BOOK REVIEWS

Industrial Nutrition. By Magnus Pyke. 1950. London: Macdonald & Evans. Pp. 212. Price 10s.

Industrial nutrition is yet another term which reflects the modern trend in specialization. Specialization demands that more and more is known about man's cardiovascular, nervous, alimentary, and other systems, of his phases of life, and less and less about man himself. The purist or indeed the practical man of medicine must ask himself can there be such a thing as industrial nutrition or industrial health? Is it possible to consider as a separate entity health or nutrition at work when both health and feeding depend so much on other factors which have no direct association with work? In this book the author has presumably used "industrial nutrition" as a convenient term to cover the nutritional needs of different classes and types of worker. More than once he reminds his readers that man does not live by bread alone taken in the industrial canteen. "Scientific methods can only be applied effectively to industrial feeding if the caterer has a thorough knowledge of the life and habits of the workers in their homes as well as at their jobs."

The opening chapters give a simple account of the calorie needs of adolescents and adults and those engaged on heavy and light work. On the whole, workpeople's diets are not short of calories but rather of accessory food factors, particularly vitamin C in the early months of the year, when the caterer should bring out the bottled fruit and put watercress in the sandwiches. Because a man works in what is considered to be a light industry it does not follow that his physical effort is any less than that of a worker in a heavy industry. Furthermore, in a single industry there may be groups of workers whose energy requirements differ widely. The author investigated mule spinners in the cotton spinning industry, an example of light work, yet mule spinners need more than 4,000 calories because there is hardly a moment during the day when they can stop walking. Again, men doing the same work have very different individual requirements which may vary by 100% or more from the average. Dr. Pyke emphasizes the need for flexibility in any system of communal feeding to allow for these individual and group differences.

The chapters on feeding the night shift and adolescents are valuable because these two groups are not often considered specially. As Kleitman showed in "Sleep and Wakefulness" (1939, Chicago Press), there are in any work group a proportion who cannot change their physiological rhythm when they go on night shifts; they do not fancy their food yet they need as many

calories as they do on day shifts. They need to be tempted and not ignored when they complain about the canteen service.

Adolescents need more to eat than any other class, with the exception of the heaviest industrial worker, and their needs for protein, calcium, and iron are particularly high. The only important point which the author does not stress is subsidizing the young workers' meals.

Other important chapters are those dealing with food wastage and effects of cooking, the significance of fat and the importance of meat in providing calories in a compact and attractive form.

The practical note which runs throughout this simple but scientific approach to nutrition is emphasized in this sentence which should be taken to heart by all responsible for industrial canteens: "Bad cooking and repellent surroundings are the most significant factors in causing failure of plans for industrial feeding to reach their desired nutritional aims." Science without sense is useless. This is a well-written, practical, commonsense book on feeding industrial workers; it considers the whole problem of how to get workers to use the canteen, the difficulty of overcoming local customs; for example, the Durham miners swear that cheese is binding, yet they will eat quantities of it if they go to work in south Wales. The book does not, as the title may suggest, deal only with the specialized nutritional problems of workers engaged in hot heavy work, or exposed to the hazards of lead, T.N.T., and benzene. Written by an expert, not a specialist, it can be strongly recommended to doctor, student, and industrial caterer. R. S. F. S.

Industrial Toxicology. First Edition. By Lawrence T. Fairhall. 1949. Baltimore: The Williams & Wilkins Company. London: Baillière, Tindall & Cox. Pp. 483. Price 46s. 6d.

This book deals with all those substances used in industry that have or are suspected of having a toxic action. The layout of the material is clear and the style of writing simple and concise. There are no illustrations. The first part of the book is concerned with inorganic substances and the second part with carbon compounds, and each is arranged with the chemical substances in alphabetical order. The characteristics, industrial uses, toxicity and methods of analysis of each substance are described in detail. The book shows clearly how the present rate of industrial development has intensified the search for new materials. The substances produced have rapidly become indispensable

but in many cases their properties still remain insufficiently understood. The subject has become so complex as to demand an authoritative and comprehensive sifting of the accumulated facts. The author modestly states that the merit of his book is to be found in the vast fund of information which research workers have contributed to this subject. Dr. Fairhall himself has played no small part in such researches during the past 30 years. He was responsible for the chemical studies in the famous Harvard investigation of lead poisoning, when he worked in collaboration with Aub, Minot, and Reznikoff. His knowledge and experience have enabled him to present a concise and comprehensive dissertation on the toxic effects of each substance discussed. The knowledge gained both from animal experiments and from accidents in industry is clearly set out, and each section of the book has a full bibliography.

Because of the development of new alloys many metals, rare or unknown a few years ago, are now assuming commercial importance. Dr. Fairhall sets out the evidence showing that so far no toxic effect has been discovered in workers handling cerium, gallium, indium, molybdenum, rhenium, titanium, tungsten, and zirconium. On the contrary he has a good deal to say as to the toxic effects of beryllium, cadmium, osmium, platinum, selenium, tellurium, uranium, and vanadium. The speed at which new substances are introduced into industry is shown by the omission in this book of any reference to the alkylpolyphosphates such as diethyl-*para*-nitrophenyl thiophosphate, "parathion". These substances have come into extensive use as insecticidal sprays and many people feel that they are too deadly for safe handling in factory, greenhouse, orchard and market garden. There is also no mention of the toxic hazard connected with the use of dinitro-*ortho*-cresol as a weed killer. This book is both a reference manual and an up-to-date critical study of industrial toxicology. It will be of value alike to works chemists, works doctors, and physicians practising in industrial communities. The United States of America, which has lately produced many books on industrial medicine, is to be congratulated on this superb contribution from a chemist who is nothing less than a master toxicologist. Great Britain owes Dr. Fairhall an even greater debt

than do his own countrymen because no book of this sort has ever been published in the British Isles.

Donald Hunter.

The Rheumatic Diseases. By G. D. Kersley. With a Foreword by Sir Francis Fraser. 1950. London: Wm. Heinemann. Pp. 143. Price 15s.

The third edition of this concise and readable book includes among its revisions and additions a valuable and simple survey of steroid chemistry and of the association of cortisone with the rheumatic diseases. The subject matter throughout is interesting and clear, and the reader is shown how slowly but surely recent research is correlating all the various and multiple factors at work in the causation of these abstruse and important diseases.

The subject is not dealt with from any narrow or specialist angle. All lines of approach are reviewed including surgical, biochemical, chemotherapeutic, and psychological methods of treatment. The tone is moderate and conservative. Focal sepsis is still deemed worthy of some consideration, although this aspect of rheumatism must in the past have hindered as much as helped research. Physiotherapy and spa treatment are not credited with any great magic, but are shown to be helpful not only physically but psychologically. The use of surgery in rheumatoid and osteo-arthritis is convincingly and plainly described, and the meaning of the various surgical terms simply explained.

In a book of this nature controversial matter is better avoided. Therefore the author wisely omits a detailed survey of many of the battles which have raged over the question of the prolapsed intervertebral disc. He prefers to think that there may still be room for the old concept of lumbago. Similarly with fibrositis, he does not side with those theorists who regard this as a mythical disease which will gradually disappear as knowledge grows. Nevertheless with great fairness he admits the scarcity of pathological evidence for its existence. At the moment, this attitude appears to be the balanced one. Only the future can show how far it is wrong or right.

From the industrial aspect, rheumatic diseases are of great importance, and all industrial medical officers will find this book a valuable work of reference.

G. P. B. W.