Disinfection in Healthcare

P. Hoffman, C. Bradley, G. Ayliffe. Oxford: Blackwell, 2004: 128pp.
ISBN 1-4051-26426. £24.95.

This specialist book was first published in 1984 and has successfully reached a third edition, which was published in September 2004. The book is small and can easily be carried around on the person. It is split into 11 chapters and an appendix. The book is clear to read, is highly detailed and contains everything one needs to know about the area of disinfection in healthcare.

Not only are there chapters on the background information pertaining to disinfection, but there is a chapter and an appendix on disinfection policy as well as detailed individual chapters on the disinfection of the environment, skin and mucous membranes, medical equipment and pathology departments.

This book, in my opinion, is an essential read for any person who is involved in disinfection in a healthcare setting or who has an interest in the subject. Although priced at a little under £25, and therefore an expensive proposition for such a small text, it remains a reasonable price for those who require the knowledge or need reference to its contents. □

S. C. Clarke

Malaria Control in Complex Emergencies An Inter-Agency Field Handbook

World Health Organization 2005. 218pp.
ISBN 92-4-159389. US$ 22.50.

Malaria remains a serious threat to public health in those countries affected by it. Each year an estimated 300 million people in more than 100 countries fall ill with malaria. While research efforts continue with the aim to improve treatment and develop a vaccine, tremendous control efforts are in place to help those afflicted with this disease. The book provides a guide through the topic of malaria control with an emphasis on such in complex emergencies.

Malaria is complicated by complex emergencies, as noted in the subheading of this book. Much of this is caused by conflict that has a large effect on the health of the affected population. The handbook has numerous contributors as it is an initiative of the Roll Back Malaria Technical Support Network in Complex Emergencies. Contributors therefore include the International Committee of the Red Cross, Medicines Sans Frontieres, UNICEF and WHO, among others.

This book, first pubished in 2005, consists of 218 pages but is presented in handbook style so that it can be carried on the person. There are eight major chapters covering an introduction to the subject, assessment and planning, surveillance, outbreak preparedness, case management, prevention, community participation and health education, and operational research. In addition, there is a 24-page glossary at the start of the handbook and a number of annexes providing various resources. The handbook is laid out in a logical manner and is easy to read, even for the non-specialist. Each chapter starts with a few bullet points of what can be expected from the chapter, and is followed by mostly short sections that are broken up with bullet points or boxes so that it is easy to follow.

Priced at only £13, this handbook is an interesting read for anyone with an interest in tropical medicine, but will also be a worthwhile read for those with an interest in conflict and health, infectious disease in the developing world, or in relief work. Importantly, this is a handbook that can be carried by relief workers and other field practitioners in situations where practical information may be needed quickly. □

S. C. Clarke

Infectious Diseases from Nature: Mechanisms of Viral Emergence and Persistence

C. J. Peters, C. H. Calisher (eds). Wien, New York: Springer-Verlag, 2005: 213 pp.
ISBN 10 3 211 24334 8 (hard cover). Archives of Virology Supplement 19,
€130 (net price subject to local VAT).

A symposium to honour Robert E. Sharpe had been planned for 18–21 March 2004 at the San Luis Resort and Conference Centre on Galveston Island, USA. Unfortunately he died in January of that year and so the symposium became a memorial to a man recognised as a world authority in the fields of virology and viral disease, global public health and animal health, whose knowledge and advice was sought by many.

Lately, viral emergence has become, more often than not, a frequent international news item. Emergence is not a new phenomenon, but its implication today is greatly influenced by a number of current factors, including scientific research and development and human and animal behaviour, urging a need to identify and control these so-called new entries into the viral disease picture. Viruses, by nature, seek persistence in the most cunning and varied ways. Opportunity and obduracy feature high on their list.

There are 17 papers presented here, representing further studies into the province of viral emergence. Subject matter covers arborial disease, rodent-borne viruses, pandemic influenza, HIV, filoviruses, transmissible spongiform encephalopathies (TSEs) and Ehrlichia. Each paper complements the others, so that the reader is given frequent reminders of the forces that influence virus perpetuation and persistence. These are not confined exclusively to microbial changes. An infectious agent can take advantage of circumstances created by several factors.

The last contribution to the book entitled *Emerging infectious diseases: the public's view of the problem and what should be expected from the public health community* quotes from the 2003 Institute of Medicine report on the increasing risks to public health posed by emerging microbial threats. It categorises five areas of threat: global burden of AIDS, tuberculosis and malaria; anti-microbial resistant infections; vector-borne and zoonotic diseases; chronic diseases with infective aetiology; and microbes intentionally used for harm. More than a dozen other factors are described –

human demographics, behaviour and susceptibility to infection; changes in technology, industry, travel and commerce; changing ecosystems and microbial hosts; and social and political factors such as poverty and the consequences of war and terrorism. These considerations are to be found in one form or another in underlining all the preceding papers.

