contrary to the philosophical objective inherent in determining inaccuracy—that is, the deviation from the true value.

The IFCC recommendations, however, offer an avenue whereby the theoretically unattainable true value may be approximated by direct measurement. The value obtained by a *definitive method* has been defined as having the closest approximation to it while that obtained by a *reference method* approximates it less closely.¹ The practical limitation in assessing inaccuracy directly, it would appear, lies in the difficulty in obtaining control material which has been assayed by these methods. To our knowledge, only one commercial manufacturer (Nyegaard & Co, Oslo, Norway) claims to provide definitive method values and only for the following serum constituents—sodium, potassium, chloride, calcium, glucose and zinc.⁵ The definitive method used is either isotope dilution mass spectrometry or neutron activation analysis, both of which are expensive, difficult to perform and not widely available.

Though definitions for definitive and reference methods are available, the designation of specific procedures into these categories remains an unsettled matter. While an informal consensus may exist for the classification of certain existing procedures into "reference" and "definitive",⁶ the need for a more formal agreement on these matters is imperative. It is therefore incumbent upon bodies such as the IFCC to undertake the task of proposing reference and definitive methods, in the manner it has recommended procedures for some enzymes.⁷

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Book reviews

Fungal Infection in the Compromised Patient. Eds DW Warnock and MD Richardson. (Pp 260; illustrated; £16.75.) John Wiley & Sons Limited, 1982.

Intended for a wide readership, this book covers clinical and laboratory methods of diagnosis and treatment together with sections dealing with the natural habitat of each type of fungus reviewed. It is extensively supplied with references.

The first two chapters, which review mechanisms of resistance and the immunological defects which pre-dispose to fungal infection, make interesting general reading, though those taking part in patient management will presumably be familiar with the types of immunosuppression found within their speciality.

The UK reader will find it a valuable reference to non-indigenous infections which may occur in patients from overseas.

The chapter on serology is comprehensive but illustrates that, with the exception of cryptococcosis, there are still no very reliable diagnostic tests for immune-compromised patients and that there is an urgent need for their development because of the difficulties of making accurate clinical diagnosis.

It is a well-timed publication on this increasing aspect of the complications of immunosuppression.

BERYL JAMESON

Histological Typing of Kidney Tumours. FK Mostofi. (Pp 26 + 92 colour photomicrographs; Sw Fr 129.) World Health Organisation. 1981.

The major purpose of this series from WHO is to promote uniform nomenclature of

tumours. Within the now familiar format this number provides a systematic classification of tumours and tumour-like lesions of the kidney and a brief morphological description of each, supported by automicrographs in colour. Fortunately, nomenclature of renal tumours is already fairly standard—now that most people have shed such historical relics as "hypernephroma" and "Grawitz tumour"! Hence there is little that is contentious or debatable in this publication.

HM CAMERON

Luminescent Assays: Perspectives in Endocrinology and Clinical Chemistry. Eds Mario Serio and Mario Pazzauli. (Pp 302; illustrated; \$47.60.) Raven Press. 1982.

Bioluminescence is a widespread phenomenon in nature and recently the systems involved have been harnessed as the basis of extremely sensitive analytical methods, especially in immunoassay where luminescence can replace radioactivity. The chapters in this volume summarise lectures presented by 91 experts, mostly European, at a meeting on luminescent assays held in Florence in July 1981 in collaboration with the Sero Symposia. Inevitably the presentation, though excellent as a meeting report, is not so well structured as might be expected in a single author book of the same title. However, from the content, the newcomer to luminescent assays can obtain all the understanding of the principles and also the actual and potential applications that is likely to require of this exciting new analytical approach.

FL MITCHELL

Recent Results in Cancer Research. H Lohrmann and W Schreml. Ed Rentchnick. (Pp 222; \$44.70.) Springer Verlag, 1982.

Granulopoiesis can be studied in detail *in vivo* both in man and experimental animals, and the ability to grow precursors (CFU-*in vitro*) and to identify more primitive cells (CFU-S) in the mouse adds another dimension of understanding. In this review the effects of 22 different cytotoxic drugs (from nitrogen mustard to cis-platinum) on granulopoiesis are presented and the total 647 references is evidence of a thorough search. Dose and schedule are, of course, critically analysed and the interacting influence of other agents such as endotoxin and lithium are described. What is lacking is a clear exposition of the regulation of granulopoiesis, and the phenomenon

"priming" (whereby a preliminary dose of an agent allows a second large dose to be sustained with rapid recovery) is not mentioned. With that reservation this is a useful compendium review of a clinically important topic.

HEM KAY

The Hemophilias. Ed Arther L Bloom. (Pp 201; illustrated; £13.) Churchill Livingstone, 1982.

The Hemophilias is No 5 in a series of Methods in Hematology, all of which are edited by men eminent in their fields of interest. The book sets out to update the knowledge of clinicians and research workers in the growing points of classic haemophilia, Christmas and von Willebrand's disease. The author of each chapter has been hand picked with the result that the volume produced is remarkably up to date both from the clinical and laboratory point of view. The areas covered include assay of factors VIII, IX and von Willebrand's factors, both biological and immunoradiometric, and this leads into two excellent chapters describing carrier detection and prenatal diagnosis.

