

## Book Reviews

*Vegetable Fats and Oils.* E. W. Eckey. ACS Monograph Series. Reinhold, New York, 1954. ix + 836 pp. Illus. \$16.50.

More than 10 years have passed since the publication of the second edition of *Vegetable Fats and Oils* by G. S. Jamieson, a most extensive and authoritative survey of the sources, preparation, composition, characteristics, and practical applications of the various fatty products obtained from plants. In the present volume, the title, aims, and scope of Jamieson's book, now out of print, have been retained, and the information has been considerably enriched and thoroughly brought up to date. However, Eckey's book cannot be regarded merely as a new and revised edition of the earlier volume. The introduction and the first seven chapters supply the basic information concerning fats in general, including their composition, physical and chemical characteristics, metabolism in animals, biological synthesis in plants, and methods of analysis. I was especially impressed with the excellent treatment of the physical properties of fats. Of course, in order to keep the size of the book within reasonable limits, much information had to be omitted or mentioned only in a cursory manner. This seems especially regrettable for the short chapter on "Methods" in which only the general principles of the various tests are outlined. In Jamieson's book this section occupied as much as one-fifth of the total number of pages; and for each determination or test, at least one standard procedure was described in such detail that the reader could have used the procedure directly without referring to specialized manuals.

As in the earlier volume, the largest portion of Eckey's book is devoted to the systematic description of nearly all the vegetable fats and oils for which analytic data are available. The older grouping into drying, semidrying, and nondrying oils has been abandoned, and the material has been arranged solely on the basis of the botanical classification of the plants from which the oils are obtained. Furthermore, for each plant, the information concerning the physical characteristics, the chemical composition, and the technologic applications of the oil is preceded by a concise description of the plant itself and of the nonfatty products that may be prepared from the various parts of the plant, including the fat-bearing part. Thus, not only in the general arrangement of the book, but also in the treatment of the individual topics, the emphasis has been shifted from the purely analytic and technologic data on the oil to the relationships between these data and the biological characteristics of the plant producing the oil. These relationships are further underlined in the numerous tables, in which the values for the various oils obtained from plants of the same genus or family are compared. In this respect one might well quote the statements made years ago by T. P. Hilditch that "the fatty (glyceride) components

of seeds are specific and closely related to the families in which the parent plants have been grouped by botanists," and that, even in cases in which a peculiar fatty acid, such as erucic, petroselinic, or ricinoleic acid, is present as a major component of the seed oil, "the occurrence of these unusual features runs remarkably parallel with the groups in which morphologists have placed the plants."

Such an approach, together with the clear and fluent style, makes Eckey's book very pleasant and thought-provoking reading. Moreover, because of its complete and up-to-date information, this volume will continue to be what its predecessor has been for many years: a veritable encyclopedia on the subject and an invaluable reference book for all research and technical workers who are interested in the chemical, biological, and practical aspects of vegetable fats.

CAMILLO ARTOM

Department of Biochemistry,  
Bowman Gray School of Medicine of Wake Forest  
College

*Metabolism of Steroid Hormones.* Ralph I. Dorfman and Frank Ungar. Burgess, Minneapolis, Minn., 1953. vi + 170 pp. Illus. \$4.

During the last 15 years knowledge of the metabolism of the steroid hormones has increased rapidly, largely because of the development of relatively specific microtechniques for these compounds. This book is written by two major contributors to the field. It gives in outline and tabular form their accumulated information on the subject; textual material is limited to that necessary to give meaning to the charts and tables that are used for the major presentation. The book is prepared so that a person having only a limited familiarity with steroids can understand the structures and processes discussed. The term *steroid hormone*, however, is not defined, and therefore the distinction between biosynthesis of the hormones and their further metabolism is not always easy to discern.

The introduction outlines in simple terms some of the techniques that have been useful and gives the structural basis for steroid nomenclature. It is followed by a chapter on steroids isolated from natural sources, the conjugated forms in which they occur, and (a very important point) artifacts produced during the hydrolytic procedures often used in isolation. The next chapter deals with biosynthetic reactions in mammalian tissues as demonstrated by over-all studies using isotopes, by perfusion of specific tissues, or by incubation of tissue slices or homogenates. A separate chapter is devoted to microbiological reactions.

The fifth chapter, according to its title, deals with the "Reactions of steroid hormones in mammals." The title should more appropriately be that used on the tables in the chapter: "Reactions involving steroid