Four presentations on arboviruses draw attention to separate issues. Amplification in a host range occurs when agents, such as yellow fever and dengue, spill over via direct transmission to humans by primary and bridge vectors, where humans enter enzootic areas. Secondary amplification via domestic animals and direct amplification via humans can then occur.

Vector control is considered in the second presentation on arboviruses. Vaccines are not available for most arboviruses and pesticides and source reduction have not been sustainable. WHO has targeted dengue, dengue haemorrhagic fever and dengue shock syndrome (DHF-DSS) as one of 10 diseases for special control programmes. New immunisation strategies – transmission blocking, multiple target approach, lack of new targets, poverty – are all considerations in the infrastructure of arbovirus control. The emergence of West Nile virus (WNV) in New York in 1999 clearly demonstrated the vulnerability of the USA to emerging viruses, whether by natural or purposeful events.

Pathogenesis of Rift Valley fever in mosquitoes looks at mechanisms involved in `barriers` against virus passage, and the fourth paper covers alphavirus. Venezuelan equine encephalomyelitis virus (VEEV) poses a significant health threat in the Americas. Understanding its structure is vital to developing effective strategies to combat infections and high-resolution structural studies, using electron cryomicroscopy (cryo-EM), was used. This has its problems when handling highly infectious material in an electron microscope, as these high-concentration materials are likely to contain infectious virus.

Barriers against virus passage are discussed again in the paper on prion diseases. There is no cure at present and so an understanding of how TSE agents overcome resistance to transmission between species is crucial. Early researchers were perplexed that CJD and kuru could be transmitted easily to certain monkeys but not others. Sheep and goat isolates showed similar patterns. The self-replicating prion protein (PrP) is a major constituent of the infectious agent and material from an infected animal is required to trigger infection. Pure PrP has not initiated an infection.

Two myxoviruses, the pandemic 1918 influenza and the H5N1 bird flu epidemic, feature in separate papers. In an attempt to elucidate the cause of high mortality during the pandemic of 1918, the hypothesis that the enhanced virulence could be due to type 1 interferon inhibition of the NS1 protein was tested. The 1918 pandemic continues to be a focus for further studies that might throw light on future pandemic patterns.

Back to back with the 1918 influenza paper is that concerned with the spread of the H5N1 bird flu. The paper reflects on the high pathogenicity that this virus has for domestic poultry, especially chickens, and the role migrating birds play in the evolution of H5N1. 1997 marked the first transmission of H5N1 to humans, with a mortality rate of six out of 18 persons. Culling of the affected poultry eradicated the outbreak and this continues to be the first defence in preventing flock-to-flock spread. Culling with associated vaccination is advocated in some countries, but avian vaccines at present available provide less than 100% protection. According to the author, culling of migrating birds must be strongly discouraged, for it could lead to unknown ecological consequences. Eventually, a human H5N1 vaccine will be needed, with the prospect of H5N1 influenza becoming endemic in eastern Asian poultry.

An interesting paper proposes a non-profit-making research and development project entitled *Global Vaccines Inc*. that would complement other efforts in tackling differences in healthcare throughout the world. A commendable approach and its progress should be interesting.

Each of these papers is presented in a similar way, most beginning with a summary, which is most useful, especially for review purposes. Bibliographies are extensive in most papers and presented alphabetically, with the exception of two. Most of the contributions have a bias towards the pattern of emerging viruses as seen in the Americas, which is not surprising given that the original conception of the symposium was to honour Robert E. Sharpe. □

J. R. Foster

Epidermal Growth Factor: Methods and Protocols

T. B. Patel, P. J. Bertics (eds). Humana Press, 2005. 208pp.
ISBN 1-58829-421-8. US$99.50

The role of epidermal growth factor (EGF) in both normal development and malignancy has been elucidated gradually over the past half century since its discovery in the 1950s by Stanley Cohen. This book pulls together a large number of methods and investigations by a host of key workers in this field. Many of these methods are quite complex and so a reliable single source of the details of current methods is likely to be of great benefit to workers dealing with this critical molecule and its cellular receptor.

The book is a step forward from many original journal articles that include methods, as it not only gives the bare outline of the methods and reagents but also the many little hints and tips so needed with complex methodology. It will never, of course, replace the genuine personal contact. The best way to get to know a method is to visit someone who is competent in the technique, watch them at work and then get them to watch you in your attempts to replicate the results. This book cannot hope to match that, but the precise protocols and notes are excellent and even include warnings about pitfalls and safety.

