

Radio Interference Suppression

As Applied to Radio and Television Reception. By G. L. Stephens. (Published for *Wireless World*.) Second edition. Pp. 132. (London: Iliffe and Sons, Ltd., 1952.) 10s. 6d.

IN view of the regulations made recently for the suppression of interference in the television frequency band, the publication of this up-to-date guide on suppression methods is opportune. The book is a revised edition of the original publication by G. W. Ingram in 1939. It is intended for all those who have to do with the actual process of suppression, from the designer of electrical equipment to the service engineer who has to cope with specific cases of interference. It is essentially a practical book, and only an elementary knowledge of the theoretical side of the subject has been assumed.

In the first chapter the origin of interference and its modes of propagation are simply explained. After discussing the general principles of suppression, the author shows in a well-illustrated chapter how they may be applied to a wide variety of sources of interference ranging from domestic appliances and motor-car ignition systems to industrial equipment and trolley-buses. A separate chapter has been devoted to marine applications. In discussing the specification requirements of suppressor components, the author rightly emphasizes the need for reliability especially from the safety point of view. Methods of locating interfering sources and of measuring the radiated field strength are briefly described. In the last chapter, on suppression at the receiver, one is rather surprised to find television 'ghosts' and picture flutter included. Also in this chapter occurs an unfortunate disagreement between the text and the caption of Fig. 61: the text correctly gives the stub length as a quarter of a wave-length. To the engineer and research worker who will regard this volume as an introduction to the subject, the bibliography will serve as a useful guide for further study.

B. G. PRESSEY

Progress in Metal Physics, 3

Editor: Dr. Bruce Chalmers. (Progress Series.) Pp. viii+334. (London: Pergamon Press, Ltd.; New York: Interscience Publishers, Inc., 1952.) 48s.

THIS volume, the third of what was originally intended to be an annual series, compares favourably with its predecessors. Three of the articles, namely, those on properties of metals at low temperatures (D. K. C. MacDonald), recent advances in the electron theory of metals (N. F. Mott) and ferromagnetism (U. M. Martius) are good reviews in established branches of pure physics, whereas the other articles deal more directly with subjects of metallurgical significance. First, there is an excellent review on the crystallography of transformations (J. S. Bowles and C. S. Barrett), and an article on twinning (R. Clark and G. B. Craig) which although interesting does not clarify—a circumstance due rather to the state of the subject than to any defection on the part of the authors. G. B. Greenough contributes a very well-informed chapter on quantitative X-ray diffraction observations on strained metal aggregates, while the article on recrystallization and grain growth (J. E. Burke and D. Turnbull) manages to combine a formal approach to recrystallization kinetics with a critical selection from the massive amount of experimental information which has accumulated in this field. Finally, the editor gives a

very readable account of the structure of crystal boundaries.

This series is primarily for research workers, both physicists and physical metallurgists, who have much common ground. However, one might have hoped that the valuable contributions to pure physics, on one hand, would have been balanced, on the other, by some articles more closely related to metal technology. Some effort to bridge this gap was made in the first volume, but not in the present one.

R. W. K. HONEYCOMBE

Mathematical Models

By H. Martyn Cundy and A. P. Rollett. Pp. 240. (Oxford: Clarendon Press; London: Oxford University Press, 1952.) 21s. net.

AN exhibition of mathematical models staged by the mathematical sixth-form of a school twenty-five years ago was the forerunner of those held to-day by schools, colleges and societies in order to provide that contact with reality so essential in demonstrating ideas and principles in the symbolic world of mathematics. The excellent bibliography shows how scattered is the literature of the subject, and teachers and men of science will be grateful to the two authors for writing a permanent record of these lessons of experience in this fascinating and decorative field.

The carefully written text, with its clear illustrations and photographic plates, gives sufficient detail to enable pupil and teacher to construct many models and diagrams, including dissections, loci and envelopes (by folding, drawing and stitching), tessellations (plane and solid), polyhedra, ruled surfaces, simple machines for solving equations, and linkages. The longest and most attractive section gives nets and constructional hints for the regular, the stellated and the Archimedean polyhedra and their duals, the regular compounds and deltahedra. It certainly is an admirable collection for the classroom.

This delightful book should be in the hands of every mathematics teacher and in every school library.

Personality Development

By J. S. Slotkin. Pp. x+401. (New York: Harper and Bros.; London: Hamish Hamilton, Ltd., 1952.) 36s.

THE author, who is a social anthropologist, begins by saying that he has tried to work out a systematic theory of personality development, from the hypotheses and evidence of various relevant sciences. The material is, however, systematic only in so far as it has been distributed under four major headings: inheritance, socialization, culturization and individualization. Within each of these fields the approach is mainly descriptive and anecdotal, and is adorned by a wealth of quotations from ancient and modern writers.

It may well be that in the meantime this kind of approach is repaying. Certainly it does not suffer from the aridity of some recent statistical work in the same field. But perhaps we can only be scientific about people if we are content to be dull.

Though no major contribution to the study of personality has here been made, the book is extremely readable and the material is freshly presented. Anyone in search of illustrations for his own lectures or suggestive instances to help forward his own thinking will find that this is an excellent anthology, and perhaps the only one of its kind.