in the study of sexual behavior in the male was a "stratified sample," that is, one in which the attempt was made to secure an adequate sample from each of the categories and subcategories into which the population appeared to be divided on the basis of race, marital status, age of adolescence, current age, educational level, occupational class of the subject, occupational class of parents, religious group, degree of religious adherence, and rural or urban background. From such a sample, if the proportions of the groups in the total population are known, the behavior of the total population can be reconstructed by properly weighting the several categories. But the total sample as such tells nothing about any universe except itself. It must be analyzed in terms of its separate groups.

Now in the study of sexual behavior in the female, on account of practical difficulties, the effort to obtain an adequate stratified sample was abandoned. The authors (p. 36) regard the sample as inadequate at many points, especially for age groups over 50, for educational levels 0–8 (grade school) and 9–12 (high school), for previously married females, for all Catholic groups and for devout Jewish persons, for laboring groups, rural groups, and individuals born before 1900. Geographically, the U.S. Southeast, Pacific Northwest, and Plains and Mountain States are poorly represented. Quite properly, therefore, the authors have refrained from any attempt to reconstruct the sexual behavior of the entire U.S. white female population. Nevertheless, throughout the book, the analysis devotes much attention to the *total* sample, without exclusion of individuals who represent the inadequately sampled groups. This total sample consequently represents nothing except itself. It possibly reflects quite accurately the behavior of females in particular groups, for example, Protestant college women aged 20 to 60. The analysis, however, is not made primarily in the form of a series of comparisons between adequately sampled groups. It is in fact difficult, if not impossible, from the form of the presentation to determine what proportions of the total sample come from the adequately sampled groups; and the misplaced emphasis upon the total sample in chapter after chapter is likely to mislead readers seriously and to encourage overgeneralization. At the very least, in presenting the data, the total sample might have been separated into two parts: information derived from adequately sampled groups, and that derived from all other groups. In a study that is otherwise so valuable, this is a serious defect.

A second major criticism may be directed at the intermingling of objective reporting of data, on the one hand, and subjective opinions of the authors, on the other. No one ought to object to the statement of opinions on the subject of sexual behavior—its normal forms, its legal aspects, its diversity and relation to religious origins and prohibitions—by those who have acquired so extensive a knowledge of present sexual practice in America. Yet scientists might expect that conclusions drawn directly from reported behavior—for example, regarding the frequency in certain groups of certain types of behavior—would be clearly separated from opinions regarding what is right or wrong, what is desirable or undesirable, what is historically traceable to one influence or another. Kinsey's study of sex behavior started out to be a biologist's analysis of actual practice, based on personal reports. In spite of precautions, it often seems to culminate in propaganda for certain sociological views: that what is common in sexual behavior must be right; that the Judaeo-Christian culture imposes undesirable restraints upon normal and natural sex activities; that inhibition of sexual outlet, in some form or other, is biologically as well as psychologically unhealthy and unwise; or that certain laws ought to be changed. To some extent, this is the consequence of the fairly widespread, earlier criticism by psychiatrists and sociologists that Kinsey's group had not paid sufficient attention to the diverse aspects of sexual behavior and the social values involved. As a result, the staff was considerably expanded, to include, among others, two research associates in legal studies and consulting editors in psychiatry, psychology and neurophysiology, sociology as well as statistics. Yet no matter how fully we may agree with these points of view, scientists are surely justified in expecting that the objective findings of the study will be kept distinct from a consideration of ethical and sociological implications. True, the subjective opinions are in the main gathered into sections clearly labeled: "Significance of . . . Moral Interpretations; Legal Implications; Social Significance . . ." and so forth. But these sections might far better have been separated altogether from those chapters in which the actual data are analyzed and discussed. A part of the failure of this book to achieve the widest possible acceptance by all serious students of sexual problems may then be fairly attributed to this indistinctness between scientific and social conclusions. Yet in all fairness, this is in large part not so much a matter of what the authors have said or how they have said it, but rather of the organization of the book as a whole.

To conclude, the authors would on several grounds have achieved their divided purposes better had they written two distinct books: one, an even more exhaustive and critical analysis of the reported data; and second, a truly popular treatment of the subject embodying a summary such as that which appeared in *Life Magazine,* a general discussion of comparative sexual behavior in the male and female, and a consideration of the ethical and sociological implications of the study.

BENTLEY GLASS

Department of Biology
The Johns Hopkins University

Glycols. American Chemical Society Monograph 114. George O. Curme, Jr., Ed., and Franklin Johnston, Assoc. Ed. Reinhold, New York, 1952. 389 pp. $12.

This monograph deals with the production, physical properties, applications, condensation polymers, physiological aspects, analysis, and testing of the various glycols that are now in commercial production or have been or could be so produced. The authors of the various chapters, which are clearly and concisely written, are members of the Carbide and Carbon Chemicals Company staff.

The content leans rather heavily toward the technical aspect and, perhaps, one of the more important contributions of the book is the excellent coverage and presentation of data that are buried in the patent literature. Thereby, one of the principal purposes of the monograph, "to make available to chemists a thorough treatment of a selected area," has been fully achieved. However, this publication lacks somewhat in fulfilling its second purpose, "to stimulate further

research in the specific field treated." A more critical discussion of the chemical reactions from the viewpoint of modern theories of organic chemistry would have been desirable; moreover, the authors could have pointed out more of the unsolved problems in the field.