There is a growing realisation that EGF and expression of the epidermal growth factor receptor (EGFR) play a significant role in some breast cancers. This seems to be separate and distinct from the effects of oestrogen and its receptor. This has made the EGF system a possible target for assessment of prognosis and as a target for therapy. It is likely that this will lead to the EGF system becoming the basis of a more routine investigation, and good though this book is it seems unlikely that routine hospital laboratories would simply adopt the methods as given here. However,

this book could well prove a great source of help and inspiration to anyone trying to develop kits to simplify and streamline the analysis of the EGF system.

Despite its 'methods and protocols' subtitle, this book would also be a good introduction to EGF history, physiology and possible future developments, so it could be worth looking out for in the library, even if you do not intend to use the methods in the near future. □

D. J. Cook

Cell Imaging Techniques: Methods and Protocols

D. J. Taatjes, B. T. Mossman (eds). Humana Press 2006, 490 pp.
ISBN 1-58829-157-X. US$99.50.

This book covers a wide range of experimental imaging methods for the investigation of cells. As human beings are primarily visual creatures, the use of various forms of microscopy has proved crucial in the development of biology in general and biomedical science in particular.

This multi-author work pulls together descriptions of a number of cutting-edge techniques in current cell investigations and so is a welcome repository of the current state of the art of microscopy. However, the wide range of techniques, including such unusual methods as second harmonic imaging of collagen, laser scanning cytometry, laser capture microdissection, atomic force microscopy and reflection contrast microscopy, makes it difficult to be sure of the intended readership. Individually they are of interest to specialised groups of researchers but collectively they are such an eclectic mix that I found it difficult to think of a single person or research group who would be interested in more than a small part of the book. Being a multi-author work if also suffers a little from differences in approach.

The title suggests that it is intended to be a practical book of tips and methods for someone not already familiar with these techniques. Some chapters certainly fit this description (e.g., the chapter on multifluorescence labelling in confocal microscopy) but others seem much more theoretical. Certainly, I would find it difficult to attempt harmonic imaging of collagen using only this book as a guide.

The book is well produced, with many excellent photographs and diagrams, and I have enjoyed broadening my awareness of techniques that not only did I not know in detail but in some cases not even know existed. A nice book but for a very restricted market and so difficult to recommend for purchase by most laboratories. □

D. J. Cook

WHO Expert Committee on Biological Standardization (53rd Report)

World Health Organization. Geneva: Who, 2004: 109pp.
ISBN 924 120926 7. £25.

Some people will sit and read a textbook from cover to cover, but I suspect few will do so with this one. The first section of this volume is a report of the meeting of the WHO Expert Committee held in February 2003, but the major section contains the appendices dealing with preparation of vaccines for smallpox, poliomyelitis and group C meningococcus.

For scientists working in diagnostics laboratories, the section that would be of most interest is that part of the meeting report dealing with the preparation and characterisation of International Reference Standards, such as those produced by NIBSC in the UK. This is almost like reading the minutes of a meeting you have not attended, and know little of the background to the discussions involved, and thus is not very informative. However, it was interesting to note that reference materials have been developed for sporadic Creutzfeldt-Jakob disease (CJD) and one for variant CJD. These, it was noted, would allow comparison of different assay systems and for their use to be further evaluated in *in vitro* and *in vivo* assays.

The committee also considered standards for *in vitro* clinical diagnostic procedures based on newer technologies such as nucleic acid amplification techniques. Those of most interest were a new standard for HCV RNA using a synthetic transcript and another for poliovirus type 2 that has a single base change associated with an increase in neurovirulence.

For those interested in a full list of the available international standards, *Biological Reference Preparations* can be found on the WHO website (www.who.int/technology/biological.html). □

R. Knight

ISCN 2005. An International System for Human Cytogenetics Nomenclature

L. G. Shaffer, N. Tommerup (eds). Basel: Karger, 2004: 130pp.
ISBN 3-8055-8019-3. €30.50.

Cytogenetics is concerned with the alterations in chromosome number and structure that can be visualised microscopically, rather than the changes in the sequence of bases that is the realm of molecular biology. This book is an update of the nomenclature for naming such chromosomal disorders. The previous nomenclature was published by the ISCN 10 years ago in 1995. The extensive revisions of this latest book show the explosion of interest and knowledge that has occurred in cytogenetics in the past decade.

The opening chapter is a historical review of the past 50 years, from the time in 1956 when the number of human chromosomes was correctly identified as 46 instead of the erroneous 48 chromosomes previously accepted. The book also covers the increasing degree of fine structure that now can be visualised using modern techniques. It is this increasing resolution of chromosomal structure that makes an update in the nomenclature essential.

