

nevertheless, an important contribution to the field of structure-activity relationships.

The book begins with a concise authoritative chapter by J. H. Burn on adrenaline and other nitrogen-containing phenols mainly of animal origin, and is followed by another chapter, by R. T. Williams, summarizing what is known concerning the fate of phenolic compounds in the body. In the third chapter W. B. Whalley discusses the toxicity of plant phenolics as a group, providing a useful introduction to the next five chapters which describe in more detail the action of specific groups of compounds. J. W. Fairbairn, who is also the general editor, discusses the anthraquinones, and J. D. Biggers geneistein and related compounds which exhibit oestrogenic activity and, in a separate chapter, hypericin and similar compounds that cause photo-sensitization. Three chapters are devoted to the flavonoids and their effect on capillary blood flow. In the first M. F. Lockett considers the evidence in support of the view that they act directly on capillary permeability and tensile strength, while in the other two F. Deeds and J. Lavollay and J. Neumann present the case for indirect activity, mediated through adrenaline and ascorbic acid. The last two chapters of the book deal with plant phenolics in food and wine, J. Masquelier directing attention to the high bactericidal activity of some wines and E. C. Bate-Smith concluding the book on the reassuring note that most of the phenolic constituents of foods are fortunately pharmacologically inert.

The book is well printed and free from errors. Its value is greatly enhanced by the list of references given at the end of each chapter and by summaries of the discussions that took place at the symposium. Most pharmacologists, organic chemists, biochemists and pharmacists will find much of interest and value in this volume.

F. A. ROBINSON

ORCHARD SCIENCE

Tree Fruit Production

By James S. Shoemaker and Benjamin J. E. Teskey. Pp. vii+456. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1959.) 56s. net.

ADVANCES in plant physiology, in plant breeding, in plant protection and in the knowledge of plant toxicants, are to-day being paralleled by advances in crop husbandry and soil management, and in tree shaping and growth control. The impact of these advances on commercial fruit-growing is being influenced by economic considerations. While the facets are the major concern of the appropriate specialist, who may be quite ignorant of the over-all subject of pomology, the teacher of pomology, as the term is now generally understood, must be keenly aware of the progress being made in all the branches of fundamental science that affect his subject and be willing and able to incorporate the new knowledge in turn into his teaching and demonstrations.

With specialist fruit-crop research stations in many parts of the world now more or less well staffed and equipped, new knowledge, supposedly new knowledge or old knowledge recapitulated is being published so plentifully as to embarrass alike both teacher and taught. From time to time experienced teachers give us the benefit of their selection from among this wealth of material and, if they are

competent teachers and are critical in their selection, the result is a good book.

Dr. Shoemaker is such a teacher, and this book, written in collaboration with Dr. Teskey, bears evidence of a wide-ranging but careful selection of subjects (there are more than 800 references, the majority of them within the past 20 years) and a commendable compression of the essential material; an 11-page double-columned index makes for easy reference. Text-books on husbandry are difficult to illustrate, and this one is no exception; line drawings and diagrams, like those on grafting, are clear and good; photographs of plantations and many field operations, like picking and pruning, do not reproduce well.

The authors have covered apples, pears, cherries and plums, all of which interest us in the British Isles. Peaches, apricots, nectarines and quinces should interest our Western and Southern European neighbours, and citrus fruits are also the concern of the countries bordering the Mediterranean sea. The authors were not catering for this wide public but aimed at producing an up-to-date guide to current orchard and fruit plantation practice for use in Canada and America. Nursery practice, site selection and modification, planting considerations and varieties for particular purposes are all discussed, together with tree nutrition, pest and disease control, soil and plantation management and harvesting as well as handling and storage. There is a special chapter on the cultivation of dwarf apples and pears, evidently in response to demands from students for information on this subject. For a long time European growers have been particularly expert in controlling tree size and yield, and American growers may face many difficulties in adapting European methods to their needs.

Though essentially written for students this book contains much that will interest fruit growers and their advisors in many parts of the world.

H. W. MILES

SCHIZOPHRENIA

Schizophrenia: Somatic Aspects

Edited by Derek Richter. Pp. viii+181. (London and New York: Pergamon Press, 1957.) 40s. net.

Chronic Schizophrenia

By Thomas Freeman, John L. Cameron and Andrew McGhie. Pp. xi+158. (London: Tavistock Publications, Ltd., 1958.) 21s. net.

A New Approach to Schizophrenia

By Julius I. Steinfeld. Pp. 159. (London: Hutchinson Medical Publications, Ltd., 1958.) 21s. net.

SCHIZOPHRENIA is a major cause of disability in most parts of the world. In countries for which statistics are available it constitutes approximately half the chronic population of mental hospitals. Almost one in every hundred persons is fated to suffer from the disease, and the majority, particularly the men, break down in the second and third decades of life. The wastage of human life and the amount of suffering and social dislocation it causes are probably greater than that due to any other single disease. The International Congress of Psychiatry held two years ago was devoted wholly to this subject. Its deliberations served largely to bring home the failure to