HENRY FEUER
Department of Chemistry, Purdue University

The Determination of Adrenocortical Steroids and Their Metabolites. Proceedings of a conference held by the Society for Endocrinology, London, May 21, 1953. P. Eckstein and S. Zuckerman, Eds. Dennis Dobson, London, 1953. 91 pp. Illus. 12s 6d.

In his closing remarks as chairman, Professor G. F. Marrian states that ". . . many of us have come to realize that most of the methods which have been in general use [for the determination of the steroids] are unsatisfactory and [we] are doing something to devise better ones and . . . are prepared to discuss are difficulties frankly among ourselves." The current effort on both sides of the Atlantic to develop new methods and to standardize existing methods is manifest in the fact that two conferences on the subject were held almost simultaneously in May 1954 at the Medical Society of London and at the Worcester Foundation in Shrewsbury, Mass. The memoirs of the Society for Endocrinology, No. 2, will be particularly welcome to workers in this field, not only for spotlighting the valuable recent British contributions to the general problem of steroid analysis, but also for the candor of the discussions in which the reader will recognize with familiarity many of the bothersome trivia of technique which seem to show no geographic discrimination in whom they plague.

The volume consists of 10 brief papers and relevant discussions on various aspects of corticosteriod determination in blood and urine. Problems associated with the estimation of "formaldehydogenic substances" and the stability of such substances in urine are discussed in two brief papers from Marrian's group. Among the novel and promising tools referred to in several of the papers are the sensitive arsenomolybdate color reaction of V. Schwarz; the ingenious bismuthate procedure of J. K. Norymberski for oxidizing the C_{21}-17-hydroxycorticosteroids to 17-ketosteroids as conjugates, directly in urine or in urine extracts; and the extraction of urinary conjugates by ethanol-ether mixtures by A. E. Kellie and coworkers. The evaluation of the combination of the last two techniques as a routine analytic procedure suggests a new tool with many future applications. Several papers deal with the evaluation of dehydroepiandrosterone in urine, and the nature of the corticosteroid fraction of normal and pathological urine (before and after ACTH), but only one paper deals with the problem of estimating the corticosteroids of peripheral blood.

Not the least noteworthy is the paper by S. A. Simpson and J. F. Tait on the isolation of a "weighable" amount (less than 1 mg) of electrocortin, the highly active sodium-retaining factor of adrenal tissue, its purification, and details of the evidence accumulated for the α-ketol and α,β-unsaturated ketone functions of the substance.

This excellently printed small book constitutes a good digest of many new advances in the field of the corticosteroids and their analysis. The procedures and technical details outlined by the various authors will serve to stimulate those already engaged in steroid analysis. As a guide to some recent and valuable literature, this book is highly recommended.

KENNETH SAVARD
The Worcester Foundation for Experimental Biology Shrewsbury, Massachusetts

The Physics of the Stratosphere. R. M. Goody. Cambridge Univ. Press, New York, 1954. 187 pp. Illus. $5.

According to Goody, *The Physics of the Stratosphere* was written for the physicist interested in learning something of a field other than his own. Writing in an easy and lucid style, he has been successful in presenting the principal problems before the stratosphericist and in pointing out the difficulties that beset their solution. Unlike the laboratory experimenter, the upper air physicist is unable to perform controlled experiments in which different parameters are varied at will. He is forced, therefore, into the role simply of observer and must attempt to interpret his observations without knowing for sure what parameters actually underlie the observed phenomena. This is repeatedly illustrated in Goody's book, as a wide variety of methods for determining the temperatures, composition, motions, and radiations in the stratosphere are reviewed. The principal criticism I have is that the most recent results from rocket experiments are not always included. Nevertheless, the book will be of interest, not only to the reader for whom it was written, but also to the geophysicist himself, as a handy, clear, objective and accurate summary of important techniques and results in stratospheric research.

The book opens with an introductory chapter, in which a brief historical review of the discovery of the stratosphere is given. It is pointed out that upper air nomenclature may be based on a variety of atmospheric features, such as temperature structure, dynamical factors, chemical composition of the air, and ionization. A uniform nomenclature has not been settled upon, and some terms have different meanings to different users. To some, the stratosphere lies between the tropopause and 20- or 30-km altitude. Goody uses the term to denote the region between the tropopause and the bottom of the ionosphere at about 80 km. It is with this region that the book is mainly concerned. The introductory chapter concludes with a brief review of upper air research vehicles: balloons, aircraft, and rockets.

The second chapter takes up the problem of determining startospheric temperatures. Balloon observations of the lower stratosphere are summarized, and the relationships between the troposphere, the tropopause, and the lower stratosphere are discussed. The author quite properly emphasizes that in balloon temperature observations there are always the difficult problems of insuring that the thermal element comes into conductive equilibrium with the air rather than into radiative equilibrium with its surroundings, and of shielding the thermal element from solar radiation during daytime flights. Next Goody