together within one cover a very wide range of ideas and concepts in the investigation of rheumatic diseases. It will be a useful starting point for those wishing to probe restricted aspects of these diseases in more depth. However, most articles in themselves do not give sufficient information to allow critical evaluation of the results which are given. Inevitably, a book of this type rapidly becomes out of date, and one cannot avoid commenting on the delay in publication of these proceedings. Over two years elapsed between the meeting and publication, and although the cover flap says that the contributions have been written and revised so as to ensure the book is up to date, the extremely sparse scattering of 1975 references qualifies one's interpretation of this statement.

It is useful to compare this publication with that of the 2nd World Congress in Immunology, which was held in August 1974 and published as author-prepared manuscripts and workshop reports by offset lithography in five volumes totalling over 2000 pages in November 1974.

This was largely made possible by the congress editors making it clear from the outset that manuscripts would be required at the conference and by a very energetic editorial office.

The aesthetic quality of this beautifully produced book does not really compensate for the delay in its production.

I. C. M. MACLENNAN

Chromatographic and Electrophoretic Techniques, 4th edition. Edited by I. Smith. (Pp. ix + 485; illustrated; £9.00.) London: William Heinemann Medical Books. 1976.

It is not often that a book lives up to the claims it makes for itself. In the preface of the present book three claims are made: 'to bring together in as concise a form as possible tried and tested methods of zone electrophoresis; to discuss all those methods which can be applied routinely; and to provide all the essential information to enable the reader to apply these techniques immediately and without recourse to the literature for further details'.

It is a distinct satisfaction to be able to confirm that all three claims are fully justified. In fact, the claims are modest, for they fail to make clear the eminent readability of the book and the wide-ranging scope of the techniques covered, each in an authoritative chapter of its own. After Ivor Smith's introductory chapter on general principles of zone electrophoresis, the

technology begins with paper electrophoresis (at both low and high voltages) and progresses to preparative acrylamide disc electrophoresis, taking in along the way such methods as thin layer, cellulose acetate, agar and starch gel electrophoresis; isoelectric focusing; and quantitative immunoelectrophoresis.

Nor does the book cover methodology alone. There are chapters on specific applications of the techniques; separation and visualization of enzymes in gels, electrophoresis of proteins and RNA on polyacrylamide and agarose gels, and models for macromolecules, nucleic acid, and proteins.

The fact that the book is now in its 4th edition speaks for itself. And at £9.00 it is modestly priced as book prices go today. A buy for those who want the latest on zone electrophoresis in all its aspects.

G. FEINBERG

Quality Control in Haematology. Symposium of the International Committee for Standardization in Haematology. Edited by S. M. Lewis and J. F. Coster. (Pp. xii + 237; illustrated; £7.50; \$19.50.) London, New York, San Francisco: Academic Press. 1975.

This book consists of 17 chapters based on work presented at the symposium organized by the International Committee for Standards in Haematology and presented at the Congress of the International Society of Haematology in Jerusalem in September 1974.

Each chapter covers a different aspect of quality control dealing with all aspects. The book is comprehensive, covering all points from specimen collection to a final chapter on the cost of quality control. Other chapters deal with the principles of total quality control. More detailed methods are contained in a chapter on a statistical approach to quality control. There is a most informative chapter on the purification, standardization, and quality control of Romanowsky dyes. Standards and reference preparations for haematological measurements are also discussed, including not only preparations for haemoglobin and the various blood cells but also for serum iron and anticoagulant control. It is inevitable in a book of this type that it is principles and methods which are dealt with and not specific products such as the various kits, for example, for red cell enzyme preparations which are marketed commercially and are widely used. Each chapter gives a number of

references and there is a subject index. Although there is little new work, it is most useful to have such information all in one book.

J. W. STEWART

Human Blood Coagulation, Haemostasis and Thrombosis, 2nd edition. Edited by Rosemary Biggs. (Pp. xxviii + 769; illustrated; £15.00.) Oxford, London, Edinburgh, Melbourne: Blackwell Scientific Publications. 1976.

This volume contains an encyclopaedic account of the views and practice of the Oxford Haemophilia Centre and of a number of distinguished associates over a wide field of normal and abnormal haemostasis. It goes without saying that the book contains much information of interest and great value, but the distinguished editor points out that major advances of 1974 and 1975 are unrepresented, due to an unfortunate delay in publication.

The book very properly begins and ends with chapters by the doyen, Professor R. G. Macfarlane, FRS, summarizing the history of the subject and of the book (successive editions of 'Macfarlane and Biggs' and the previous edition of this work), and discussing the mechanism of haemostasis in the whole organism, with an intriguing cameo on the evolution of coagulants and anticoagulants in the prey-predator relationship. Esnouf deals with fibrinogen, thrombin, and the extrinsic activation of prothrombin. Biggs takes the intrinsic pathway, and the interaction of the intrinsic and extrinsic systems. Nossel reviews the contact system (XII, XI, and Fletcher factor) with interesting sections on the apparent clinical irrelevance of XII deficiency and on thrombosis. Biggs and Denson include a useful account of anti-thrombins in their chapter on natural and pathological inhibitors of coagulation, their suggestion to drop the term 'circulating anticoagulant' should be widely heeded. Born and Hardisty describe normal and abnormal platelet function, respectively, with helpful tabulations of thrombocytopenia and of acute and acquired platelet disorders. In a chapter on abnormal clotting factors, Denson brings immunological tests into clear perspective. Rizza describes the clinical features of clotting factor deficiencies. Bidwell and her associates discuss the preparation of therapeutic blood products, giving comparative flow charts for different preparative methods; blood-protein biophysicists

must have their attention drawn to her contribution. Biggs and Denson set out the principles and practice of laboratory diagnosis, including standardization. Rizza comes back with the management of coagulation defects; he sets out the theoretical basis of blood product therapy in half-disappearance times, minimum haemostatic levels, and requirements for different haemostatic challenges; the criteria for home treatment are given.

