A fuller, more comprehensive review of courtship could be written, then. Such a work from Bastock's pen would be a boon to the science of animal behavior.

In the meantime we should be grateful for what she has given us. The prose style may not be the most sparkling we have encountered in recent books on animal behavior; and most of the drawing for the illustrations is embarrassingly bad. But this book is thoroughly sound. Indeed, although it was not the author's intention, one wishes that the book might reach the wide audience that more popularly written books on animal behavior have discovered. Would that all the books written about behavior for nonspecialists were as reliable and scholarly as this one.

C. G. BEER
Institute of Animal Behavior,
Rutgers University,
Newark, New Jersey

Structural Analysis

Mass Spectrometry of Organic Compounds. HERBERT BUDZIKIEWICZ, CARL DJERASSI, and DUDLEY H. WILLIAMS. Holden-Day, San Francisco, 1967. xviii + 690 pp., illus. $17.95.

Within the past ten years mass spectrometry has rapidly developed into a powerful and widely accepted technique for dealing with structural problems of organic compounds. Interest in the subject has been accompanied by a bewildering increase in the literature and in the number of journals reporting studies of fragmentation pathways of organic ions in the mass spectrometer. The present volume addresses itself largely to this problem by offering what is undoubtedly the most up-to-date (through early 1967) and comprehensive collection of facts concerning the mass spectrometric behavior of organic compounds.

The book consists of 27 chapters, each devoted to a specific functional group and its related fragmentation reactions. This organization is based on the view—generally justified—that knowledge of the fragmentation behavior of a simple compound can frequently be extrapolated in a predictive sense to other and more complex molecules. No attempt has been made to include the more complex natural products, which were covered in two earlier volumes by the same authors.

Although not central to the basic purpose of the book, the 44-page introduction is important for several reasons. It provides a much-needed, up-to-date outline of a number of ancillary techniques and concepts, including element mapping and the uses of metastable peaks. Also, the convincing discussion of charge localization and prediction of bond breakage is essential to proper understanding of the "mechanistic" rationale, of which the authors are the primary and most influential proponents. This concept, used throughout the text and frequently in the literature, attempts to describe fragmentation reactions in "ground-state" mechanistic terms familiar to the organic chemist.

The present volume was published within three months of the completion of the manuscript and in spite of its size is remarkably free of errors, an attribute of considerable importance in a rapidly growing field. It should be accessible in every laboratory concerned with organic mass spectrometry.

JAMES A. MCCLOSKEY
Institute for Lipid Research and
Department of Biochemistry,
Baylor University College of Medicine,
Houston, Texas

Describing Particle Systems

Developments in Transport Theory. A NATO Advanced Study Institute, Ankara, Turkey, Aug. 1965. E. INÖNÜ and P. F. ZWEIFEL, Eds. Academic Press, New York, 1967. xiv + 381 pp., illus. $19.50.

Transport theory, here meaning the description, by means of an appropriate equation for the one-particle distribution function, of systems of many particles which interact with each other and their environment, is a ubiquitous and proven tool in physics and engineering. The classical example of this technique is the kinetic theory of gases as initiated by Boltzmann with the introduction of his celebrated equation in the latter half of the last century. Since that time, the same notions have been extended to radiative transport, neutron transport, traffic theory, and other physical problems. The governing equation, be it partial differential or integrodifferential, is usually very difficult to solve, even in the simplest geometries with the most simplified of cross sections, especially in bounded media. Hence recourse is conventionally had to the study of idealized models, and to a variety of perturbation techniques.

The volume here reviewed collects the lectures and seminars given at the NATO Advanced Study Institute on Transport Theory held at Ankara, Turkey, in 1965. It comprises six major contributions from those who lectured, as well as summaries of eight seminars. It has the virtue of any collection of such a nature, namely that there is much material of current interest by leaders in the field; but it also suffers from the vices of disjointedness and of nonuniformity of notation and depth inherent in an undertaking where speed of publication has been deemed more important than the thankless task of coordination and protracted editing.

Two-thirds of the book is devoted to neutron diffusions. Of this fraction a considerable part is concerned with the method of singular normal modes appropriate to a class of linearized problems. Variations on this theme are provided by sections on radiative transport and on plasmas. The emphasis of the book is formal and mathematical, and it is clearly of greatest interest to theorists, for whom it provides a useful halfway house between appropriate original papers scattered through the literature on the one hand, and a balanced, digested, well-integrated, definitive treatise on the other. It has the virtues of the lecture notes of a course, presented by a variety of teachers, for those who are not privy to the lectures.

IRA B. BERNSTEIN
Department of Engineering and
Applied Science, Yale University,
New Haven, Connecticut

Developmental Biology

Calcium in Reproductive Physiology. A Comparative Study of Vertebrates. K. SIMKISS. Chapman and Hall, London; Reinhold, New York, 1967. xiv + 264 pp., illus. $11. Modern Biological Studies.

Advanced students and research investigators in the emerging discipline of reproductive physiology will find this excellent monograph by Kenneth Simkiss rewarding and refreshing. Simkiss focuses attention principally on two crucial problems in the study of the reproductive capacity of higher vertebrates: rates of calcium metabolism and utilization, and calcium pools and