frequent. There are also excellent summary bibliographies on many subjects of medical interest.

The English translation was made by Raymond W. Dooley of the University of Illinois and the translation edited by Hisao P. Arai of the University of Alberta and the University of Illinois.

Frank N. Young
Department of Zoology
Indiana University

ANIMAL PHYSIOLOGY, Bradley T. Scheer, 409 pp., $9.95, John Wiley and Sons, Inc., New York 16, 1963.

The purpose of this book is to present a modern approach to comparative animal physiology in a way which synthesizes a great deal of material that has been discovered about many of the principles which are common to most animals. Thus, one major section of the book deals with metabolism, and this is broken down into the nature of biological oxidations, energy transformation in cells, cell structure in metabolic localization, and functions of the cell boundary. Another major section on irritability includes chapters on excitation of animal cells, contraction of muscle, excitation of receptors, and transmission of excitation from cell to cell. The third section on the vegetative activities of animals takes up subjects like nutrition, transport, and intermediary metabolism. The last section on integrative functions in animals divides into nature and mechanisms of integration, conservative regulation, progressive and cyclic regulation, and reactive integration.

As one may immediately perceive by the section and chapter headings, the book is a true synthesis of animal physiological principles. It assumes a great deal of chemistry background as well as some physics. It is, in truth, a high level text, but it should be an excellent source book for those who are not primarily concerned with it as a text.

The author is quite skilled in presentation of intricate material which combines information from a variety of sources. In most cases, the references are up to date, and the diagrams and illustrations are quite pertinent and detailed.

If one of the major aspects of current biological research and education is in the field of physiology, both cellular and organismic, this book is essential for reference.

PARASITOLOGY, E. R. and G. A. Noble, 724 pp., $11.00, Lea and Febiger, Washington Sq., Philadelphia 6, Pa., 1964.

Comparison of this second edition with the first which appeared in 1961 shows that it has undergone a thorough revision. Chapters have been expanded, divided, integrated, and generally improved. The revision is extensive and worthwhile.

The book is aimed at undergraduate students who have completed at least one year each of chemistry and zoology. It is well-written for this level. The text is comprehensive with emphasis on the ecology and evolution of parasites. Parasitology is not intended to serve as a clinical text and would not meet the needs in such a course.

The 724-page text is amply illustrated with 381 drawings and photographs including three color plates showing stages of (1) *Plasmodium vivax*, (2) *Plasmodium malariae*, and (3) *Plasmodium falciparum*.

Of the 26 chapters, eighteen are devoted to descriptive material organized under the various phyla. The Protozoa occupy four chapters; Platyhelminthes, five; Acanthocephala, one; Nematoda, three; Arthropoda, four; and a remaining chapter describes the few parasites found in all the additional phyla.

There are chapters on: life cycles, evolution, ecology, and introductory material. Two chapters of particular interest to the reviewer deal with the effects of parasitism on both the host and the parasite itself. The effects of parasitism on the parasite are rarely discussed in textbooks of this type and provides a unique and valuable addition.

Each chapter is documented with an extensive bibliography. A 34-page index is complete and well compiled.

Noble and Noble have improved on their original effort and produced a fine text. No university could go wrong by adopting this book for its parasitology classes.

Tom Shaffer
Round Valley High School
Springerville-Eagar, Arizona

ANIMAL PHOTOPERIODISM, Stanley D. Beck, 124 pp., $1.28, Holt, Rinehart, and Winston, Inc., New York, 1963.

One of the paperback *Holt Library of Science Series*. The title immediately tells of the book's contents, a subject written about extensively in connection with plants. The term photoperiodism, however, includes rhythms and cycles not directly related to light as the term implies.

It is a most interesting book, replete with diagrams and illustrations showing the work done to date on this fascinating subject. The rhythms correlated with other environmental factors are discussed, but the author wisely sticks to the topic at hand. Most interesting studies are taken up, and the chapters on mammals and man suggest many further projects, some presumably feasible at the high school level. The work done on invertebrates and birds