up to date in its chemical control recommendations, well printed and well produced. At £3.20 it deserves a place in the ‘special problems’ section of the medical officer's bookcase. One small warning: it is of large page size and must, therefore, be consulted before meetings, as it cannot be furiously scanned during them nor tucked in the pocket 'just in case'.

E. F. EDSON


The contribution of Dr. D. Wechsler to the theoretical and practical aspects of our understanding of intellectual functioning is of considerable importance to psychology and those disciplines whose work involves the use of psychological measurement techniques. The fifth edition of Wechsler's Measurement and Appraisal of Adult Intelligence produced by Dr. Matarazzo is of some interest and importance. In a number of areas more detailed and useful information is given than in previous editions.

The book is divided into four parts. The first discusses the nature, classification, and assessment of intelligence; the second, early and modern approaches to the validation of concepts of mental retardation and intelligence. Part three gives fairly detailed descriptions of the Wechsler-Bellevue and Wechsler Adult Intelligence Scales. Part four looks at the problem of validation yet again and discusses applications of the Wechsler scales, along with some other psychological techniques. Before dealing with these sections in a little more detail there is one important comment which might be made. Wechsler's contribution to the measurement and applications of intellectual assessment techniques is very important. His work has extended over a wide age range. It would have been of considerable value if the new and enlarged edition of this book had included sections on the Wechsler Intelligence Scale for Children (WISC) and the Wechsler Preschool and Primary Scales of Intelligence (WPPSI).

I would recommend this book very highly. It needs to be read by anyone seriously interested in the measurement of adult intelligence. There are, however, a number of points which ought to be made for readers less familiar with the wide range of literature on intelligence available in psychological journals and other books. Many psychologists are still unhappy with the detailed use made of the subtests of the Wechsler scales in relation to theoretical problems and practical decision making in the clinical and educational fields. Subtest differences should be interpreted with considerable caution by, and only by, extremely experienced psychologists. In general, the basic assessment of Full Scale IQ (FSIQ), Verbal IQ (VIQ), Performance IQ (PIQ), the discrepancy between Verbal and Performance IQ, and the Deterioration Quotient of the Wechsler Adult Intelligence Scale have considerable reliability and validity.

The relationships between brain damage, organic disorders, personality, and psychiatric disorders to cognitive functioning are also extremely complex. Views expressed in Wechsler's Measurement and Appraisal of Adult Intelligence in this area need to be read with care. In particular, the qualitative, diagnostic, and clinical features approach to the use of Wechsler's scales would not be recommended by all psychologists. Qualitative features on subtests or items may, for the experienced clinical or educational psychologist, suggest hypotheses about the patient, for example, certain types of abnormality of functioning. These, however, would need to be investigated with the use of many other tools before decisions of any significance could be made.

In summary, therefore, I would say that this book is a valuable one in expressing the approach of Wechsler and his colleagues to the measurement of adult intelligence and some of these applications. It is a 'must' for academic and practising psychologists concerned with this area. Members of other disciplines, doctors, social workers, and others, would probably find a more general book on the measurement of intelligence or human behaviour more valuable. R. D. SAVAGE


Since the publication in 1968 of the first edition of Noise and Man, the book has become a standard text as well as an invaluable reference book for many involved in acoustics. Its usefulness has benefited students and lecturers, researchers and engineers, doctors and scientists. However, in a rapidly developing field such as acoustics, information can become outdated very quickly. The publication of the enlarged second edition is therefore particularly welcome.

One of the greatest assets of the first edition was its readability, and the second edition loses none of this. Its appeal to a wide readership is retained, while most of the topics covered are brought up to date in the same style. The author has the particular skill of explaining terms lucidly so that physiological, psychological, and physical discussions can be understood by all. The book remains one that can be recommended to new students of acoustics who already have a background in engineering, medicine or psychology.

It is unfortunate that publication delays are such that even this book does not adequately deal with developments that took place some 18 months or more ago. This is particularly noticeable in the section on Hearing Conservation. We feel that the book would have benefited by a fuller discussion of the UK Department of Employment Code of Practice for Reducing the Exposure of Employed Persons to Noise instead of the few lines added, almost as an afterthought, at the end of a paragraph and one figure reproduced in Appendix M. This document has assumed a great deal of importance in the UK, and it is a pity that fuller treatment was not given. The assessment of impulse noise hazards are dealt with in detail, but some recent work relating impulse noise to the equal energy concept is not included.

