

senting the material in a very readable and attractive manner. The specialist will appreciate the art of the graphic rendering and the skillful explanations translating the scientific concepts into layman's language. The book will enrich the home library; in the classroom, students will read it to match their abilities, from grade school level to college. At the higher levels, this is the type of book that will especially appeal to nonscientists, because it will speak to them and answer unvoiced questions. It is a book that invites readers from all levels. Once opened, the appetite is whetted to learn more about oneself and the magic of the life process.

Portions of *The Incredible Machine* are familiar from past specials published in *Life Magazine* and the *National Geographic*. Assembled together in this volume and coordinated by the book's theme, they are more impressive and cause one to reflect with wonder, as did Shakespeare, "What a work of art is man."

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MARINE BIOLOGY

SEAWATCH (The Seafarer's Guide to Marine Life)

by Paul V. Horsman. 1986. Facts on File (N.Y.). 256 p. \$19.95 hardback.

A comprehensive, yet fairly compact, guide to life within the oceans, *Seawatch* is an ambitious work. It covers briefly the abiotic factors influencing marine life in a first chapter entitled *Ecology of the Sea*, then discusses marine life in subsequent chapters on a taxonomic basis. A final chapter deals with worldly concerns about the future of the ocean realm in terms of recreational use, exploitation of mineral and food resources, the use of the ocean as an ultimate sink, and the need for cooperation to preserve its abundant life.

A seafarer with plenty of leisure time aboard ship would find the book fascinating reading, especially if unacquainted with the more bizarre organisms the sea frequently offers up. A discussion of bioluminescence and the various organisms that can produce this "living light" is extremely thorough and of considerable help to anyone who has encountered this strange phenomenon.

But, the book does have some annoying flaws and includes several

oversimplifications that could mislead a novice in the field. One example is the author's discussion of red tides and his summary of tidal rhythms.

Although the names of the plates were listed in the front of the book for printer's cost savings, it would probably have been much more useful to have each plate labeled in situ for instant identification. Several of the photographic plates are blurry or were photographed on poorly contrasting backgrounds, making it difficult to clearly identify the species. One particular plate (#27) supposedly shows an isopod parasite on a gill of a fish, but if the readers did not know what an isopod looked like, they would have a hard time discerning it in the photograph.

The drawn figures are for the most part well done. A particularly interesting one shows the blows and diving characteristics of eight baleen whales. (Another shows fifteen families of bony fishes.)

Perhaps the most useful inclusion is that of the distribution maps of species frequently sighted by mariners at the ocean surface. We finally were able to identify a shark we saw in the Florida Keys as a bonnethead from one of these 150 maps!

Aside from these criticisms and a few typographical errors (like "pyconogonid"—a sea spider—for "pycnogonid"), *Seawatch* would be a handy reference book on the little-known creatures one would be likely to encounter at sea.

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MOLECULAR BIOLOGY

AN INTRODUCTION TO MOLECULAR BIOLOGY

by David E. Newton. 1986. J. Weston Walch, Publisher (P.O. Box 658, Portland, ME 04104). 343 p. \$11.95 softback.

This spiral bound book written for advanced high school students is divided into three major parts: Basic Chemical Concepts; Fundamental Concepts of Molecular Biology; and Special Topics in Molecular Biology.

After a one-chapter introduction, part one contains three chapters (57 pages) reviewing some fundamental chemical principles, the chemistry of living systems and biochemical families. This section is designed to provide chemistry for students who do not have chemistry backgrounds, or a

review for those who do. This review is rather thorough and organized in a logical manner. Part two contains three chapters (78 pages) discussing proteins, enzymes and nucleic acids. Part three is the largest section, containing nine chapters (167 pages) of special topics. These include: phages and viruses; proteins of special interest; chemistry of vision; antimetabolites; chemistry of nerve transmission; mutations; chemistry of the human brain; cell membranes; and DNA. While the first two parts contain fundamental information for all students of molecular biology, the last nine chapters are "stand-alone" chapters and can be covered or omitted as the instructor wishes.

The book is easy to read. It is written in very simple terms and in a logical sequence. The text flows well and the author displays a skill for wording complex concepts in remarkably clear, concise terminology. Each chapter begins with an introductory page and a list of chapter objectives. At the end of each chapter, there are summary questions and a list of questions to think about. A glossary is included at the end of the book along with an epilogue containing current issues in molecular biology.

While this book certainly seems to have a place in the high school classroom, it contains an unacceptably large number of printing errors. There are several incorrectly printed structural formulas including glucose structures containing seven carbons. When individuals are just learning the basics of chemistry, it is particularly important to be correct in a presentation. Beginners often do not know enough to question errors in print. And, a few awkward, unclear sentences such as, "Thus, both D-glucose and L-fructose are polyhydroxy aldehydes or ketones or, in other words, carbohydrates," detract from the overall effect of an otherwise fine publication.

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