

On the whole, I thought that the book dealt well with the theoretical and practical considerations of PAGE methods, but would have benefitted from clearer presentation of methodological details. If the reader requires an introduction to the theory behind PAGE methods, then it can be said that the book adequately fulfils its remit. However, the reader hoping to extract practical methodology from the text would be better advised to purchase—for example, the IRL practical approach series publication *Gel Electrophoresis of Proteins*, the latter being just one example of the many already popular publications with which Dunn's book will be competing. Verdict: not a bad book, but given the number of publications on the market, it is difficult to see what area *Gel Electrophoresis: Proteins* covers that are not already adequately covered by others.

S AFFORD

**Molecular Basis of Oncology.** Freireich EJ, Stass SA (eds). (Pp 000; £39.50.) Blackwell Science. 1995. ISBN 0-865-42254.

This book will be of interest to cancer pathologists and oncologists, but probably of most use to haematologists and those with a special interest in leukaemias. It must be said that there are elements of the volume which are particularly good but these are compromised by failings in other components, probably the result of uncertainties about the prospective readership. The weakest parts are the general review chapters which open the book. These are of undergraduate level and could not be considered a satisfactory preparation for the detailed material which follows. A glossary is included, a feature which often attracts potential readers and which if done comprehensively can be an invaluable aid to understanding the jargon of today's scientific literature. Unfortunately, the listing here omits many of the terms which are essential to translating reports of molecular analysis into scientific understanding. However, the book does have some excellent contributions on DNA mismatch repair defects (which review the contribution of such abnormalities to diseases other than cancer), tumour angiogenesis and a series of chapters on the molecular pathogenesis of individual types of leukaemia. There is an odd balance to the coverage of solid malignancies; with detailed review of the genetics of prostate cancer and brain tumours (to be applauded as these tumour types have received too little attention) but no chapter on breast cancer. Is the book a worthy purchase for your library? In the crowded market in which it competes it is outperformed both as a general introduction and specialist review by rival texts, some of which have the additional attraction of being cheaper.

N R LEMIONE

**Cellular and molecular pathogenesis—Sirica AE (ed).** (Pp 575; £76.00.) Lippincott-Raven. 1995. ISBN 07817 03018.

This text is an extremely comprehensive compilation of the basic mechanisms of disease. There are 35 authors contributing 20 chapters, and it can be justifiably claimed that most of the mechanisms that we currently understand to be involved in the development of disease processes have been covered and brought together in one volume.

In order to achieve this end, certain aspects may have been sacrificed, so that the work is in danger of falling between the two stools of comprehensive work for academic researchers and textbook for the student. For instance, it is a pity that the fashionable subject of apoptosis is mentioned only in passing, and that the discussion of signal transduction mechanisms is largely limited to a treatise on protein kinase C. The book is targeted at advanced graduate students and post-doctoral researchers working in fields related to molecular pathology. Unfortunately, the reader is, in most cases, unable to go back to the original scientific publications; instead each chapter ends with a list of "suggested readings". This may be a ploy to save space and thus to allow the book to be published in one binding, but it is in my view a mistake to discourage the student and obstruct the research scientist from referring to the original work.

As is so often the case with edited compilations, the style and quality of the individual chapters varies considerably. In some the stated aim of the book, to introduce the student "to fundamental concepts and principles...using important paradigms and experimental models..." is followed, and there are excellent reviews on immunodeficiency disorders, cytokine networks and the central role of inflammation in pathology. In others, though, we are introduced to a string of "facts" in true student textbook style. This can be dangerous in a book that is so up to date; today's fact can be tomorrow's perjury, something that the student may not necessarily realise. This potential problem is exacerbated, again, by the reader's inability to refer easily back to the original work. Only in one chapter did I find the cautionary note that "this chapter represents only our current understanding, guaranteed to change as knowledge...continues to evolve". How I wish that we could engrave this statement in our students' minds rather than clog them with information.

