facts presented. This at times results in the author's taking a stand on some controversial point that may in the end be wrong. Zwikker is apparently willing to risk this for the sake of conciseness.

Broadly speaking, the book develops the field in the standard way. First appear introductory chapters on binding forces and lattice types along with discussion of homogeneous and heterogeneous mixtures. Then follows a good treatment of the anisotropic properties of crystals. In brief, it proceeds from the simple scalar-vector properties (for example, pyroelectricity) to the more complicated tensor-tensor properties (as far as elasticity). This section is the best in the book. After brief discussions of damping (mechanical and dielectric) and plasticity, there follow several chapters on thermal properties and finally several chapters on electron properties.

For its purpose it is well constructed and well illustrated with many line drawings and graphs. It is especially notable for the extensive use of scales to present experimental data concisely. It is written in a good style, although here and there the deletion of one or another "effect" in favor of a section tying together more tightly the previously mentioned "effects" might be advantageous. Successful use of this as a classroom textbook will require frequent use of the many original papers referred to. Perhaps for a student its best use will be its aid in reviewing for comprehensive examinations.

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Elementary Introduction to Molecular Spectra. Børge Bak. North-Holland, Amsterdam; Interscience, New York, 1954. 125 pp. Illus. $2.90.

This little book is intended for biologists, chemists, and chemical engineers who increasingly resort to empirical applications of molecular spectroscopy for the solution of their problems and naturally have a desire to understand the phenomena they apply. Such understanding is not easily achieved, however, for the dynamics of molecules and their interaction with electromagnetic radiation are intricate quantum-mechanical processes, and the classification of spectral data is based on group theory. Thus, the author has undertaken a difficult task.

The first chapter is an introductory survey of practical and theoretical spectroscopy. In the second chapter the basic postulates of quantum mechanics are stated, and an outline is given of the derivations of some of the equations used in molecular spectroscopy. The remaining three chapters give a clear and readable account of microwave, infrared, and visible-ultraviolet spectra. Because of the severe limitation of space, many important matters are omitted or treated with extreme brevity (only four pages are devoted to Raman spectroscopy!), and some oversimplifications have resulted. These chapters have been wisely written in such a manner that they are independent of Chapter II. This is particularly fortunate because, in my opinion, this chapter is the least successful. The Hamiltonian operator is introduced in a manner reminiscent of the Danish flag, which, according to legend, fell down from heaven. Moreover, very few of the expressions used in the later chapters are derived, and only for the particle in a box is the derivation approximately complete. A discussion of Bohr's concept of stationary states, with which the theory of spectra began, would be more helpful to the reader than the two tables of hydrogen wave functions.

Despite its shortcomings, which are closely related to its brevity, this book should be valuable, not only to its intended readers, but also to students who desire a quick preview of molecular spectroscopy.

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Geschichte der Mathematik. J. E. Hofmann. Walter de Gruyter, Berlin, 1953. 200 pp. DM 2.40.

This small volume is the first of several giving a brief but thorough sketch of the history of mathematics. It covers the period from the beginnings of mathematics up to the appearance of Descartes and Fermat. The author treats the mathematics of the ancient world with relative brevity and concentrates on the mathematical accomplishments of the medieval world. Although the names of practically everyone who made any contribution to mathematical knowledge are here, Hofmann can do little more than list them. Nevertheless several figures among the ancient and medieval mathematicians have been singled out for detailed treatment.

This book has excellent bibliographic material, ranging from references to works of general cultural history to original textbooks used in the period discussed. In addition, there is an index of the mathematicians mentioned with bibliographic information for each. These features contribute to the usefulness of this as a reference book as well as for a quick review. However, it is far too dull and sketchy for the general reader.

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Précis de Minéralogie. P. Lapadu-Hargues. Masson, Paris, 1954. 311 pp. Illus. + plates. Cloth, F. 2200; paper, F. 1700.

The purpose of this small book, as stated in the preface, is to interest students and scientists concentrating in other fields in the general aspects of descriptive mineralogy. The first section is very brief in its description of the concept of a mineral and the methods that are used to characterize them. The major portion of the book is devoted to the descriptive mineralogy, which classifies approximately 350 species.

While the pattern of other older familiar works on descriptive mineralogy predominates, the author has strived to introduce into the descriptive section mate-