

the methods or the microscope which made that image possible. Treatment of macromolecules is also weak. For example, the account of protein structure seems to suggest that the distribution of hydrophilic versus hydrophobic residues accommodates well with the conformation, rather than helps to engender it. Glycosylated membrane proteins are represented as exclusively extrinsic.

Berns's (smaller) book is best where his own technical interests enliven descriptions of methods of study of cells. Overall, however, unevenness of authority is a serious problem. For example, the new account of cell-cell junctions is unforgivably confused about the function of tight junctions. Actin bundles simply are not found "along the leading edge" of migrating tissue-culture cells. In view of the author's background, the discussion of membrane fluidity is surprisingly weak too. Rather giving the game away is the statement that the great interest of viruses to biologists is their involvement in disease and use in genetic engineering.

I promised myself I would actually buy the first textbook of cell biology which in discussing cellular differentiation gave proper prominence to clonal inheritance. Besides a whiff in Kimball's discussion of the immune system, you have to go to the committee volume for that, as you do for a satisfactory balance between what cells can do and the bits and pieces inside which make it all possible.

In that it deals only with experimental work, Bregman's book stands apart from the other three. His manual shows how he has been able to make a variety of biological phenomena accessible to students limited to three-hour spells in the laboratory. The experiments range from the run-of-the-mill to some such as flagellar regeneration in *Chlamydomonas* and DNA replication in leukocytes (using Hoechst 33258 without a fluorescence microscope) which are more of a surprise and therefore especially welcome. Between clearly written background introductions, and detailed inventories of requirements, lie experimental procedures that certainly appear to be robust enough to work after transplantation from the author's own teaching-laboratory.

To judge by the inclusion of data-report pages and printed graph paper, the publishers clearly hope the manual will be bought as a bench book for use by individual students. I suspect that most teachers with the resources (such as microscopes and spectrophotometers) to mount these experiments probably assemble their own laboratory courses by picking and choosing. Many will want students to start to handle radioisotopes and to grow cells other than leukocytes. I am afraid they will go to Bregman just for his best ideas. □

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Beyond Fawcett

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Histology: Cell and Tissue Biology, 5th Edn.

Edited by Leon Weiss.
Macmillan Press, London/Elsevier,
New York: 1983. Pp.1,219.
£30, \$49.50.

Cells and Tissues: An Introduction to Histology and Cell Biology.

By Andrew W. Rogers.
Academic: 1983. Pp.242. Pbk £12.50,
\$23.

Multiple Choice Questions in Histology.

By Raymond Coleman.
Pitman, London/Urban &
Schwarzenberg, Baltimore: 1983.
Pp.285. Pbk £5.95, \$10.50.

HISTOLOGY textbooks come in all sorts of sizes and formats and a matching range of prices. Two of the books under review represent the upper and middle parts of the choice of texts currently available to students. The third is rather different, being a compendium of multiple choice questions on histology.

Histology: Cell and Tissue Biology, edited by Leon Weiss, is the fifth edition of a book first published in 1966 under the editorship of Roy Greep. It is one of the three great books on histology written in English — the others are Ham's *Histology* and Fawcett and Bloom's *Textbook of Histology* — and is found in most university libraries and departments of anatomy. Fawcett and Bloom (the tenth edition of the original Maximow and Bloom) appeared in 1975 and was the work of Don Fawcett. It is still a splendid book, well written, accurate and beautifully illustrated; it shows all the hallmarks of its author's approach to the subject, being scholarly, meticulous, balanced and revealing Fawcett's marvellous appreciation of the visual appeal of the subject. It is perhaps not surprising that at least five of the contributors to Weiss's volume were at some time working in the Department of Anatomy at Harvard when Fawcett was chairman there.

Fawcett's book exhibits an engaging uniformity of style expected of a single author. However, it does not contain that relation of function to form so essential in a modern

Textbook supplement — prices

Where possible both dollar prices pertaining in the United States and sterling prices for the United Kingdom are given in the bibliographical details for each book. Export prices will generally be higher. If a dollar or sterling price is not cited, the book is not available in one of the two countries. However readers should check both price and availability of books before ordering.

An index to all of the books reviewed in this issue appears on pp.143–144.

histology text. This is only to be expected. The exponential growth during the past 30 years of our knowledge of cells, tissues and organs makes it an almost impossible task for a single author, except in a patchy way, to cover in an advanced text the whole of functional histology. As in many other areas of the biosciences, the answer is a multi-author book.

The new edition of Weiss is a complete justification of this approach. Each chapter has been written by an expert and is in essence a "minomonograph" on the subject under consideration. Weiss has not imposed uniformity on the structure of each chapter, particularly those dealing with the organs, so the emphasis placed on the functional aspects varies considerably, ranging from molecular biology to physiology. Many new topics have been introduced — for example the enteroendocrine system — with the recognition of their importance in our understanding of the pathology of those systems. The illustrations, particularly the electron micrographs, are on the whole first-class, but here and there some of the older figures of human material no longer match up to the standard of the rest. In all, however, the new Weiss is a splendid achievement.

As its subtitle declares, Andrew Rogers's *Cells and Tissues* is an introduction to histology and cell biology. In the first half of the book the author covers structure, with useful emphasis on how to look at and interpret the architecture of a conventionally stained histological section. In the second half, Rogers then pursues a number of general questions about the histology of the body — how the tubes of the body are constructed and how the different parts of the body communicate with each other, for example. Here the author ranges over the whole body; thus, all the tubes from the different organ systems are compared and in the second chapter of this section there is a mixture of information about both the nervous and the hormonal systems. The final chapter deals with the interpretation of abnormal structure.

One gets the feeling that the book is based on a course of lectures in which an attempt was made to avoid the usual systematic approach to the subject. It is a brave try, but does not, I feel, quite come off.

Raymond Coleman's book of MCQs in histology will prove to be a valuable source of such questions for tests and examinations using this form of assessment. In particular, the fairly full explanatory notes to the answers given will undoubtedly help the examinee. One can only hope, however, that this relatively easy if useful way of testing a student's knowledge will not completely replace either essay-type questions or the examination of real histological specimens down a microscope. □

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