

BOOK REVIEWS

Appraising Vocational Fitness by Means of Vocational Tests. By Donald E. Super. 1949. New York : Harper. Pp. xxi + 727. Price 44s.

The Structure of Human Abilities. By Philip Vernon. 1950. London : Methuen. Pp. 160. Price 12s. 6d.

There is considerable ignorance about the value of psychological tests in industry because of the absence of reliable sources of reference which are truly critical without being incomprehensibly technical. *Appraising Vocational Fitness* meets this need to a considerable extent, in spite of its necessarily American background so far as specific tests are concerned. Dr. Super, an Oxford graduate who is now a professor of education in the Department of Guidance, Teachers College, Columbia University, has set out in his 24 chapters and two valuable appendices a wealth of wisdom and fact. The 995-item bibliography attests both to the volume of research and to the author's breadth of scope in this work. For those who feel a need for what may be called the philosophy and method of psychological testing for occupational purposes, this book will be worth reading, even if the discussion of 42 well-known tests is never consulted. This may best be illustrated by means of a few extracts, for example (p. 6) :

"In order to evaluate a person's vocational prospects, two types of information about him are needed : the *psychological* facts which describe his aptitudes, skills, interests, and personality traits ; and the *social* facts which describe the environment in which he lives, the influences which are affecting him, and the resources which he has at his disposal . . . it seems desirable, in considering the types of data needed in vocational diagnosis, to stress the need to obtain both types of information and to use both testing and non-testing techniques."

This comes in welcome contrast to the excesses of the "testophile" and "testophobe", as does a further passage on page 8 :

"Despite the great progress in psychological testing since World War I, the variety of characteristics which can be measured still leaves a great deal to be desired. As is made clear in greater detail in subsequent chapters, the measuring instruments we now use even for the most adequately measured traits, such as intelligence and vocational interest, are still crude and only half-understood ; those we use for measuring personality traits, such as general adjustment, introversion and the need for recognition, are still in embryonic stages ; and there are no methods of testing creative imagination, persistence, and certain other traits and abilities which are often assumed to be important and which laboratory studies and other types of investigations have suggested may actually exist. For these reasons the psychological study of a person's abilities and personality traits requires more

than testing techniques. When a suitable test is available, its use will generally save time and obtain the information in a more objective, valid, and usable form than would otherwise be the case. This is especially true of intelligence, and it applies also to a variety of other traits. But some tests measure aspects of ability or interest which are so narrow as to make their use dangerously misleading unless the data obtained with them are thought of as being only one small part of the aptitude picture . . ."

This section leads on to a brief but useful examination of such familiar non-test techniques as the interview, questionnaires, and rating scales. While the value of each is fully recognized by Professor Super he does quote damaging objective evidence of their weaknesses and lack of validity in a variety of situations. He distinguishes clearly between the uses of tests for *selection* and for *vocational guidance*, and devotes much-needed attention to the neglected subject of *criteria for occupational success*.

"Educators and business men who are not trained in statistics and in experimental methods, and some who are trained in experimentation in other fields but not in psychology, often fail to realise that in a blanket questioning of the validity of tests they assume the validity of some other criterion or predictor such as school marks, supervisors' ratings, production records, or their own judgement. They too often do not know how unreliable or invalid these other indices have been shown to be by objective investigations" (pp. 12-13).

His warnings about the consequences of careless administration of standardized tests are most timely ; in the reviewer's experience, such disregard of directions and procedure is widespread.

The brief introduction to basic statistical concepts, without which objective evaluation of appraisal methods is impossible, is admirably lucid and justifies the author's remark that "statistics is nothing more than logic expressed in numerical form : therefore any reader who can engage in logical reasoning can master elementary statistics, and those who enjoy logic should enjoy statistics" (p. 643). He makes some trenchant comments about the widespread misuse of the term "prediction" as applied to selection and guidance ; for example (p. 661) :

"The situation would be improved if the general public, and some psychologists whose absorption in test construction has caused them to lose sight of the context in which they work, would cease to think in terms of predicting the success or failure of individuals, and come to think in terms of probabilities, some of the contingent factors of which will remain unknown even after the most thorough of testing and interviewing procedures."

Although this book is designed primarily for specialists in personnel selection and vocational guidance, it can be recommended also to those who, while not specialists in this field, are often expected to be by virtue of their role and status in industry.

Professor Vernon's book, *The Structure of Human Abilities*, the first of a new series entitled "Methuen's Manuals of Modern Psychology", is intended by its author to provide in a simple, non-technical form that "acquaintance with the principles and results of factor analysis necessary for the study and practice of educational, vocational, or other branches of applied psychology". There will be many readers of this journal who do not feel any great stirrings within them to make the acquaintance of factor analysis. For them the attraction of this book by the Professor of Educational Psychology in the University of London is more likely to lie in his second purpose :

"To bring together the large number of publications in this field, in Britain and America, which at first sight appear to give contradictory and confusing accounts of mental structure, and to show that they can be fitted into one consistent—even if incomplete—picture."

