BOOK REVIEWS

PSYCHOLOGY. THE FUNDAMENTALS OF HUMAN ADJUSTMENT
By Norman L. Munn

Dr. Munn is a lecturer in Psychology in Tennessee. He has written a book indicating the foundations of the lectures which he gives, and a remarkably full book it is, ranging from Plato to Rorschach. It moves through the problems of feeling, emotion, cognition, and achievement to those of intelligence and personality. The emphasis is throughout upon the experimental method of the psychological laboratory, and diagrams and figures are abundant. Every chapter is followed by a bibliography.

The material presented is considerable, but it is all "potted." The small reproduction of Healy's picture-completion test in Fig. 203 seems valueless as it stands, and similar criticisms could be levelled at many other figures. Where Dr. Munn is discussing introversion and extroversion he again inserts a figure which is interesting, but he does not in the text really tackle the problems involved. This is typical of the information given: it is true up to a point, but it is doubtful if any student could rely satisfactorily upon learning any useful psychology from this volume alone. The mischief is that many students would consider that they could. We have no doubt that Dr. Munn knows these dangers better than the reviewer. This book reminds us of those medical primers "Aids to..." which are so compressed that at times they give information which could be falsely interpreted.

So long as Dr. Munn's book is recognized as an attempt to abbreviate an enormous subject and to stimulate further reading, well and good. But its danger lies in its being accepted too glibly as authoritative per se, and the simplicity of some of its diagrams illustrates these dangers only too well. As a form of suggestive notes to the teacher of psychology already well versed in the subject it has something useful to offer.

H.W.

THE NATURAL HISTORY OF DISEASE
By John A. Ryle

The appearance of a second edition of this readable collection of essays and papers will be warmly welcomed. The work will be remembered as a well-balanced combination of work, teaching, and clinical observation, record, and analysis, written somewhat in the style of the physicians of a generation ago. It is, however, more than this because it links up with the future trend of developments in social medicine by references to the value of investigation of the natural history of disease not only in the individual patient, but also in the family, which is the smallest social unit, and so to larger populations in the community. In this light a new chapter on the social pathology of rheumatic fever has been introduced, in which the author supports voluntary notification, emphasizing the value this would have upon epidemiological and aetiological studies, the basis of further developments in preventive action. He remarks, however, on the modern tendency of doctors to become so interested in local pathologies that they forget the minds of their patients, and that anxiety is one of the most frequently encountered symptoms in practice and demands reassurance from the doctor. The drift towards prevalent neurosis in the community he attributes to our generation becoming too disease conscious. "It is possible to legislate too much for safety and for health, or, rather for a state of no disease which is not really health," he writes.

There are two further new chapters on nosophobia and prognosis. Wider use of statistical analysis is urged, implying the follow-up method, so that the physician can develop the important facility for accurate prognosis. The author makes no excuse for retaining his chapter on lobar pneumonia and explains that, although chemotherapy has greatly altered treatment, the lessons to be learned about judgment in prognosis cannot better be exemplified than by a study of the natural history of this disease. "Full notes, frequently perused, are the essence of clinical deduction." One feels that this is the text of the author's thesis throughout the book. A detailed history will time and again prove its value in the analysis of the meaning of symptoms. Medical students should read, and qualified doctors of all grades re-read this likeable book.

J.L.L.

PRINCIPLES OF MEDICAL STATISTICS
By A. Bradford Hill

In view of the present dearth of textbooks, the reissue of Professor Bradford Hill's Principles of Medical Statistics is particularly welcome. It has already become a standard work, and the new sections included in the latest edition should greatly enhance its value. The book provides an excellent introduction to simple statistical methods of experimentation and analysis and, although the illustrations are all drawn from medicine, it should prove useful to workers in other fields as well. The author assumes no previous knowledge of the subject and confines himself to what may be termed "arithmetic guided by logic." The book covers the selection and presentation of data, averages and variability, sampling and correlation, life tables and the standardization of death rates. There is also a particularly useful section on common fallacies and the misuse of statistics.
All these subjects are treated to lucid discussion, and even those who are inclined to be terrified at the sight of figures should find it an easy book to read. At the same time, the author brings out the essential aspects of each problem and gives excellent advice to the uninitiated on most of the points on which they are liable to go astray.

It may seem ungenerous to offer any criticisms of a work of such high standard, but no two statisticians can expect to find themselves in complete agreement. One’s only general criticism is that the author seems to go to unnecessary lengths in his understandable desire to avoid the use of symbols, even when giving the formula for a regression equation (p. 148). Surely no one would ever calculate a regression equation if he were incapable of using elementary symbols to represent the different variables. One has the impression, in fact, that much of the exposition could have been simplified, and would not have become any more difficult to follow, if conventional notations had been used.

The remaining criticisms are all on rather technical points. When it is necessary to divide patients into two groups, with the idea of giving a certain treatment to one group and not to the other, it is not a good general rule to allocate the patients, as suggested (p. 5), alternately to the two groups. Such an allocation is certainly not random and if the original order has any significance (for example, if it has a trend) the comparison of the two groups will be biased.

For testing the significance of the difference between two samples as regards the proportion of cases having a certain attribute, two methods are given, both of which are stated to be based on the hypothesis that the samples are drawn from the same universe. But the second method (pp. 111 to 112), is not very clearly set out; so that the estimates of the standard deviations appear to be, but are not in fact, dependent on this hypothesis. It should also have been made clear that the test depends on estimates, not true values, of the standard deviations.

A similar criticism may be made of the two methods suggested (pp. 114 to 115) for testing the significance of the difference between sample means. The second of these provides the more powerful test for detecting the existence of a real difference; the first appears to have no particular merit. Both tests apply only to large samples and it might have been better to give the $t$ test, which is uniformly most powerful and is really no more difficult to use.

The method proposed (pp. 152 to 153) for testing the significance of a correlation coefficient is not to be recommended. In the only example quoted, the method is correctly used for testing whether the correlation coefficient differs from zero. But it should have been emphasized that the formula for the standard deviation of $r$ (the sample value of the correlation coefficient), and the assumption that $r$ is normally distributed, are valid only if the true correlation is small and if the sample is large (100 or more). When giving this method, the author specifically refers to “relatively small samples”; but in small samples, as R. A. Fisher has shown, the distribution of $r$ is far from normal. We read only later on, almost as an aside, that “somewhat more intricate methods are needed for small samples and to test whether one coefficient differs significantly from another.” In fact, it is easy to find out whether the correlation coefficient differs from zero with the help of a table given in Fisher and Yates’s Statistical Tables. The term “small” should, of course, be clearly defined, especially when it has quite a different meaning from “relatively small.”

In the section on death rates, mention might have been made of the Life Table death rate, which is probably to be preferred to the standardized death rate. It is also a little odd to find a table of $x^2$ and no table even of the Normal Curve.

But none of these weaknesses, some of which may be due to faults in phrasing, can affect the undoubted merits of the work as a whole.

J.L.N.

AN INTRODUCTION TO MEDICAL STATISTICS

By H. M. Woods and W. T. Russell


This book by Woods and Russell, which is more elementary than Professor Bradford Hill’s, is also a very useful introduction to medical statistics, suited to the needs of people studying for the Diploma of Public Health. Plenty of examples are fully worked out and the exposition throughout maintains a high standard of clarity. The only faults which can be found are in the diagram illustrating the weekly incidence of infectious diseases (Diagram VII, p. 26), which is very muddled in appearance; and in the list of books for “further reading,” which is sadly out of date. J. L. N.