labeled as to source). A body of admittedly speculative material is included, but in the present state of the art some speculation may be allowed in an effort to produce a coherent work and to stimulate further research. This volume is not intended to constitute a textbook or handbook of the properties of available polymeric materials; rather, it is intended for those readers whose aim is to understand the mechanisms of high polymer behavior.

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Frontiers in chemistry. Vol. V: ***Chemical architecture.*** R. E. Burk and Oliver Grummitt. (Eds.) New York-London: Interscience, 1948. Pp. 202. (Illustrated.) $4.50.

This volume is a continuation of the publication of the annual series of lectures, under the general title "Frontiers in Chemistry," sponsored by the Graduate School of Western Reserve University. Two series of lectures have been given in the spring of each year. Series I and II were given in 1942, and Volumes I and II were published the year following their presentation. Volumes V and VI, however, are appearing nearly four years after the presentation of the lectures, presumably because of the difficult conditions created by the late war. The reviewer earnestly recommends to the editors and publishers of this series that every effort be made to have the volumes appear not later than one year following presentation of the lectures. This will preserve the timeliness of the topics and enhance the importance of the material discussed. Since the beginning of these lectures in 1942, several similar projects have been started at various other universities and institutions. In the words of the editors, this is "both encouraging and flattering, and we hope that the trend will continue. Continued success depends upon the quality of the lectures and on well-organized programs."

In this volume, the several topics are presented by masters in their respective fields, as follows:

In "Application of Molecular Geometry in the Field of Reaction Mechanism," by Hugh S. Taylor, we find a discussion of the concept of activation energy, and the influence and effect of molecular geometry in homogeneous reactions, in heterogeneous reactions, and in homogeneous liquid systems.

"Dipole Moment, Resonance, and Molecular Structure," by Charles P. Smyth, considers the molecule as an electric dipole, experimental determination of dipole moments, use of dipole moment in determining molecular structure, movable dipoles and restricted rotation, and the dipole moment as a measure of resonance.

The subject "Structure of Coordination Compounds" is taken up by W. Conrad Fernelius. In the field of inorganic compounds, Fernelius discusses fundamental definitions, the nature of coordination linkages, and methods for deducing the structure of inorganic molecules.

"X-Ray Studies of Randomness in Various Materials," by Bertram E. Warren, deals with the structures of ideally crystalline materials and randomness in the structure of other materials.

In "Light Scattering in Polymer Solutions," H. Mark discusses a few principles of light scattering, the scattering of light from a pure liquid, from solutions of small molecules, and from solutions containing particles comparable with the wave length of light, the depolarization of scattered light, and experimental methods for measuring turbidity and disymmetry.

Miroslav W. Tamele, in "The Nature of Inorganic Gels," discusses the definition of gel, the formation of inorganic gels, inorganic sols, sol-gel transformation, structural changes on drying of gels, the solid framework of dried gels, and the porosity of gels.

Adequate references are given at the end of each chapter. The reviewer wishes that one additional subject had been included in this volume, namely, "molecular architecture in the statistical calculation of thermodynamic functions."

A copy of this book should be available in the library of every scientific or technical laboratory, so that its chemists and chemical physicists may see how important is the concept of molecular architecture in the analysis of the diverse problems discussed by the authors of this volume.

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Topics in physical chemistry: a supplementary text for students of medicine. W. Mansfield Clark. Baltimore: Williams & Wilkins, 1948. Pp. xv + 738. (Illustrated.) $10.00.

The purpose of this book is best described in the author's own words in the preface: "This book is not designed as a text for a formal course. It is written to meet the diverse needs of medical students and to be drawn upon as the student of elementary biochemistry and the maturing student of medicine may find occasion." The reviewer may add this: the book shows the mark of an experienced teacher of biochemistry in a medical school, whose personal interest is especially inclined to the physicochemical aspects, and whose own line of research is not so much concerned with new discoveries, such as new vitamins or enzymes, which have to wait for a rational understanding, as with the advancement of his science by the application and extension of acknowledged fundamental principles of physics and chemistry under the guidance of both a clear ideology and a scrupulously devised technique.

In order to give the reader a useful presentation of the matter, the author clearly recognizes that there are certain things that must be dealt with from the very bottom, and for which a profound understanding of the fundamental definitions and principles is the most necessary requisite. He recognizes also that there are many other things which are just as important, but of such a nature that the medical student, who, after all, is not a physicist or mathematician, cannot be expected to be sufficiently prepared to follow all the steps of argumentations from what the physicist would consider the bottom. Also, the mathematical part of the exposition, which is, of course, not entirely avoidable in a book on physicochemistry,