McNicol and Douglas turn to the biology of fibrinolysis, and follow with thrombolytic therapy and antifibrinolytic drugs. Turpie, McNicol, and Douglas discuss anacrod. Merskey has an important chapter on defibrination; he tabulates associated conditions, distinguishes acute, subacute, and chronic processes, and separates clear-cut defibrination from conditions showing only an abnormal reactivity of fibrinogen and with fibrinogen-related antibody in the serum. He emphasizes treatment of the underlying disorder but advises treatment of the defibrination itself only in patients clinically requiring it. Hampton and Mitchell begin their chapter on thrombosis by stressing its demographic importance; they summarize work on thrombotic processes but emphasize how much remains to be learnt. Douglas and McNicol then discuss anticoagulant therapy; in dealing with oral anticoagulants, mainly from the point of view of clinical trials, they advise long-term therapy after myocardial infarction, for transient cerebral ischaemia, rheumatic heart disease with a history of arterial embolus, with prosthetic heart valves, and prophylactically in situations imposing a high risk of deep vein thrombosis and pulmonary embolus. Finally, Denson presides over two detailed technical appendices.

Everybody knows that this is an important book. It and its predecessors are part of the great achievement of the Oxford Haemophilia Centre: workers in the field will need no urging to obtain access to it. The choice of subjects covered reflects the spectrum of interests of those who have contributed; their broad range is not only a tribute to the wide influence of the senior Oxford workers who have inspired them but also suggests that if all those who will profit from the book were stood end to end they would collectively reach, as no doubt they often do individually, from here to Oxford.

G. I. C. INGRAM

British Medical Bulletin, Immunological Tolerance, Volume 32, No. 2, May 1976. Published by the Medical Department, The British Council. (Pp. 99-192; illustrated; UK: £3.00; other countries £3.50.) London: The British Council, Medical Department. 1976.

For those who have tried conscientiously to understand the research of today and apply it to the clinical practice of tomorrow, the *British Medical Bulletin* has been for 30 years a valuable guide. All three issues of 1976 are likely to interest pathologists, and that dealing with immunological tolerance is especially welcome because the subject is complicated and needs clarity in its exposition. The contributors cover topics with clinical relevance, such as organ transplants, tolerated microorganisms and autoimmunity, and others not yet relevant—tumour immunity and the role of different immunocytes. All these are clearly explained and placed admirably in context by an introduction and postscript by J. H. Humphrey.

H. E. M. KAY

Glomerulonephritis: Proceedings of the 3rd Symposium of Nephrology, 20-21 June 1975, Hannover. Contributions to Nephrology, Volume 2. Edited by R. B. Sterzel, D. Thomson and J. Brod. (Pp. x + 190; illustrated; Sfr/DM 51; \$19.75.) Basel: Karger. 1976.

Sterzel, Thomson, and Brod are to be congratulated on this beautifully edited and illustrated account of a symposium held in Hannover, West Germany in June 1975. It fascinated me: I am sure it will be of the greatest interest to all clinical pathologists engaged in the investigation of glomerular nephritis.

Authoritative papers on the treatment of glomerular nephritis were a feature of this symposium. Richet (Tenon: Paris) defined carefully the fields of research which particularly merited attention if we were to continue to employ powerful anti-inflammatory and immunosuppressive drugs. His emphasis on the need for fundamental research was endorsed by Black (London: England), who stressed the difficulties implicit in large-scale multicentre trials, advocating, clearly in the light of his experience with previous MRC trials, the desirability of small pilot studies designed to discover profitable lines of therapy. His reservations about the use of immunosuppressant drugs are

summed up by his statement in the Discussion. This was to the effect that 'minimal change' glomerular nephritis was the only form of this condition which had been shown clearly to respond to 'prednisone dosage' and yet happened to be the one form of glomerular nephritis in which immune mechanisms had not convincingly been implicated. I suspect that the implications of these findings with regard to the pathogenesis of glomerular nephritis have not yet been fully appreciated. A more optimistic view of therapy was expressed by the German group (Schütz), who reported that cyclophosphamide was of value in the treatment of proliferative glomerular nephritis.

Particular attention was paid at the symposium to the natural history of glomerular nephritis. This has troubled us all for years, not least because of the difficulty of formulating adequate histopathological diagnostic criteria.

Valuable papers included those on chronic glomerular nephritis by Weingart (Freiburg) and on glomerular nephritis with mesangial deposits of IgA (182 cases) by Dominique Droz (Necker: Paris). Some 40 cases of Alport's syndrome and its variants were analysed by Gubler (Paris) in a paper in which Renée Habi participated.

Papers on the pathogenesis of glomerular nephritis included one on the role of complement by Verroust, Kourilsky, and Morel-Maroger (Tenon: Paris): this provides a particularly clear analysis of a subject which its protagonists are inclined to present in a singularly confusing manner. New evidence concerning the relationship between ultrastructure and function with respect to the glomerular capillary wall was provided by Stolte (Hannover).

Most papers, however, centred on the role of mesangium. As I see it, it appears to be accepted that the mesangium in some way cleans the glomerular filter, with the corollary that alterations in mesangial function may contribute to glomerular nephritis. Churg, a pioneer in this field, reviewed the morphology of the mesangium. Mesangial cells remain difficult to characterise, a point particularly apparent in Striker's (Seattle) attempts to isolate such cells in tissue culture. A promising method of identifying them clearly lies in the use of a recently developed antibody, apparently specific for mesangium and certain lung structures (Seelig: Heidelberg). Indeed, the injection of this antibody can provoke an experimental