pate a progressive increase in the applicability of macromolecular data through the eventual development of greater facility in the analysis of the primary structures of proteins as in the impressive comparative studies of hemoglobins and cytochrome oxidase.

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Polymer Reviews

Newer Methods of Polymer Characterization. Bacon Ke, Ed. Interscience (Wiley), New York, 1964. xvi + 722 pp. Illus. $22.50.

This tome, volume 6 in the series entitled "Polymer Reviews," contains 16 generally well-edited and well-written reviews by 17 authors. The methods discussed fall into two broad categories—characterization in solution and characterization in the solid state. The topics in the first category are microtacticity (Krigbaum), optical rotary dispersion (Yang), fluorescence (Oster and Nishijima), column fractionation (Screaton), high temperature solution properties (Chiang), and density gradient centrifugation (Hermans and Ende). The topics that may be loosely categorized as applying to the solid state are deuteration and polarization effects on infrared spectra (Liang), optical methods (Stein), small angle x-ray (Statton), electron diffraction (Fisher), high resolution nuclear magnetic resonance (McCall and Slichter), differential thermal analysis and differential thermometry during mechanical deformation (Ke), flow birefringence (Tsvetkov), elasto-osmometry (Hermans), and monomolecular films (Beredjick).

Bacon Ke, the editor, has succeeded in maintaining an organizational unity throughout the book. Each chapter presents a brief exposition of the theoretical basis for the method discussed and contains abundant illustrations and data, and most chapters also include some discussion of the method's potentialities. All the contributors have done an admirable job of covering the literature. With respect to the book title, the word "newer" is applicable in only the broadest sense and the use of the word "methods" is perhaps misleading. The title promises an emphasis on the experimental manipulations as well as the difficulties of the methods, but such information is most often omitted from papers published in today's journals. Unfortunately, the critical approach implied in the title is not presented; instead the papers review results that are generally available in the literature, a policy which the editor has followed with some exceptions—that is, descriptions of apparatus and experimental manipulations are omitted except when such information is not readily available elsewhere.

A few of the chapters are textbook-like in that the reader is primed and made ready to attack the literature and use the method. However, in too many instances the chapter is written to serve the expert, and a high level of sophistication is a prerequisite for appreciating and using the information presented in the review. Thus, the book falls short of providing an introduction to polymer characterization for newcomers, and it may be of only passing interest to the expert who is not ready to embrace one of the methods. The book as a whole is not for those who wish to be brought up to date. But a scholarly review is always useful, and the generally high quality of the various chapters recommends this book as a worthwhile addition to the reference shelf.

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Mathematics Textbook

Modern Basic Mathematics. Hobart C. Carter. Appleton-Century-Crofts, New York, 1964. xii + 466 pp. Illus. $6.50.

In the preface of this book are made some commendable claims which, unfortunately, seem not to be realized. The author had intended to write a rigorous book which would be suitable for the type of mathematics course usually called a "terminal" course but which would not preclude the student's being able to step into the regular mathematics sequence without loss of time and with the proper background. The author probably characterizes the inherent difficulty in achieving his goal in the following statement: "It is often difficult to say exactly what you mean and it is often more difficult to decide what another person means" (p. 10).

The contents consist of the usual topics of elementary algebra, trigonometry, and analytic geometry and of topics mainly concerned with sets, logic, foundations, abstract algebra, and polynomial calculus, with brief developments of some ideas of projective geometry, probability, statistics, and finite differences. The first four chapters contain essentially all the "modern" ideas, and except for some isolated instances, these play practically no part in the subsequent exposition.

It is doubtful that reading this book will enable the intended reader to develop much feeling for logic and the logical development of mathematics. Several key definitions are faulty; seemingly technical words are used without explanation; italic, block, and regular type are used in a haphazard manner, making distinction between intended formal and informal exposition difficult, and concepts are used prior to their definition and development. Thus, on page 1, the author refers to "set" as a "well defined collection"; on page 51, he tries to explain "well defined". Again, on page 1, the set of positive integers is introduced as "1, 2, 3,4,5,6,7,8,9,10,11,12,13, . . . where the three dots are read 'and so on'"; induction is discussed on page 71. On page 8, "ordered pair" is introduced, but the concept of "order" is delayed until page 44. On page 121, the notation for functions of several variables is used; it is explained in part on page 187. On page 10, a proposition is defined as "a statement which can be classified, either actually or hypothetically, as either 'true' or 'false' but not both," and "an argument is a set of propositions where one of the propositions is said to follow from the others." One also finds that to a conditional argument "temporary premises" (unexplained) may be added and later "discharged" (unexplained), and that "an argument is valid if the conclusion is inescapable." Unfortunately this does not exhaust the questionable aspects of these chapters.

The remaining chapters of the book are written in much the same manner. However, they are concerned mostly with the more usual topics of elementary mathematics, and as such the level of exposition seems equivalent to that of many of the other books covering the same material.

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