host/pathogen interactions. This text was probably written in 1982 and 1983 and it is thus unfortunate that the recent spectacular advances in our knowledge of the cytoskeleton, and the manner by which it interacts with a number of membranous structures both before and after division have not found their way into the chapter on cell division.

The remaining fifty pages or so are devoted to the biogenesis and turnover of plant membranes. To attempt to cover this topic is ambitious and, on this occasion, it has certainly paid off. With entirely justified reference to the situation in animal cells, the author derives some general principles to explain the various events taking place in plant cells, and then 'tests' them against what data are available. The subject of the last chapter of this section, wounded tissues, is I suspect, of special interest to the author but, nevertheless, does provide a number of good examples of the activities of various membrane populations during a response to external stimuli.

In all this book is very difficult to fault. The subject matter is appropriate and described in an excellently written text, there are a number of accurate and helpful diagrams, and the reproduction of half tones—with only one or two exceptions—is first class. While the foregoing is certainly good news, the bad news concerns the price. This volume costs £80.40 which, even at todays prices, seems ridiculous. Apart from library copies, which are generally as easy to get ones hands on as the Scarlet Pimpernel, such an enormous cost effectively places this very valuable book well outside the range of anyone who is liable to find it remotely useful. In common with many other items of German origin (adopted nationality in this case) it is probably the best there is, but most of us mortals will, however, have to compromise and chose something that we can afford. This is a great pity for the quality of this book would certainly warrant its production in paper back form; instead I fear that the publishers are already planning a hand-tooled limited edition featuring pop-up golgi apparati.

Plant Science Laboratories, University of Reading H. G. DICKINSON

Konstitution und Vorkommen der Organischen Pflanzenstoffe, second supplement, Part 2: by H. HÜRLIMANN and E. CHERBULIEZ. Birkhauser, Basle, 1985. 2328 pp. 548 Swiss Francs.

The late Walter Karrer's original index of plant products was published in 1958 and was an invaluable guide at that time to the literature of organic natural constituents. It was both comprehensive (apart from the exclusion of alkaloids, which have been indexed by others) and extremely useful. Not only were all plant sources carefully listed but also key physical data were included. It provided the phytochemist with a very quick way of checking whether a substance that he had just characterized was new to science or not. This publication of part 2 of the second supplement to Karrer, which has been prepared by the indefatigable Drs. Hürlimann and Cherbuliez, completes in 3 volumes an update of the natural product literature from 1956 upto and including the year 1966.

The growth of phytochemistry as a subject is evidenced by the fact that the original Karrer volume, which was complete upto 1956, ran to 1200 pages, while this second supplement (Parts 1 and 2) which covers only part of the intervening literature, runs to over 3000 pages. The problems of further updating this excellent compendium are formidable in time and effort. However, there is no doubt that this supplement is to be warmly welcomed. It means that the work as a whole is completely comprehensive to 1966 and it provides the reader with a firm basis for any literature search to that date.

This supplement is excellently indexed with compound names, chemical formulae and plant sources. There is also a glossary for English speaking readers of frequently used German terms (Wurzel, root; Blatt, leaf, etc.) and also of English versions of common plant names and plant products. All scientists working with natural products from plants will find this an accurate and first class reference.

Plant Science Laboratories, University of Reading JEFFREY B. HARBORNE

Progress in Pesticide Biochemistry and Toxicology, Volume 4: edited by D. H. HUTSON and T. R. ROBERTS. John Wiley and Sons, Chichester, 1985. 368 pp. £42.

As with the three earlier volumes in this series, there is much of interest for the plant biochemist in this latest offering. No less than four of the seven chapters specifically deal with plant or fungal metabolism, while a fifth on the synthesis of radiolabelled pesticides and related compounds is relevant to both plant and animal studies. The chapter of most topical interest is probably that of J. Dekker from Wageningen on the development of resistance in plants to fungicides. This is a valuable survey of all the major groups of commercial fungicides, arranged according to which site within the fungus they exert their effects. It is reassuring to read in these pages that the systemic fungicide ethirimol used for controlling powdery mildew on barley is still holding its own in spite of the appearance of resistant strains in recent years. On the other hand, acylalanines used for controlling late

blight on potato have lost their effectiveness in several countries after having only been in use for about five years.

The biotransformation of pesticides and other xenobiotics in plants and soils is considered by V. T. Edwards and A. L. McMinn of Shell research in a 62 page chapter, which specifically covers the literature of 1980–1982. There are also two more general chapters on methodology, one by J. B. Pillmoor and T. R. Roberts of Shell on non-extractable pesticide residues in plants and another by E. Möllhoff of Bayer AG on experimental approaches to plant metabolic studies. The latter is a translation from the German and this is unfortunately apparent in a few places where the meaning is not entirely clear. Otherwise, this is an excellent survey of methods that can be used to follow the fate of labelled compounds in plant systems and will be of general interest.

The remaining two chapters not yet mentioned cover genetic toxicology and the fate of insecticides in economic animals. Overall, the volume is well produced with many illustrative formulae and tables and excellent reference lists; my only grumble is the significant delay of over two years between literature coverage and publication.

Plant Science Laboratories, University of Reading JEFFREY B. HARBORNE

Selective Toxicity: the Physico-chemical Basis of Therapy: by ADRIAN ALBERT, seventh edition. Chapman & Hall, London, 1985. 750 pp. £40 hardback, £19.75 paperback.

This is one of those rare books that you can never put down; as you thumb through looking up one point, you always find something else that catches your eye. Also, the author does not eschew the human aspect of scientific discovery and there are some delightful historical asides. I remember consulting an earlier edition, which was much shorter than this one. Indeed in 1951, when the first edition appeared, the relationship between chemical structure, molecular shape and biological activity was a relatively new subject. A host of new drugs and pesticides have been introduced since then, information has accumulated and this latest edition has 657 pages of closely packed text. This is followed by 3000 references to the literature, a subject index and a complete index to the 650 structural formulae which are liberally distributed on almost every page.

Ostensibly, this text deals with chemotherapy and the selective activities of modern synthetic drugs and is aimed primarily at medical and pharmacy students. However, it contains a wealth of information on many other aspects of biological chemistry, including plant crop protection agents and herbicides and it will interest many other scientists as well. For example, there is much basic chemical information included on ionization, metal-binding, molecular shape, steric factors and surface phenomena. Indeed, it is a fascinating and highly instructive work and all those interested in structure–activity relationships or the comparative biochemistry of life will need to have it on their shelves. At just under £20, it is an excellent buy and it can be warmly recommended.

Plant Science Laboratories, University of Reading JEFFREY B. HARBORNE