

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.

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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 corticosteroid 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 C₂₁-17-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.

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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 stratospheric 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