such a seemingly limited manner, I feel that, in this instance, the approach is acceptable and perhaps required owing to the systematic and original research conducted by Stamm during the many years of his first career.

Division of the material into 27 chapters, in a 500-page book, makes for a great proliferation of subject matter. I question the merit of such extreme subdivision since it may tend to obscure, in the mind of students, the continuities and similarities between closely related subjects. Two of the four chapters on adsorption, "Phenomenon of adsorption" and "Thermodynamics of adsorption," could easily and logically have been consolidated into one chapter, and with great gain in clarity. The underlying causes of the processes treated in two other chapters—"Shrinking and swelling of wood" and "Shrinking and swelling of cellulose"—are sufficiently similar for profitable combined discussion.

These minor criticisms should not overshadow the fact that the book is a rich source of scientific and technological information about wood. Stamm has been a prominent contributor to wood science, and one welcomes a book that includes his evaluation of some of its important areas.

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## Biologically Active Steroids

**Steroid Drugs**. vol. 2, *Index of Biologically Active Steroids*. Norman Applezweig. Holden-Day, San Francisco, Calif., 1964. x + 449 pp. Illus. $10.50.

This book continues the task begun by Applezweig in volume 1 (1962)—the task of coding and classifying all known biologically active steroids. Volume 2 lists 1594 new compounds, not included in the first volume, that have appeared in the literature and in United States Patent files during 1961 and 1962. The book is divided into two major sections. In the first Applezweig tabulates biologically active compounds according to their reported activities, both qualitative and quantitative, as the information given in the literature allows. However, in most cases information is minimal, and, furthermore, the author urges caution in accepting the validity of claims for biological activity, especially where these claims have been derived from patents. Five major categories of biologically active substances—androgens, estrogens, progestagens, corticoids, and mineralocorticoids—and eight minor categories—antihormonal, diuretic (antimineralocorticoid), anticancer, active on circulatory system, lipodiactic, active on central nervous system, anabolic, and miscellaneous—are provided.

The second major section comprises a catalog of steroids arranged according to "structural profile." This coding system is the same as that described at length in the first volume. With it the steroid nucleus is numbered in the recommended way and spatial designation of hydrogen atoms and angular methyl groups follows the usual convention. However, in naming the steroid drugs, the author chooses to deviate severely from the rules of nomenclature of the International Union of Pure and Applied Chemistry. It is his view that generally recognized trivial names should be used as a basis for naming their derivatives or stereoisomers, a procedure which tends to eliminate possible ambiguities and to make names more easily interpreted by the medically oriented reader. The structural profile of a derivative combines the trivial name of the parent steroid with numbers of the carbon atoms on which group substitutions have been made. Thus, closely related compounds such as 6-methyl, 6-hydroxy, and 6-halogen derivatives of any particular steroid are grouped together by the system, an aid in determining the effects of group substitution on the biological activity of a given steroid. In the second section, in addition to its structural profile, each steroid is provided with a catalog number by which it can be found in the tables of biological activity, a structural formula and name, its reported biological activity, and a reference either to the literature or to patent files. The third section, which is of minor importance, lists by name and principal producer the commercially available steroid drugs and those under investigation. The book provides a valuable service for those concerned with steroid drugs and the correlation of biological activity with chemical structure.

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## Mathematical Physics

**Differential Equations of Mathematical Physics**. N. S. Koshlyakov, M. M. Smirnov, and E. B. Gliner. Translated from the Russian edition (Moscow, 1951) by Scripta Technica. Herbert J. Eagle, Translation Ed. North-Holland, Amsterdam; Interscience (Wiley), New York, 1964. xvi + 701 pp. Illus. $21.

This excellent book is directed to the student of applied mathematics or classical physics rather than to the student of modern physics. It gives a thorough exposition of second-order partial differential equations which is sufficiently elementary to fit into the advanced undergraduate curriculum of American colleges of engineering. The bulk of the book is divided into three parts, dealing with the theory and applications of equations of the hyperbolic, elliptic, and parabolic type, respectively. The fourth part deals with integral transforms and with electromagnetic theory.

The authors make the following statement in the preface: "Among the applications studied are the vibrations of strings, membranes, and shafts; electric oscillations in lines; the electrostatic problem; the basic gravimetric problem; the emission of electromagnetic waves and their distribution along wave guides and in horns; the emission and dispersion of sound; gravity waves on the surface of a liquid; heat flow in a solid body, and so forth. Solutions are given to both very simple and more complicated problems, making it possible for the reader to master the methods considered in the book and also the physics of the phenomena in question. In almost every chapter, there are problems whose basic purpose is to develop the reader's technical skill.

"Approximate methods for solving problems in mathematical physics are not discussed, since their exposition would require a considerable increase in the size of the book. Also excluded are certain specialized problems (for example, those associated with the physics of atomic reactors) that have arisen only in the last few years."

I did not notice any errors or misprints, except in the last chapter which treats generalized functions (or, as we would say here, the theory of distributions). On page 669, the statement $|g(x) - \phi(x)| < \epsilon$, for $g(x)$ bounded and continuous and for $\phi(x)$ a funda-