BOOK REVIEWS

HARTSHORNE (N. H.) and STUART (A.). *Practical Optical Crystallography*. London (Edward Arnold Ltd.), 2nd edn, 1969, 326 pp., 254 text-figs., 2 pls., 1 folding chart. Price £3·75.

The first edition of this book does not seem to have been reviewed in this journal. The treatment follows the scheme used in *Crystals and the Polarizing Microscope* by the same authors, but this shorter version omits discussions of fibres, liquid crystals, etc. An introductory chapter deals with crystal morphology, then follows a brief treatment of the propagation and interference of light; uniaxial and biaxial crystals are described and the optical indicatrix and dispersion of the indicatrix introduced. A chapter on lenses and the polarizing microscope follows with some detail on illumination. Most teachers would prefer this chapter to come before the discussion of the optical properties of crystals and indeed it is usual to treat uniaxial materials fairly thoroughly before considering biaxial materials. Chapter 4 deals with the microscope used orthoscopically, first, using plane light and then using crossed polars. Chapter 5 deals with the microscope as a coniscope. Stereographic projection is treated briefly in Chapter 6 and examples given of the use of Biot–Fresnel law. The remaining two chapters consider the practical problems involved in preparing mounts for optical study and rotation apparatus: examples are given of the determination of optical properties of crystalline materials.

On the dust cover and the advertising publicity for this book it is stated that 'A considerable amount of new material has been added which includes the following features:—an outline of the technique of dispersion staining for determining refractive indices and their dispersion; additional methods of determining optic axial crystals mounted on the spindle stage in a random orientation; an up-to-date address list of manufacturers and suppliers of polarizing microscopes referred to in the text.' The outline of dispersion staining consists of one paragraph of seventeen lines (p. 163), which is inadequate for the reader to make practical use of the technique. The reviewer cannot find 'the additional methods of determining "optic axial crystals" mounted on the spindle stage'. What is, of course, meant is determining optic axial angles, but the text has been slightly altered on pp. 293–5 and three new references added on p. 295. The list of major manufacturers and suppliers of polarizing microscopes consists of a list of ten companies.

Certain misprints and minor errors have been corrected but this could have been done in a reprint. The reviewer does not know what is normally recognized as constituting a new edition but this edition has the absolute minimum of alterations from the first edition: the authors are strictly honest about this in the preface when they state that space has been found for the new material without altering the pagination of the book.

The first edition cost 40*s*. in 1964, the second edition costs 75*s*. in 1969. The book is excellent value for the money, particularly if one can acquire the first instead of the second edition.

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