

The Atom

By Prof. E. N. da C. Andrade. New edition, entirely revised, extended and reset. Pp. ix+129. (London and Edinburgh: Thomas Nelson and Sons, Ltd., 1936.) 1s. 6d. net.

PROF. ANDRADE dedicates this little book to two friends as a memorial to "a lively, learned, and humane luncheon table", and thereby sets the tone of what follows. Starting with an account of the meaning of the atomic theory, he takes the reader smoothly along, with many a well-chosen analogy and an occasional jest, dealing with the atom of electricity, the nature of light, the structure of the atom, the mechanism of radiation and, in the concluding chapter, with the relation between matter and energy.

We read of the positron, neutron, wave mechanics, quantum theory of spectra, transmutation of atoms and artificial radioactivity, all in a descriptive narrative using everyday illustrations to make difficult conceptions clear. A large ship, with engines stopped, rolling and pitching on the open sea, reveals by its motion to an observer in an aeroplane that the sea is rough even though he cannot see the waves; so the Brownian movement in a liquid reveals the motion of its molecules. Cigarettes of various sizes are sold, but we have to buy a whole number; similarly, the quantum of radiant energy varies with frequency, but we never find less than one quantum, whatever the frequency. A given kind of atom may be regarded as singing two characteristic songs in the bass (flame and spark spectra) and one in the high soprano (X-ray spectrum).

Prof. Andrade's hope that he will arouse a desire to pursue the subject further will surely be fulfilled. We may commend the book also to senior physics pupils in schools, who will obtain from it a broad and often novel view of recent developments in their subject.

The Identification of Trees and Shrubs:

how to name without previous Knowledge of Botany any Wild or Garden Tree or Shrub likely to be met with in the British Isles. By F. K. Makins. Pp. vii+326. (London: J. M. Dent and Sons, Ltd., 1936.) 15s. net.

THE appearance of a book that aims at supplying the means of identification of trees and shrubs that occur in Britain—wild or cultivated out of doors—should meet with a wide appeal. It is true that the indigenous woody species, which number only a few dozen, may be readily named from existing floras and handbooks, and that there are excellent works describing the legion of trees and shrubs now in cultivation; nevertheless, so far, there has been no attempt to provide a general key or other ready means of identification of the cultivated species, and the present work is a pioneer in this respect.

The book is easy of reference and assumes no previous botanical knowledge. Only those species that the author considers most likely to be met with are considered, rare or little-known plants being purposely omitted. In spite of this limitation, the

number of woody plants dealt with is 1,732, or rather more than half those listed in the Kew "Handlist of Trees and Shrubs" (1934) which places the total number at about 3,000. Each species is represented by a small illustration or diagram, and is briefly described in the later part of the volume. A preliminary key on basic leaf characters serves to direct the user to the requisite group of diagrams to which any particular plant may belong.

The work should prove useful, particularly in naming the more generally cultivated trees and shrubs; but limitations of size must effect its usefulness in the case of the larger genera with numerous closely allied species, for example, *Rhododendron*, *Cotoneaster*, *Crataegus* and certain *Coniferae*.

Insect Pests of Glasshouse Crops

By Dr. Herbert W. Miles and Mary Miles. Edited by H. C. Long. Pp. 174+21 plates. (Surbiton: H. C. Long, The Birkins, Orchard Road, Hook, 1935.) 8s. 6d. net.

GLASS-HOUSE cultivation provides a type of environment which favours the spread and multiplication of a variety of insects and related creatures of injurious propensities. At the same time, these conditions afford facilities for pest control that are often exceptional. The growing extension of the glass-house industry has brought the cultivator up against the problem of pest elimination more realistically than in years gone by. New pests have come to light, species formerly regarded as innocuous have, after proper study, proved to be the reverse, and the list of known invaders has assumed considerable proportions.

Much valuable information is now available on the subject of glass-house pests, but it has mostly remained inaccessible to the amateur and to many professional growers. Dr. and Mrs. Miles have thus supplied a much-needed requirement in the book under notice. Their experience and qualifications have well fitted them for their task and they have produced a sound, up-to-date manual covering the whole range of pests likely to be met with. These are clearly described, along with their life-histories, and the most practical and efficacious methods of control. The book is well illustrated with a remarkably good series of clear photographs, almost all being hitherto unpublished. It can be recommended to all interested as one which is based upon practical experience and not merely compiled from the writings of others.

A. D. I.

Odyssey of the Islands

By Carl N. Taylor. Pp. xiv+284+31 plates. (New York and London: Charles Scribner's Sons, 1936.) 12s. 6d.

MR. TAYLOR describes himself as a 'vagabond', and entertaining as this record of a vagabond's wanderings may be, it does not call for extended notice here. It is, however, to be noted as giving a view of life among the wilder peoples of the Philippines, which includes an account of the too little known and often unapproachable pygmies. The book is illustrated by some excellent photographs.