The reviewer believes that the book will be a welcome addition to the treatises on the subject. Mr. Miles and those responsbile for the Pamphlet are to be congratulated upon the careful way in which the lectures are edited. Misprints are rare, and the general high character of the Pamphlet, established in earlier numbers dealing with mathematical subjects, is maintained. The consistency with which references are given to unproved theorems and to the proofs of facts employed in the demonstrations is highly commendable. If this principle were followed more generally, mathematical literature would be more readable.

D. V. WIDDER

Theory of Probability. By William Burnside. Cambridge University Press, 1928. 106+xxx pp. Short table of Error-Integral.

This *Theory of Probability* was edited for the press by A. R. Forsyth from a manuscript which Burnside practically completed before his death. In barely a hundred pages, it treats a great variety of topics in a decidedly unique and interesting manner. It is not a book on statistics. Burnside's interest is in probability itself. First, he develops in somewhat extended form relations between probabilities of a general nature associated with n conditions, some of which are to be satisfied and some not—connecting his primal idea of equal likelihood with these conditions. Then he proceeds to the discussion of typical problems, mainly algebraic in their origin. Analysis is freely used—of course, it is indispensible—but the reader gets the impression that Burnside tries to view a problem first in an algebraic setting. Thus the difference equation is more in evidence than the differential equation. This is a distinctive feature. It makes the book of special value to readers who have cultivated mainly the analytic side.

The book is fairly well organized, in spite of the fact that Burnside may not have considered it in its final form. A greater unification of topics involving the Gaussian law would have been desirable,—this law appears on pages 42, 44, 52, 73, 88. On page 73, the validity of this law as the best approximation is not so clear, as the elementary probability designated by x is made very small—this leading naturally to the Poisson Exponential, obtained on page 45. Burnside is not satisfied with the usual statement of the assumption of equal likelihood. He insists upon "assuming each two of the n results equally likely," instead of "assuming all the n results to be equally likely," see page 101. Burnside's phrasing appears a little more specific—although it seems difficult to conceive how all can be equally likely if some two of the results are not equally likely. In Chapter VII, which deals with the theory of errors, assumptions are given which lead respectively to the arithmetic mean, the median, and the average of the least and the greatest measurement. The arithmetic mean is found acceptable "as any other assumption would imply that either an excess of positive errors or an excess of negative errors has occurred." If here by "positive errors" the *number* of positive errors is meant, the median would be indicated rather than the arithmetic mean. The argument in Chapter VI follows conventional lines, including an artificial assumption regarding the a priori