

has been associated, interesting and important though these are. The treatment of the subject matter appears to be directed towards establishing the hypothesis that the primary radiation is composed principally of photons, a view of its nature not generally accepted. Consequently, other investigations are treated somewhat summarily. For example, Clay's discovery of the latitude effect and Compton's organised world survey which confirmed it, receive but scanty treatment, whereas several pages are devoted to Prof. Millikan's recent surveys. No mention is made of the double-counter type of experiment introduced by Bothe and Kolhörster except in connexion with the east-west effect, of Regener's recent results with a Geiger counter in the stratosphere, or of the important observations of Kolhörster, Clay and Corlin on the penetration of the radiation into the earth and the sea. The inquiring student would be advised to supplement this chapter by reference to brief summaries of the subject such as those by Blackett and Corlin.

The book is throughout profusely illustrated, and particular mention must be made of the many beautiful expansion chamber photographs which illustrate the sections on modern atomic physics, while in spite of the somewhat dogmatic style, it is an extremely readable and lucid summary of a wide field of investigation.

The publication of a book by an authority of the standing of Prof. Millikan, whose own important researches cover a wide field, must be regarded as a notable event, and this book proves to be an important addition to the literature of atomic physics and a worthy successor to his classic work "The Electron". L. G. H. H.

The Science of Rubber ("Handbuch der Kautschukwissenschaft")

Edited by Prof. K. Memmler. Authorized English translation, edited by Dr. R. F. Dunbrook and Dr. V. N. Morris. Pp. xvi+770. (New York: Reinhold Publishing Corporation, 1934.) 15 dollars.

THE text of this publication consists of English translations of memoirs on the following scientific aspects, as distinct from the manufacturing technology, of rubber: botany, cultivation, preparation and collection (Zimmermann), chemistry (Pummerer and Koch), vulcanisation (Kindscher), chemical-analytical testing methods (Kindscher), physics (Hock), physical testing (Memmler and Schob) and microscopy of technical vulcanisates (Pohle). Edited in German by Memmler in 1930, it has now been translated and brought more up-to-date by the members of the Research Staff of the Firestone Tyre and Rubber Company under the general authorship of Dunbrook and Morris.

It is not possible in this short notice more than to touch on the general features of the publication,

which is a signal addition to English rubber literature. The subject matter of the text fills 675 pages. It is well illustrated and so adequately referenced as to make it encyclopædic in its scope. The authorship of each of its sections is authoritative. The translations are smooth. Most of the sections have been amplified by the American editors, but the botanical section could have been made more complete by the inclusion of recent work on variability and propagation.

The specialist, for it is to him that the book will have appeal, will find a use for the book no less for its bibliography, its author- and subject-indexes, than for the text itself. The indexes are models of completeness. There is no such thing as difficulty in finding one's way about the publication, and we doubt if even the specialist scientific worker will find any work of major importance unrecorded. The publication represents a piece of team work of unusual merit and something all too rare in the rubber industry. Its success, despite its high price, is assured.

G. E. C.

Gardening in East Africa

A Practical Handbook by Members of the Kenya Horticultural Society and of the Kenya and Uganda Civil Services. Edited by A. J. Jex-Blake. Pp. xv+330+6 plates. (London, New York and Toronto: Longmans, Green and Co., Ltd., 1934.) 12s. 6d. net.

INNUMERABLE books on gardening have so ingrained it in our minds that a garden is a place in which plants from warmer climes are made to flourish in spite of our English winter, that the converse comes rather as a surprise. In this volume, the members of an English horticultural society describe their successes and failures in growing English garden-plants, with others, so near the equator as Kenya. It is a practical handbook that will be useful to gardeners in sub-tropical countries all the world round. The scientific aspects of the local horticulture are discussed in introductory chapters on climatology, soils, economic entomology and mycology, treated in a popular way, but containing a valuable body of knowledge for so young a colony as Kenya.

In a further edition more will doubtless be said about soil amoebæ, which play so important a role in most soils, and there will be need of more editorial co-ordination, for example, when the 'eel worm' has been described as a "parasitic worm" on p. 25, it should not be necessary to state on p. 310 that it is not a "vegetable", nor yet an "insect". The delightful plates are by the Misses M. Collyer and E. Napier. Lady Muriel Jex-Blake is responsible for two attractive chapters on flowering plants and shrubs and on climbing plants, while Mr. V. A. Beckley, senior agricultural chemist, has added chapters on the soil and on manuring and tillage. The foreword is by Sir Arthur Hill, director of the Royal Botanic Gardens, Kew, who has not long returned from a friendly visit to South Africa, and is well aware of the difficulties of tropical horticulture, only to be overcome by the virtue of charity in the sharing of plants and experiences.