

heart and circulation, and who through all that time has sought to translate such refinements of knowledge into practical modes that will guide thought and observation at the bedside to an equal scientific accuracy.

It may be recalled how Lewis's "Mechanism of the Heart Beat", an elaborate treatise on electrocardiography, was followed a year later in 1912 by a booklet of 100 pages on "Clinical Disorders of the Heart Beat", which gave to medical men the simple rules that all have since adopted for analysis at the bedside, without electrocardiograms, of the ordinary irregularities of the pulse. His present text-book on the whole subject of diseases of the heart summarizes the new attitude to those clinical problems that he himself has progressively taken and described in a series of papers with such clear argument that it has already been accepted by many leading teachers throughout the medical world. He writes with the aim of showing medical practitioners how to deal with living patients, of making them alert to judge each

symptom that can tell of derangement of function in the living man; and so he refers but little to the older classifications of disease that were based on the isolated anatomical lesions to be revealed after death. Morbid physiology rather than morbid anatomy is the derangement that the clinician is invited to study and seek to correct. With all possible simplicity, this central idea is developed in its logical sequence through each chapter of the book.

For the reader who can forget much that he has been taught in the past, and look on his own clinical experiences in this fresh light, the book is an inspiring guide. Sir Thomas Lewis has thought as a physiologist, but his clinical work has always driven him to find out the meaning of physiology for practical medicine; and his matured teaching in this book has the conciseness gained by twenty years of testing and shaping it against the minds of his undergraduate students at University College Hospital. It is a model of what clinical science can achieve to help the practising profession.

Polymerization

Polymerization :

and its Applications in the Fields of Rubber, Synthetic Resins, and Petroleum. By Prof. Robert E. Burk, Howard E. Thompson, Archie J. Weith, and Ira Williams. (American Chemical Society Monograph Series, No. 75.) Pp. 312. (New York: Reinhold Publishing Corporation; London: Chapman and Hall, Ltd., 1937.) 37s. 6d. net.

THE chemist at one time was mainly engaged in analytical activities; since 1900 he has set to work to make in the laboratory the less complicated natural crystalline substances of which he had discovered the constitution. Now that this task is largely completed, the urge is to polymerize, which means to build up very large molecules of amorphous colloid character, starting, however, from relatively simple substances. Promising fields of practical application of such effort have been found in rubber, synthetic resins and petroleum. This book deals with these; their magnitude and complexity are witnessed by the fact that four authors are required, whose names are attached to their respective chapters.

An immense amount of work has evidently been done in mastering the literature of the subject and sorting it into an accessible form, and perhaps chief praise will be given to the chapter headed "Catalysis and Polymerisation" by R. E. Burk,

in which a table some sixty pages long is given, listing in alphabetical order the polymerization catalysts, the conditions under which they are used, the compounds polymerized and the results obtained.

Reference to this list is facilitated by a special index of the compounds. The research worker who uses it is able either to choose the best catalyst for a specific purpose or to ascertain the various methods of polymerizing a particular substance: references are given to the original papers. The chapter might appropriately be headed "Polymerization made easy" in view of the immense amount of time it is going to save for future workers.

Prof. Burk is responsible for the chapters on the mechanism of polymerization and the structure of polymers.

The second half of the book deals with the specific industries, rubber by I. Williams, resins by A. J. Weith and petroleum by R. E. Burk. The first two are engaged in the respective industries, and may be judged competent to give reliable and practical reports.

There is a useful theoretical chapter by H. E. Thompson on the relation between molecular structure and polymerization.

The book will undoubtedly command a wide and appreciative public among present and future 'polymerizers'.
E. F. A.