

book three years later? Chapter 5 covers the isolation of retroviral insertion mutants of mice that affect development by Gray, Weither, Gridley, Noda, Sharpe and Jaenisch. This is of some interest for developmental biology but is not very illuminating on recombination mechanisms. Another chapter that deals with technological developments is 6, where Pachnis, Pevny, Rothstein and Constantini describe the insertion of yeast artificial chromosomes into the chromosomes of mouse L cells. Chapter 7 by Wu, Hadchouel, Farza, Amar and Pourcel describes methylation of HBV transgenes that seems to be dependent on the site of integration. Again, I see no link with recombination mechanisms. Griffin and Raeban discuss a rather tenuous model for the role of transcription in antibody switch recombination and then note in proof that they have modified their interpretations. The reader is left wondering how much to believe. Should not the editors have either deleted this chapter or insisted on a more detailed explanation of the changed interpretation? I enjoyed reading chapter 9, where Hawley and Zim propose an explanation of chromosome segregation that relies on euchromatic and heterochromatic pairing and describe the effects of genes affecting chromosome disjunction. Chapter 10 is the mini-review of *Drosophila* transposable elements mentioned above. Chapter 11 provides an interesting introduction to pairing, recombination and disjunction in *Caenorhabditis elegans* by Rose and McKim. Kolodner, Alani, Heyer, Johnson, Norris and Tishkoff describe the properties of the *Saccharomyces cerevisiae* strand-exchange protein 1 (SEP1) and related proteins that they have been studying in chapter 12. That their *sep1* mutants are hypo-rec in mitosis but hyper-rec in meiosis goes to show that the recombination pathways in yeast are very complicated. Homologous recombination in yeast cell-free extracts is discussed in chapter 13 by Symington. In chapter 14 Smith and Ponticelli describe the isolation and characterization of 53 new recombination-deficient mutants of *Schizosaccharomyces pombe*. This very systematic work will significantly enhance the value of this useful model system. Holliday's chapter (chapter 15) deals with the structure of the 'Holliday' junction and the genetic and biochemical analysis of recombination in *Ustilago maydis*. Chapter 16 by van der Ploeg, Gottesdiener, Tse, Chung and Weiden describes the chromosomal organization in *Trypanosoma brucei*, and chapter 17 by Eisen describes how recombination of the expression-linked copy of the VSG gene with both complete and defective silent copies leads to the programmed change in surface glycoproteins in the related organism *T. equiperdum*. Finally, Cowman and Kemp describe the chromosome structure and organization of *Plasmodium falciparum*.

My overall assessment of the book is that I enjoyed reading it but that it lacks a sense of purpose. The editors have, mainly, done a good job of presentation,

but three chapters managed to slip in with a different form of referencing to the others!

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Autoimmunity. By W. OLLIER AND D. P. M. SYMMONS.
 Medical Perspectives Series (Editors: A. P. READ
 and T. BROWN). Bios Scientific Publishers, Oxford,
 England. 1992. 142+x pages. Paperback
 £12.95/US\$26.00. ISBN 1 872 748 50 3.

Like its companion volumes, this book is aimed at postgraduate and clinical medical students and at non-specialists working in the field of medicine. It is also relevant to immunology undergraduates and others with an interest in this field. Its core section is the two chapters which describe the manifestations and immunological associations of the major autoimmune diseases, firstly those with a wide impact within the body (chapter 5), and then those largely confined to a single organ or system (chapter 6). Within the constraints of a relatively compact volume, these chapters are comprehensive and informative, and in stressing both the polygenic origins of most autoimmune conditions and the many overlap syndromes which exist, they highlight the difficulties presented in analysing and treating the disease states which result. These two chapters are followed by two topical and readable shorter ones, the first dealing with prognosis and treatment strategies, the second presenting an overview and bringing together a number of the threads introduced earlier in the book.

