

Progress in Phytochemistry: Volume 2, edited by L. REINHOLD AND Y. LIWSCHITZ, Wiley-Interscience, London, 1970, ix + 512 pp., £10.

This volume, like the first in the series, contains in its eight contributions a wide range of treasure for those interested in the chemistry and biochemistry of the plant kingdom. The only real criticism, although an important one, is that the chapters, when published, were nearly two years out of date. This is a pity because the excellent first chapter on the "Chemistry and Biochemistry of Pollens", by M. Barbier, misses out on the exciting developments on the structure of sporopollenin by G. Shaw, even though mention of this is given in a note added in proof. Similarly, the well-written account of "The C₄-Dicarboxylic Acid Pathway of Photosynthesis" by M. D. Hatch and C. R. Slack, which will be of most interest to carbohydrate chemists, leaves in the air a number of questions which the authors and others have subsequently solved. It is always difficult in a multi-author work to ensure that all contributions are available at a given deadline, but it is not fair to the diligent authors if publication is delayed too long. Editors and publishers should ensure that in future volumes much less time ensues between receipt of manuscripts and final publication of the volume.

In spite of these delays, however, the book contains some fascinating reading. The dissertation by V. Herout on "Some Relations Between Plants, Animals and Their Isoprenoids" must be extremely interesting to almost everybody. The other two contributions on terpenoids, one on prenyl phytoquinones by J. C. Wallwork and F. L. Crane and the other on limonoids and quassinoids by J. D. Connolly, K. M. Overton, and J. Polonsky, are masterly accounts of their subjects, containing all the relevant information needed for a non-specialist to see the recent developments in these areas.

The chapter on non-protein amino acids by L. Fowden is likewise a rounded picture of this field, full of chemical and biosynthetic interest. The account of the anti-metabolite action of these plant substances points to their extreme importance in maintaining the ecological balance. The other two chapters deal with Fraction I protein, by T. Akazawa, which is concerned with the regulatory role of this protein in chloroplast fixation of carbon dioxide, and the biosynthesis and mode of action of ethylene, by the late L. W. Mapson and A. C. Hulme, dealing with a whole range of physiological effects of the gas, from leaf abscission to fruit ripening. Both are, as expected, expert and readable accounts of their respective fields.

Plant chemistry and biochemistry have undergone a resurgence in the last decade, and this series on "Progress in Phytochemistry" is a welcome addition to the literature. Let us hope that the future volumes will be produced more quickly.

Royal Botanical Gardens, Kew

T. SWAIN