The book covers not only the obvious numerical and structural abnormalities but also the uncertainty of band designation, chromosomal abnormalities in neoplasia and the nomenclature associated with *in situ* hybridisation studies. Many of the chapters begin with useful overviews of

the general principles of the nomenclature associated with particular chromosomal aberrations and even include an overview of the techniques used in the identification of the aberrations. The chapters then give useful worked examples of the nomenclature and their meanings. It is in these worked examples that it is possible to see the complexity and variety of abnormalities that now can be recognised.

In its treatment of the nomenclature, the book is both comprehensive and accurate but it means that it is much more of a reference than a book to be read at a single sitting. While these lists of examples do not make really exciting reading they are invaluable as they make the principles of nomenclature clear.

While most biologists and medical technologists would have little difficulty in deciphering a karyotype description of 47,XX,+21 it seems likely that most would need this book to understand 46XY,t(5;6)(5pter→5q13::6q15→6q23::5q23→5qter;6pter→6q15::5q13→5q23::6q23→6qter). This particular abnormality occurs on page 79 if you would like clarification.

As a book for cytogeneticists it might be expected that it would only be of interest to those actively working in a cytogenetics laboratory, but that would be a mistake. The book contains the basic language needed to understand the chromosomal disorders not only of whole human beings but also the chromosomal disorders that are a major feature of many malignant diseases. As such, this book can be recommended as being a useful, perhaps even essential, reference for those concerned with histopathology, cytology and haematology. □

D. J. Cook

Practical Transfusion Medicine

M. E. Murphy, D. H. Pamphilon. Oxford: Blackwell, 2005: 469pp.
ISBN 1 4051 1844 X. £69.50.

One of the challenges facing the editors of a book in transfusion medicine is to maintain currency in a rapidly changing world. The emergence of new infections has shaped the way in which practitioners of transfusion medicine now view the donation and transfusion of blood and its products. This book addresses these issues with success.

To quote the preface to the first edition: "Blood transfusion continues to enjoy an ever increasing public profile", and it is publicity, since the emergence of variant Creutzfeldt-Jakob disease (vCJD) and other transfusion-transmitted infections, that has given rise to the necessity for an extended and up-to-date edition within four years. This new edition draws even more extensively on an international community of 49 experts to produce 39 excellent chapters.

The content is split into the same five parts as in the first edition, comprising basic principles of transfusion, clinical transfusion practice, complications of transfusion, practice in blood centres and hospitals, and developments in transfusion medicine. Colour plates are limited to four pages; however, many monochrome tables and figures are included. Further reading is provided at the end of each multi-authored chapter, most of which is up to date.

The book has been written for a variety of healthcare professionals, both in the UK and internationally, although it focuses primarily on clinical practice. Many topics from the first edition have been retained and extended (e.g., cord blood banking, which featured as a development in the first edition but inhabits Part 4 as a 'practice'), while 'Haemopoietic stem cell transplantation and immunotherapy' has been included in Part 5 as a 'development'.

So, what's new? A short chapter devoted entirely to vCJD and an up-to-date chapter on transfusion-transmitted infections, which includes reference to severe acute respiratory syndrome (SARS) and other recent global outbreaks. However, the major increase in content comes in Part 5, which has been extended to cover recombinant antibodies and other proteins, blood transfusion in a global perspective, the design of intervention trials, and evidence-based transfusion medicine.

The role of cytokines in transfusion practice has been given prominence in a chapter of its own, highlighting a change in clinical practice in an attempt to reduce allogeneic blood use. The final section, supported by extensive further reading as up to date as can be found in a textbook, tackles the future of transfusion medicine in a brave attempt to imagine what we might next encounter.

Overall, this edition provides an excellent update, which I strongly recommend to the transfusion medicine community. □

J. A. Overfield

Advances in Transfusion Safety

G. N. Vyas, A. E. Williams (eds). Basel: Karger, 2005: 225 pp.
ISBN 3 8055 7935 7. €154.50.

This book is a collection of papers given at The International Association of Biologics [IAB] meeting held in June 2003 in Bethesda, USA. Although given the title of *Advances in Transfusion Safety*, the topics are wide-ranging, from transmissible spongiform encephalopathies and blood substitutes to donor management in a teaching hospital blood bank in West Africa and surveillance and management of medical errors.

With such a variety of topical papers, this book should appeal to those taking a higher examination in transfusion science or medicine, as well as for the departmental library. What becomes very evident in reading the book is the great disparity between the blood services in the developed world and those in developing countries. In the latter, 83% of the world's population has access to only 40% of the 75 million donations collected annually worldwide.

One paper on initiatives to improve donor screening discusses the use of a 'computer-assisted self-interview, with sound component' (audio-CASI) as a means to improve the completion of the predonation questionnaire in the USA. In contrast, in some parts of South-East Asia donor-screening questions often omit those about high-risk behaviour, as asking about sexual history is considered to be embarrassing. In India, under the Penal Code, a donor can be held legally liable for negligent behaviour causing harm to a recipient, such as giving false information on a questionnaire. In Europe, donors have no other legal obligations than to answer questions about their health to the best of their

knowledge.

