were fortunately able to enlist the interest in this project of Dr. Hector Charles Cameron, whose experience and achievements in medical and scientific history were already well known. The Trustees' offer, and Dr. Cameron's suggested services in giving effect to it, were gladly accepted by the Society's Officers and the Court of Assistants.

"The Wellcome Trustees had further suggested, for the Society's consideration, that Dr. Cameron's manuscript, when completed, might be submitted to Dr. Underwood, for inclusion if acceptable in the Main Series of Publications of the Wellcome Historical Medical Museum, and this proposal, which would relieve the Society of any expense and trouble contingent on the publication, was also accepted."

I would merely like to add to the foregoing that, in my view, the book would be the gainer by a colour photograph of the Courtyard of Apothecaries Hall, London, such as was specially painted for the July 1954 issue of *The Glaxo Volume* by I. C. Moody. Moreover, the pictures of King James I and of Francis Bacon could add to the value of the volume by being reproduced in colour.

K. J. Franklin

SOLID-STATE PHYSICS

Solid State Physics

Advances in Research and Applications. Vol. 12. Pp. xvi+459. 114*s*. 6*d*. Vol. 13. Pp. xv+482. 103*s*. 6*d*. Vol. 14. Pp. xv+519. 114*s*. 6*d*. Edited by Frederick Seitz and David Turnbull. (New York and London: Academic Press, 1961–63.)

Theory of Lattice Dynamics in the Harmonic Approximation

By A. A. Maradudin, E. W. Montroll and G. H. Weiss. (Solid State Physics: Advances in Research and Applications, Supplement 3.) Pp. viii+319. (New York: Academic Press, Inc.; London: Academic Press, Inc. (London), Ltd., 1963.) 80*s*.

THE general excellence of the *Solid State Physics* series scarcely needs to be recorded: it can by now be taken for granted.

The 'substantive' articles in Volume 12 include a review by H. Inokuchi and H. Akamatu of electrical conductivity in organic crystals. The conduction in such materials is, of course, not done well, and one is surprised—as Dr. Johnson would have been—to find it done at all. It seems, however, that 'organic semi-conductors' are by no means rare forms of molecular crystals and that they are beginning to be understood. K. Mendelssohn and H. M. Rosenberg achieve the useful and apparently difficult feat of writing about thermal conductivity of metals at low temperatures in a way which is at once lucid, readable and complete. Finally, G. Leibfried and W. Ludwig survey anharmonic effects in crystals in a way which will not be very helpful to the general reader but invaluable to research workers in lattice dynamics. Their article includes quite a lot of original work.

There are two articles on 'techniques' in Volume 12: an experimentalist's vade-mecum on the subject of hydrothermal crystal growth by R. A. Laudise and J. W. Nielsen (complete with beautiful pictures of growing crystals, diagrams of autoclaves and so forth), and a theoretician's potted guide to group theory and crystal field theory by C. M. Herzfeld and P. H. E. Meier. A feature of this article is the index of references to character tables, tables of direct products of irreducible representations and tables of explicit base functions for the point groups.

Volume 13 exhibits a similar balancing of topics. The semi-conductor lobby provides us with a comprehensive account of electron spin resonance in semi-conductors by G. W. Ludwig and H. H. Woodbury; this tool appears to be particularly powerful when applied to the investigation of impurities. J. J. Gilman and W. G. Johnston explain, with the help of illustrations, how dislocations in lithium fluoride may be investigated by means of etch pits. The pictures look rather like rills on a lunar landscape. C. K. Jørgensen writes about chemical bonding (as inferred from visible and ultra-violet absorption spectra) from a point of view which will be unfamiliar to most physicists. Is he a missionary talking to cannibals or a cannibal talking to missionaries? There is little doubt that S. S. Mitra, who writes about the vibration spectra of solids, is a cannibal. His feast included, among others, C. V. Raman, and has proved somewhat indigestible.

The 'techniques' part of Volume 13 involves a fascinating article by F. P. Bundy and H. M. Strong, well known for their work on diamond synthesis at the General Electric Co., on the behaviour of metals at high temperatures and pressures. There is indeed much more than techniques to be found here: known data on resistivity, compression, phase diagrams, thermoelectric power and the curious catalytic properties of transition metals which enabled the diamond synthesis to proceed. Naturally, perhaps, the last topic is skimpingly done. There is no reference to Henry Eyring. Theoretical technicians will be well pleased by E. I. Blount's account of the 'formalisms' of band theory. This article is centred on the Wannier representation. It draws together scattered results in an intelligible and intelligent way and includes some original work.

The 'mixture' of Volume 14 is not the standard one. There are three high-level articles on special problems, namely, "*g* Factors and Spin-Lattice Relaxation of Conduction Electrons", by Y. Yafet; "Electron Spin-Resonance Spectroscopy in Molecular Solids", by H. S. Jarrett; and "The Theory of Exchange in Insulators and Semi-Conductors", by P. W. Anderson. Each of these articles is authoritative, critical and complete, but they demand much background knowledge from the reader. The fourth article—a book within a book—is an account of molecular motion in solid-state physics by N. Saitô, K. Okano, S. Iwayanagi and T. Hideshima. It reviews competently theory and experiment in a field which is (literally and figuratively) amorphous.

Theory of Lattice Dynamics in the Harmonic Approximation, by A. A. Maradudin, E. W. Montroll and G. H. Weiss, is a masterly account of the 'active centres' of a popular and important field. The topics covered include the role of critical points in phonon spectra, the effects associated with defects, surface effects and atomic correlations. There is no other convenient account of these subjects available, and they are here treated with clarity and elegance. The theory of ionic crystals is the only obvious 'gap'. Is it too much to hope that it will be filled by someone like Rosenstock?

R. O. Davies

ANIMAL PATHOLOGY

Pathology of Domestic Animals

Vol. 1. By K. V. F. Jubb and P. C. Kennedy. Pp. xv+477. (New York and London: Academic Press, 1963.) 128*s*. 6*d*.

FOR long a notable omission in the ever-expanding veterinary literature has been the absence of a modern authoritative text, in English, on morbid anatomy and histopathology. This book, the first of a two-volume work on the pathology of domestic animals, goes far towards filling the gap. It is particularly opportune that it should come at the present time when there is a growing interest in, and awareness of, the importance of comparative pathology. Although the work has been designed primarily for the teaching of veterinary students it will also serve as a useful guide to those medical pathologists