laboratory techniques in more detail, this book will be a valuable resource both for undergraduate students and qualified staff studying for further professional examinations in clinical biochemistry.

A feature which I'm sure will appeal to lecturers and training officers is the Oxford University web resource for this volume (www.oup.com/uk/orc/ahmed) which offers registered adopters of the text the opportunity to access the figures used in the volume in electronic form so that they can use them in their own environment and lectures.

G. Lloyd

Healthcare Biotechnology. A Practical Guide

D. Dogramatzis. London: CRC Press, 2010
ISBN-10: 1439847460, ISBN-13: 978-1439847466. 689 pp. £63.99.

This book is probably best suited to those wishing to evaluate the commercial potential of a biotechnology company, including biotechnology business students, bio-incubation managers, pharmaceutical leaders and those wishing to set up a business for themselves in the biotechnology sector. It covers all aspects including the healthcare biotechnology industry, intellectual property, funding, new products, marketing, and running a business. The background of the author, who held leadership positions with Hoffman-la Roche and Serono, does slant the book's perspective towards that of a pharmaceutical executive determining the buy-out potential of a biopharmaceutical business. That said, it does cover most aspects of setting up, running and commercialising a business, with the ultimate goal of a sale or collaboration with 'big Pharma'.

The book offers small sections, with practise questions at the end of each section, to reinforce application of the knowledge. So, for example, the chapter on biopricing ends with the question 'Biopharmas have used various innovative pricing strategies in Europe. Which are the main advantages and disadvantages of these approaches?' The questions also force the reader to assume the thought processes of various stakeholders, such as civil servants within a country's health department, a biopharmaceutical employer, clinicians and customers.

Of particular interest to someone setting out on this biotechnology business journey is the tricky path through biofinance, including venture capital and business angels. The section on marketing is also particularly strong and well thought through. There are some slight criticisms, however. For example, biomanufacturing is also covered but from the very specific angle of protein manufacture.

Biopharmaceutical/biotechnology companies operate in a highly regulated environment, as do large well-known pharmaceutical companies. Although this regulatory environment is mentioned, briefly, it is not covered in any depth in the book. This may be a serious oversight when one considers the legal powers of the US Food and Drug Administration (FDA). The emerging sector of personalised healthcare is touched on briefly but not covered to any great extent, and some of the current leading players in the world of companion diagnostics are not discussed.

To summarise, this useful book provides an oversight into the biotechnology business sector. My only criticisms of the book are that it cannot possibly keep up with the latest developments in the biotechnology sector (what book can?), and that biotechnology is such a vast topic that it can only skim the surface of the subject.

J. Theaker

Medical Genetics

I. D. Young. Oxford: Oxford University Press, 2010.
ISBN 978-0-19-959461-0. 297 pp. £29.99.

This is a second edition of a general introduction to genetics set out over 14 chapters. The layout of the book is well structured, with recommended reading and multiple-choice questions to check understanding. Each chapter also includes a review of key papers or research on the topic as well as interesting case notes to sustain the reader's interest.

The first three chapters cover the basic structure of the gene and chromosome. This is then followed by two chapters on simple Mendelian inheritance and one covering polygenic inheritance for complex disorders. Chapters 7–12 are entitled 'Genes and...' and cover a range of topics including population genetics, human development, cancer and pharmacogenetics. The last two chapters deal with clinical skills required by a clinician and applications to clinical genetics. The book is up to date and covers more modern research topics such as pharmacogenetics and pharmacogenomics.

The book is clearly written for medical students and provides in the appendices the basic knowledge and clinical skills recommended by the American Society of Human Genetics Information and Education Committee and the Joint Committee on Medical Genetics and the British Society of Human Genetics in the UK. However, biomedical scientists should find the clinical details of the single gene disorders and the diagnostic tests available of interest and the basic genetics covered in the first three chapters are accessible for anyone studying a genetics module.

T. Pinel

Microbiology. An Evolving Science

J. L. Slonczewski, J. W. Foster. London: Norton, 2010: 2nd edn.
ISBN-13: 978-0-393-93447-2. 1100 pp. £48.99.

This is a comprehensive textbook aimed at undergraduates in biology, biomedical science and microbiology. The text is modern in appearance, with many excellent colour diagrams, including many 3D models of proteins and other macromolecules, biochemical and signalling pathways, and blocks of text highlighting key points. There are also icons to inform the reader that online resources are available (e.g.,

the publisher's 'study space', other internet materials, eBooks, videos and animations). However, I cannot comment on the quality or usefulness of these as there was no online access associated with my review copy.

Nevertheless, excellent features include the use of photographs from science fiction films, where imagination and science are compared and contrasted in the captions and text; the use of 'special topics' boxes; photographs of eminent scientists alongside their findings; and 'interviews with prominent scientists'. The last two features help to give this book a more empathetic feel, which I am sure will be appreciated by many students. The use of 'thought questions' will encourage the more highly motivated student to develop their critical thinking abilities. However, how to get weaker students to use these aids to learning will remain a major challenge for most educators. I learned a few facts (e.g., *Burkholderia cepacia* has three chromosomes, *Borrelia burgdorferi* has a linear chromosome, and no Archaea are pathogenic to humans).

However, I also spotted a few errors and omissions. For example, although anammox bacteria are mentioned briefly in Chapter 14 (Metabolism and Biochemistry), they are not included in the section on the N-cycle in Chapter 22 (Wastewater Treatment), and although chemical additions such as hypochlorite for disinfection may be one form of tertiary treatment, there are also other tertiary biological treatments of interest to microbiologists, such as nitrification, denitrification, and phosphate-removal; and also a typographical error: *Zooglia* instead of *Zoogloea*.

Clearly, nothing is perfect and it is perhaps unfair to focus on topics in my areas of expertise, but finding such errors in what was a necessarily brief inspection was disappointing. Nevertheless, this addition to the range of US-authored, comprehensive microbiology textbooks that offer additional resources for students and instructors will find a keen audience among those who appreciate its unique features.

M. Dempsey

Molecular Hematology

D. Provan, J. G. Gribben eds. Chichester: Wiley-Blackwell, 2010: 3rd edn. ISBN 978-1-4051-8231-7. 410 pp. £135.00 (Hardback).

The third edition of this excellent textbook comprises 30 chapters on the many different manifestations of molecular studies in haematology. All aspects of haematology are covered: the opening chapters deal with genetics and stem cells, followed by eight chapters on neoplasia – the leukaemias, lymphomas and other myeloid diseases. There are four chapters on anaemia, iron and haemoglobinopathy, while the pathology of malaria merits its own chapter.

Platelets and haemostasis warrant four chapters, and blood transfusion two chapters. The volume concludes with chapters on autoimmune disease, growth factors, molecular therapeutics/gene therapy, pharmacogenomics, gene expression, the history of molecular biology, and transplantation. One of my favourites is that on blood group antigens, as it brought me up to date with the functions of some of these molecules; for example, the Kidd blood group molecule is a urea transporter, while the Duffy molecule is a chemokines receptor.

Overall, there is a tendency to focus on genetics, mutations and cell surface receptors (which is not necessarily a bad thing), but some may feel a nod towards clinical haematology would help to put the technical and academic texts in focus. As in any multi-author textbook, there is a degree of duplication (e.g., Chapter 3 on stem cells and Chapter 29 on cancer stem cells). Nevertheless, each chapter is well referenced and includes full-colour photographs and part-coloured diagrams. There are also several pages of full-colour diagrams. It is certainly a beautiful reference textbook that will find a home in any laboratory. Those most likely to find use for it will be scientists preparing for IBMS, BSc and MSc qualifications.

A. D. Blann