Chapter 3 introduces simply and usefully the intricacies of dermatoglyphics. This is followed by the major contribution of the book, a series of chapters on the various chromosomal abnormalities and their corresponding phenotypes. These are well presented and in a concise manner suitable for those personnel who wish to learn to distinguish between the variety of chromosomal syndromes. The tables, giving the frequency of occurrence of the associated defects, are particularly useful, but the specimen case reports seem only to duplicate what has already been described. Inevitably, more data have accrued since the text was written. Hence the chromosomal defect associated with chronic myeloid leukaemia is referred to as a G deletion rather than a C/G translocation as it is now interpreted, and there is no reference to the normal variant in some of the general population which shows an inversion in chromosome C₆, transferring the heterochromatic region from its long arm to its short arm.

Although autoradiography is mentioned several times in the text, nowhere is it explained. There are other points of apparent omission, only to find reference to them later in the book. For example, in the section of trisomy-21 (pp. 59-77), no mention is made of translocation G₂₁/G₂₁ or isochromosome G₂₁; it is, however, referred to later on page 128. Similarly, no mention is made of the reversal of the order of G₂₁ and G₂₂ to that originally given in the Denver classification (chapter 2) following the introduction of banding analysis; it is, however, referred to much later in chapter 5, page 68.

Drawings have been used widely throughout the book, and, although clear in most cases, are poor in some instances and inadequate in others (see the upper row of fig. 5.10, all of fig. A1 and parts of fig. A2 representing mitosis and meiosis). Fig. 2.7 shows a drawing of a cell with 46 chromosomes, but five satellited in group G. This must be an error or an aberrant cell. Features of chromosome morphology would have been better illustrated by original photographs which create more realistic examples for the reader. These would have been an asset, particularly in the section relating to structural abnormalities (deletions, rings, etc.) and variation in the normal karyotype.

Overall, the author has succeeded in producing a most readable text which gives an insight into those aspects of cytogenetics widely used in many centres for diagnostic purposes. Unfortunately, the conciseness has led to superficial treatment which limits its benefit to readers, but it can be recommended to medical personnel who wish to keep abreast in a general way with developing applied techniques. I hope it is not used to attempt the analysis of patients' karyotypes without expert supervision.

STANLEY WALKER

Handbuch der Inneren Medizin, vol 7—Erbliche Defekte des Kohlenhydrat-Aminosäuren-und Protein-stoff-wechsels. Edited by F. Linneweh. (Pp. xx+

905; figures + tables. DM 348; \$142.00.) Berlin: Springer. 1974.

This compendious text covers a mixed bag of diseases: several inborn errors of metabolism obviously suggested by the title, specific protein abnormalities such as analbuminaemia, bisalbuminaemia, and haptoglobin defects, but it also discusses hypoglycaemia, muscular dystrophy, and creatine kinase abnormalities. Like all these large German handbooks (although, in this, four chapters: oxalosis, histidinaemia, Wilson's disease, and A-betalipoproteinaemia, are in English) this is worth referring to for detailed descriptions and obscure facts. The chapter on mucopolysaccharidoses is well illustrated, and provides an excellent review of the broadening concepts of these diseases which now include mucopolipidoses. There are copious references throughout, but few, if any, are later than 1972.

D. N. RAINE

X-Linked Mental Retardation and Verbal Disability. Edited by David Bergsma. (Pp. ix+100; figures+tables. \$11.50.) *Birth Defects Original Article Series*; vol. 10, no. 1. New York: National Foundation, March of Dimes. 1974.

The preponderance of males within the mentally retarded population is a well-recognized phenomenon which has always been difficult to explain solely by social and other environmental factors. The author of this monograph presents further evidence for the existence of cases of mental retardation, which are probably due to the effect of a gene, or genes, located on the X chromosome. In the opinion of the reviewer, the data from five families seen at the University of Wisconsin Genetic Counseling Center are the most valuable part of the dissertation. The families comprise some 500 known individuals in seven generations, many of whom, particularly retarded patients and those who seem to be carriers, have been investigated—mostly psychologically. This material will be invaluable for the reference of other authors compiling similar studies, but one cannot suppress a feeling of disappointment caused by the meagreness of clinical data, and the absence of photographs. Dr. Lehrke, a psychologist, is perhaps understandably primarily interested in the intellectual abilities of his patients. Furthermore, one finds it a little difficult to share his view that verbal disability is a specific concomitant sign of X-linked mental retardation.

The monograph, the manuscript of which was received for publication in August 1973, is divided into eight parts and is concluded by a valuable list of some 86 references. It is a pity that Dr. Clare Davidson's paper on familial idiopathic severe subnormality: the question of a contribution by X-linked genes (published early in 1973 as a Special Publication No. 8 of the *British Journal of Psychiatry*) was omitted from Dr. Lehrke's discussion and his references. In spite of this, the work contains valuable material and should be noted by workers in the field of mental retardation, genetics, and psychology.

RENATA LAX