

BOOK REVIEWS

PINUS RADIATA: A BIBLIOGRAPHY TO 1963, by Mary Pert. 1963.

Forestry and Timber Bureau, Canberra. 145 pp. Price 15s. Austr.

In *N.Z. Forest Research Note No. 1*, 1950, A. P. Thomson published a bibliography of radiata pine listing "all known references" as at 1948 — about 160 of them. Fourteen years later, Miss Pert, who is librarian at the Forestry and Timber Bureau, is able to list 1,400 entries (including duplications) and 726 authors and co-authors — a graphic indication of the rapid growth of interest in this species, its products and its possibilities.

The Australian book is planned to help readers to find papers on a specific topic, and also the publications of a particular author. Each reference is given a subject heading according to the Oxford System of Decimal Classification for Forestry, 1954. The first sections of the book contain general references, publications dealing with radiata pine in particular countries, and bibliographies. Then follow the bulk of the items, classified by subject headings and arranged within each section alphabetically by author (or key word). Having achieved this presentation, each entry is given a consecutive number which is used in the author index. A paper which deals with more than one subject is listed under the main topic or topics, but no paper is listed under more than two subject headings. Full bibliographic detail is given, without abbreviating titles. The system is therefore clear, if both repetitious and restrictive: it would have been more concise to adopt the standardized abbreviations used by *Forestry Abstracts* for titles of periodicals, and the "See also . . ." method of showing cross-references under each subject heading, as used in that journal, would have allowed much wider scope (and more headaches for the compiler!).

The references dig deeply into world scientific and trade literature. Besides formally published papers they include sections of textbooks; parts of annual reports; progress reports on research projects; semi-popular articles in trade journals; newsletter items; and papers for meetings and conferences which may not necessarily have been published and may therefore be hard to trace from the information given. If such complete coverage is the aim, and even allowing for marginal references, there is a fair amount of published and unpublished New Zealand work not listed, but qualifying for inclusion. Nor is this opportunity lacking: the Bureau states its laudable intention to keep the bibliography up to date in future by publishing supplementary lists each two years, including any references that have been overlooked in the present book. By bringing corrections and additions to notice, New Zealand foresters can therefore help themselves and others besides.

There are surprising omissions from the first edition; some errors need correction; and for a reference work a coloured cover rather than a white one would be more serviceable. But these are quibbles. Librarians these days are usually busy enough without taking on special assignments. All the more credit, then, to the Bureau and

to Miss Pert, who deserve the thanks of radiata foresters and research workers in many countries for their initiative. With this bibliography, and with C. W. Scott's monograph, "*Pinus radiata*" (FAO Forestry and Forest Products Study No. 14, 1960), the seeker for published information about the remarkable pine is well on the way to his goal.

G.C.W.

PHYSIOLOGY OF TREES, by Paul J. Kramer and Theodore T. Kozlowski. 1960. McGraw-Hill Book Co., New York. 642 pp. Price \$12.50.

THE PHYSIOLOGY OF FOREST TREES, edited by Kenneth V. Thimann. 1958. The Ronald Press Co., New York. 678 pp. Price \$12.00.

TREE GROWTH, edited by Theodore T. Kozlowski. 1962. The Ronald Press Co., New York. 442 pp.

A statement to the effect that few professional foresters equip themselves with a knowledge of plant physiology, and that trees have been used experimentally by few plant physiologists, prefaces the second of these three volumes. Together, they provide not only an excellent survey of the extent to which the latter deficiency is now being overcome, but they also present means whereby the forester may revitalize an understanding that is fundamental to much of his practice.

The first book has already become a standard text for forestry courses. Its comprehensive and balanced presentation will ensure that only further advances of knowledge can supersede it. The approach adopted by the authors is functional and ecological, rather than biochemical. Details of metabolism are introduced only if they are needed to explain the effects of environment on physiological processes underlying growth and reproduction.

The sequence of chapters proceeds from growth and structure, through photosynthesis, carbohydrate and nitrogen metabolism, assimilation and respiration, to translocation and accumulation. There are then four chapters devoted to mineral nutrition and water relations. Reproduction and the physiology of seeds are each treated separately. The final two chapters, on internal factors affecting growth and environmental factors affecting growth, return to the unifying theme of the introduction.

Sub-headings within chapters add greatly to the clarity of presentation, and these are all readily referred to in the subject index. Unfortunately this does not include the names of individual tree species. The numerous figures are well-chosen and beautifully clear, further enhancing the lucidity of text.

Each chapter is followed by a brief list of general references, and there is a complete author index; but one of the most valuable features for the pertinacious reader is the bibliography of over 1,700 references.

The book edited by Thimann comprises papers presented at the first International Symposium on Forest Tree Physiology, held at