Another contrast is highlighted by a chapter on the use of barcode technology to improve patient identification, as the author claims "an estimated 1 in 12,000 blood transfusions are given to the wrong patient".

In Ghana the total number of units collected in the whole country is only 60,000 or 1.3 units per 1000 inhabitants; in the UK it is approximately four units per 100 inhabitants. This low rate of donation is a problem in Ghana and other African countries, as the majority of donors are school or college students (a group that has the lowest incidence of HIV) and as the blood is collected at their place of study there are shortages during school/college holidays. In Malawi, for example, the college holidays coincide with the rainy season, which is also the malaria season, hence the time of year when more blood for transfusion is needed is usually the time of shortage.

The WHO Global Collaboration for Blood Safety (GBSI) is attempting to harmonise policies, quality and safety, access and use of blood around the world. However, with the great discrepancies that already exist, the gap between rich and poor countries is probably growing rather than narrowing, despite the best efforts of WHO.

Whereas donation of whole blood is encouraged on a voluntary basis, plasma donors are very often paid. This plasma, used to manufacture blood products (clotting factors, albumin, etc.) is usually collected by aphersis, with some 9.5 million litres being collected annually in the USA and a further two million litres in Europe.

Paid donors are usually frowned upon as being 'less safe' than unpaid donors, which is probably true of whole blood donors, who might give once but not again. It is reported in this book that paid apheresis donors who attend reputable facilities are carefully screened and tend to be repeat donors, and they are as 'safe' as unpaid donors. The supply of blood components is not free of market forces, as the global plasma market influences product movement across national borders, hence the need for internationally agreed standards for donor selection, collection and testing. These issues are addressed by several of the papers in this book.

The benefits of pre-storage leucoreduction, something done in the UK for a number of years, are still being debated in the USA. The consensus of opinion now seems to be that there are definite advantages to this process apart from the possible removal of prions, which was the reason for introducing this procedure in the UK. One paper considers the advantages and disadvantages of pre-storage compared to selective (i.e., for some but not all patients) leucoreduction. The introduction of pre-storage filtration increase the blood bank budget by 3.8%, but this would have been higher had they not stopped providing CMV-negative products and had taken the cost of the previous selective depletion into account. Combined with other measures implemented, such as reducing the trigger levels for platelet transfusions and reducing the pool size from five to four donations, this institution has now seen a net reduction in its costs and has reduced wastage. There have been other benefits for patients, too, as the authors report decreased incidences of HLA alloimunisation and febrile non-haemolytic transfusion reactions, together with a continued lack of reported transfusion-transmitted CMV infections.

The topic of blood substitutes was also considered at this meeting, but no hope of an early breakthrough was reported. Therefore, we will need to rely on donors for a few more years to come, and the issue of donor recruitment was discussed by two contributors.

Of possible interest to haematologists is the paper on the rate of depletion of iron stores in regular donors, especially females. Donating twice a year without any iron supplements has little lasting effect on their iron stores, but more frequent donation does have a cumulative effect.

Getting the right blood to the right patient is discussed. The use of barcode technology to help improve safe transfusion has been tried in a number of hospitals in the UK and, as reported in this book, in the USA. The major problem associated with these systems is gaining the confidence of the non-laboratory staff who have to use the technology, especially if they do so only infrequently. The UK SHOT scheme is described in the section on surveillance (haemovigilance) along with a paper on the efforts of the US regulatory authorities to address errors in transfusion.

There is a disappointingly short abstract on RBC transfusion triggers, as the evidence for some of the current recommendations is not easy to find. However, the last presentation is a good paper on the evidence base for blood donor selection criteria. Indeed, the whole meeting could have been entitled 'Evidence for Improvements in Blood Safety'. □

R. Knight

Textbook of Hemophilia

C. A. Lee, E. E. Berntorp, W. K. Hoots (eds.) Oxford: Blackwell, 2005: 400pp. ISBN 1-4051-2769-l. £132.50.

This book harnesses the contributions of experts around the world to produce an authoritative state-of-the-art text. The title fails to do justice to the content, which strays further than material relating strictly to the standard definition of this condition (i.e., haemophilias A, B and C). It also encompasses several chapters on von Willebrand disease, and rare bleeding disorders are also included (e.g., factor XIII deficiency).

The content of this extensive coverage of bleeding disorders is grouped into 19 parts, totalling 63 chapters. A strength of the content is the scope and detailed consideration of topics. These range from the molecular basis of haemophilia, clinical presentation and complications, therapeutic products, transfusion-transmitted disease and gene therapy to discussion of social and economic considerations such as the provision of comprehensive care in the developed and developing world. Well-established information sits alongside new and emerging developments and all chapters are well written and appropriately referenced.

