

The exposition is very clear. The reader is assumed to be familiar with ordinary quantum mechanics and classical field theory.

It is, of course, unavoidable that there should be a few minor points on which author and reviewer disagree (for example, the statement that the field fluctuations have no connexion with the zero-point energy, p. 67), and a few places which

leave the reader puzzled (such as, for example, the dotted curve in Fig. 7, or that a formula which has been derived "agrees roughly with what we should expect", p. 170), but their number is small. They do not affect the value of the book, which will be indispensable to anybody interested in either the principles or the applications of radiation theory.

R. P.

Chinese Materia Medica

Chinese Medicinal Plants from the Pen Ts'ao Kang Mu, A.D. 1596

Third edition of a Botanical, Chemical and Pharmacological Reference List. Compiled by Dr. Bernard E. Read. (Published by the Peking Natural History Bulletin, 1936.) Pp. xvi+389. (Peiping: The French Bookstore, 1936.) 6 dollars.

THE fact that this book, which gives the maximum of information in the minimum of space and therefore appeals only to experts, should have reached a third edition, is a striking testimony to the interest now being shown in the chemistry of plants. It is also a tribute to the learned author's success in accomplishing the remarkable literary and scientific feat of transmuting medieval Chinese materia medica into this thoroughly modern treatise on the medicinal plants of China. The data he has accumulated as a result of his labours are set out in tables giving the kind of information usually provided in books on materia medica, namely, botanical family, specific name, habitat, principal constituents, etc., but with the unusual addition of a bibliography of the chemical, medical and pharmacological literature of each drug.

Of the 898 drugs dealt with, many are either identical with, or closely related to, drugs still in use in Europe; others have long been obsolete in medical practice, and there are many which seem to be peculiar to China. None of the recognized cardiotonic drugs seems to have been used in China at the date, A.D. 1596, when this list was compiled. An interesting feature of the list is the inclusion of a considerable number of foodstuffs, especially fruits, nuts and cereals, a point to which Prof. Read directs particular attention as possibly indicating that the early practitioners had a sound, if empirical, belief in the importance of an appropriate dietary in the maintenance of health.

It is well known that Prof. Read's labours have already had the practical outcome of extending enormously the use of the alkaloid ephedrine

throughout the world, but he probably has small hope of achieving similar triumphs with other constituents of Chinese drugs. At the present time, the investigation of natural drugs on the basis of local belief in their therapeutical value seems to be almost confined to Soviet Russia, Japan, China and India, and though interesting results have been obtained in all these countries, results of practical value, so far as additions to therapeutical resources are concerned, remain unimportant.

In other countries, work in plant chemistry is being carried on on broader and, in the writer's view, better conceived lines, in the correlation of components in allied species, the determination of the constitution of plant constituents and the investigation of the biological processes by which these substances are produced in plants. By these less direct methods much new knowledge is gained, and they are equally certain to lead in due course to the discovery of any still unknown plant constituents of therapeutic value.

To both the direct and the indirect worker in these fields, Prof. Read's book is a gift, the value of which can best be appreciated by those who have had practical experience in assembling all the relevant chemical, medical and pharmacological data regarding a single drug. To repeat the process with nearly nine hundred drugs, as Prof. Read has done, is to exhibit scientific altruism as rare as it is welcome. The careful and critical compiler rarely receives the credit he deserves for his indispensable work, and it must be some satisfaction to Prof. Read to be able to begin his introduction to the third edition with these words: "The large number of researches upon Chinese Materia Medica undertaken during the last decade necessitates a new edition of this reference list", for he is undoubtedly the cause of most of these researches, and his book may be cordially recommended as a source of information to any new worker who thinks of pegging out a claim in this field.

T. A. H.