educated man and shows how scholars were concerned with many kinds of learning. He then traces Wren's early interests: in geometry, astronomy, sun-dial mechanics, and anatomy. Wren was one of the first practitioners of the "new philosophy," which called for experimentation. Early in life he became highly skilled in developing models for testing hypotheses and for use in explaining ideas to nonscientists. At age 29 Wren was appointed Savilian professor of astronomy in Oxford—just when he was losing interest in the subject.

With the restoration of the monarchy (1660) many new public and university buildings were being erected. Wren—not a professional architect but England's foremost geometrician—was commissioned to design several new buildings at Cambridge and Oxford. So, at about age 30, this former child prodigy, skilled model-builder, associate of scientists, and charter member of the Royal Society began a new career. His designs and finished buildings gained him permanent recognition as one of England's greatest architects. His mastery of geometry and astronomy contributed to the spatial relationships found in his designs. His scientific training and skill in model-building enabled him to serve as construction engineer as well as designer on many of his buildings, including the best-known—St. Paul's Cathedral.

Wren lived, and prospered, under six monarchs and the military dictatorship of Oliver Cromwell; yet there was never a hint of court intrigue connected with him. Artful in apparent compromise, he was able to live outside the turmoil of the time.

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## Immunology

**BIOLOGY OF THE IMMUNE RESPONSE**, ed. by Peter Abramoff and Mariano La Via. 1970. McGraw-Hill Book Co., New York. 508 pp. \$12.95.

The authors, with the help of eleven other contributors, have assembled a comprehensive textbook of fundamental and applied immunology. Their attempt to produce an integrated book has met with reasonable success, although there is some overlapping of content among the 15 chapters. Major chapters deal with the physical and chemical properties of antigens and antibodies; the nature of immunity and the development of the immune response; the induction, regulation, and sites of antibody biosynthesis at the cellular and subcellular level; immunologic memory (for example, the fact that positive response to booster injections is faster and greater than to initial injections); external factors affecting the immune response; the nature of the antigen-antibody reaction; immunologic protection and injury, including the nature of autoimmune diseases; and transplantation immunity.

When differing theories are presented to explain observed phenomena a fair allocation of space is provided for them. Most of the current problems in immunology are touched upon and discussed. The authors make good use of figures and tables, and these prove to be very helpful. This textbook is recommended for biologists whose work involves aspects of immunology, to graduate students, and to physicians.

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## Marine Biology

**OCEANOGRAPHY: AN ENVIRONMENTAL APPROACH TO MARINE SCIENCE**, by Alan Rabinowitz, Toby Bates Sutton, and Edward M. Taylor. 1970. Oceanography Unlimited, Inc., Lodi, N.J. 216 pp. \$7.00 (softback).

Basically, this manual is an introductory curriculum guide for teachers who wish to design a course centered on local marine life and oceanography

in general. It is a compilation of activities that have been used with Florida and California secondary students. It has material for both the teacher and the student.

The introduction describes some elementary techniques and provides the general background needed for collecting or maintaining organisms for study. The next 15 chapters center on the taxonomy and anatomy of common organisms found in the sea. The final 10 chapters treat of a variety of topics, including the tides, instrumentation, physiography, and chemical oceanography.

Most of the activities involve laboratory observation, identification, measurement, drawing, and the preparation of specimens. Each chapter presents the rationale of its topic, explains student objectives, describes materials and procedures, and contains a vocabulary, questions for discussion, and a bibliography. Thus the book resembles many classical textbooks, but it presents far more information and in less space. The teacher doesn't need to be a specialist in marine biology to get along.

The book may have been put together rather hurriedly: frequent grammatical errors and inconsistencies distract the reader from the content by drawing attention to syntax. And the authors seem to address the teacher and then the student, off and on, without a specific pattern. Some of the references are rather old; in particular, the most recent editions are not always cited.

Appendices include a sample examination, a master word-list, tables, lists of films and periodicals, instructions for writing a term paper, and procedures for diagramming biologic specimens. The manual is suitably illustrated with diagrams, charts, maps, and photographs of oceanographic instruments.

Marine biology and oceanography are being taught increasingly throughout the United States. This is one of the first commercially published outlines a teacher could use without having to do a lot of personal spadework or having to start from scratch in designing his own course.

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**EXPLORING THE OCEAN WORLD: A HISTORY OF OCEANOGRAPHY**, ed. by C. P. Idyll. 1970. Thomas Y. Crowell Co., New York. 288 pp. \$14.95.

Oceanography is a young and extremely diversified science consisting of branches of many disciplines, including marine geology, physics, chemistry, and biology. This book covers the history, modern developments, and interrelationships of these branches in 10 chapters, each written by a well-known