It is inevitable in any multi-author text to find overlap in material. However, in this book this seems quite extensive at times (e.g., inhibitors to factor VIII). Furthermore, the positioning of some of the chapters on inhibitors appears quite illogical. For example, although part III of the text considers six chapters devoted to inhibitors to VIII, part II (haemophilia A) also has a separate chapter on inhibitor development. This lack of continuity and logical order can be found elsewhere in the book. For instance part IX, which

comprises six chapters that focus on the diagnosis and treatment of musculoskeletal aspects of haemophilia is orphaned between sections that are closely related (i.e., chapters covering treatment products and transfusion-transmitted disease, respectively). At times I found this random ordering of material frustrating, perceiving it as both unwarranted and untidy, undermining what is otherwise an excellent authoritative text.

Despite these criticisms, I believe that the claim that this textbook is an up-to-date, definitive reference source that "provides an overview of all aspects of the care of patients with haemophilia" is well justified. This textbook not only will be a compulsory text for all haemophilia centres but will also serve as a valuable reference book for medical and biomedical scientists in training in haematology. □

D. S. McLellan

Practical Haemostasis and Thrombosis

D. O'Shaugnessy, M. Makris, D. Lillicrap (eds). Oxford: Blackwell, 2005: 224 pp. ISBN 1 4051 3030 X. £65.

To those of us in the laboratory, the title of the book may suggest that it contains details of performance of scientific methodologies and techniques for the investigation of haemostatic disease. In fact, the practical nature of the book takes a wider remit in that it marries clinical and laboratory practice to produce a single picture in which both are integrated in the diagnostic and management processes.

The book begins with a section of four chapters providing overviews of the processes of haemostasis and aspects of laboratory investigations. Individual methods are not described but available tests/assays are described in principle. Much to my delight, in these chapters and throughout the book, test limitations are discussed. This section is not meant to be exhaustive, as that would require a separate tome, yet it succeeds in giving a concise and informative description of the important points for the reader to use in context in the following chapters.

Part 2 considers the practice of clinical haemostasis and thrombosis when diagnosing, treating and monitoring hereditary and acquired disorders of haemostasis. Clinical presentations are discussed in detail, together with treatment options once a diagnosis has been achieved. The reader is directed to the appropriate choices and decisions for laboratory investigation/follow-up, based on clinical presentations. Laboratory tests other than those covered in Part 1 are introduced as appropriate.

Practical details of the laboratory results expected in different disease types and subtypes are given. One particularly useful area is the correlation of the molecular biology of the haemophilias and von Willebrand's disease (VWD) with clinical severity and variations in phenotypic assay results. The chapter on venous thromboembolism (VTE) concerns itself with more than just hereditary thrombophilias, concentrating as much on detection and treatment of VTE, irrespective of cause. It was pleasing to see that arterial thrombosis and anticoagulation each have their own separate chapters.

Part 3 is entitled 'The Clinical Interface' and covers clinical specialties in which understanding of possible associated haemostatic disturbances is crucial to effective management. Thus, there are chapters on obstetrics, paediatrics, intensive care, cardiothoracic surgery, hepatology, oncology and transfusion. Recognition that haemostasis in children is different to that in adults is important to the effective diagnosis and management, and this chapter is essential reading. The chapter covering current views on the interaction of cancer and haemostasis is fascinating.

The book ends with short appendices on normal ranges and useful websites. The section on normal ranges is excellent, as it puts them in context with the variations in assay technique, reagent and analyser variability/combinations and patient/normal donor populations. There is also some useful discussion of appropriate statistical considerations.

I did notice that the text in chapter 6 on VWD, and in the appendix covering normal ranges, states that ABO blood group affects VWD, yet point 4 in Table 6.4 of chapter 6 states that the clinical usefulness of separate references ranges for ABO has not been demonstrated in patients with results below the normal range. This could be construed as contradictory and perhaps warrants qualification.

Overall, the book is comprehensive rather than exhaustive, and the integration of clinical and laboratory aspects of the investigation of haemostatic disease will make this a valuable tool for both the clinician and scientist alike. □

G. W. Moore

Mollison's Blood Transfusion in Clinical Medicine (11th Edition)

G. F. Klein, D. J. Anstee (eds). Oxford: Blackwell, 2005: 912pp. ISBN 0 632 06454 4. £110.

Since its inception in 1951, this text has represented the 'gold standard' of the theoretical understanding and practical application of blood transfusion science. The pedigree of this book is underlined by the involvement of various distinguished authors and editors. To those of us who were students of blood group serology in the middle decades of the 20th century, Professor Mollison's insights into this field of transfusion science proved to be inspirational, althought provoking and challenging.