On the whole, this textbook is a worthy addition to the field. Covering subjects from interleukins to acid rain, at £76.00 it represents reasonable value for money. I hope that its success will permit the future publication of a truly comprehensive, referenced and multi-volume edition.

D J BUTTLE

**Transacting Functions of Human Retroviruses.** Volume 193 in the series **Current Topics in Microbiology and Immunology.** Chen ISY, Koprowski H, Srinivasan A, Vogt PK (eds). (Pp 239; DM 177.00.) Springer Verlag. 1995. ISBN 3-540-57901-X.

Some 12 years after the identification of the causative agent of AIDS, HIV is now by far the most well understood of viruses. It is easy to forget that reverse transcriptase activity was discovered many years previously, in 1970. This discovery overturned the central dogma of biology at the time, that information flows from DNA to RNA to protein, and opened the field of retrovirology as a new area of scientific inquiry. HIV research has subsequently contributed greatly to this field. Nevertheless, we have not witnessed the great advances in antiretroviral therapy or HIV vaccinology that such knowledge may have been expected to fuel. Some of the problems encountered in this respect include the large degree of genome variation generated

through viral replication, and the fact that by infecting CD4 cells, HIV directly damages the cells which comprise the mainstay of viral clearance. In addition, however, the more complex retroviruses encode a whole array of "regulatory proteins", which may upregulate, downregulate and coordinate gene expression, contribute to latency and interact with host proteins. There is increasing recognition of the importance of such proteins in the maintenance of retroviral infections. This of course makes such unique proteins a point of viral vulnerability, and has led to a concerted effort to develop antiviral strategies based on these targets. It is in this context that *Transacting Functions of Human Retroviruses* should be approached.

This volume is one of the successful series of *Current Topics in Microbiology and Immunology*, covering the biology, structure and function of regulatory proteins of HIV, HTLV-1 and also a chapter on foamy viruses. There is a great emphasis on tat, rev, nef, vif, vpx, and vpu proteins of HIV. A considerable amount of information has accrued regarding the mechanism by which HIV tat regulates gene expression through binding to HIV RNA (TAR), and how rev affects viral specific mRNA stability. These respective chapters are highly condensed, and a more liberal use of diagrams may have made them more accessible to the non-specialist reader. I was also disappointed that the potential use of these proteins in antiviral gene therapy approaches is not given greater prominence. Any summary of the nef protein is difficult, given the array of contradictory data published over the past five years. The authors of the nef chapter have done well to provide an in depth, up to date, and well organised review. Adequate space is given to the nef deletion data from the SIV macaque model, which is of considerable interest with regard to the potential for live attenuated HIV vaccines (with nef deletions). Unfortunately, the publication of this volume preceded the availability of relevant information on nef variation in long term HIV infected survivors. The volume also benefits from a chapter on the use of transgenic mice in understanding the pathogenic role of regulatory proteins.

In summary, this volume is of variable quality. It includes a large amount of up to date information which is not always presented well, and more could be made of therapeutic implications. It will be most useful to those with an existing research or teaching involvement with retrovirology.

D PILLAY

**Pathways for Cytolysis.** Griffiths GM, Tschopp J (eds). (Pp 224; DM177.00.) Springer Verlag. 1995. ISBN 3-540-58725-X.

*Pathways for Cytolysis* is a recently published compilation of review articles by investigators from 11 of the leading laboratories carrying out research on mechanisms of cytotoxicity by T cells or natural killer (NK) cells. These reviews provide an extensive, in depth summary of current knowledge both about perforin mediated cytotoxicity and apoptotic death. During the past year or two, there has been a dramatic increase in our understanding of the mechanisms by which cytolytic effector lymphocytes mediate killing of susceptible targets. The development of perforin knock-out mice by several investigators has been the key advance that led both to the



# Transacting Functions of Human Retroviruses: Current Topics in Microbiology and Immunology

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