There is increasing ecological evidence that some plant terpenoids are important in plant–insect interactions and several of the essays describe experiments in this area. Thus, Seiber and his colleagues at Davis provide an interesting review of the occurrence and distribution of cardenolides in *Asclepias* species, with comments on their sequestration and utilization by danaid butterflies. There are also accounts of insect steroids and the way that insects utilize plant compounds for ecdysone synthesis by J. A. Svoboda and K. S. Ritter, respectively. Plant–insect interactions are also considered in the review of insect juvenile hormones by L. M. McDonough.

Other reviews in this book deal with analytical methods (e.g. for gibberellins and sterols), with biosynthesis (e.g. of monoterpenes and carotenoids) and with fungal physiology. For the food scientist, two of the contributions may be of more than passing interest. There is a chapter by R. F. Keeler on the mammalian teratogenicity of steroidal alkaloids, which occur mainly in solanaceous food plants and in *Veratrum*. This author reaches the reassuring conclusion that, at least for humans, potato tubers present no real hazard while with the eggplant further evaluation is necessary. The other chapter is that on triterpenoid saponins by M. R. Malinow, in which evidence is presented that alfalfa top saponins when fed to animals reduce the intestinal absorption of cholesterol and increase the faecal excretion of neutral sterols. The author concludes that certain dietary saponins may have a beneficial effect on people with atherosclerosis associated with disturbed cholesterol metabolism.

Jeffrey B. Harborne

Challenges to Contemporary Dairy Analytical Techniques. Special Publication No. 49. The Royal Society of Chemistry, London, 1984. 350 pp. Price: £16.

This book comprises the papers presented at a seminar held at the University of Reading, March 28–30, 1984, where the object, as outlined in the introduction, was to appraise the problems that will be faced by analysts of dairy products in the future.

Section 1 deals with collaborative studies and reference methods. The first chapter on systematic errors is an excellent and timely presentation, and should be compulsory reading for science students, food science

students and analysts. Certainly the complacency of most analysts will be shattered by W. Horwitz's conclusion 'that chemists do not know how to prepare accurate standard solutions'. There is a very useful chapter devoted to the determination of aflatoxin M_1 in dried milk. It is interesting to observe that, in this cooperative study, 31 % false positives were obtained. Thus there appears to be some challenging work in this area.

The applications of near infra-red reflectance techniques are well covered in Section 2 and I was particularly impressed by the contribution of R. Grappin where he dealt with the problems encountered for the control and calibration of instruments.

Section 3 deals with advanced methods for determination of microconstituents. It is difficult to see why a chapter on protein analysis is included in this section. The chapter on 'The chromatographic analysis of milk lipids' is excellent and is supplemented with an up-to-date bibliography. Chromatographic determination of vitamins B_2 and B_6 is critically evaluated by R. Macrae and his co-workers. It is somewhat disappointing that the applications and limitations of HPLC in the dairy industry are not more extensively reviewed. However, it may be argued that there are numerous examples throughout the book.

The final section deals with residues, contaminants and compounds formed during storage. A. Blüthgen and his co-workers outline the main sources of residues and chemicals in milk, and compare the attributes of various methods for determination of these contaminants. In the chapter on lipolysis, a discussion on microbial lipases and the difficulties encountered in relating rancid flavours in such products as butter to FFA content would have been useful for the analyst. Determination of organophosphorus pesticide residues and the applications of bioluminescence are also discussed in this section. It is interesting to see a revival of the HMF method for the determination of heat damage to proteins. However, furosine determination, which is covered in one of the short communications, may be more useful in evaluating the extent of Maillard reaction during the processing of milk.

This text is very useful reading for all those involved in quality control of dairy products. Its value is considerably strengthened by the inclusion of a number of short communications. The book merits a place on the bookshelf of anyone in the field of food analysis.

Patrick A. Morrissey