SHORTER NOTICES

An Introduction to the Theory of Statistics. By G. Udney Yule. 6th Edition. London, C. Griffin, 1922. xv + 415 pp.

A noteworthy development of recent years has been an increasing use in various fields—economics, education, public health work, biometry, etc.—of a varied assortment of methods which are called statistical. Those general habits of statisticians which have a merely empirical foundation are not of interest to mathematicians; but certain principles and methods have been brought within the sphere of mathematics by theoretical development and discussion. The book under review was originally prepared (published, 1910) to meet the demand of those who possess only a limited knowledge of mathematics for a systematic elementary exposition of such statistical methods, especially of those developed by Galton, Pearson, Yule, and their collaborators. It has proved so serviceable in carrying out this purpose that five editions after the first have been called for, and the book has won general recognition as in a sense *the* book on statistical method, excluding the technique of gathering data and of graphic presentation.

The general experience of statisticians with earlier editions has been that it has been very difficult for a beginner to get the point of view and that even a person with considerable practical statistical experience found it necessary to read with great care, in order to get at the meaning of the unfamiliar terms and forbidding notation. One difficulty appears to be that the significance of the general principle back of a method or formula is not discussed from the standpoint of the uninitiated. The chapter on dispersion, for instance, begins: "The simplest measure of the dispersion of a series is the actual range" without discussing why any measure of dispersion is desirable or useful. But those who are willing to read and reflect, to come back again and again to the book as their statistical knowledge increases, have found it a veritable gold mine of careful and useful statistical thought.

The book, aside from introduction and appendices, is divided into three parts, the theory of attributes (68 pages), the theory of variables (179 pages), and the theory of sampling (103 pages). The first part, which deals with the methods of determining consistence and association of characteristics of individuals which are discrete in nature, has not entered vitally into current statistical thought, and is of minor interest to mathematicians because it gives no opportunity for the use of continuous variables. The second part discusses frequency distributions, averages, measures of dispersion, and correlation, both single and multiple. Yule's careful and detailed treatment of these subjects has