Tumour Immunobiology: A Practical Approach
Edited by G. Gallagher, R.C. Rees & C.W. Reynolds, Oxford: IRL Press, 1993, 414 pp.

This multi-author book belongs to a series aimed at providing detailed accounts of laboratory techniques for active experimental fields, in detail sufficient even for the relative newcomer. The 24 chapters cover culturing and characterisation of tumour cells, the various arms of the immune response, some sophisticated means of manipulating this response and preclinical immunotherapy. There is an emphasis throughout on providing the precise instructions needed for the reader to repeat all procedures immediately in the laboratory.

An introductory chapter provides useful practical detail on the difficult business of establishing tumour cell lines from clinical material. There is a thoughtful chapter on the immunogenicity of neoplastic cells in model systems, and a useful one on the immunochemistry of cell-surface antigens. There is, however, no detailed discussion of those intracellular proteins which can act as T-cell antigens, or of the current interest in using mutant peptides from such proteins as vaccines: the editors might attend to this omission in an updated edition. Several chapters cover the isolation, characterisation and culturing of T and B cells, NK cells and mononuclear phagocytes. A further chapter describes activation of these cells in vitro, with assessments of the resulting proliferation, cytokine production and cytotoxicity. Analysis of the T-cell receptor for antigen by semiquantitative polymerase chain reaction is described for T-cell cultures from clinical material. Cytokines are covered by chapters on biosays and the identification of gene activation. Five chapters deal with antibodies: production of human monoclonals, engineering by both genetic and chemical methods and radiolabelling. Some of the groundwork necessary for varied forays into gene therapy is to be found in three chapters, one on transfecting cytokine genes into tumour cells, one on genetic immortalisation of lymphocytes with retroviral vectors and one on introducing chimeric Ig/TCR genes into T cells. Finally there are two chapters on immunotherapy models, and one on the metastatic phenotype and the measurement of metastasis.

It is difficult to predict just how useful works such as this will prove, but my feeling is that anyone setting up a method covered in the book will do well to consult it: although techniques will move on and emphases change, there is much thoughtful discussion and description here which does not appear in conventional journal articles – and which could be of immense help in overcoming initial hurdles.

G.T. Stevenson

Walter & Miller's Textbook of Radiotherapy (5th edn)
Edited by C.K. Bomford, I.H. Kunkler & S.B. Sherriff, Edinburgh: Churchill Livingstone, 1993, 608 pp. £47.50.

It is now 14 years since the last edition of this textbook and the current edition contains very extensive revisions and has been expanded. It is divided into two sections: firstly, Radiation Physics and, secondly, Radiotherapy and Oncology. The Radiation Physics section is much more than an introduction to the book and comprises just over one-third of the total of 600 pages. The contents of this section extend from the fundamentals of atomic structure and radioactive decay through to principles of radiation treatment planning, brachytherapy and even a discussion of proton and neutron therapy. There is also a very useful and up-to-date review of radiation protection. In all, this section is a superb summary that is clearly written, well illustrated, and in my view, contains sufficient material to take the student through to the standard of the first part of the FRCS examination.

The remainder of the book is a comprehensive presentation of the treatment of cancer, though more superficial. The major component is a systematic discussion of cancers by site of origin, presenting for each, in most cases, short notes under the headings Pathology, Spread, Clinical Features, Diagnosis and Staging, Treatment and Results. Radiotherapy treatment techniques are often illustrated by diagram, isodose plan or simulator film. The treatment policies and techniques are those employed in Sheffield and, in general, there is little discussion of alternatives. No references are provided and, especially as a consequence of this point, the book should be regarded as an introduction to the subject.

With that proviso, the authors and contributors are to be congratulated on such a lucid and succinct review of the principles and practice of radiation oncology. The book would form a very good initial text for those training in radiotherapy and radiography.

A. Horwich

A Scanning Electron Microscopy Atlas of Normal and Malignant Leukocytes
Edited by A. Polliaic, G. Lombertenghi-Delliyers & D. Soligo, Chur, Switzerland: Harwood Academic Publishers, 1993, 95 pp. £49.00.

Scanning electron microscopy produces spectacular images, often illustrated on the walls of electron microscope units as photographs giving new dimensions to everyday objects, such as flies’ legs and pollen grains. Is the technique, however, of any diagnostic value in haematopathology? From the evidence of this atlas, the answer must be ‘no’. Normal and neoplastic lymphocytes have a limited range of surface morphologies of little discriminatory value. These morphologies are also subject to artefacts caused by the preparative procedures. The misinterpretation of artefact is well illustrated by the erroneous concept, partly propagated by one of the authors of this atlas and widely held for several years in the 1970s, that B lymphocytes have villous surfaces whereas T lymphocytes are relatively smooth. Part of the introductory text of this atlas, however, deals with techniques of fixation and critical point drying that should go some way to overcome preparative artefacts and preserve surface morphology in its native state.

The second introductory chapter deals with the subject of immunolabelling for scanning electron microscopy. Examples, showing the use of this technique, are well illustrated in the atlas. One might imagine that the combination of detailed surface morphology, together with immunohistochemistry, would make a powerful research tool. If so, this is not apparent in this atlas. The illustrations, in general, show a surface distribution of labelled antigen that bears no particular relationship to surface structures. The technique might be of more value in the study of cellular interrelationships or in the study of the response of cells to cytokines, but these topics are not dealt with.

This atlas will be of little value to either haematopathologists or research workers in the field of lymphoid neoplasms. Currently, £49 may be a modest price for a good-quality atlas but the lack of content in this publication does not make it good value for money.

D.H. Wright