wants specific information in concise form. The material is presented in such a round-about fashion that it is much better for occasional browsing than for serious reading. And, since it was written so long ago, it stops short of the world of spiral structure *inside* the cell.

The book is unique in subject matter and method of coverage. It belongs on the shelves of all true naturalists.

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WOMEN AND HEALTH CAREERS: A GUIDE FOR CAREER EXPLORATION

by Sheryl Burt Ruzek, ed. Program for Women in Health Sciences, University of California (San Francisco 94143). 190 p. $7.50.

Most any woman who is employed, or considering employment, outside the home would appreciate this book. It is informative, interesting, and very practical. It encompasses an age range from the beginner to the semi-retired. Although much of the material pertains to health careers, there are many topics that apply to women workers in general.

For example, the first chapter deals with self-assessment and the structural and psychological barriers to career development. Chapter two describes employment patterns of American women and considers some of the factors that influence a career choice.

Many women do choose health-related careers, and the next three chapters of the book give an excellent description of the wide range of opportunities offered in science research, professions and paraprofessions, and in planning and administration. General career patterns and requirements are given, followed by numerous occupational summaries. Vast research is reflected in the variety of job descriptions listed. Each summary discusses educational requirements and the chances for entry, re-entry, and advancement in the particular field. For those desiring further information, references and associations are provided for each specific area.

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CHEMISTRY AND THE LIVING ORGANISM

by Molly M. Bloomfield, 2nd ed., 1980. John Wiley and Sons (One Wiley Drive, Somerset, New Jersey 08873). 600 p. $17.50.

This well-written textbook addresses those students who dread chemistry because they view it as a subject taught in a highly technical language with little relevance to their personal needs. Because the principles of chemistry are presented in the context of their clinical and biological applications, the relevance of these concepts to the student's personal and professional life is constantly emphasized. This textbook is appropriate for students in the allied health sciences and related disciplines, such as physical education and home economics. I am of the opinion this textbook could also be used in selecting advanced biology courses in the secondary school where students plan to continue in science other than as a chemistry major.

Each chapter commences with learning objectives and a case history. The clearly stated learning objectives help the student to identify the important topics covered in the chapter and serve as a study guide for later review. The case histories are extremely effective in capturing the student's interest and motivating the study of the fundamental concepts being presented.

The author has divided the textbook into four main sections with chapter one, an introductory case history, as the first section. Appendices, glossary, and index are also appropriately included. The section on "Chemical Background" that leads the student through basic inorganic chemistry is composed of eleven chapters moving from matter and energy to acids and bases. The readability of this section is excellent. Solutions to example problems should help the student solve end-of-chapter problems. A detailed review of basic mathematical concepts is included for students who need such fundamental review.

The section, "The Elements Necessary for Life," provides for an introduction to organic chemistry including chapters on carbon and hydrogen, oxygen, nitrogen, and one chapter on the remaining twenty elements.

The last section, "The Compounds of Life," consists of five chapters involving the chemistry of enzymes, vitamins, hormones, and nucleic acids.

The author has done an excellent job of including supportive materials illustrating those chemistry concepts that are often difficult for a student to grasp. It is obvious that the author has had first-hand experience teaching those students who are not science majors, but who are required to include chemistry in their curriculum.

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BIRD STUDENT: AN AUTOBIOGRAPHY

by George Miksch Sutton. 1980. The University of Texas Press (Austin, Texas 78712). 216 p. $15.95.

It was more than forty years ago that I first read Sutton's *Eskimo Year*. Since then I have followed his writing and his avian artwork with pleasure. Now his autobiography lies before me. Is my admiration sustained? And, more importantly, is my personal valuation likely to extend to a reasonable proportion of the *ABT* readership and to the students that it serves? On both counts the answer is "Yes."

First a word on format. The page size, 17.5 x 25.5 cm, is sufficient to display well ten unnumbered and unlisted color

reproductions of Sutton paintings. There are also ten unnumbered black-and-white illustrations of half to a whole page in size. These range from quick pencil sketches to things originally produced in watercolor. Some are referred to in the text by numbers that the University of Texas editors unaccountably did not provide! Otherwise, however, the editorial work is excellent. The *sans-serif* type and unjustified right margins may annoy some readers.

As with those of Franklin and Darwin, Sutton's autobiography is truncated. It ends rather abruptly at age thirty-seven, when his life was less than half complete and the corpus of his work considerably less than half achieved. Perhaps all three of these men looked to their youth as the most interesting time to recall in old age. And for their readers this is certainly so, since their later careers are fully documented elsewhere, but their formative years, even when viewed through the dark glass of retrospect, can tell us much that would otherwise be lost.

