

The Technique of Radio Design

By Dr. E. E. Zepler. Pp. xii+311. (London: Chapman and Hall, Ltd., 1943.) 21s. net.

THE author of this book has had a number of years experience as a radio designer in the research and development departments of two well-known commercial firms, one in Great Britain and one in Germany; and the book records much of that experience as an aid to the radio equipment engineer in dealing with his daily routine problems.

The scope of the work covers the design and basic construction of radio communication receivers of all types, and concerns intimate details of receiver work rather than a comprehensive treatment of principles, which are already adequately catered for in other publications. The first chapter, on "Some Fundamental Theoretical Facts", is preceded by a list of symbols and some useful formulæ and graphs on the inductance, capacitance and impedance of wires, coils and feeders. The succeeding chapters then deal in a very practical manner with the transfer of the received signal from the aerial to the first amplifying stage, and so on to the detection and frequency-changing portions of the receiver. The problems arising from the requirements of selectivity, gain and frequency control and the necessity of suppressing or limiting receiver noise, hum and spurious beats are described; and it is gratifying to find a whole and very practical chapter devoted to the important subject of screening in the various ways in which it is relevant to the design of a good radio receiver. Later chapters deal with power supply, routine measurements and fault finding.

The book is to be recommended as a good combination of theory and practice, and should be at the disposal of all engineers and physicists concerned with the design of radio-receiving equipment, whether of an experimental or commercial type.

Food and Farming in Post-War Europe

By P. Lamartine Yates and D. Warriner. (The World To-day Series.) Pp. 118. (London, New York and Toronto: Oxford University Press, 1943.) 3s. 6d. net.

THE reconstruction of European agriculture will be one of the most urgent and complex tasks confronting the United Nations on the conclusion of hostilities. It is not reconstruction so much as revolution that is required to dispel the grinding, hopeless poverty of the vast mass of peasantry that has been a chronic cause of economic and political unrest, particularly in south-eastern Europe. For the sake of brevity the authors of this book have simplified the presentation of the problem without, however, sacrificing clarity. There are far too many farmers in Europe, they produce the wrong kinds of foodstuffs, they are ill-fed, and they are unorganized economically. The basis of re-organization must be increased industrialization to relieve rural overpopulation, the substitution of intensive mixed farming for predominantly grain farming, and great improvements in technical efficiency and marketing. The rural and urban populations would be economically complementary, each providing a steady market for the produce of the other. The economic, social and political obstacles to the realization of such a plan are immense, and the authors confront them boldly. They are, however, confident that they can be overcome, and their arguments, supported by well-marshalled facts, lend support to their confidence.

Land, Air and Ocean

By R. P. Beckinsale. Pp. 407+18 plates. (London: Gerald Duckworth and Co., Ltd., 1943.) 15s. net.

TO compress into a single small volume an account of all aspects of the physical basis of geography is an ambitious task, but on the whole the author has been successful. It may be questioned whether the book is full enough for university work, but it certainly touches on nearly all problems that have to be considered and gives, on each chapter, useful and modern references for further study. There are even indications of the human bearing of the physical considerations. Naturally some parts are fuller than others. The chapters on the atmosphere are perhaps the best and include mention of much recent work. Some revision and amplification would not be out of place in the account of ocean waters and submarine relief, and in the paragraphs on icefields. On many subjects it is difficult to compile a short but comprehensive list of further reading, but a few additions would not be out of place in the chapters mentioned. There are several well-chosen diagrams and photographs. The book, though condensed, is most readable.

Tables of Legendre Associated Functions

By Zaki Mursi. (Fouad I University: Faculty of Science, Publication No. 4.) Pp. viii+286. (Cairo: Fouad I University, 1941.)

UNTIL recently the only tables of the associated Legendre functions $P_n^m(x)$ were those of Tallquist (Helsingfors, 1906), who calculated them for values of n and m up to 8 and for values of x from 0.00 to 1.00. As the function vanishes when the positive integer n is less than the positive integer m , Tallquist's tables contained 3,600 entries. He calculated functions of even order exactly, and those of odd order with an accuracy varying from four to ten decimal places. Now the Fouad I University at Cairo has provided a much more extensive table, for values of n and m up to 10, and for values of x from 0.000 to 1.000. The entries have been obtained correct to 8 decimal places, except for $n = 9, 10$ and m equal to or greater than 5, where, as the entries are large, the values have been calculated to four decimal places only. Parts of the tables have been checked by Dr. L. J. Comrie, whose knowledge and experience of mathematical tables are exceptionally wide.

The Biological Control of Insects

By Hugh Nicol. (Pelican Books, A.113.) Pp. 174+8 plates. (Harmondsworth and New York: Penguin Books, Ltd., 1943.) 9d. net.

THE control of insect pests by means of parasites and predators appeals to the biologist and the general public alike. The biologist sees in the method the practical application of scientific knowledge by the utilization of living organisms. To the public it forms an attractive chapter in the progress of applied science. Dr. Nicol has recounted the history and practice of the methods of biological control in an attractively written volume. His account is accurate, free from undue technicality and shows an unbiased detached viewpoint. It can be recommended to a wide circle of readers including scientific folk themselves. As the author remarks, there is science, and also material for philosophy, for the reader who looks a little beneath the surface of the story, here recounted, towards the deeper issues.