He has achieved a considerable success in both these aims. Like Professor Super, he realizes that any mention of mathematics tends to "frighten or antagonise many of the teachers, employers, and others who are most prone to discuss abilities unscientifically", but goes on boldly to demonstrate very convincingly that the basic principles of factor analysis are really quite simple to those who have not made up their minds in advance that they couldn't possibly grasp them. The nature of such mathematically derived factors in psychology is stated clearly as "categories for classifying mental or behavioural performances, rather than as entities in the mind or nervous system", and the author is consistent in opposing the assumptions that underly the "faculty" approach of many professionally qualified people to the subject of human abilities. The book is committed to, the "hierarchical" theory which has developed steadily in this country during the past 40 years, giving prime importance to "general mental ability" (Spearman's "g") and then to two well-marked group factors styled "v : ed." (verbal : educational) and "k : m" (spatial : mechanical). He adopts a pragmatic criterion for the general acceptance of further major group factors at this level, namely that they shall be shown to have importance in their application to educational, occupational or other fields in daily life. In this he typifies the British position in contrast to that of the Americans, and in the process makes it clear that the latter are already showing some signs of recognizing the points of contact revealed even while adhering to the Thurstone "multiple factor" approach popular there. Apart from examples in the text, this receives lucid treatment in a short appendix, and the 265-item bibliography should provide adequate source material for those who wish to follow-up in detail any special aspect of human abilities. It is a little surprising to find on the last page of the Appendix a defence of "the I.Q., or other comparable measures for adult purposes" which does not more fully indicate

the great importance now attached to the "other comparable measures". Although Professor Vernon is concerned to show the relation between the hierarchical theory of human abilities and the satisfactory nature of reliable tests yielding a global score which can be expressed in the form of an intelligence quotient, no risks should be taken which may result in the perpetuation of the use of I.Q. measures for *adult* intelligence which are derived from the "mental age" concept familiar from the Stanford-Binet scale. Another criticism is the absence of an overall summary in which the conclusions of various chapters can be brought together. An important summarizing paragraph occurs on page 86, at the end of Chapter VII, which is entitled "Practice, Difficulty, Speed and Other Factors"—not a place where one would expect to find it—but the main text ends on page 128 with only the usual chapter summary. This is not an easy book, but that is because understanding of the mental functions cannot be made easy. Professor Vernon's book constitutes an important step in the process of making available to the layman the results of immense quantities of research into the nature of human abilities as particularly related to educational and occupational problems.

These two books, one American and the other British, give some indication of the rapid development of the theoretical, methodological, and practical aspects of one of the younger branches of scientific enquiry. Both authors are rightly modest about the limits of present knowledge; both are aware of the dangers of over-enthusiasm; both are explicit that users of psychological methods and assessments must accept rigorous standards of administration and evaluation; and both expect the intelligent cooperation of their non-specialist readers to the extent of mastering simple mathematical and logical concepts, and of the adoption of an unprejudiced attitude towards their subject matter. In the reviewer's opinion, both have rendered a service to many, such as those engaged in industrial medicine, who have recognized the importance in their daily work and relationships of having some reliable information about these matters.

ALASTAIR HERON

Industrial Hazards. British Medical Bulletin, Volume 7. No. 1-2, 1950. London: Medical Department, The British Council. 40 illustrations. Pp. 1-79. Price 10s.

It is useful to pause and take stock of the situation, to look back on what has been done, and to see clearly the tasks that lie ahead. To keep up to date with advances in industrial medicine is a formidable problem. We therefore owe a debt to the British Council for gathering a symposium, which brings us up to date with the present state of knowledge concerning industrial hazards. It does not pretend to be an exhaustive account of every aspect of industrial medicine; skin and bladder cancer, for example, are not mentioned, although readers of this Bulletin will remember a previous number devoted to "Chemical Carcinogenesis", but its scope is sufficiently wide for Dr. Rogan to say in his preface: "It is unlikely that the doctor who spends all or part of his time in industry will encounter the



Appraising Vocational Fitness by Means of Vocational Tests

Alastair Heron

Br J Ind Med 1951 8: 98-99

doi: 10.1136/oem.8.2.98

Updated information and services can be found at:

<http://oem.bmj.com/content/8/2/98.citation>

Email alerting service

These include:

Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:

<http://group.bmj.com/group/rights-licensing/permissions>

To order reprints go to:

<http://journals.bmj.com/cgi/reprintform>

To subscribe to BMJ go to:

<http://group.bmj.com/subscribe/>