

### A Handbook of Lattice Spacings and Structures of Metals and Alloys

By Dr. W. B. Pearson. (*International Series of Monographs on Metal Physics and Physical Metallurgy*, Vol. 4.) Pp. x+1044. (London and New York: Pergamon Press, 1958.) 262s. 6d.

THIS is a formidable work of more than 1,000 pages. It is divided into two parts. The first part is an account of the methods used in the accurate determination of lattice spacings and crystal structures, and of the significance of the results in connexion with the location of phase boundaries, the application of electron theory to metals and alloys, and the effect of magnetic properties on lattice spacings. A brief mention is also made of the role of lattice parameter measurements in miscellaneous fields such as thermal expansion and superconductivity.

The second part occupies most of the book, and consists of a collection of crystallographic data. This includes the lattice spacings and crystal structures of the elements, of binary, ternary and quaternary alloys, and of borides, hydrides, carbides, nitrides and oxides. The largest section in this part is an alphabetical index of the work on metals and alloys. For each alloy system a brief description of the equilibrium diagram is given, together with a critical assessment of the various lattice parameters obtained by different workers. Sufficient practical information on the methods of obtaining the data is given to make it unnecessary in most cases to refer to the original papers. References are included up to 1957.

The labour involved in producing this work must have been considerable, and the author is to be congratulated on the result. It will prove to be of great value to the research worker, and should be in the library of all people who are interested in the physics of metals. The book is unfortunately very expensive.

J. A. CATTERALL

### The Birds of Sydney (County of Cumberland), New South Wales

By K. A. Hindwood and A. R. McGill. Pp. iii+128+19 plates. (Sydney: Royal Zoological Society of New South Wales, 1958.) 12s. 6d.

THE Sydney Basin is essentially Triassic in origin and was formed by successive lake deposits overlying coal measures of Permian age. Above the coal is red shale, and above this there lies a tough sandstone surmounted by a final capping of grey shale. Here and there erosion has bared the underlying structures; in fact, the city of Sydney is built on and partly of Hawkesbury sandstone. Each geological type supports its own characteristic flora and, correspondingly, fauna. The red shale of the deep valleys has attracted an Indo-Malayan vegetation, as well as a fauna partly of northern affinity. The flowering heaths of the sandstone support many honey-eating animals and others; and in the open forests of the surviving top-shale is found a fauna which is often closer allied to that of the dry interior than to the animals in the cool valleys nearby.

Messrs. Hindwood and McGill have compiled a useful list of the 377 species of birds—both land and marine—native to this zoologically fascinating region. Under each name are five or six lines, mentioning salient points of description and the localities in which each species can be found. The compilation, therefore, remains of strictly local interest; and this is a pity. The area abounds with problems relating

to the wider aspects of avian zoogeography, ecology and dispersal and it is regrettable that no attempt has been made to get to grips with such matters. The book is illustrated with a map of the area and excellent photographs of about thirty species.

A. J. MARSHALL

### Food for Survival after a Disaster

By Dr. R. C. Hutchinson. Pp. ix+90+6 plates. (Carlton, N.3: Melbourne University Press; London: Cambridge University Press, 1959.) 13s. 6d.

THE disaster envisaged in the title is that of shipwreck, forced plane landing, or vehicle breakdown in a desert area, rather than the large-scale disaster of modern war, and the information given is primarily that which would be of the greatest value to individuals or small groups of survivors trying to keep alive under adverse conditions in strange surroundings. In addition to this, however, the book also contains much pertinent detail on de-salting kits and on the selection and packaging of survival rations which would be of great use to those planning scientific expeditions and to commercial shipping and air-line companies who may not have access to pamphlets prepared for the Armed Forces.

The author claims to speak from personal experience as "a survivor on both land and sea", and has certainly condensed a wealth of material into a very small space and presented it in a most readable form. The chapter on "Possible Supplementary Sources of Food" is a whole lesson in ecology in itself and one that should stimulate the interest of any school-boy. Decidedly a book to be recommended to all inveterate travellers: the day might well come when they would owe their lives to what they had learnt from its pages.

M. W. GRANT

### From Microphone to Ear

Modern Sound-Recording and Reproduction Technique. By G. Slot. Second, revised and enlarged edition. Pp. ix+258. (Eindhoven: Philips' Technical Library; London: Cleaver-Hume Press, Ltd., 1959.) 21s.

THIS book might well be entitled "Gramophones, from A to Z", for it seems to contain everything, even (p. 82) how to remove gin spots from your records! It is obviously written by an enthusiast for enthusiasts, and its quality has been well preserved in the excellent translation. Many an amateur constructor, 'hi-fi' or stereophony fan, or even the intelligent listener with a curiosity to learn more of what gets the music on to the records and out of the loudspeaker, will find plenty of reading here. Recording techniques, studio work, tracking theory, loudspeaker dynamics, cabinet design, motor construction, care of records, negative feedback, tape recorders, sound effects, automatic record changers, needles, hum—the lot.

With this enormous coverage the treatment of much of the material will seem shallow to professionals and it would be easy to be critical, but purposeless. The book is informative, practical, well written and illustrated by many simple line diagrams and photographs. It makes a welcome and timely appearance, in these days of such increased demand for better musical recording and reproduction. Many enthusiasts want to assess the merits of this technique and that, or to judge the quality of their equipment, or to improve it; this book will help them.

COLIN CHERRY