For those who are as unknowing of the later as of the earlier years of George Miksch Sutton, a brief introduction: He has long been a professor at the University of Oklahoma. He has a doctorate in ornithology from Cornell University and has an extensive list of publications, particularly on birds of the far north and far south of North America. But he is also—perhaps primarily—a master artist in the highly specialized genre of realistic depiction of birds.

His autobiography is organized chronologically, but the chapter titles are geographical. In boyhood he was moved from Nebraska to Minnesota to Oregon to Illinois to Texas to West Virginia—an instability of residence that could be used by psychologists to excuse all sorts of later vices, but actually an ideal course for a budding naturalist. Then for about fifteen years of early manhood there were alternations between Pennsylvania and the north of Canada until finally (in this volume) the years at Cornell. The core of the narrative is always the impression of living things on an acutely perceptive human being, particularly visual impressions. The narrative also gives us highly individual but informative glimpses of mid-America in the early decades of this century. For example, we see, almost incidentally, how, from a conservative religious household, a free naturalistic spirit evolved without clashes or confrontations. It is a story that could be told in various permutations by many of Sutton's contemporaries and is perhaps sufficient reason for allowing this book to enter the hands of the post-1960s generation.

Sutton writes in a simple direct style that probably rates fairly low on the pedagogical reading scales, yet it is not without character. High school students will encounter little obscure diction and will be unconscious of occasional colloquialisms. Most readers will be carried along easily as one incident succeeds another. And some will be gripped by this true story of the successful application of talent through the persistent pursuit of an idiosyncratic interest.

Unfortunately, the illustrations do not adequately display Sutton's ability to catch the avian character, particularly his distinctive rendition of the softness of plumage. The snowy owl frontispiece is best, but teachers should refer interested students to other published reproductions of Sutton's work, such as those in Robert's *Birds of Minnesota*.

Secondary teachers may be saddened by Sutton's low opinion of his high school instructors. On the other hand, he views his college professors—and in a small sectarian college at that—quite favorably.

Perhaps more important, teachers at all levels may be disturbed by the repetition of the robbing of eggs from nests and the shooting of birds. A bird is blown full of shot and then the killer is aesthetically moved by the play of light on the feathers or the gleam in the fading eye. This is not the callousness of an individual, but a universal human paradox that certainly should bother us. However, at an earlier time this particular aspect of that paradox was scarcely recognized and today it will not upset early adolescents—themselves cheerful semi-barbarians. Nor, having myself passed through the hunting mode, do I fear blight on their future development.

If you respond to a mixture of aesthetics and inquiry, get this book. If you suspect that in your classroom lurk students who may so respond, recommend it to your librarian.

Haven Kolb
Hereford High School
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Audiovisuals . . . from p. 217

ological development from the day of fertilization through emergence from the egg eleven days later is well presented with the aid of excellent time-lapse photography. Hourly and daily changes unfold continuously. The subject and narrative make this film suitable for junior high through advanced biology courses.

Sharon Helling
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BOOKS RECEIVED

A HISTORY OF THE LIFE SCIENCES, by Lois N. Magner. 1979. Marcel Dekker, Inc., New York. 504 p. $23.50.

AMPHIBIANS AND REPTILES OF THE CAROLINAS AND VIRGINIA, by Bernard S. Martof, *et al*, University of North Carolina Press, Chapel Hill. 264 p. $14.95.

THE BIOLOGY OF PEACE AND WAR: MEN, ANIMALS, AND AGGRESSION, by Irenaus Eibl-Eibesfeldt. 1979. The Viking Press, New York. 294 p. $15.00

CONSERVATION BIOLOGY: AN EVOLUTIONARY-ECOLOGICAL PERSPECTIVE, by Michael E. Soule and Bruce A. Wilcox. 1980. Sinauer Associates, Inc., Sunderland, Massachusetts. 395 p. $14.95.

BASIC ANATOMY AND PHYSIOLOGY OF THE HUMAN BODY, 2nd ed., by J. Robert McClintic. 1980. John Wiley and Sons, Inc., Somerset, New Jersey. 694 p. Price not given.

MCGRAW-HILL ENCYCLOPEDIA OF OCEAN AND ATMOSPHERIC SCIENCES, by Sybil P. Parker. 1980. McGraw-Hill Publishing Company, New York. 580 p. $34.50.