The chapters are divided into six sections; these divisions are real, and there is little or no overlap or repetition of any kind. There is adequate detail for the competent worker to follow the techniques described, and each paper contains a short evaluation of the method and results obtained. The many illustrations, including micrographs, are of good quality. About 1500 references are quoted; this list includes most of the significant papers dealing with con A. The index is not as long as it could be, but this is offset by the comprehensive titling of paragraphs throughout the text.

The Introduction provides basic information about con A. G. L. Nicolson contributes a short intensive review covering its history, properties, and applications. A chapter on con A preparation follows, then a detailed account of molecular structure. The section concludes with a brief but well-referenced chapter on binding specificities. The next section (Microscopy) contains all the common techniques for the visualisation of con A by conjugation and is followed by a section on Quantitation in which aspects of radiolabelling, particularly with ^{125}I, and methods for quantifying the binding of con A to membranes, receive detailed treatment. The next section (Agglutination) covers nine techniques and also contains a theoretical discussion of the process. H. P. Schnebli makes some very useful points about parameters which affect the results of agglutination experiments. The next section (Separation Methods) deals primarily with the application of immobilised con A by affinity chromatography and contains many figures showing eluate separations. A special subsection deals with solubilization of membrane glycoproteins. The last section, Biological Applications, contains chapters by prominent authors on specialised techniques and applications. Although probably already well known to workers in these areas, the information is presented here in convenient form. Finally, a short appendix lists some current sources of con A-based reagents.

P. Whur

Laboratory Techniques in Biochemistry and Molecular Biology
Vol. 6. Part I: Density Gradient Centrifugation

by R. Hinton and M. Dobrota
Edited by T. S. Work and E. Work
North-Holland; Amsterdam, London, New York, 1976
xi + 290 pages. Dfl 47.00, £13.00

This essentially practical book, which deals almost exclusively with preparative rotors despite the cover illustration, is generally well conceived and demonstrates the wide applicability of density gradients. Although the authors could not be expected to assess all the centrifuge and ancillary equipment available, they list suppliers and present criteria by which potential buyers may govern their choice. They provide many useful suggestions, advising on the tailoring of gradient characteristics and selection of rotors for efficient separations.

Sound recommendations made include the following. Elaborate gradients often have little advantage and may be dispensed with entirely if differential pelleting is adequate for the separation sought. At low loads 'streaming' can frequently be ignored. The reviewer endorses the caution about estimating absolute sedimentation coefficients in preparative equipment. Whilst the comments on pp. 14, 79 about rate zonal separations are valid for large particles, satisfactory work of this nature has been done in angle rotors with macromolecules. The allusion to the minor effects of high salt concentration on many lipo-proteins could well have included glycoproteins.

Some printer's errors are trivial, but in the theory

may cause confusion for the neophyte. In eq. 2.13, p_i occurs, but in the adjacent text ρ_i, whilst a comparable substitution exists on p. 67. In eq. 2.25 one subscript is missing. On p. 61 both C and c are used for concentration although C earlier symbolises force. The decision to represent sedimentation coefficient by italic S is not adhered to throughout p. 49. The first version of eq. 2.16 is incompatible with the signs in the preceding equations whilst the last equation on p. 61 should include a factor of 2 if x is diameter and R radius. It is unfortunate that radius is represented by R and the asymmetry factor by a when a or r is generally used for radius. Definitions are not always beyond criticism, molality being given as concentration in g/kg solvent and the footnote on p. 27 contrasting rather oddly with the glossary definition of sedimentation coefficient. Density gradient itself might have been defined better.

Instances of virtual duplication involve relaxation techniques (pp. 63, 118), effects of high ionic strength (pp. 80, 81) and gradient inversion (pp. 113, 118). Section 2.1.2 contains jumbled lines, two sentences near the top of p. 105 should run as one and the reference on p. 67 to Beaufay and Berthet (1963) is missing.

In spite of the minor shortcomings this paperback is a very useful compilation, but younger workers' desires for a personal copy may be inhibited by the price.

P. A. Charlwood

High Pressure Liquid Chromatography in Clinical Chemistry

Edited by P. F. Dixon, C. H. Gray, C. K. Lim and M. S. Stoll
Academic Press; London, 1976
xxv + 224 pages. £4.80

Column chromatography during the past ten years has experienced the sort of expansion shown by gas chromatography in the previous decade. The types of packing materials used necessitated the use of high column pressures (up to 10 000 p.s.i.) and this led to the term high pressure (or performance) liquid chromatography. However, with increasingly efficient packing materials, columns today are becoming shorter, often requiring pressures of much less than 1000 p.s.i. The day-to-day use of the technique is simple and a minimum of technical experience is claimed to be required for successful operation.

This volume represents the proceedings of a Symposium held at King's College Hospital Medical School, London, in December 1975 and contains 29 contributions. Five chapters are concerned with methodology, such as an appraisal of the present situation and the moving wire chromatograph. A wide range of compounds was considered and this included contributions on the analysis of drugs (8), steroids (4), porphyrins (4) and lipids, oligosaccharides, nucleotides, biogenic amines implicated in the aetiology of schizophrenia, catecholamines, urinary metadrenalines, anticonvulsants in serum, chlorophenols and antibiotics (1). The number of separations shown is proof that HPLC is already an important analytical tool. Unlike gas chromatography, derivatization is usually unnecessary (an exception is where bile pigment methyl esters were prepared for their separation, p. 100). Ambient temperatures were used (particularly valuable for heat-labile compounds) and some separations were carried out in less than 10 min but the separation of eight nucleotides in less than one hour (p. 112) was impressive.

The most usual detection system is by absorbance at a fixed wavelength of 195–280 nm. This is not sufficiently sensitive for some purposes and imposes a serious limitation on the technique. However, fractions from the column may always be taken for individual analysis at a high level of sensitivity, as carried out for corticosteroids (p. 59). This is not an ideal solution and it is generally accepted that new and more