The current volume, edited by Harvey Klein and David Anstee, builds on this tradition. A particularly impressive feature of this book is the effort that has been invested in background research, demonstrated by the reference citations listed (e.g., at the end of chapters 4, 7, 14, 15 and 16). Throughout the work, each of the chapters contains current information on the subject area. The list of abbreviations (pp xiii-xv) is very useful, as is the extensive use of Table (e.g., Tables 3.1, page 49 and Table 3.2, page 52. etc.).

A particularly pleasing aspect of the text is the inclusion of the Plates between pages 528 and 529. These contribute a great deal to the understanding of aspects such as erythrocyte membrane structure, antibody receptors, the application of PCR techniques, the genomic structure of the hepatitis B virus, and the structure of the mv virus. This reviewer found chapter 16 (Infectious Agents Transmitted by Transfusion), chapter 17 (Exchange Transfusion and

Haemapheresis) and chapter 18 (Alternatives to Allogenic Transfusion) to be particularly comprehensive and informative. The appendices contain a wealth of valuable information on a variety of aspects.

Although this publication is aimed at both the scientist and the clinician, it is perhaps time that some thought were given to the publication of a text suitable to audiences such as undergraduates on degree programmes (e.g., biomedical science and medicine). With some notable exceptions, there are relatively few good texts on transfusion science available to such audiences. The publishers, authors and editors in this case have obvious talents, expertise and dedication amenable to such a project.

This book should be the primary text on the bookshelf of all blood transfusion departments and postgraduate medical libraries. All who have contributed to the publication of this work should be congratulated on their efforts in continuation of Professor Mollison's original work. From its outset, this publication has epitomised excellence in both academic rigour and attention to detail. It continues to do so. □

R. I. Munro

Postgraduate Haematology

A. V. Hoflbrand, D. Catovsky, E. G. D. Tuddenham (eds). Oxford: Blackwell, 2005: 1073pp. ISBN 14051 0821 5. £149.95.

An initial browse through this book transported me back in time to 1972 and publication of the first edition. It was my constant reference book as a student, and 34 years on that remains the case. Despite the massive expansion in haematology research and knowledge during the intervening years, it is comforting to read that the principles of haem synthesis remain unchanged! However, many changes are reflected in this new edition, not least of which is the change of editorship that sees S. M. Lewis replaced by Daniel Catovsky. This has allowed inclusion of a wealth of information in the leukaemias and other haematology malignancies.

The book has been expanded extensively since publication of the 4th edition in 1999. It now draws upon 99 contributors worldwide and this international expertise is reflected in the comprehensive coverage of all aspects of haematology. Each of the 62 chapters begins with a synopsis of what it covers, and ends with an up-to-date and useful reading list.

S. M. Lewis is still very much in evidence in his excellent contributions to two chapters: 'Laboratory Practice' and 'The Spleen'. The former is both novel and invaluable in a textbook of this type. Lewis explores the role between the laboratory and the clinic, including aspects of quality assurance, point-of-care testing and laboratory safety. A tabulated 'list of standards' in quality management and a table of useful website addresses referring to haematology and its relevant organisations are appropriate inclusions in a biomedical world of standards, inspections and audits. In addition, laboratory audit and regulatory issues are discussed and further extended by a comprehensive reference and reading list. The usual haematology topics continue to be well covered, and, in addition, the increase in multi-authorship means that many recently expanded topics are given prominence throughout.

Although haematology has become less visual, microscopically speaking, it is pleasing to see that many colour plates are included. For example, the range of cytochemical stains to aid leukaemia diagnosis is shown, alongside images of flow cytometry immunophenotyping and cytogenetics techniques to provide further diagnostic information. Many other illustrations and diagrams are scattered throughout and are invaluable in conveying understanding.

While primarily focus on the medical profession, this text undoubtedly provides an essential reference for final-year BSc, MSc and postgraduate research students specialising in haematology. All 1073 pages of it! □

J. A. Overfield

Parvoviruses

J. R. Kerr, S. F. Cotmore, M. E. Bloom, R. M. Linden, C. R. Parrish (eds). Dodder Arnold, 2005: 598pp. ISBN 0340 8119866. £125.

This book sets out to provide a comprehensive coverage of parvoviruses. Contributors comprise an extensive list of active researchers in the field from around the world. In a generous gesture, it begins with a dedication to and obituaries of two virologists – Jacov Tal and David Tyrell – who died while the book was being compiled.

In the foreword, mention is made of a book on parvoviruses, published in the late 1970s, which did not sell many copies. However, it is pointed out that advances in knowledge and understanding in the last 30 years (e.g., discovery of the human pathogen 819, advances in molecular biology of parvoviruses, etc.) now make compiling a book on the subject more worthwhile.

