are combined in sets of three and four large volumes, respectively, and the books are therefore scarcely suitable for extensive field use. One wonders, however, whether the portability of a manual is of sufficient importance to warrant separation of the keys and descriptions from the illustrations. There are arguments on both sides, and it may be that in the long view the postponement of publication of the drawings may speed the appearance of a manual by a factor large enough to offset most of the disadvantages of such a procedure.

For this first of an expected four volumes of illustrations for their excellent *Flora* the authors are to be congratulated. It will be of real use to herbaria everywhere which are concerned with problems of general identification.

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Applied Optics and Optical Design. A. E. Conrady. Dover, New York, 1957 (unabridged and corrected edition of ed. 1). ix + 518 pp. $2.95.

This celebrated treatment of lens design exerted a great influence on computational methods when it first appeared in England in 1929. Written by a highly individualistic, not to say uncompromising, teacher of his subject, the book makes no concessions by way of popularization. Thus, although the treatment is not especially mathematical, the reading is not easy. Perhaps it is a sign of our scientific times to find this rigorous account of one of the disciplines of physics appearing as a paperback; serious students will welcome its increased availability. They will do well to read it, in order to relive the thinking which led to the design of the famous Holoscopic series of microscope objectives. The publishers assure us about the durability of the binding, which will be essential if its meaty contents are to be thoroughly digested.

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Annual Review of Entomology. vol. 3. Edward A. Steinhaus, Ed. Ray F. Smith, Assoc. Ed. Annual Reviews, Palo Alto, Calif., 1958. vii + 520 pp. $7.

This is the third and latest volume of an annual series, started in 1956, comprising numerous papers in which specialists in the various branches of entomology have prepared, for their colleagues and others, authoritative and scholarly progress reviews of their specialties. The very definite need for a reference work of this particular type was long realized by all who had to struggle with the widely scattered literature of entomology. Until the establishment of this series, nothing comparable to it existed anywhere.

It was in 1953 that a committee of the Entomological Society of America was appointed to examine the problem of providing adequate reviews of the literature. After exhaustive search and study, the committee recommended that such needs would best be met by a review publication of the general type published by the nonprofit organization, Annual Reviews, Inc. After appropriate investigations and appraisals, the work was started cooperatively between Annual Reviews and the Entomological Society of America. The objective has been the publication of authoritative, concise treatments of subjects of current interest. It is expected that the more active fields of research will require critical reviews annually, while less active fields will be summarized and evaluated as developments require. It is certain that this latest volume will be given the same warm welcome accorded those previously issued, because it possesses the same outstanding usefulness. It is a privilege to commend the 23 papers which make up this volume to the attention of fellow workers everywhere.

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Host-Parasite Relationships in Living Cells. A symposium. Sponsored by the James W. McLaughlin Fellowship Program, University of Texas, Medical Branch, 27 Apr. 1956. Harriet M. Felton, Ed. Thomas, Springfield, Ill., 1957. xix + 245 pp. Illus. $6.50.

This symposium, held in April 1956, was a fruitful commingling of scholars from various disciplines, all concerned largely with biological events within the cell and aware of the urgent need to span the gaps between various disciplines that are focused primarily on the same objective. Contributors to the symposium were E. W. Dempsey, R. J. Dubos, R. Dulbecco, C. E. Georgi, R. A. Good, J. H. Hanks, S. Mudd, C. M. Pomerat, M. G. Sevag, and J. T. Syverton. The meeting contributed to the construction of bridges between cytology and microbiology, including both morphologic and physiologic aspects.

The studies presented and discussed included morphologic observations by electron and light microscopy, immune mechanisms active at the cellular level, and metabolic and other factors influencing the resistance of either host cell or parasite to the effects of the other. A generous portion of this book is devoted to a faithful transcription of the stimulating informal discussion that took place.

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Psychotropic Drugs. S. Garattini and V. Ghetti, Eds. Elsevier, Amsterdam, 1957 (order from Van Nostrand, Princeton, N.J.). 606 pp. Illus. $19.50.

This book consists of papers presented at the International Symposium on Psychotropic Drugs, held in Milan, Italy, in May 1957. Most of them are written in English; others are in German, French, or Italian, with English summaries. These papers reflect the surging interest in biological aspects of normal and abnormal brain function which has resulted from a number of recent events: the discovery that lysergic acid diethylamide, in extremely minute doses, elicits a model psychosis; the discovery that reserpine and chlorpromazine induce effects almost opposite to those of lysergic acid diethylamide; and finally, and most important, the discovery that the biologically active amines, serotonin and norepinephrine, are present in certain parts of the brain. This book, spiced with the diverse viewpoints, hopes, prejudices, disagreements, and naiveties inevitable to a new and emotionally charged area of research, leaves the reader with an appreciation of the urge that provokes investigators to work in "psychopharmacology." This word has been coined to represent the branch of pharmacology which uses drugs affecting behavior to study brain function in the expectation of arriving at an understanding of normal brain function and, ultimately, at the cure or prevention of mental disease.

A number of biochemical papers discuss the possibility that brain norepinephrine and serotonin act as central synaptic transmitters and that certain psychotropic drugs elicit central effects by interaction with these amines. Various views are presented to the effect that mental disease is due to interference with synaptic transmission either by formation of an aberrant metabolite or by the faulty formation, release, or metabolism of a neurohormone. In addition, the effects of psychotropic drugs on a number of enzyme systems involved in brain intermediary metabolism are described.

In the papers on the behavioral effects of psychotropic drugs are described a number of the ingenious methods for studying normal animal behavior and