The most serious pedagogical mishap seems to the reviewer to occur in Chapter 8, Table 4, which is headed "Enumeration of the sixty-six Bravais space groups." In this table the author indicates that each of the 32 point groups can be laid down on the 14 Bravais lattices giving the count of 66 "Bravais" space groups. It seems very wrong to give prominence to this number 66 and then to devote the following pages to demonstrate that seven of the point groups can be laid down in two different ways on the corresponding lattices to bring the total to 73.

There is much of value in this book, and it should be read by anyone who is planning a serious course of space-group theory, and it could perhaps be used as a textbook to accompany the lectures of such a course. But it cannot be recommended for use by a beginner working alone.

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Physical Methods in Organic Chemistry. Edited by J. C. P. SCHWARZ, M.A., B.Sc., Ph.D., Lecturer in Chemistry, University of Edinburgh, Edinburgh, Scotland. Holden-Day, Inc., 728 Montgomery St., San Francisco, Calif. 1965. xi + 350 pp. 15 × 23 cm. $9.75.

The use of physical methods by the organic chemist for structure determinations is becoming increasingly widespread. As a result, there is a need for a single-volume book that provides a critical and instructive introduction to the methods most commonly employed. This edited volume attempts to provide a readable introduction to such physical methods. This it does. The contributed chapters provide the reader with the scope of the physical method under discussion together with ample references to key papers, review articles, and monographs. With several exceptions, the contents of the chapters go little beyond the elementary level, and, despite a fair number of well-selected examples and tabulated empirical correlations, they will leave the serious reader distinctly dissatisfied. No wonder, for a total of eight physical methods are presented in only 300 pages—about 100 of which are devoted to infrared spectroscopy, leaving the remainder for coverage of seven other topics. Clearly, the book is too short for such a broad coverage. Consequently, it will be of limited service, except as a guide to the literature, to the practicing organic chemist.

In Chapter 1, the editor provides the reader with a useful survey of the methods to be discussed in the remaining chapters. Chapter 2 (by Bladon and Eglinton) is a short, but useful, outline of the common features of ultraviolet, visible, and infrared spectroscopy. Chapter 3 (by Eglinton) which comprises over one-fourth of the book, discusses infrared, and, to the extent of several pages, Raman spectroscopy. This is the best elementary introduction to infrared spectroscopy that this reviewer has seen. It is packed with useful information and examples of applications. Chapters 4 (by Bladon), 5 (by Jackman), and 6 (by Schwarz) by comparison are rather weak introductions to ultraviolet and visible spectroscopy, magnetic resonance spectroscopy (primarily nmr with a few pages devoted to esr), and optical rotation (ORD, CD, and single-wavelength rotations), respectively. Better introductions to these topics can be found elsewhere. Chapter 7 (by Greenwood) is an excellent critical discussion of methods for determining molecular weights ranging from low molecular weight monomers to high molecular weight polymers. Chapters 8 (by Sim), 9 (by Reed), and 10 (by Shaw) too briefly cover the topics of diffraction methods (exclusively X-ray), mass spectrometry, and dipole moments, respectively.

This book is not sufficiently self-contained to be of value as a text for an introductory course in physical methods. It may be useful to the organic chemist as a cursory introduction to the physical methods described and as a guide to more comprehensive works. All organic chemists would profit by reading Eglinton's chapter on infrared and Raman spectroscopy.

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