G. R. Waller and O. C. Dermer that our information on alkaloid-synthesizing enzymes is, apart from one or two exceptions, very fragmentary. Other enzymic chapters deal with oxygenases (V. S. Butt), methyltransferases (J. E. Poulton) and glycosyltransferases (W. Hosel). There is also a definitive account of phenylalanine ammonia lyase, the key enzyme of phenolic biosynthesis, by K. R. Hanson and E. A. Havir.

An apparent bias in this work towards phenolics and nitrogen-containing metabolites is immediately explained by the fact that terpenoids were dealt with in Volume 4 under lipids. One might argue that, considering the vast number of known plant alkaloids, they should rate as many chapters as there are on phenylpropanoids. However, as mentioned already, the biochemistry of plant alkaloids is still at an early stage of development. Indeed, it may be hoped that the publication of this volume, if it does nothing else, will encourage plant scientists to turn their attention to a sadly neglected but highly important area of plant enzymology: the catalysis of alkaloid biosynthesis in plants.

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**Recent Advances in the Biochemistry of Fruit and Vegetables**. edited by J. FRIEND and M. J. C. RHODES. Phytochemical Society of Europe Symposia Series No. 19, Academic Press, 1981. 275 pp. £24.00.

This book contains invited papers presented at a symposium of the Phytochemical Society of Europe held in Norwich in April 1980. Thirteen papers appear in the book, written by researchers from the U.S.A., Australia and Europe whose work relates to the post harvest biochemistry of fruit and vegetables. A range of relevant papers is included which are grouped to form a number of themes, two or three papers being related to each theme. The opening chapter reviews work on respiration and fruit ripening and is followed by chapters on low temperature sweetening, and cyanide-insensitive respiration. The importance of the volatile plant growth regulator ethylene, both in the ripening process and the response to stress, has been recognized by the inclusion of two papers. One reviews the elucidation of the pathway of ethylene biosynthesis and investigations into the mechanism of its control whilst the other deals with the metabolism of ethylene. The subject of softening and fruit texture is covered in three chapters which, by their choice of content, give a comprehensive treatment of this topic. These chapters include: changes in cell wall composition; the enzymology of fruit softening; and the control of the alterations in synthesis of cell wall degrading enzymes at the molecular level. The final group of papers is devoted to phenolics and pigments which, as components of fruit and vegetables, are significant factors in quality. Topics included in this section are: changes in polyphenol oxidases during the ripening of fruit; the molecular properties of plant tyrosinases; stress-induced changes in phenolic metabolism; and anthocyanins in fruit and vegetables.

The style and content of the book have been influenced by asking contributors to survey the progress made in their respective fields during the previous 10 years. The result is a series of review chapters which have avoided the problems of appealing only to the specialist researcher. Instead there is sufficient background information in each chapter for readers not expert in the field to familiarize themselves with the subject and bring themselves up to date. This has not precluded the inclusion of advanced data though it is now 2-years-old. Inevitably there is a degree of overlap with some of the papers but this has been kept to a minimum and serves to underline the theme of related papers as in the case, for example, of the contributions on cell walls. The authors have made the book interesting, especially for the non-specialist, by avoiding the inclusion of a mass of technical detail. This, combined with the range of topics covered means that the book will be a useful addition to the library in departments where biochemists, plant physiologists and food scientists work.

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