tion to the clinical presentation and pathology of A-T. Four sections follow: the first deals with the DNA defect in A-T whether regarded as a repair defect or a defect in replication synthesis; secondly, a section on genetics and cytogenetics; thirdly, several contributions on neuropathology; and finally a section on A-T and the immune system. Each of the chapters presented to the meeting has a discussion which I found quite helpful.

In the first section, on the possible DNA repair defect in A-T, the authors concluded disappointingly that this remains unproven. The balance of evidence does, however, seem to suggest that these cells are defective in some form of repair. Another important consideration for the participants was whether or not heterozygotes could be detected by increased cellular radiosensitivity. The conclusion was that this was not possible, but that it would soon be possible. In the two years or so that have passed since then, there is still no good evidence that these carriers can be adequately detected. The genetics of A-T receives attention in the book, but perhaps not as much as it deserves, especially after the statement by Swift that the consanguinity rate among his A-T families was much lower than they had found in similar studies on xeroderma pigmentosum or Fanconi's anaemia families. No further details are given. The recessive nature of the gene was not questioned. There is some discussion of gene frequency with respect to genetic complementation groups. The cytogenetic section is sparse and not very satisfactory. Two chapters have been added to update the observation (since 1984) that the chromosomal breakpoints in A-T translocations are at the sites of immune system genes. One inserted chapter contains the observation of a t(2;14) (p12;q32) translocation cell in PHA stimulated A-T lymphocytes without further comment.

Curiously I found this book stimulating except for one or two items it omitted to expand on. Those interested in A-T will be familiar with the content of the book. Others should perhaps try to borrow the book.

A M R TAYLOR

Advances in Human Genetics

Volume 15. Edited by H Harris and K Hirschhorn. (Figures + tables. £45.00.) New York: Plenum Press. 1986.

Four of the chapters in this book are of the type one has grown to expect from this series, comprehensive and authoritative reviews of an area of current active research. Two are of immediate clinical interest, one on chromosome abnormalities in

lymphomas and leukaemias by Le Beau and Rowley, and one on argininosuccinate synthetase and citrullinaemia by Beaudet and O'Brien and colleagues in Texas. The former offers a detailed but readable account of the evidence for consistent chromosome abnormalities in different leukaemias and lymphomas. It includes a brief discussion of the biological implications of these changes and also describes specific changes seen in leukaemia occurring in populations exposed to radiotherapy or environmental mutagens. The chapter on citrullinaemia covers a wide range of topics, from the differential diagnosis and clinical management of the patients to the analysis of heterogeneity in the mutations involved by determining the size of the mRNA transcripts.

A chapter on the molecular genetics of the HLA system, by Auffrey and Strominger, is a clear account of a confusing subject, providing the background knowledge required to appreciate new discoveries about function and relationship to disease. The fourth of these chapters, that on alcohol and aldehyde dehydrogenase by Moyra Smith, also describes an area where recent cloning of the genes promises exciting new developments in the understanding of gene expression and perhaps individual differences in response to alcohol.

The remaining one-third of the book is somewhat different, being largely a description of how Skolnick and Neel have been teaching their computer to recognise patterns of proteins after two dimensional gel electrophoresis. The objective is to produce a more sensitive and reliable indicator of human mutation rates than anything currently available. Any member of that small group of workers who have looked for mutations by screening samples on gels will appreciate that observer boredom is an obstacle well worth overcoming. It is a challenging chapter which should provide a basis for wide ranging argument, both technical and philosophical. Experimental validation of the approach in mouse experiments is proposed; it will be interesting to see the results.

All human geneticists, whether based in the clinic or in the laboratory, would find this a valuable book, both as a worthwhile read and a useful source of references.

S POVEY

Human Hemoglobin Genetics

By George R Honig and Julius G Adams III. (Pp 452; figures + tables.) Wien, New York: Springer-Verlag. 1986.

Long time devotees of haemoglobin, used to hearing