

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.

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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 μm) 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

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