Book reviews

Journal of Medical Genetics (1975). **12**, 116–117.

Selected Screening Tests for Genetic Metabolic Diseases. By G. H. Thomas and R. Rodney Howell. (Pp. vii+101; figures+tables. £3·50.) Chicago: Year Book Medical Publishers; London: Lloyd-Luke. 1973.

This is a remarkable book both in its conception and its execution. Few would have thought the subject could have justified a volume of this size and few would have expected it to turn out so well. The book is saved by the considerable practical laboratory experience of the authors, and it will find a ready place on the shelves of any paediatric, genetics, or mental subnormality unit, and if it is not there it will be on someone's laboratory bench.

Simple observation by smell and vision are rightly placed first in the examination of urine, and then the apparently simple ferric chloride test is treated in all its variations in its own chapter of 10 pages and 44 references! Reagents for keto acids, phenols, sulphur compounds, and reducing substances and their significance in relation to metabolic disease are described. Other sections detail the favoured method of screening for mucopolysaccharidoses, methylmalonic aciduria, metachromatic leukodystrophy, GM_1 gangliosidosis, and oxaluria.

Throughout it is emphasised that the tests are simple screens and require more specialized tests for definitive diagnosis. But in many instances those described take the investigator very close to a conclusion. Indeed sometimes the screen is no simpler or more rapid than a definitive test; for example, assay of plasma or urine enzymes instead of those in leucocytes for the neurodegenerative disorders. The section on mucopolysaccharidoses is remarkably full and accurate, but it is surprising that while the lack of specificity of the toluidine blue spot test is recognized, no mention is made of the much more specific dye alcian blue which has been in use for over 10 years.

The value of the test for sulphite oxidase deficiency (part of the differential diagnosis for ectopia lentis, with lysinuria and homocystinuria) must be unestablished since it was developed after the only known case had been diagnosed. However, it is regularly used when urine from patients with dislocated lens give a negative reaction with cyanide-nitroprusside.

The book is well produced and very good value for the price and, provided the warnings that more definitive diagnostic tests may be required are heeded, it will do much to improve the standard of laboratory testing in the field of inherited metabolic disease.

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Personality Differences and Biological Variations. A Study of Twins. By Gordon Claridge, Sandra Canter, and W. I. Hume. (Pp. viii+175; tables. £3·80.) Pergamon Press, Oxford. 1973.

The project described in this book consists of a series of studies of different aspects of the behaviour of twins. Its main interest lies in the senior author's attempt to bring the observations into the context of the theoretical model which he has been working on for a number of years. The approach is derived from the work of Pavlov, as developed in this country mainly by Eysenck. Like Eysenck, Dr Claridge is concerned with three continuously variable dimensions of personality, introversion–extraversion, neuroticism, and psychoticism which are assumed to run through the general population and to account for normal personality differences. In Dr Claridge's model, however, the last two dimensions, instead of ranging from the abnormal to the normal, stretch respectively from dysthymia to hysteria, and from active psychosis to retarded psychosis. Furthermore, the different dimensions of personality are determined by differences in interaction between the underlying psychophysiological processes, called 'tonic arousal' and 'arousal modulation'. The former is measured by autonomic activity and sedation threshold and is manifested as high and low anxiety drive. The latter has a CNS regulating function, and is concerned with sensory input and attention; it is associated mainly with EEG parameters and with introversion–extraversion. High tonic arousal is associated with active psychosis and dysthymia, low tonic arousal with retarded psychosis and hysteria. In respect of arousal modulation, however, the relationships are reversed; low arousal modulation (and extraversion) is associated with active psychosis and hysteria, and high arousal modulation (and introversion) with retarded psychosis and dysthmia. This model seems to make some clinical sense—though it is not clear how it encompasses the differences between manic-depressive psychosis and schizophrenia.

Hitherto the authors' researches were mostly confined to psychotic patients, and the dimensional aspect of their hypothesis remained conjectural. The unexpected windfall of a sizeable sample of twins collected by another group of workers for a completely different purpose, has now made it possible for them to test out the model on a group of supposedly normal subjects, and to investigate its genetic basis. On the whole, the results support the dimensional model of both neurosis and psychosis. Interestingly, the twin analyses suggest that some parameters are much more under genetic influences than others.