

but other tissues are considered including kidney, the mucosa of the gastro-intestinal tract, the pancreas, and fat pads. There are also articles on the recovery and isolation of free-living cells such as marine microalgae and parasitic protozoa.

Many of these articles are useful. The very first by Sir Hans Krebs and his colleagues contains important comments on the methods of determining the metabolic competence of isolated cells. Some are comprehensive – if rather uncritical – reviews of the literature. Others attempt to describe techniques for the isolation and fractionation of cells. None of these articles is complete in itself, in the sense that it contains sufficient detail to enable the reader to carry out experiments without reference to the original sources. The book is valuable only as a guide to the work that has been done. A wide variety of techniques and methods is surveyed, mostly rather uncritically and there are glaring gaps. It cannot be used as a laboratory handbook.

On the face of it, it seems a good idea to assemble a group of experts to discuss a topic, which everyone would agree is important, and to extract from them manuscripts which are used as the basis of a book. When the topic is a set of related techniques, such a

policy will work only if there is clear leadership and a coherent editorial policy and control. Manifestly this is not the case with *Cell Populations*. Pages *vi* and *vii* of the editor's preface contains a comment on the nomenclature of cell types, which reveals a degree of confusion both in the minds of the editor and the authors of the articles in this book. These comments in the introduction are symptomatic of the state of affairs with the main articles. Many of these are excellent, for example that of P. O. Seglen on the preparation of isolated cells from liver and other tissues, or M. J. Owen and M. J. Crompton on the isolation of lymphocytes. But, inevitably, the authors view the problems in different ways, and apply different standards of judgement, often highly subjective. This volume, which could be of considerable value to research workers seeking an introduction to the subject of isolating homogeneous preparations of cells, would have been greatly improved if it had been written by a single author who could bring together a clear consistent judgement of the wide-field surveyed by this book. The importance of this field is indisputable.

A. P. Mathias

### *High Performance Liquid Chromatography*

by H. Engelhardt

Springer-Verlag; Berlin, Heidelberg, New York, 1979  
xii + 248 pages. DM 64.00, \$25.20

High performance liquid chromatography (HPLC) has been developing at an ever-increasing rate during the 1970s, as did gas chromatography during the previous decade. The introduction of small diameter (about 10  $\mu\text{m}$ ) solid support particles has led to columns with higher efficiency of separation, but this in turn has necessitated higher pressures to force the solvent through the column packing. Many impressive separations can be achieved in a short time with proteins, peptides, nucleotides, vitamins and other complex biological molecules which cannot be separated by gas chromatography because it is not generally possible to make suitably volatile compounds from

these. However, HPLC has also been successfully applied direct to small molecules which were formerly separated by gas chromatography after derivatization.

This volume represents the translation of an enlarged and revised second edition of a German text. It presents a good overall introduction to the subject with practical details and enough theory to guide the newcomer to this field in selecting and changing experimental conditions with rationale, rather than hit-and-miss methodology. The fundamentals of chromatography are followed by a description of equipment with particular emphasis on columns and support materials. The lack of sensitivity of detectors

suitable for liquid chromatography had long been a drawback to the use of HPLC. The available types are discussed. The ultraviolet and fluorescence detectors have a maximum sensitivity of  $10^{-9}$  or  $10^{-10}$  g/ml under most favourable conditions. Adsorption, partition, ion-exchange and exclusion chromatography are allotted separate chapters. There is some advice on the selection of the separation system desired, purification of solvents and preparative and quantitative

methods. The index is satisfactory.

The book can certainly be recommended, but although there are adequate references to the literature, there are very few dated later than 1976. This is unfortunate in a rapidly developing field, but perhaps unavoidable when taking into account the time-lag between writing and publication.

A. Darbre

## BOOKLIST No. 25 August 1980

Agarwal, M. K. (ed) *Antihormones*. Elsevier/North-Holland; Amsterdam, New York, 1979. viii + 460 pp. \$61.00; Dfl 125.00.

