Book reviews

BLOOD TRANSFUSION IN CLINICAL MEDICINE 4th ed. By P. L. Mollison. (Pp. xxiii + 863; illustrated. 84s.) Oxford: Blackwell Scientific Publications Ltd. 1967.

The three preceding editions of 'Blood Transfusion in Clinical Medicine' established this book as the most authoritative and informative in this field. The publication of a new edition has therefore been awaited eagerly by haemato-serologists and haematologists, and all will find that, not only has the high standard of the previous editions been maintained, but Professor Mollison has encompassed the subject even more comprehensively than before.

During the past five years developments in protein chemistry and new techniques of identification and fractionation have added considerably to the study of immunoglobulins. This rapidly expanding aspect of blood transfusion is of importance to clinicians as well as laboratory workers and is particularly well reviewed in a chapter devoted to the immunological aspects of the blood groups. The complexities of the red cell antigens are neatly untangled and presented in a form acceptable to the non-specialist reader. These occupy three chapters, the last of which includes an up-to-date and expanded account of leucocyte, platelet, and serum groups.

More than 100 pages are devoted to the laboratory techniques of immuno-haematology, but in addition 14 special procedures, such as the radioactive labelling of red cells and platelets, estimation of plasma volume, and the acid-elution technique for the detection of foetal red cells, have been brought together in an appendix. This arrangement is of considerable advantage to those who will wish to refer regularly to these techniques.

Less space than in previous editions has been given to red cell survival curves, but all other clinical aspects of the transfusion of blood, blood products, and blood substitutes, including two chapters on adverse reactions to transfusion, are the subject of an admirably comprehensive and highly personal review. The final chapter covers haemolytic disease of the newborn and includes current opinion on the value of amniotic fluid analysis for the antenatal assessment of severity, and the indications for and technique of intrauterine transfusion. Injection of anti-D immunoglobulin to prevent Rh haemolytic disease is reviewed in an earlier chapter. The bibliography must surely be one of the most complete to be included in a work of this size and occupies over 100 pages.

This book is essential for all pathologists engaged in haematology, who should, where necessary, persuade their clinical colleagues to pay close attention to the sound advice given in the chapters devoted to the clinical practice of transfusion.

GEOFFREY H. TOVEY

THE USE OF ANTIBODIES IN THE STUDY OF BLOOD COAGULATION By K. W. E. Denson. (Pp. ix + 244; illustrated. 52s. 6d.) Oxford: Blackwell Scientific Publications Ltd. 1967.

In producing this book Dr. Benson joins a distinguished group of workers in Professor R. G. Macfarlane's department whose theses have been published as monographs by Blackwell Scientific Publications.

In successive chapters he clearly describes the purification of clotting factors to use as antigens and the antibodies which were prepared with them. These antibodies were then employed to study various aspects of blood coagulation. For instance, they were used to precipitate and remove clotting factor contaminants where traces of unwanted factors could be neutralized by an excess of antibody.

Experiments suggested that tissue factor activated factor X and that this reaction was accelerated by factor VII. Again activated factor X appeared to convert prothrombin to thrombin, and this reaction was greatly accelerated by factor V. The results were compatible with the hypothesis that factors Xa and V are adsorbed on to phospholipid.

The antisera themselves were further purified by the removal of minor antibody components by absorption with appropriate clotting factor concentrates. The antibodies were then studied by immunochemical methods and classified into precipitating and non-precipitating antibodies. It was also possible to demonstrate a close parallel between the destruction of factor VIII by these artificially produced antibodies and by the inactivators which may arise in the plasma of haemophilic patients. The study has thus produced further evidence that the haemophilic 'inhibitors' are in fact antibodies to factor VIII.

Two appendices give the technical details of the reagents and materials which Denson used and of his assay systems. This part of the book alone is most useful.

Dr Denson has made it clear that the use of antisera in purifying clotting factors complements the ordinary biochemical and biophysical methods of purification, especially because it makes it possible to remove those low concentrations of contaminants which would be undetected by physico-chemical methods but which would be present in sufficient concentration to affect coagulation reactions. There is also a stimulating discussion of the cascade hypothesis which suggests various new possibilities for the mode of interaction of the different components based on observations of the acceleration of certain reactions by particular factors.

Haematologists interested in blood coagulation will find Dr Benson's monograph stimulating and intriguing and will be glad to have it available for quick reference in the technical field.

G. I. C. INGRAM

PRECLINICAL CARCINOMA OF THE CERVIX UTERI Its Nature, Origin, and Management. By Malcolm

Coppleson and Bevan Reid. (Pp. xii + 321; 172 figures. £5.) Oxford: Pergamon Press. 1967.

