mental development, and survival; dysmorphic features are only briefly mentioned. A large number of minor syndromes are thus delineated. However, within major syndromes there is little or no subdivision of the text so that specific information is not readily retrieved. Furthermore, the author departs with little justification from ISCN (1978), and the clinical illustrations might be more conveniently located interspersed within the text than in a group at the end of each chromosome section. On the other hand, published reports up to 1982 appear to be thoroughly and critically reviewed, with the more recent important references listed for each aberration, while the latest reports are included as addenda. The references are completed by a first author index.

The field of clinical cytogenetics, after the technical advances of the last 15 years, has seen an almost bewildering increase in the number and variety of published cases with imbalances resulting from loss or gain or both of parts of chromosomes. It has reached the stage where the need to review and catalogue comprehensively has become acute. This volume, which will require regular updating, makes a very significant contribution to that process and is likely to become an indispensable acquisition for cytogenetic laboratories and clinicians with an interest in cytogenetics. However, there are some deficiencies in its organisation and presentation that might usefully be corrected in a future edition.

S H ROBERTS

Clinical Atlas of Human Chromosomes

2nd edition. By Jean de Grouchy and Catherine Turleau. (Pp xx + 487; figures + tables.) Chichester: John Wiley. 1984.

The first edition of this useful book was published in 1977 and contained 319 pages. The second edition, in similar format, is 487 pages long. Not only is there more information on all conditions, but more than 30 chromosomal syndromes—collections of cases with duplication or deletions of chromosome segments with recognisable clinical similarity—are described.

The authors take one through the human karyotype, chromosome by chromosome, and arm by arm. They document the morphology of each chromosome, normal genes located on it, and described abnormalities with their clinical correlates. The clinical illustrations, perforce largely reproduced from previous original publications, are sometimes less than excellent, but are adequate for their purpose.

In place of a conventional index, the book

contains a 'syndrome finder', a list of major clinical features, leading one to the chromosomal disorders in which the clinical sign occurs. I failed to find the Prader-Willi syndrome (or chromosome 15) mentioned under hypotonia, obesity, or genital anomalies, but the system in general seems to work well. I would personally have welcomed some way in which named syndromes could be located by their eponyms, rather than by their individual clinical components.

Although dated 1984, I suspect that this is a translation of the French edition, which is a little older. Perhaps for this reason, the Langer-Giedion syndrome, associated with abnormalities of 8q, appears in the foreword, but not in the text.

These are, however, minor blemishes in what is generally a thoroughly useful book. As the range of detectable chromosomal abnormalities increases, and particularly with the advent of prometaphase chromosome analysis, it becomes less and less satisfactory simply to give the laboratory a blood sample labelled 'abnormal' and assume that they will inevitably find whatever is wrong. With long chromosomes, directed attention will efficiently lead the person at the microscope to confirm or exclude particular abnormalities, and I would guess that this will become increasingly true over the coming years. The authors hope that this current edition will have a long and happy life; I think that we may all be crying out for a third edition sooner than they expect, as we continue to explore the world of single band deletions.

Cytogenetics laboratories have a need to compare the clinical information on a patient with previous descriptions of the same abnormality as a check on their cytogenetic diagnoses. Clinical geneticists need ready references to dysmorphic syndromes, to provide maximum prior information to the laboratories. Both groups will find this book excellent for their purposes.

MARTIN BOBROW

Principles and Practice of Medical Genetics

Volumes 1 and 2. Edited by A E H Emery and D L Rimoin. (Pp 1502; figures + tables.) Edinburgh, London: Churchill Livingstone. 1983.

This book marks, as the editors say in their introduction, the coming of age of Medical Genetics as a speciality in its own right. The fact that it has been written at all shows how extensively the subject has developed over the past 20 years, and both editors and publisher deserve much credit for putting this major synthesis on the record.

