subclasses. The last two chapters consider the role of variable stars in astronomical research and methods of observation.

The discussion does more than merely relate details of light and spectral changes. In addition to pertinent historical aspects, spatial distribution, population types, the physical processes responsible for the different types of variability, and the probable state of evolution of the stars in each class are considered. Rival theories are presented fairly and each is critically examined. Useful tables list examples of variables of each type.

Errors are remarkably few for a first edition of a work summarizing such an extensive quantity of data, and those that do exist are mostly trivial. The eclipse of Algol lasts considerably longer than "almost two hours" as stated on page 15; in figure 13, the β Canis Majoris variables are incorrectly located; the velocity of the solar electrons mentioned on page 233 is probably 1000 miles per second instead of 1000 miles per hour. In an effort to cover briefly a difficult field, the discussion of solution of light curves of Algol variables has been condensed a little too much for rigor, with minor misstatements resulting. The discussion of the evolution of close double stars (pp. 31 and 32) is out of date. The speculations there listed have been replaced by more realistic calculations. However, these and other minor errors detract little from the overall discussion.

In summary, this book is both authoritative and a pleasure to read. It successfully summarizes a large, active, and complex field of modern astronomy. It has a place in every professional and personal astronomical library.

FRANK BRADSHAW WOOD
Department of Physics and Astronomy, University of Florida, Gainesville

Papers on Hormones

Pharmacology of Hormonal Polypeptides and Proteins. Proceedings of an international symposium, Milan, 1967. NATHAN BACK, LUCIANO MARTINI, and RODOLFO PAOLETTI, Eds. Plenum, New York, 1968. xii + 660 pp., illus. $27.50. Advances in Experimental Medicine and Biology, vol. 2.

A wealth of information on the hormonal peptides and proteins, some of it previously unpublished, is presented in this volume. The papers include reports on the classical hormones, such as the hormones of the anterior as well as the posterior pituitary gland, the releasing factors, the gastrointestinal hormones, hormones of the pancreas and parathyroids, placental lactogen, and thyrocalcitonin. A section is devoted to the new hormonal polypeptides, including not only angiotensin but also, among others, the kinins, caerulein, erythropoietin, and relaxin. This raises the question, What is a hormone? Are we truly dealing with hormones when we discuss the kinins, or do we—from the physiologic point of view—have a different class of compounds? Are we resurrecting the same old question that raged with regard to histamine? I would agree that definitions should be changed when new data so indicate, but it would have helped here if the editors had given some explanation of what a hormone is and hence of why some of the compounds were included. Such a statement would go far to help clarify a situation that might get worse. It should also be pointed out that relaxin was first described by Hisaw in 1926 and can hardly be called a new hormonal polypeptide.

In spite of the foregoing criticism, this reviewer is most intrigued by the broad coverage presented in this volume and is of the opinion that it is a good idea. It could go a long way to bringing some cohesion and cross-fertilization to the field.

It is impossible to review the book in its entirety because of the tremendous coverage. It contains approximately 76 articles ranging in length from 1 to 17 pages. Many of the articles are highly informative, presenting much detail; some are essentially abstracts, presenting little. Nevertheless, the book contains much that is of value to the investigator, such as the excellent series of articles on peptide synthesis and mechanisms of action. Although the coverage is a bit uneven, much recent and important information is presented.

M. X. ZARROW
Department of Biological Sciences, Purdue University, Lafayette, Indiana

The Hominidae

Evolution and Hominisation. Papers to the Theory of Evolution as well as Dating, Classification and Abilities of Human Hominids. GOTTFRIED KURTH, Ed. Second edition. Fischer, Stuttgart, 1968 (U.S. distributor, Abel, Portland, Ore.). xii + 300 pp., illus. $12.50.

The initial edition of this collection of papers originally served as a 60th-birthday festschrift for Gerhard Heberer, a prolific student of vertebrate evolution in general and human evolution in particular. This second edition contains all the 18 original contributions, most of them either substantially revised or with appendices added to update them, and two new contributions. A fourth of the 20 papers deal with various philosophical or theoretical aspects of general evolution (contributions by G. G. Simpson, E. Mayr, Th. Dobzhansky, W. Herre, M. Roehrs, the last four in German). Three papers deal with various aspects of late Cenozoic time, including its subdivision and estimations of "absolute" age through radiometric measurements (contributions by Bj. Kurtén, H. J. Lippolt, G. H. R. von Koenigswald). Three papers discuss current knowledge of some Pleistocene faunas in three regions of Asia (contributions by D. A. Hooijer, H.-D. Kahlke). Nine papers are devoted directly to general or specific aspects of the origin and evolution of the Hominidae. These include: the case for *Ramapithecus* as a later Tertiary member of Hominidae (E. L. Simons); the australopith phase of hominid evolution, biologically and culturally considered (contributions by J. T. Robinson, R. A. Dart, K. P. Oakley); and particular and general features of human evolution during the mid- and late Pleistocene range of time (contributions by P. V. Tobias, G. Kurth, A. A. Dahlberg, K. J. Narr, H. Grimm).

Any such collection of papers by a series of authors presents problems to the editor and to the reader, not to mention the reviewer. However, in this day of increasing journal diversification and specialization there is a need for collections of topical and review papers, particularly ones aimed at crossing traditional disciplinary lines and explicating, if not integrating, a diversity of researches which bear on a related set of problems. A festschrift is still an excellent way for this to happen, and it is altogether too easy