REVIEWS

GENETICS IN SILVICULTURE. By C. Syrach Larsen
Edinburgh 1956. pp. 220

This is a book written by an enthusiast and translated by an enthusiast. To those who have for over twenty years past followed the publications of Dr Larsen in his justly famous experiments on forest-tree breeding there is little that is new in the text; but it is extremely useful to have an authoritative summary of this life time of work available in collected form and in English. The pity is that the author (or was it the translator?) has seen fit to affix the title “Genetics in Silviculture” to this very useful work. The insertion of an eighteen-page chapter entitled “Genetics” does not justify the titular claim. One might go further and say that “Silviculture” is also out of place in the title. The subject matter does not get far beyond breeding from the individual tree; and indeed the author states (on p. 55) that “comparatively early in his career he was converted to the use of vegetative propagation as a technical aid in forest-tree breeding.” This is not silviculture though it may be arboriculture; and it is certainly not genetics. It may be, of course, though the point is not clearly stated, that at a later stage in his career, the author partially renounced his early conversion; and that the present volume is his apologia. Whatever be the reason, it is unfortunate that the misleading title has replaced the simple phrase “Forest-Tree Breeding” with which the author’s name has so long been associated, and which would still aptly and correctly describe this work. The existing title must lie under suspicion of adoption because of sales-appeal; though probably it would be more charitable as well as more true to ascribe its adoption to the evangelistic enthusiasm that characterises both author and translator.

The translator frankly regrets in the preface that “foresters have been so reluctant to accept the importance of genetics in forestry”. The reviewer just as frankly doubts whether this is a just appraise-ment of foresters’ attitudes. What they have been reluctant to accept is the financial and physical applicability of intensive tree-breeding to large scale forest operations. The good silviculturist’s tool has long been mass-selection both of his seed and of the components of his final crop. The tree-breeder’s allegation is virtually that the forester prefers the phenotype to the genotype and its progeny. If the desirable genotype—and for the forester it must be a genotype which possesses several good silvicultural characteristics and not merely one such, which could easily be offset by the absence of another, e.g. excellent adult form could be more than cancelled out by youthful susceptibility to disease—if such a genotype could be produced unerringly in numbers large enough to form even-aged compartments or even larger
forest units, the forester might be prepared to advocate cautious steps towards application of strictly genetical methods in forestry. But his field is too vast to permit him yet to recommend his employer forest-owner to expend capital (or for that matter income) on mere trials. Cautious trials may be justified on a scale dominated by single trees, short lines of trees, tree “orchards” or even small plots. But no forester mindful of any ethics of his calling would embroil his employer in the complications involved in, say, a series of two-hundred-acre compartments, especially if the species were one of a long life-span and consequently a necessarily long rotation. The author in his enthusiasm does not flinch even from including *Agathis* (p. 218) in the potentially tractable genera from a tree-breeding point of view. “The botanist should not be allowed to wander with his vasculum only” he cries in his peroration. How true, but how irrelevant, especially to *Agathis* forests!

The book should be in the personal library of every forester as a standard reference volume of techniques so far used by tree-breeders; and of obstacles not yet surmounted because of problems yet unsolved. The botanist will know that there are other problems and obstacles to progress not even mentioned. But all users of the book should beware of the propagandist fervour that pervades it and brings it nearer to the tones of a Michurin or a Burbank than to the sober and impassive findings of present-day geneticists.

C.M.S.

SCIENCE IN NEW ZEALAND. Edited by F. R. Callaghan. Published by A. H. & A. W. Reed, Wellington, 1957. Pages, 272; Plates, 28; Maps, Figures & Tables. Price, 22s. 6d.

This book, from cover to cover, is packed tight with information. It was prepared as a handbook for the thirty-second meeting of the Australian and New Zealand Association for the Advancement of Science (Dunedin, 1957), but it was clearly designed to reach a much wider reading public than just the visiting scientists to whom it was first issued. Progress in New Zealand science, from the very earliest days of scientific enquiry in this country, up to and including matters under investigation in 1956, are competently reviewed by 23 authors under 24 separate chapter headings. There is, in fact, something for everybody, whether one’s interests lie in meteorological progress or in freshwater fisheries, in geothermal power or in geophysics, in chemical engineering or in the medical sciences.

But no reviewer could hope to discuss more than a few chapters. The wealth of subject matter is too great and beyond anyone’s compass. With respect to the book as a whole, therefore, all that can be said is that it is eminently readable, absorbingly interesting, and a refreshing tonic to those of us who are so bogged down in our own specialities that we have lost sight of progress in other fields. The book is a credit to the authors and even more so to the editor, who must have faced a difficult task persuading authors to be brief with respect