

pressed against the bell on his vehicle, the bell gave out a loud ringing note. This chance question led the author to a new technique for exciting the vibrations in plates, bars, bells etc. Chladni had used a bow in his much earlier work and for certain effects the bow is better than the dry-ice. The detailed study using the new technique of excitation has led to a more fundamental understanding of the modes of vibration of solid bodies of various shapes. The numerous beautiful plates show how the patterns are related to the symmetry of the shape of the vibrating body. A classification, based on the manner in which nodal and anti-nodal axes are combined, is laid down for many shapes of plates. Measurements of the frequencies of particular modes of vibration have been recorded and the data for determining the frequency of any particular mode of vibration is given. A section on repeating vibration patterns brings the subject into relation with two-dimensional lattices and their symmetry. The decorative designs which may be derived from these are of interest to the artist. A section is also devoted to the study of the manner in which powders and dusts

of various kinds settle down at nodes or antinodes. The bibliography is most valuable.

An unusual feature of the book is the arrangement of the text and the plates. Throughout a large part of the volume the text is made just long enough to occupy a page opposite to the figures which it explains. This imposes a somewhat arbitrary limitation on the text and necessitates the section headed 'additional notes'. This volume is likely to be regarded as a classic study of Chladni figures and can be warmly recommended to all interested in these vibration patterns.

The appreciative foreward by Prof. Andrade is a welcome embellishment to the work. Finally, it should be said that the production of the text and figures is excellent.

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Books Received

The undermentioned works have been received by the Editors. Mention here does not preclude review at a later date.

Ionization X-ray Equipment for Research on Crystalline Materials at various Temperatures. By P. F. KONOVALOV, A. I. EFREMOV and B. V. VOLKONSKI. Translated from the Russian by Y. SHECHTMAN. Pp. v+102. Jerusalem: Israel Program for Scientific Translations, 1961. [Russian original: Leningrad, 1958.]

Krystalografia Chemiczna I Fizyczna. By JÓZEF CHOJNACKI. Pp. 462. Warszawa: Państwowe Wydawnictwo Naukowe, 1961. Price Zł 48.-.

Photoelectrets and the Electrophotographic Process. By V. M. FRIDKIN and I. S. ZHELUDEV. Translated from the Russian by A. TYBULEWICZ. Pp. xii+195. New York: Consultants Bureau, 1961. Price \$ 12.50.

Methods of Experimental Physics. Vol. 3. Molecular Physics. By DUDLEY WILLIAMS. Pp. xiv + 760. New York: Academic Press Inc. Price £ 6.16.0.

Piezoelectric Properties of Wood. By V. A. BAZHENOV. Pp. vii+180. New York: Consultants Bureau, 1961. Price \$ 9.50. Translated from the Russian edition of 1959, with revisions. [Translator's name not given.]

Ore Microscopy. By E. N. CAMERON. Pp. xiv + 293. London: Wiley, 1962. Price 79s.

Direct Analysis of Diffraction by Matter. By R. HOSEMAN and S. N. BAGCHI. Pp. xxii+734. Amsterdam: North-Holland Publishing Company, 1962. Price 72 Netherlands guilders.

X-ray Powder Data for Ore Minerals: the Peacock Atlas. By L. G. BERRY and R. M. THOMPSON. Pp. vi+281+27 plates. Geological Society of America, Memoire 85, 1962. Price \$ 8.25.

Molecular Structure and the Properties of Liquid Crystals. By G. W. GRAY. Pp. viii+314. London: Academic Press, 1962. Price 63s.

Oxide magnetic materials. By K. J. STANDLEY. Pp. viii+204. Oxford: Clarendon Press, 1962. Price 35s.

The Tides and Kindred Phenomena in the Solar System. By G. H. DARWIN. Pp. xx+378, with 43 figures. London: W. H. Freeman and Company, 1962. Price 20s.

Sir George Darwin's popular exposition of his work on tides and related phenomena was originally published in 1898. It is now republished as a paperback, with a seven-page introduction by W. H. Munk of the Institute of Geophysics and Planetary Physics of the University of California. It is an admirable popular book, with some arithmetic but no higher mathematics. Crystallographers may find the chapters on harmonic analysis of interest, but the book contains nothing to justify an extended review in *Acta Crystallographica*.