Secondary Plant Metabolism: by M. L. VICKERY and B. VICKERY. Macmillan, London, 1981. 335 pp. £25.00 hardback, £9.95 paperback.

This book provides a very readable and useful addition to the literature on secondary plant metabolism. My one major criticism concerns the sweeping generalizations which the authors make about the significance of secondary metabolites. In the Preface they state that "The overall purpose of our book *Secondary Plant Metabolism* is to show that plants do not haphazardly produce a large number of chemical compounds, but that each metabolite is biosynthesized for a definite purpose (although we may not, as yet, have discovered this purpose) and that all products are interrelated according to a complex plan which conserves energy and scarce inorganic nutrients". If that is their purpose then the book has failed as we are given no evidence concerning the ecological ôr other rôles of the vast majority of the secondary compounds mentioned. There is little doubt that many secondary compounds have ecological rôles but in very few instances have these been established with any degree of certainty. What the authors have done, and done well, is to provide a coherent integrated account of secondary metabolism in which compounds are grouped together according to their biosynthetic origins in the manner which emphasises not only their relationships to one another but also to the primary metabolites from which they are ultimately derived.

In the first chapter reference is made to a number of secondary compounds which are of physiological, economic or taxonomic importance and the value of tissue culture and isotopic tracer techniques in studying biosynthetic pathways is mentioned briefly. Chapter 2 describes how the primary products of photosynthesis are converted to sugar alcohols, sugar acids, amino sugars, glycosides and components of higher molecular weights such as the structural and storage polysaccharides and gum exudates. The following two chapters are concerned with the 'acetate-malonate' pathway which gives rise on the one hand to fatty acids, lipids and their derivatives and on the other to the polyketides.

The biosynthesis of terpenoids, steroids and carotenoids by the acetate-mevalonate pathway, of aromatic compounds by the shikimic acid pathway and compounds such as the flavonoids and quinones by routes involving more than one pathway are described in subsequent chapters. The origin of the non-protein amino acids, amines, cyanogenic glycosides and glucosinolates are then discussed as are representative alkaloids derived variously from ornithine, lysine, nicotinic acid, tyrosine and tryptophan. The final chapter gives an account of the porphyrins, purines and pyrimidines.

The inclusion of three indexes—general, chemical and botanical—adds greatly to the value of the book. References are given at the end of each chapter; those to multi-author volumes are incomplete giving neither the author's name nor page numbers. At £9.95 the paperback edition is within reach of student readers and I believe that it is a book that they would do well to buy.

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Carbohydrate Chemistry: Senior reporters J. F. KENNEDY and N. R. WILLIAMS. Specialist Periodical Report, Vol. 12, The Royal Society of Chemistry, London, 1981. xiv + 624 pp. £70.

This volume reviews the literature published during 1978 and some omitted from the previous two volumes. The excellence of the earlier volumes (many produced under the guidance of Professor J. S. Brimacombe) set a high standard which is here matched as a result of the labours of Dr. N. R. Williams who keeps faithful and accurate track of the smaller carbohydrates in the first 228 pages while Dr. J. F. Kennedy deals in the remaining part with the macromolecules. They are aided by a team of five reporters, namely, Drs. B. E. Davison, I. M. Morrison, R. J. Ferrier, C. M. Sturgeon and R. J. Sturgeon. The book has the now customary divisions and the space allotted to each topic is much as in recent years except for a more extensive coverage of the enzymes. It is again greatly to the credit of the entire team that a consistent style emerges and that a sensible balance is struck between brevity, clarity and readability: one can arrive at a reasonably quick judgement whether or not a particular paper, forgotten or previously overlooked, merits fresh or further attention.

Inevitably the task of producing this Report and its sister volumes in other Series must become harder as the years pass and the various literatures become ever larger. Unfortunately the Series are in danger of foundering financially, or so it seems to a financial layman, if the costs continue to escalate as in recent years. At their inception the various Specialist Periodical Reports were purchased by many specialists and indeed that, in my memory, was a laudable objective. The current volumes have priced, or are pricing, themselves not only off private shelves but even off library shelves. If the number purchased declines much further have the various Series only a short-term future? It is to be hoped that somehow, possibly by selectively restricting coverage to keep the volumes shorter, and by attracting more non-library sales, that the extinction of the various Series can be prevented; their demise would be a deprivation.

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