

trated in "Biophysical Science." This book, which stems from a study program held under the auspices of the National Institutes of Health, is intended to serve as a "summary of some key problems in biology and provide a critical evaluation of recent advances." It serves this purpose very well. The sixty-one individual contributions can be divided into two groups. The first group, composed of twenty-three articles, provides a review of the basic methods and some of the recent results in the fields of macromolecular chemistry, spectroscopy and energy transfer. Some of the material is new and has quite properly been given full treatment. Other chapters concern background material which has already been treated elsewhere and might even have been omitted. The extensive bibliographies complement the chapters very well and the over-all effect of this section is excellent.

The remaining two-thirds of the book concerns topics of current interest in biological research such as synthesis and replication of macromolecules, fine structure of organelles, function of nerve fibers, to name a few. Some of these chapters are original contributions and the remainder are up-to-date versions of earlier studies. Since they have come from a study program, they provide excellent didactic material illustrating both the startling success in applying molecular science to some areas of biology such as collagen structure and function, and the inadequacy of our current concepts in the analysis of other areas.

Finally it should be pointed out that the book and perhaps the area may well have been misnamed. Most of the work described can very properly be classified as physical chemistry, polymer chemistry or biochemistry. Under these circumstances it seems entirely appropriate though less glamorous to give the book its proper praise as a thorough and very useful survey of molecular biology.

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The Plasma Proteins. Volume II. Biosynthesis, Metabolism, Alterations in Disease. Edited by FRANK W. PUTNAM, Department of Biochemistry, College of Medicine, The J. Hillis Miller Health Center, University of Florida, Gainesville, Florida. Academic Press, Inc., 111 Fifth Avenue, New York 3, N. Y. 1960. xv + 518 pp. 16 × 23.5 cm. Price, \$14.50.

This is the second of two volumes which, taken together, constitute a comprehensive and authoritative treatise on the plasma proteins. Emphasis in Volume II is centered principally on the physiological and biochemical role of the plasma proteins in the normal and disease states. The scope of this volume is broad, however, as is indicated by the table of contents: Structure and Function of the Human Serum Lipoproteins, F. T. Lindgren and A. V. Nichols; Plasma Enzymes, W. H. Fishman; Circulating Hormones, H. N. Antoniades; The Blood Coagulation System, R. G. MacFarlane; Comparative Biochemistry and Embryology, R. L. Engle, Jr., and K. R. Woods; The Biosynthesis of Plasma Proteins, H. S. Anker; Alterations in Plasma Protein Patterns in Disease, M. L. Petermann; Abnormal Serum Globulins, F. N. Putnam; Genetic Alterations in Plasma Proteins of Man, D. Gitlin and C. A. Janeway.

The chapters dealing with genetic alterations in plasma proteins, abnormal serum globulins, biosynthesis and the blood coagulation system are particularly well written. In the last instance R. G. MacFarlane has been singularly successful in effectively presenting the complex details of the clotting system and in unravelling the confused literature pertaining to this subject. H. S. Anker has written a penetrating discussion of the problem of biosynthesis of the plasma proteins. Although the plasma proteins of man receive the major emphasis, a unique chapter devoted to the comparative biochemistry and embryological development of plasma proteins has been included.

Throughout this volume there is ample evidence of thoughtful planning and design, within both individual chapters and the work as a whole. Although each chapter is the product of a different author, the work as a whole is surprisingly free of duplications. This absence of redundancy does not detract from the completeness of any one chapter since the text is liberally supplied with cross refer-

ences to related topics discussed elsewhere in the two volumes.

The printing and binding are well done. References are collected and arranged alphabetically by senior author at the end of each chapter. Author and detailed subject indices are located at the end of the volume. Together the two volumes of this treatise perform a most important function of assembling, coordinating and interpreting a highly diverse literature. The "Plasma Proteins" will be a valuable addition to the library of both biochemist and clinician.

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Progress in Dielectrics. Volume 2. General Editor, J. B. BIRKS, B. A., Ph.D., D.Sc., F. Inst. P., A.M.I.E.E. American Editor, J. H. SCHULMAN, Ph.D. John Wiley and Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 1960. vii + 225 pp. 16 × 25 cm. Price, \$9.50.

This second volume of an annual series contains six articles on as many aspects of dielectrics. The general subject can embrace a variety of interests in the sciences and engineering, and the particular topics taken up in the present volume reflect this, the only obvious common denominator being that the several discussions are primarily of properties in low applied electric fields.

A brief survey of theory of polarization and dielectric absorption by Wyllie reviews fundamentals and various models developed principally by physicists and physical chemists. Much is familiar ground, but this reviewer was reminded of several papers he should have read before.

The article likely to be of most general interest and value to chemists is the contribution of A. J. Curtis on dielectric properties of polymer systems. The author has done a notable job of putting the extensive literature into perspective and order with very competent critical comments. The review is highly recommended, and the author deserves thanks for having carried out an arduous assignment so well.

The article on irradiated polymers by Black and Charlesby is primarily an introductory discussion of radiation effects and processes in general, with quite brief descriptions of electrical properties and applications.

The contribution of P. M. Sutton on dielectric properties of glass is confined to combinations of inorganic oxides, and so is likely to be essential reading only for people with immediate interests in this restricted class of materials. As best this reader can judge, it is a well-balanced and quite comprehensive survey. The paper by Plessner and West on high permittivity ceramics for capacitors is equally special. Finally, the article on artificial dielectrics by J. Brown is highly unchemical and not likely to be useful to chemists except possibly for different applications of the mathematical analyses which have been developed to discuss microwave antenna arrays and the like.

Although interdisciplinary subjects are quite the fashion, and dielectrics is a subject capable of considerable common ground between disciplines, the present collection of articles reflects more the heterogeneity of the subject. Considerable numbers of people will find one or two articles of interest to them; but it seems improbable that many will want enough more of the book at hand to justify buying it for a personal library.

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La Spectroscopie Hertzienne Appliquée à la Chimie. Absorption dipolaire. Rotation moléculaire. Résonances magnétiques. By R. FREYMAN, Professeur à la Faculté des Sciences de Paris, and M. SOUTIF, Professeur à la Faculté des Sciences de Grenoble. Dunod, Editeur, 92 rue Bonaparte, Paris 6, France. 1960. xi + 263 pp. 13.5 × 21.5 cm. Price, Broché, 23 NF.

This book is intended to provide a survey suitable for chemists of several newer fields of spectroscopy. The authors concentrate mainly on nuclear magnetic resonance and electron paramagnetic resonance but they also treat dipolar absorption in solids and, very briefly, rotational