human leukaemia cells, human epidermal keratinocytes and mesothelial cells, human T lymphocytes, muscle cells, human diploid fibroblasts and mouse BALB/c-3T3 cells. Two more-general chapters present methods for measuring parameters of growth and for cell synchronization.

It is difficult to define precisely the audience at which the book is aimed. Many volumes in the 'Practical Approach' series are particularly well suited to beginners in the field, including new post graduates. It is hard to see this being the case here – the treatment of basic techniques is too patchy. Thus, the beginner looking for information about ways to count cells would find a clear account of the use of the haemocytometer in the chapter by Baserga, but no mention of other cell counting techniques such as the use of the Coulter Counter. Methods available for cell synchronization receive a brief but useful treatment, but ways of determining cell viability receive little mention. On the other hand, some basic techniques, such as the use of trypsin to detach cells, are described repeatedly in relation to specific cell lines, with little information about general applicability.

The book will be useful for those wanting information about the specific cell lines listed above. The Appendix does provide a list of other commonly used cell lines, but the information provided is minimal and without references or information about suppliers it is of limited use. Researchers wishing to study cell lines not discussed in detail here, or requiring information about methods for studying cell growth and division in general, will probably find other sources, including books devoted to general techniques for cell culture, more useful.

Mike Wallis

Light Microscopy in Biology: A Practical Approach; Edited by A.J. Lacey; Oxford University Press; Oxford, 1989; xviii + 449 pages; £19.00

In recent years, light microscopy has regained much of the ground that it had lost earlier to electron microscopy. Few would now contest that it has recovered its long-held central position as the most ubiquitous technique in Biology, if this were ever lost. Now is the time for a book that captures the current excitement in the field and relates the story of the many ingenious inventions that have transformed the light microscope from a powerful magnifying glass for examining fixed and stained material to a versatile laboratory for the study of living processes.

I found this book somewhat disappointing with respect to conveying the current excitement. One of the more important recent microscopical techniques – of which the prominent microscopist Shinya Inoué has said “Seldom has the introduction of a new instrument generated as instant an excitement among biologists as the laser-scanning confocal microscope” – has received no more than cursory attention. The confocal scanning light microscope, with its ability to obtain clear images from deep within living tissue, is set to revolutionise embryology and other aspects of biology and it deserves more than a passing mention even though its full potential is yet far from realised.

Nevertheless, several of the new techniques are given a comparatively much fuller treatment in the book and chapters 6 and 8 on fluorescence and video microscopy, written by foremost experts in these fields, are particularly useful introductions to these topics. Chapters 1, 2, 3 and 7, on the principles of microscopy, contrasting techniques, photomicrography and micrometry, respectively, together form a very good technical primer in light microscopy techniques for the beginner. But the remaining three chapters, on immunohistochemistry, histochemistry and chromosome banding, while informative and well written, seem out of place to use in an introductory text and would be better placed in a book on cytological techniques (or perhaps the title could have been better chosen to indicate their presence).

Overall, I found this book to be a curiously mixed bag of basic and specialised topics; of advice to raw beginners and operational details of the latest and most expensive equipment; and of technical optics and histochemistry. The intended readership is not at all clear. Even so, given the dearth of books written in English on the optical principles of microscopy, I will be happy to find it a place on my bookshelf.

G.A. Dunn

Microstructure and Function of Cells; By Andreas Bubel, Illustrated by Cecilia Fitzsimons; Ellis Horwood Wiley; Chichester, 1989; 271 pages, £39.95

This collection of electron micrographs from a wide range of organisms is intended, according to the preface, to emphasize the wide range of structural variations in invertebrates and plants in addition to those of mammals. There are as we might expect some very interesting structures illustrated and an opportunity for any cell biologist to increase his knowledge by even a rapid survey of the micrographs.

There is one most serious drawback which should not accompany a new publication of this sort. The reproduction of the electron micrographs is poor. They are simply not clear.
Electron Microscopy: A Practical Approach published in 1987, dealt specifically with nucleic acids and proteins. This volume provides detailed protocols for a wide range of procedures relating to the electron microscopy of tissues, cells, and their components with the emphasis on biomedical applications. I am a great fan of the Practical Approach series and am almost becoming a collector of these extremely useful and reasonably priced laboratory aids. Light Microscopy in Biology: A Practical Approach; Edited by A.J. Lacey; Oxford University Press; Oxford, 1989; xviii + 449 pages; f19.00. In recent years, light microscopy has regained much of the ground that it had lost earlier to electron microscopy. Few would now contest that it has recovered its long-held central position as the most ubiquitous technique in Biology, if this were ever lost. Now is the time for a book that captures the current excitement in the field and relates the story of the many ingenious inventions that have transformed the light microscope from a powerful magnifying...