Aitio, A. (ed) *Conjugation reactions in drug biotransformation*. Proceedings of a Symposium held in Turku, Finland, July 23–26, 1978. Elsevier/North-Holland; Amsterdam, New York, 1978. x + 530 pp. \$76.60; Dfl 157.00. Reviewed in: FEBS Lett., 1980, 112, 122 by P. Millburn.

Becker, R. P. and Johari, O. (eds) *Cell surface labeling*. Scanning Electron Microscopy Inc.; Chicago, 1979. 636 pp. \$10.00 (softbound); \$12.00 (outside US).

Behnke, J. A., Finch, C. E. and Moment, G. B. (eds) *The biology of aging*. Plenum., New York, 1978. 400 pp. \$18.95; \$22.74 (outside US).

Birnbaumer, L. and O'Malley, B. W. (eds) *Receptors and hormone action*, vol. 3. Academic Press; London, New York, San Francisco, 1978. 648 pp. \$49.00; £31.85.

Blauer, G. and Sund, H., (eds) *Transport by proteins*. FEBS Symposium no. 58. Walter de Gruyter; Berlin, New York, 1978. 420 pp. \$85.50; DM 145.00.

Blombäck, B. and Hanson, L. A. (eds) *Plasma proteins*. Wiley; Chichester, 1979. xvi + 401 pp. \$62.00; £22.50. Reviewed in: FEBS Lett., 1980, 112, 124 by R. A. Kekwick.

Buckingham, M. E. (ed) *Development and differentiation*, vol. 3. CRC Press; Florida, 1980. 256 pp. \$59.95; \$68.95 (outside US).

Bull, A. T., Lagnado, J. R., Thomas, J. O. and Tipton, K. F. (eds) *Companion to biochemistry*, vol. 2. Longman; Harlow, 1979. 490 pp. £13.95. Reviewed in: Nature, 1980, 284, 379 by K. Burton.

Cairns, J. *Cancer: Science and society*. Freeman; San Francisco, 1978. xiv + 200 pp. £2.90 (softcover); £6.20 (hardcover). Reviewed in: FEBS Lett., 1980, 112, 119 by S. Neidle.

Capaldi, R. A. (ed) *Membrane proteins in energy transduction*. Dekker; Basel, 1979. 545 pp. SFr 109.00.

Caughey, W. S. (ed) *Biochemical and clinical aspects of hemoglobin abnormalities*. Academic Press; London, New York, San Francisco, 1978. 752 pp. \$33.50; £21.75.

Cohn, W. E. (ed) *Progress in nucleic acid research and molecular biology*, vol. 21. Academic Press; London, New York, San Francisco, 1978. 232 pp. \$21.50; £13.95.

Cooper, M., Mosier, D. E., Seher, I. and Vitetta, E. S. (eds) *B Lymphocytes in the immune response*. Developments in immunology, vol. 3. Elsevier/North-Holland; Amsterdam, New York, 1979. 416 pp. \$45.00; Dfl 92.00.

Costa, E. and Trabucchi, M. (eds) *The endorphins*. Advances in biochemical psychopharmacology, vol. 18. Raven; New York, 1978. xviii + 379 pp. \$36.40. Reviewed in: FEBS Lett. 1980, 112, 122 by B. Malfroy.

Cunningham, A. J. *Understanding immunology*. Academic Press; London, New York, San Francisco, 1978. 272 pp. \$16.00, £11.35 (clothbound); \$8.95, £6.40 (softcover).

Dolphin, D. (ed) *The porphyrins*, vol. 6. Biochemistry, pt A. Academic Press; London, New York, San Francisco, 1979. 928 pp. \$90.00; £58.60.

Dolphin, D. (ed) *The porphyrins*, vol. 7. Biochemistry, pt B. Academic Press; London, New York, San Francisco, 1979. 560 pp. \$55.00; £35.80.

Draper, H. H. (ed) *Advances in nutritional research*, vol. 2. Plenum; New York, 1979. 250 pp. \$27.50; \$33.00 (outside US).

Dunnill, P., Wiseman, A. and Blakebrough, N. (eds) *Enzymic and non-enzymic catalysis*. Ellis Horwood; Chichester, 1979. 256 pp. \$42.55; £18.50.