Modern developments in theories of hearing are covered, and it is interesting to read subtle changes in the text that illustrate our lack of understanding of the hearing mechanism. Some remarkable pictures of the organ of Corti are included. The sections on environmental noise have been modified extensively. More recently developed concepts such as the noise pollution level for assessing environmental noise are discussed in detail.
Not unexpectedly, a great deal of space is devoted to discussing the Medical Research Council/National Physical Laboratory survey of hearing and noise in industry carried out under the leadership of Professor Burns and Dr. Robinson. The significance of the survey is stressed, and rightly so, as it is the basis for much of the available data on the permanent effects of noise on hearing. The appendices have been extended to great benefit and form a most useful section of the book.

In conclusion, any criticisms are minor; the book as a whole is just as praiseworthy as the first edition was five years ago. It will be widely recommended and as widely read as its forerunner. We look forward to the third edition being as readable.

J. G. WALKER AND W. I. ACTON


An important conference was held in Amsterdam in the autumn of 1972. It was jointly organized by the Commission of European Communities (CEC) and by the United States Environmental Protection Agency (EPA) and dealt with the health problems posed by lead in the present-day environment. This book, produced by the CEC, presents the proceedings of the symposium in a well-produced volume of over 100 pages. All papers are published in their original language and all have a summary in English, French, and German. There is an English translation of the addresses given at the opening session and also of the Round Table Conference.

The occasion presented an unique opportunity to share and discuss the most up-to-date scientific information and ideas regarding lead as an environmental pollutant. The effects of high exposure are well known but the possible effects on health of mild lead absorption resulting from very low lead exposures still remain a closed book. In particular, the possible impact of this type of exposure on young children is causing anxiety in some quarters and calls for further research. Man is exposed to lead through the food he eats, the water he drinks, and the air he breathes. Children, especially those with pica, may also be exposed in addition by the ingestion of lead-contaminated paint, dust, and dirt. Fallout of lead from the air is believed by some to be a significant contributor to the lead present in the dirt and dust found in urban homes, streets, and parks. Not only may children be more susceptible to the effects of lead but they may also be subjected to disproportionately high doses in the urban communities subjected to atmospheric contamination.

The papers were grouped under one of seven heads and the discussions are briefly reported. The seven sections were as follows:

1. Environmental lead and the transfer pathways to man
2. Animal metabolism and toxicity
3. Human uptake and metabolism
4. Cytotoxicology and biochemical changes in man
5. Subclinical effects in relation to the health aspects
6. Epidemiology
7. Monitoring and analytical techniques.

The following are a few quotations from papers given:

'The major course of lead in man is the food chain. Plants and ultimately man receive most of their lead from that naturally present in the soil.'

'It has been shown that lead in higher concentrations than that in which the population is continuously exposed causes an increase in blood lead and bone concentration in man and animals. On the other hand there is no evidence that harmful effects of lead occur in other than concentrations widely in excess of those to which the public is continuously exposed.'

'Mere gravitational assessment of airborne urban lead is inadequate. Medical research demands knowledge of its chemical and physical nature which determines its ultimate fate.'

'The interpretation of the data from "the Seven City Study" is still under discussion.'

'ALA-D is too sensitive a test and can be omitted in workers and in populations living in contaminated areas.'

'Decrease of ALA-D activity as an isolated phenomenon (i.e. no increase of ALA in urine) is not relevant in regard to health.'

'The levels of ALA in urine reflect the actual lead exposure.'

'The development of new and sensitive laboratory methods has continually pressed the threshold downwards and lately it has been suggested that for the inhibition of ALA-D there seems to exist no threshold at all.'

At the end of the discussion on laboratory techniques an important paper was read reporting European intercomparison programmes. It was concluded that 'None of the techniques at present used by the laboratories seemed to be accurate and precise enough to detect the small differences in blood level that might result from different environmental exposures to lead.'

'The usual methods for the determinations of ALA in the urine are not precise and accurate enough to establish unequivocally the existence of small differences in the ALA content of urine.'

'The standard deviation of the inter-laboratory measurements of ALA-D are lower than for the other two methods. But standardization of the method is required to be able to use absolute enzymatic values instead of activity ratios. This is probably a good alternative method for detecting the effects of lead.'

This particular summary appears to give disappointing results and throws some doubt on much of the data which were given during the symposium. It is clear that much more work must be done in the various laboratories in order to produce really reliable methods of quantitative analysis and these methods must be continuously interchecked between different laboratories. But these measurements mean little unless related to health changes. It is in this field that further careful work is necessary. When facts emerge their importance must be assessed in an atmosphere free from prejudice and emotion. It will then be possible to lay down safety margins in relation to public health. The CEC should set up a system of documentary exchange to facilitate this work.

R. E. LANE