

Nutrition and the War

By Dr. Geoffrey Bourne. Second edition, revised and enlarged. Pp. xii+148. (Cambridge: At the University Press, 1942.) 4s. 6d. net.

IN these days of fortress economics, a special responsibility should burden those who set out to give information about food to the multitude, and it is only fair that their books should be submitted to searching criticism. From such a stern test Dr. Bourne's book emerges certainly not unscathed but with its fabric still fundamentally sound and a prognosis of useful service. It is entertainingly and well written and in places surprisingly up to date; its successive chapters deal in simple language with energy and food; proteins, fats and carbohydrates; vitamins; minerals, and nutrition in war-time. Nearly half the book is taken up by tables setting out the calorie, protein, carbohydrate, fat, mineral and vitamin content of a variety of products.

The advice given in the book is on the whole sound. At times, however, it is detached from reality, as in the author's unnecessary insistence on the paramount importance of citrus fruits, which are almost unobtainable, and his failure to indicate the excellent though more homely sources which everyone can produce in garden or allotment. A more serious point is the lack of appreciation that it is not so much the richness of a product in any given food factor as the amount consumed that matters in the end. This leads to the strange selection of curry powder as the best source of iron, and of 'Marmite' as nearly the best source of calcium. Alcohol gets an unexpected pat on the back and one almost fears that this misinterpretation of Mitchell's work might lead an enthusiastic planner of the family diet to prescribe it to children to make them grow faster and put on flesh. Fortunately, the commodity is in short supply. The weakest part of the book are the tables, which contain many mistakes. (Watercress and tomatoes are given as poor in vitamin A, but oranges and wholemeal flour are classed as fairly good; dried peas, beans and lentils are recommended as a source of vegetable fat, and so on.)

Frankly, Dr. Bourne will have to study his Fixsen and Roscoe and his McCance and Widdowson and do some drastic revising. The book is worth it and one looks forward to an improved third edition. Let us hope that by then a change in the title will also be needed.

S. K. KON.

Tables of Physical and Chemical Constants

And some Mathematical Functions. By Dr. G. W. C. Kaye and Prof. T. H. Laby. Ninth edition. Pp. vii+181. (London, New York and Toronto: Longmans, Green and Co., Ltd., 1941.) 18s. net.

IN the last thirty years this valuable set of tables has become so indispensable in the physics laboratory that every laboratory boy knows what to get when asked for "Kaye and Laby". If authors' names alone were to be used, accuracy would demand that far more than two be mentioned, for the original authors adopted the wise policy of securing the help of many others. As this edition, the ninth, was passing through the press, Dr. Kaye died and the Physics Department of the National Physical Laboratory gave a final inspection to the text and prepared the index. Prof. Laby, who took no part in the preparation of the eighth edition, has re-written for the present edition the tables dealing with units and dimensions, electrical units, con-

version factors, mechanical equivalent of heat, velocity of light, general and atomic constants, α -rays, radioactivity, isotopes and arrangement of electrons in atoms. In one section the tables are ahead of time, because they include the electrical units originally proposed for adoption as "absolute" from January 1, 1940, by the International Electrotechnical Commission. The War upset the plan for general adoption.

The publishers have managed to find good paper for this edition. Twenty pages have been added to the book, and four shillings to the price.

W. H. G.

Mathematics for Technical Students

By A. Geary, H. V. Lowry and Dr. H. A. Hayden. Part 3. Pp. viii+393. (London, New York and Toronto: Longmans, Green and Co., Ltd., 1941.) 8s.

THIS is the third part of a series designed to provide the basic mathematical equipment for technical students, and to meet the requirements of the national certificate courses in engineering, building and chemistry. Each volume is planned to cover a year's work; the book under notice is thus intended to provide the necessary subject-matter for third-year students.

After a useful chapter on revision, the text begins with the progressions, binomial series, graphs of exponential functions, and the trigonometric addition theorems. The ground is accordingly well prepared for the calculus which follows. The modern method of developing the principles of differentiation and integration, side by side, is well carried out, and illustrated by applications to mechanical and electrical engineering. The final chapters are devoted to complex numbers, with applications to alternating currents, and alignment charts. There is a valuable summary of formulae followed by a number of specimen examination papers. The student is well provided, at the ends of each chapter, with exercises for practice, to which answers are supplied. The book also includes an index and the usual set of tables.

Intermediate Algebra

By Neil McArthur and Alexander Keith. Pp. x+356. (London: Methuen and Co., Ltd., 1942.) 8s. 6d.

THIS excellent book reveals the rapid strides which algebra has made in recent times. A few years ago, "Higher Algebra" would most probably have been the appropriate title. The course is designed primarily for use in school and first-year university classes, the students of which have previously covered the work required for the first school certificate examination. The text deals, in a comprehensive way, with polynomials, partial fractions, equations, including determinants, indices, logarithms, simple series, graphs and the binomial theorem. The authors have provided a stimulating introduction on the basis of the course which should give the student an intelligent interest in the subject. Mention should also be made of the important chapters on graphs and the method of differences which lead, quite logically, to the calculus. Modern methods have been used throughout, and the treatment, in general, is not only sound but also very clear and well illustrated by worked examples. The aim of the authors has, indeed, been skilfully carried out and, as would be expected in such a book, ample exercises for practice have been supplied. Answers to these are given and a good index provided.