This volume is essential for all haematologists in training and for those looking after patients and their families with coagulation disorders.

CD FORBES

Tumors and Tumorlike Lesions of Bone and Joints. F Schajowicz. (Pp 581; 948 figs; DM 318/US \$151.40.) Springer-Verlag, 1981.

During his 37 years in Buenos Aires Dr Schajowicz has studied about 6000 primary bone tumours and tumour-like lesions in his laboratory which is the headquarters of the Latin American Registry of Bone Tumours. This comprehensive book is the personal expression of his long experience. An introductory chapter is concerned chiefly with the handling of tissues and the methods of diagnosis with some emphasis on the use of aspiration biopsy. This is followed by sections on different types of tumour headed, where available, by the WHO definition of each lesion. The author then covers in detail, critically comparing others' experience with his own, the standard features of incidence, age, sex, site, and so on. The radiographic and histological features are fully described and the range of appearances profusely illustrated by well chosen and well reproduced clinical and slab radiographs and photomicrographs. Little would be lost, aside perhaps from a

welcome reduction in price, by cutting down the number of colour plates. Sections on biochemistry, histochemistry, and electron microscopy are included where they have something to offer in relation to differential diagnosis and the principles of treatment are discussed. The varying opinions on controversial points such as the subdivisions of osteosarcoma and the grading of giant cell tumours are evaluated and on each occasion the author clearly states his own views.

Tumours of the jaws and metastatic carcinomas are not included. Surprisingly the sometimes difficult differential diagnosis of carcinoma from fibrosarcoma or angiosarcoma is not mentioned, nor is the reader alerted to look for a permeative growth pattern in attempting to distinguish lowgrade malignant from benign cartilaginous tumours. Some of the suggested changes in terminology such as multilocular hematic bone cyst for aneurysmal bone cyst and histiocytic xanthogranuloma for metaphyseal fibrous defect are unlikely to be accepted readily. References, though not all included in the text, are copious and helpfully arranged under subheadings at the end of each chapter. Typographical errors are irritatingly numerous. These however are minor criticisms of a wide-ranging and stimulating book which should be enjoyed by every pathologist with an interest in bone tumours and as a reference book for affluent reporting rooms.

MARY CATTO

Cellular and Molecular Biology of Hemopoietic Stem Cell Differentiation. Ed TW Mak and EA McCulloch. (Pp 229; illustrated; £30.) Alan R Liss Inc 1982.

The proceedings of this Symposium provide an up-to-date record of progress in the field of haemopoietic progenitor cells as studied by in vitro culture techniques. These techniques have become very sophisticated and the numerous factors which stimulate or inhibit the proliferation and differentiation of various normal and malignant cell populations is clearly expounded. The identification of substances that "force" leukaemic cells to differentiate provides the possibility of an attractive new approach to therapy.

A start has been made in applying molecular biological techniques in this field but as yet no important contribution seems to have been made. The proceedings are incomplete in that the important inhibitory effects of lactoferrin and isoferritins are not

dealt with adequately. Furthermore, rather surprisingly, almost no consideration is given to the functioning of haemopoiesis *in vivo*. For example what feedback controls operate in the regulation of haemopoiesis and under what circumstances. Which cell populations are involved and to what extent is proliferation or differentiation affected? It appears that more attention has been given to what occurs in *in vitro* cultures than what goes on in animals, which after all is where it all happens.

NM BLACKET

Adaptability of Vascular Wall. Proceedings of the XIth International Congress of Angiology—Prague 1978. Ed Z Reinis, Pokorny, J Linhart, R Hild, and A Schirger. (Pp 755; 486 figs; 205 tabs; DM 148.) Springer-Verlag, 1980.

One of the less attractive features of the publishing scene in the last few years has been the appearance in large numbers of expensive volumes in which the proceedings of international congresses or symposia are published. Sometimes these emerge with commendable speed; on this occasion it has taken just over 18 months for the proceedings of the Eleventh International Congress of Angiology to see the light of day. A wide range of topics, some of them being rather recondite, has been covered and the majority of the authors are acknowledged experts in their own fields of study. However, the book has a curious inflexible and egalitarian format, none of the papers being more than 2–3 pages in length. In fact, what we are provided with here is a collection of 285 illustrated abstracts in hard covers and it is not easy to see who would be attracted to buy this volume at a price of \$US 87.40.

N WOOD

Tissue Repair and Regeneration. Ed L Glynn. (Pp 597; illustrated; \$136.50.) Elsevier/North-Holland, 1981.

This volume forms part of a projected series of five volumes all dealing with various aspects of the inflammatory process and its sequelae. At the current rate of exchange the present volume carries a UK price-tag in excess of £75 so that the prospective purchasers of the whole series will have to be plump in the pocket.

The current volume is somewhat heterogeneous in character dealing as it does both with fundamental biological aspects of healing and repair on the one