Wood Chemistry, Pulp, Paper and Board Division, Applied Chemistry Section, International Union of Pure and Applied Chemistry. (Proceedings of the Wood Chemistry Symposium held in Montreal, Canada, August 9–11, 1961). Butterworths, London, 1962. 254 pp. $9.00.

This is not a treatise on wood chemistry, but a survey of fifteen specialized topics comprising papers presented at the Wood Chemistry Symposium in 1961. The series first appeared in *Pure and Applied Chemistry*, Vol. 5, Nos. 1–2, from which the book is reprinted.

The authors are authorities in their respective fields, and their important research contributions form the cores of the papers. The subjects include a range from basic organic and physical chemistry of wood components to studies in applied chemistry—pulping and bleaching.

One paper is devoted to recent work on the chemical and morphological aspects of the fine structure of wood. Papers on the biogenesis of carbohydrates and of lignin explore the intriguing problems of biochemical processes leading to the formation of these familiar wood components. The physical chemistry of lignin is discussed in one paper.

The sections dealing with cellulose include viscoelastic properties, methods of determining crystallinity, applications of infrared spectroscopy, and chemical mechanisms in grafting. The three papers in the field of hemicelluloses are concerned with methods of isolation and purification, fractional extraction, and determination of chemical structure, areas in which so many advances have been made in the last decade.

In applied aspects, primary emphasis is placed on chemical reactions of lignin in the pulping and bleaching processes. The progress reported is impressive, even in the absence of detailed knowledge about the structural relationships among the simpler units which make up the lignin system. Individual papers deal with recent developments in sulfite pulping, reactions of lignin in kraft pulping, and the chemistry of delignification in pulp bleaching. The behavior of carbohydrates during pulping and the nature of hemicelluloses remaining in the wood pulp are considered in another paper; understanding of these relationships is gradually unfolding, with important implications for the pulping industry.

The restriction of subject matter has made possible a reasonably extended discussion of each selected topic, certainly in more detail than would have been possible in a text of more comprehensive coverage. Each author has been careful to place the work in historical perspective, and sufficient introductory material is included to enable the reader to follow the development easily. Special attention is given to recent researches, in which the authors have contributed so significantly. This personal engagement is effectively imparted to the reader as an exciting story of the research endeavor.

The book should be of value to those desiring summaries of recent research in the several areas represented by the contents. There is no index, but perhaps one is not necessary for a book in which each section will undoubtedly be read as an entity.

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Polyurethanes: Chemistry and Technology, Part I. (High Polymers, Vol. XVI). J. H. SAUNDERS and K. C. FRISCH, Interscience, New York, 1962. xi + 368 pp., $14.00.

This volume is the most complete book to date on polyurethanes prepared from polyisocyanates and complimentary active hydrogen compounds. This field of polymers is growing so rapidly that it is anticipated Part I will need revision in a few years.