In contrast, the earlier chapters read less well, and compromise to some extent the recommendation which could otherwise be given to this book. The style is neither precise nor convincing, perhaps the victim of an attempt at over-simplification for the non-specialist reader, and there are several areas where the story does not come together particularly well. In chapter 1 the T-cell receptor (TCR) is carefully defined as a complex of the α/β or γ/δ dimer (here referred to as Ti) with the CD3 polypeptides. However, on all subsequent occasions the TCR is identified as the receptor dimer alone, with CD3 referred to in text and figures as a separate entity. This will be confusing for some readers, and other examples abound. For instance, there is the implication in chapter 3 that the major auto-antigens in Graves's Disease are thyroglobulin and thyroperoxidase, while chapter 6 clearly, and correctly, places the emphasis on antibodies to the TSH receptor. Again, in chapter 2 the figure illustrating haplotype sharing by siblings fails to illuminate the text, while elsewhere the conventions of genetic shorthand are abandoned. Chapter 4 is really incorrectly titled. It contains several sections which

describe normal immune function, with scant reference to autoimmune disease, and some of these would be better sited in an enlarged introductory chapter.

There is a bibliography at the end of each chapter, and most of the references given are pertinent and up to date. One exception occurs in chapter 1 where, in a fast-moving field, it is inappropriate to list two dated immunology textbooks. In addition, while the chosen format for the bibliography is acceptable, this book would surely have benefited from at least some numbered references in the text. Some readers will find the concluding Glossary useful, but many will consider definitions such as those for lymphokines, stem cells, T-helper cells, and transgenic mice to be insufficient or incorrect. In summary, then, the book promises well, and reads well in parts, but overall it has not been put together with sufficient care or attention to detail for it to be enthusiastically recommended.

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Cytokines. By M. J. CLEMENS. Medical Perspectives Series (Editors: A. P. READ and T. BROWN). *βios Scientific Publishers*, Oxford, England. 1991. 122 + x pages. Paperback. £11.95/US\$24.00. ISBN 1 872 748 70 8.

This is an interesting and informative summary of the nature and activities of the cytokines, a diverse group of molecules which regulate many cellular functions, and which are particularly prominent in the immune and haematopoietic systems. The account is readable, well laid out, and presented with instructive diagrams and summary tables. It deserves to be well received among its intended readership of medical students, clinicians, and postgraduates in immunology and related fields.

For a small volume, the book covers a lot of ground. For instance, in chapters 2 and 3 it includes coverage of some relevant topics in cell and molecular biology, dealing, for example, with the signalling pathways by which ligation of surface receptors mediates changes at the chromosomal level. In the context of cytokine activity many of these pathways have yet to be worked out in detail, so the links to

actual mediators in this section are sometimes slight. However, this is useful background material, and it points the way towards a lot of current research activity. It is helpful that the author has chosen to give key references in the text, with full bibliography plus additional reading at the end of each chapter. The literature cited is up to date and carefully chosen, though in places the story has a perceptible bias towards the author's own interests of interferon function in relation to viral replication and tumour cell growth. In the section on cytokines and immunity, only one of the four references cited in the text comes from a major immunological journal, and one or two topics of interest to immunologists fail to get the coverage they might merit.

One such omission, highly topical during the gestation and production of this book, is the division of CD4⁺ T-helper cells into subsets with discrete profiles of cytokine secretion. In fact, the division of T-cells into CD4⁺ (helper) and CD8⁺ (cytotoxic/suppressor) phenotypes, and their respective MHC restrictions, are only briefly touched on. It is generally believed that the characteristics of a given antibody response and the bias towards humoral or cell mediated immunity are dependent on which T-helper subset predominates, and two regulatory cytokines, interferon- γ and IL-10, have important roles to play in cross-regulation of helper T-cell responses. The immunological reader will perhaps be surprised to find such gaps, while the non-immunologist will have to make do with something less than the whole story, and will need to take care that he understands that most references to T cells describe the activity of the helper subset. However, while the role of cytokines in the immune system is perhaps underplayed, the breadth of the account means that we are given a good overview of the variety of functions which cytokines serve.

Having outlined the biological roles of cytokines, and considered their disease associations, the book concludes with a chapter on the prospects for cytokine therapy in infectious diseases, autoimmunity and cancer. This is an area where, despite past disappointments, much effort is concentrated, and the overview provides a suitable conclusion for this useful volume.

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