

BOOK REVIEWS

WHITE (J. E.). *Seismic Waves*. London (McGraw-Hill), 1965, xv+302 pp. Price: 116s.

The aim of the book, which is successfully achieved, is a full treatment of a number of topics hitherto covered only inadequately in the literature; it therefore forms a complementary text to existing books on seismic wave propagation.

The book can be considered in three parts. The first, dealing with wave attenuation and mechanisms of energy loss, reviews both experimental data and the theoretical models they have given rise to. Sound waves in fluid-filled boreholes form the subject of the second part, which provides a valuable account of a subject having a direct bearing on many applications in both prospecting and seismology. The book ends with a discussion and a useful review of methods for carrying out controlled experiments on seismic waves. The inherent unity of these topics is clearly argued at the start of the book, which also contains a useful account of plane wave theory. Mathematical formulation is sparing and fairly straightforward.

M. BROOKES

WINCHELL (H.). *Optical properties of minerals*. New York (Academic Press), 1965, ix+91 pp. Price: 40s.

The book contains a series of determinative charts based on selected optical characters of minerals arranged in order of increasing refractive index. The charts are based on the earlier classification of A. N. Winchell (1939) who used two optical parameters. The present system employs three parameters (n or n_y (i.e. β), birefringence, and optic sign) and the charts take the form of 180° 'protractors', the centre of the diameter representing refractive index and also 'zero birefringence' which increases to 0.40 at the ends of the diameter. The circumference of the 'protractor' is divided into two quadrants; the upper representing $2V_\gamma$ ($0-90^\circ$) and the lower $2V_\alpha$ ($0-90^\circ$).

There are sixty charts covering the range n or n_y 1.300 to 2.500 and above. The positions of the minerals are plotted on the charts and characteristic d -spacings and A.S.T.M. card-index numbers are listed on the facing pages. Page reference numbers for the minerals described in Winchell and Winchell, vol. II (1951) are also provided.

Hence the charts represent a series of horizontal planes cut across