

## BOOK REVIEW

THIN-SECTION MINERALOGY. AUSTIN F. ROGERS AND PAUL F. KERR. Pp. 311+XI, figs. 261. McGraw-Hill Book Co., Inc., New York and London, 1933. Price \$3.00.

This small inexpensive book covers the field of thin section mineralogy in a remarkably satisfactory way. The chapter on the preparation of thin sections takes up only five pages but it includes all the essentials. The longer chapter on the polarizing microscope describes the various microscopes and accessories and gives a good section on the adjustment of the microscope.

The next chapter on the properties of light gives an excellent brief statement of the development of the theories of the transmission of light. Some slight errors have crept in. On page 34 figures *b* and *c* should be interchanged.

The chapter on refraction describes the methods of measuring indices of refraction by the refractometer, by prisms and by the immersion method. The authors explain the method of central illumination only for vertical contacts (after Hotchkiss) and do not explain the lens effect, which is no doubt much more important. The chapters on plane and convergent polarized light are brief but excellent. On page 105 under figure 87 the dispersion should be  $r > v$ .

In the chapter on color, form of aggregation, cleavage, and orientation, the discussion of form and cleavage is especially good and excellently illustrated by text-figures. Twenty pages are given to tables.

About half the book is devoted to descriptions of individual minerals. The descriptions are condensed and follow a uniform arrangement. At the head are given the composition, crystal system, and tabulation of the chief optical properties; then under the headings, color, form, cleavage, relief, birefringence, extinction, orientation, interference figure, distinguishing features, and occurrence, brief but excellent descriptions are given. One wonders whether some of these sections are necessary. For instance, on page 265 after the indices of refraction, axial angle, optical character, and orientation for piedmontite have been given, the later statements are made "Relief high,  $n > \text{balsam}$ ," "Birefringence very strong to extreme,  $n_{\gamma} - n_{\alpha} = 0.061$ ," "Interference Figure.— The figure is biaxial positive with large axial angle. The axial plane is  $\{010\}$ ." Are these latter statements needed? The space saved might profitably be used for other data.

In some of the mineral groups the gradational character of the members and the complications of the groups are not brought out. For instance, the amphiboles are treated as if made up of a small number of distinct species, anthophyllite, tremolite, hornblende, basaltic hornblende, riebeckite, and glaucophane.

The book is well balanced. The early chapters on methods and theory are brief and elementary, but they avoid the "cook-book methods" so objectionable in some textbooks. The numerous text-figures are especially well chosen and executed. The wide practical experience of the authors in microscopic work and in teaching has helped to make this the best elementary book in its field. It should be a widely used text- and hand-book.

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