In many ways this book complements another

landmark, Vogel and Motulsky's *Human genetics*, which set the seal on Human Genetics as a major scientific speciality. With these two authoritative textbooks to guide him the Medical Geneticist can now feel confident that his field has its own identity, with solid clinical and theoretical foundations.

This book is a multi-author work and could indeed have been written in no other way, bearing in mind the extent of detailed information presented. Inevitably this means some loss of unity, and one tends to read and judge it as individual chapters rather than as a whole. In this respect it is no different from most other textbooks, however good their quality, but it does mean that its value is greater for the specific topics than for the general and theoretical sections.

The organisation of the book (in two volumes) follows the classical textbook pattern of a series of general chapters, followed by sections on each major body system, chromosomal and metabolic disorders rightly being classed as systems in this framework. In all sections the overall impression is one of high quality and here the editors' role shows its value, since the quality of each chapter naturally reflects its author. The very large number of authors means that each is for the most part covering his own area of expertise rather than ranging too far into neighbouring fields. Overlap is not a major problem and the sequence of chapters and sections is smooth, in contrast to many multi-author works.

In such a major work it would be easy but pointless to pick out inferior chapters; they do exist but are very few. The great majority, particularly those dealing with specific disorders, are accurate and comprehensive. Of the major Mendelian disorders, only Huntington's disease and cystic fibrosis struck the reviewer as needing more extensive coverage. The sections on skeletal disorders and on endocrine and metabolic disease are particularly satisfying and most authors effectively use tables to include the details that need recording but cannot be discussed in full. Dating of material is a problem with all textbooks and this is no exception. The rapidity of advances in the past four years means that little of the revolution resulting from application of recombinant DNA techniques appears here. In general, however, there is little in the book that has been made incorrect by these advances.

High quality of illustrations, especially clinical photographs, is a particularly pleasing feature—a contrast to many text books. The quality of print and general layout is also high. The weight of the volumes has not prevented them vanishing frequently from my shelves!

Is there really a need for major textbooks of this type? In my opinion the answer is "yes, if they are

really good", and this book certainly falls into this category.

In Medical Genetics there is a particular need for synthesis of scattered information, and there can be no doubt that this book will be really used.

Having produced such a major work, the editors and publisher have a serious responsibility to ensure that it is kept updated and, where possible, improved. The publisher should recognise this by giving a firm commitment to a future edition, with a definite date fixed well ahead to allow contributors time for revision. The editors should do some selective, but nonetheless firm, pruning as well as some talent spotting, to ensure that the book stays in the forefront of the field. There is not likely to be a serious alternative to this book; its success and its quality will reflect that of the speciality during the coming years.

PETER S HARPER

The Antibody Enigma

By T J Kindt and J D Capra. (Pp xvi + 270; figures + tables.) New York, London: Plenum Press. 1984.

The enigma in the title of this book refers to the problems of accounting for the diversity of antibodies which can be synthesised in the body. The authors approach the problem with an essentially historical perspective and carefully trace and describe the gradual evolution of the various theories designed to explain the phenomenon. Early data from serologists, biochemists, and geneticists all revealed the complexity of the immunoglobulin populations and the capability of producing vast numbers of different antibodies. Two major theories gradually emerged: the germ-line theory, which proposed that each antibody is the product of a specific gene; and the somatic mutation theory, which proposed that immunoglobulin diversity resulted from somatic events affecting a limited number of genes. Much supportive evidence was assembled by the proponents of these two contrasting theories. However, since neither was completely satisfactory, a number of what the authors call "Maverick solutions" were proposed, such as Kabat and Wu's episomal insertion hypothesis, Capra and Kindt's gene interaction hypothesis, Smithies' DNA network hypothesis, and Edelman and Gally's somatic recombination hypothesis. The true picture was only to emerge with the advent of recombinant DNA technology which, interestingly, then showed that there has been some element of truth in each of these earlier theories. What is now clear is that there are a large number of germ line V, D, and J genes which recombine in various combinations, but this diversi-