The book is divided into four parts. Part I is a detailed review of the taxonomy, biochemistry, structure and molecular biology of all known parvoviruses, including those which infect humans, mammals and invertebrates. Part 2 considers the pathogenesis and biology of infection, and Part 3 examines selected pathogens. Part 4 discusses the exciting potential that parvoviruses demonstrate as vectors for vaccines and gene therapy.

Most of the material covered in this book is specialised, but it is well written, in clear, accessible language. Each chapter contains an introduction to the topic, which does not assume detailed prior knowledge, and thus can be read in isolation. Most chapters are quite short and each has its own reference list, making it easy to use by the reader who needs fine detail on a particular topic. Throughout the book, the text is broken up by illustrations and diagrams showing taxonomy, protein chemistry, genetic sequences, clinical signs and symptoms, and diagnostic findings. A selection of these is presented in 24 pages of colour plates, towards the middle of the book.

In the first two parts of the book, the molecular and cell biology of parvoviruses are considered in depth, drawing on examples from all known viruses in the family. Each chapter in Part 3 contains information on the taxonomy, structure, biology, epidemiology, pathogenesis, clinical manifestation, diagnosis and prevention or treatment of a particular virus. In this section, there are chapters on human erythrovirus (819) and human dependovirus (adeno-associated virus), as

well as parvoviruses of mammals, birds and invertebrates.

The final part of the book is an insight into the latest advances in vaccine development and gene therapy involving parvoviruses in a range of mammalian systems. This makes the book relevant and of benefit to veterinary and medical scientists with an interest in parvoviruses.

Overall, this seems to be a useful reference book written by, and largely for, researchers in the field of parvoviruses. Although compiling this book was clearly a worthwhile endeavour, it is unlikely to be bought by many individual readers. At nearly 600 pages, comprising detailed consideration of a single family of viruses (only one of which is known to be a human pathogen), I think this is one for the library! □

S. J. Pitt

OIE/FAO International Scientific Conference on Avian Influenza. Developments in Biologicals Series No. 124

A. Schudel, M. Lombard (eds). Basel: Karger, 2006: 278 pp.
ISBN 3-8055-8031-2. €185.50.

The Developments in Biologicals Series continues a longstanding series of symposia published on behalf of the International Association for Biologicals (lAB), which previously was called Developments in Biological Standardization. The latest volume could not be more timely, given the level of anxiety expressed globally about avian influenza. Thus, congratulations to Karger and the editors for quickly bringing to press the proceedings of a conference held in Paris in April 2005, organised by the World Organisation for Animal Health, otherwise known as the Office International des Epizooties (DIE).

As an example of why the Food and Agricultural Organisation of the United Nations (FAD) has been actively involved can be judged by the reported costs to global economic health alone. The Asian nations have spent the equivalent of US$8–12 billion (by 2005) and the impact is reported to be a "major risk" to concerned financial analysts. In the EU, over 50 million birds have died or been culled between 1999 and April 2003. Hence, it is not surprising to see the joint DIE/FAD network of avian influenza reference laboratories formally announced at the conference.

If human influenza epidemics did break out would this book prove invaluable? As with most conference proceedings, the layout follows the usual format. After transcripts of introductory talks from leading notables, papers from the six sessions are presented: Ecology and epidemiology (4), Pathogenesis (3 + 1 Abstract), Human health importance of avian influenza (2), Diagnostics (2), Control of avian influenza with a focus on vaccination (7), Improvement of management tools (3) and general conclusions and recommendations (1). Four full posters are also included, along with the abstracts of 30 more.

The content is mostly review-type articles or research papers. Most of the presentations are concise, but some are little more that one side of a page. To the general reader (the reviewer being a microbiologist with no specialist interest in influenza viruses), there appears to be some repetition in the content of the introductory sections of each paper, and only those working in the field will differentiate between the emphases.

So, should your laboratory be doing something to prepare for bird flu? The section on diagnostics contains just two papers. One of which writes favourably, or at least optimistically, on molecular diagnostic methods, and the other shows how a single method (molecular or otherwise) yields lower success rates than combinations of methods.

Data are not in short supply in this book, but with no index you might just have to look a little harder to find it. If you do find what you are looking for (discrimination of vaccine and wild-type viruses, for example, was eventually found on page 161) it is likely to be just a passing reference to a published study.

Clearly, this book is primarily for specialists and those involved in national animal public health; thus, at the price, is unlikely to be a high priority for shrinking book budgets in hospital laboratories. However, one is conscious that such a prediction will prove incorrect if the next human influenza outbreak/epidemic/pandemic does take hold. □

S. P. Hardy