

Book Reviews

Emmett Wright
Department Editor

BOTANY

PHOTOSYNTHESIS

by Christine H. Foyer. 1984. John Wiley and Sons, New York. 219 p. hardback, price not given.

The book, *Photosynthesis*, is Volume I of a series of three monographs entitled *Cell Biology: A Series of Monographs*, edited by Edward Bittar.

In the preface to *Photosynthesis*, Foyer states that she has endeavored to discuss the many processes that are involved in photosynthesis, providing an accurate contemporary account of the pathways, their regulations and inter-relationships.

In my opinion the author has undertaken *too much—too fast*. The style is heavy with terminology, which at times is difficult to interpret. Some sentences are very long and involved.

Included in the discussion are complex chemical reactions such as: the reduction of pentose phosphate pathways; transport of polypeptides; photorespiration and glycolate biosynthesis. The composition and role of the chloroplast envelope is considered in great detail.

It is evident that the book is not suited for the use of amateurs.

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EVOLUTION

THE MYSTERY OF LIFE'S ORIGIN: REASSESSING CURRENT THEORIES

by C.B. Thaxton, W.L. Bradley and R.L. Olsen. 1984. Philosophical Library, Inc. (200 W. 57th St., NY 10019). 228 p. \$8.50 softback

This book superficially gives the appearance of a scholarly study. Its chapter titles, such as "Simulation of Prebiotic Monomer Synthesis," make

them appear similar to those of scientific works on the same topic. There are, however, a number of red flags that indicate that this work is not what it appears to be. The first of these is the forward by Dean H. Kenyon, an avowed creationist on the faculty of San Francisco State University, acknowledged on the cover. When a forward receives almost as much prime space as the listing of authors one begins to wonder why. The authorship itself provides a second clue. Thaxton is a chemist who is director of Curriculum Research at the Foundation for Thought and Ethics in Dallas, Texas; Bradley is a professor of Mechanical Engineering at Texas A and M; and Olsen is a geochemist and project supervisor for a waste management service. None is listed in American Men and Women of Science nor have they done significant original work in the field of evolutionary biology. The third clue is in the biases in the chapters themselves. While effort is made to conceal the creationist bent, the employment of the second law of thermodynamics as a barrier to chemical evolution, statements regarding the fossil record as "there never were transitional forms," and the introduction of "the God hypothesis" are the cant of the anti-evolutionist.

These clues indicate problems with this work as an objective analysis of life's origins. The background of the sponsoring organization, the Foundation for Thought and Ethics of Richardson, Texas conclusively testifies to the bias of the volume. The Foundation for Thought and Ethics is a Texas analog of San Diego's Institute for Creation Research. Thaxton is a strong proponent of the creationist "two model" approach, dividing science into "operational" and "origin" science to employ this dualism. The Foundation for Thought and Ethics is currently preparing a high school biology supplement "sensitive" to both creation and evolution.

One thing the hyperorthodox fundamentalists persuaded the Texas Board of Education to do was to print a statement in the front of every biology textbook that mentioned evolution indicating that it was presented as theory and not as fact. This work should have a statement that it reflects the anti-evolution movement and that its authors and sponsoring organization are Christian fundamentalists, oriented and biased toward creationism. That, at least, would warn the uncritical that this is not a work to be taken at face value. What will be the next "objective" contribution of

this group to infiltrate the scientific literature? We can well do without a facade of science concealing dogma. The prospect of more "Potemkin Village" science bodes ill for both science and science education.

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BEHAVIORAL ECOLOGY—AN EVOLUTIONARY APPROACH

ed. by J.R. Drebs and N.B. Davies.
2nd. ed. 1984. Sinauer Associates,
Inc. (Sunderland, MA 01375) 493 p.
\$42.00 hardback, \$25.00 softback.

This textbook is for students already possessing a fundamental knowledge of ecology and some background in animal behavior. Although there has been concerted effort to provide consistency of topic coverage, numerous authors and range of complexity of subject matter result in variations in readability and comprehension.

