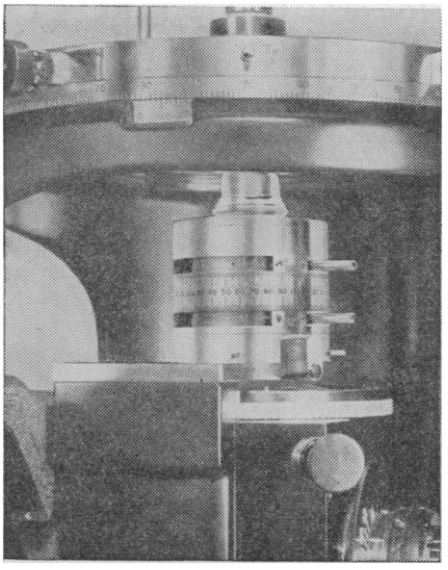

BAUSCH & LOMB ELLIPTICAL VIBRATION COMPENSATOR

THE Elliptical Vibration Compensator, used with the Bausch & Lomb Research Metallographic Equipment, provides the mineralogist with an important research and analytical tool. Through its use, reproducible quantitative measurements in polarized light reflected from opaque minerals can easily be made. Doubly refracting metals and opaque minerals can be classified. Small amounts of double refraction of mineral components in opaque structures can be detected.

The Elliptical Vibration Compensator, placed directly above the Foster vertical illuminator prism, permits determination of the amount of rotation of the plane of polarization as well as resultant phase shift which is characteristic of the specimen. The two factors are read directly on two separately rotatable elements consisting of a quarter-wave film between glass prisms and a thin mica plate. For complete information, write Bausch & Lomb Optical Co., 642 St. Paul Street, Rochester 2, N. Y.

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cent'' includes the confusing statement: ''The number 1 is 100%.'' As used, this statement is correct *before* the decimal point is shifted, but not *afterward.*

The discussion of slide-rule errors in the chapter on that subject could be improved to bring out more fully the limitations of the commonly used slide rule. The statement that ''slide-rule answers are accurate but not exact'' is hardly sufficient. In fact, the authors would have done well if they had included a brief chapter, written in their interesting style, on the usually dry subject of measurement, tolerances, precision, accuracy, and limits-of-error. Such terms as ''exact'' and ''accurate'' mean little in engineering unless carefully defined. No mention is made of calculating machines as used for mathematical work in which slide-rule errors would be too large to tolerate.

The abbreviations of terms do not in some cases follow the recommended practice of the American Institute of Electrical Engineers—for example, a-c should be used instead of a.c.

The errors and inconsistencies appear to be few indeed for a first edition, and both books are likely to be popular with many eager students.

I. MELVILLE STEIN
Leeds & Northrup Company, Philadelphia

Infrared and Raman spectra of polyatomic molecules. Gerhard Herzberg. New York: D. Van Nostrand, 1945. Pp. xiii + 632. (Illustrated.) $9.50.

This comprehensive treatise constitutes the second of a series on molecular spectra by a competent writer and will be cordially welcomed by all who have a serious interest in this field. It is, however, primarily a book for the specialist, and for its enjoyment a reasonable previous knowledge of the subject is a prerequisite. The extent of the material covered and the adequacy with which it has been treated may be judged by the 978 literature references and the complete subject index of 65 pages, which greatly enhance the value of the book as a reference.

The organization of the book is very logical, though possibly at the expense of introducing certain pedagogical difficulties, since the phenomena to be explained and their interest and relation to other knowledge do not become fully evident until the later chapters. In the Introduction a discussion of the symmetry properties of molecules is immediately presented, greatly facilitating the later discussion. Chapters I and II, which deal with Rotation and Rotation Spectra, and Vibrations and Vibrational Energy Levels, respectively, are primarily a theoretical discussion of the arrangement of the energy levels of molecules, of their degeneracy, and of their symmetry properties. The treatment is very complete, and, as in other sections of the book, alternative approaches to a given subject are often presented. In many cases proofs are not given, which occasionally seems unfortunate. For the reader who is not interested in theory for its own sake it may appear that undue