This book is not a guide to the practice of cytology, it gives the correlation with colposcopy and histology needed by pathologists, and particularly by those who practice gynaecology at its best. The scientific management of stage O and stage 1A carcinoma of the cervix is fully described. Appearances by all methods are also given for all ages from the foetus to the menopause.

With such a wealth of material it may appear churlish to make minor criticisms. The occasional lapse from lucid description to the confusion of views of different authors is unfortunate. Some day this confusion will disappear from the realization of three facts: (1) carcinoma in situ occurs in many parts of the body besides the cervix, only the cervical lesion has such a confused nomenclature; (2) attempts at definitions in cancer work are apt to be futile because of the enormous range of histological appearances for the 'same' lesion; (3) when a difficult section is sent to six pathologists it is common to get five or six different reports, and because the lesion itself can never be wrong this can only mean that five or six of the pathologists were.

In recent times I have heard of six cases of invasive carcinoma of the vagina in my locality following incomplete removal by conization of a cervical carcinoma in situ. The passage of time is now making it clear that these cases are commoner than the authors realize; it is therefore dangerous to encourage those who think carcinoma in situ can be treated lightly. For the same reason the authors go a little too far in discounting the danger of lesions in the cervical canal.

This book is essential reading for pathologists in charge of departments of gynaecological pathology and cytology.

G. R. OSBORN

HUMAN HISTOLOGY 2nd ed. By B. Cruickshank, T. C. Dodds, and D. L. Gardner. (Pp. viii + 359; 353 figures. 84s.) Edinburgh and London: E. and S. Livingstone Ltd. 1968.

This book is intended for medical students and consists of short descriptions of the histology of the various systems interspersed with colour photographs of normal human tissue. Useful explanatory diagrams accompany the photographs thus avoiding the usual disfiguring letters on the actual plates.

The authors also had in mind the training of pathologists and laboratory technicians and the numerous special stains depicted provide normal for comparison with pathological sections. An unusual and welcome feature of this book is the illustration of physiological changes in endometrium, placenta and breast, in particular lactating breast, a diagnostic hazard for the young pathologist.

The colour reproduction is particularly accurate in the haemopoietic system and the two pages of artefacts are a useful addition. Although, for the most part the photographs are good, some of the low-power views are badly blurred, apparently the result of a slight printing fault which will no doubt be cured in future copies.

This volume is not a textbook of histology and suggestions are given for further reading. In the preface to the first edition, the authors aimed to provide 'a baseline of normal structure' for pathologists in training and to help technicians to appreciate staining techniques. In the second edition, they have to a large extent succeeded.

M. GILLESPIE

THE PLACENTA IN TWIN PREGNANCY By S. J. Strong and G. Corney. (Pp. xvi + 134; illustrated. £5 5s.) Oxford: Pergamon Press. 1967.

In the foreword, Chassar Moir considers this book to be a future 'classic'. Such praise is fully justified. The authors have diligently reviewed the relevant literature, much of which has not been readily available. Colour plates from original articles of earlier workers are beautifully reproduced in the book in addition to excellent illustrations by the present authors.

There is a wealth of information of value to obstetricians, geneticists, paediatricians, and pathologists. Haematological problems encountered in multiple pregnancy are fully discussed, including the 'placental transfusion' syndrome. Procedure for the effective examination of twin placentae is described with particular reference to injection techniques for adequate demonstration of the vasculature. The morbid anatomist sporadically expected to pronounce on placental structure will find the work most helpful and the high standard of writing and publication should result in a wide following of appreciative readers.

CLAUD W. TAYLOR

THE EVOLUTION OF DIFFERENTIATION By William S. Bullough. (Pp. vi + 206; illustrated. 45s.) London and New York: Academic Press. 1967.

All the cells in an animal or plant have the same content of genes, yet the differentiation leading to diversity of structure and function is enormous. Differentiation can be traced back to the bacteria, where one cell can switch on or off the synthesis of some enzyme in response to environmental conditions. This book discusses the mechanisms by which the simple differentiation of function in unicellular organisms like bacteria has evolved into the complex differentiation of higher plants and animals. The system of gene repressors studied in bacteria is seen as the origin of the variety of chemical messengers, including the hormones, that control cell differentiation and function, and it is considered that in most cases these messengers act through an influence on the genetic material in the target cell. 'The evolution of higher forms of life has depended on the increasing complexity of the linkages within groups of structural genes, and second, on the increasing number of regulator genes and the increasing complexity of the linkages between them.'

This is a fascinating book that any pathologist with a claim to be a biologist will read with enjoyment and intellectual profit. If it offers him little help with his daily work at the bench, it will provide abundant material for educated conversation in the common room.

R. E. O. WILLIAMS