The unit on Methods and Ideas is new with this edition and provides necessary background for the other four units. The presentation of the concept of Evolutionary Stable Strategy is a valuable inclusion. Graphs, tables, and examples are utilized well throughout the text, and the incorporation of an introduction for each of the major units and a conclusion for each of the chapters is extremely helpful. A chapter on plants, in a book otherwise devoted to animals, is appropriate in approaching the subject of Behavioral Ecology from an evolutionary point of view.

In general, the book is well written and contains a large amount of well-documented material. The reader can gain a great deal of information without grasping all the details. It

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Readers interested in becoming book reviewers should contact Dr. Wright directly. Inquiries on this feature should be directed to him at:

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lends itself to class discussion and points out areas that require investigation and provides possible methods for doing so.

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GENERAL

THE POLITICS OF JOHN DEWEY

by Gary Bullert. 1983. Prometheus Books (700 East Amherst St. Buffalo, NY 14215). 209 p. hardback.

Teaching the life sciences today requires confidence in our basic values and courage to rely on intelligent action as our only choice. Yet the social and political implications of new scientific discoveries may lead us to question the wisdom of open inquiry and democratic processes. If they do, then to reflect along with John Dewey, one of America's most thoughtful educators, as he attacked dogmatic beliefs and methods in his defense of the ideals of democratic society for over a half century, may strengthen our belief in human intelligence as our most reliable guide.

Gary Bullert reminds us, "Dewey was as opposed to ritualistic liberalism as he was to avaricious social Darwinism. His democratic vision is . . .

a challenge for each new generation." (p. 208) We are this new generation and we must be vigilant to repressive forces. Even science teachers may forbid examination of alternative views and discourage open questioning, for as Dewey discovered, "the intellectuals, who should be the most enlightened social group, often manifested the worst rancor, bias, opportunism, and sheer dishonesty." (p. 187) Yet as Dewey's long and publicly active life reminds us, our only choice must be between "intelligent action versus irrationalism." (p. 186)

As we struggle to respond intelligently and responsibly to the social and political implications of new scientific discoveries, we can profit from the wisdom of John Dewey.

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HERPETOLOGY

RATTLESNAKES: THEIR HABITS, LIFE HISTORIES AND INFLUENCE ON MANKIND

by Laurence M. Klauber. Abridged ed. 1982. University of California Press (2120 Berkeley Way, Berkeley, CA 94720). 372 p. \$19.95 hardback,

\$8.95 softback.

The abridged edition by Karen Harvey McClung of Klauber's two-volume classic on rattlesnakes, will be a welcomed addition to many laymen as well as natural scientists. The book retains most of the wording of the original text, and omits primarily those portions which are best understood by a professional biologist.

The book contains a wealth of material about rattlesnakes that anyone would find fascinating, regardless of background. It is, however, must reading for the high school biology teacher. Klauber's style of writing is so clear and vivid that rattlesnakes become very real to the reader. This book contains all kinds of pertinent information about rattlesnakes, such as morphology, the rattle, behavior, what they eat, how they reproduce, the bite and its effects, enemies of rattlesnakes and much more. Aside from the fascinating material, I found Klauber's personal way of writing to be one of the highlights of the book. His references to friends, other colleague's contributions or to his own research activities gave me an insight into him as a person, rather than just as an author-scientist.

My favorite chapter was "The Bite and its Effects." Klauber describes in detail the effects of the toxin on prey or the victim, as well as some interesting details about snake-bite statistics. Because the original volumes were written in 1956, the sections on snake-bite treatments and distribution maps have been updated by a leading authority in the field.

The final chapter in the book may be the most interesting to many lay readers. It deals with myths, folklore and "tall stories" about snakes. Each myth is discussed thoroughly, and in many cases, humorously discounted. I can't help feeling that Klauber gained much pleasure writing this chapter. His final statement in the book reemphasizes a theme found in many chapters: the rattlesnake is dangerous, but it has no special enmity toward man. Its main concern is self-defense against larger organisms.

Because the original work is a classic in the field, the abridged book becomes especially important, due to the large number of people who will now be able to read and enjoy what might have been too long and technical in the two-volume work. It is important that school libraries have this book available for students to read.

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