out is formal, and yet inspiring, rigorous and yet never pedantic. It will serve as an example worthy of imitation and is an achievement on which the author deserves our sincere congratulations.

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The Advanced Theory of Statistics. Vols. I and II. *Maurice G. Kendall.* London: C. Griffin and Co., Ltd. Vol. I. Second ed. revised, 1945; pp. xii, 457, 50 shillings. Vol. II. 1946; pp. viii, 521; 42 shillings.

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With the recent appearance of the second volume, it is now possible to review as one work this comprehensive treatise. To quote the author's opening remarks to the Preface to Volume I: "The need for a thorough exposition of the theory of statistics has been repeatedly emphasized in recent years. The object of this book is to develop a systematic treatment of that theory as it exists at the present time." An outline of the contents, which in the two volumes make up just on a thousand pages, will indicate that this formidable task has been squarely faced by the author, who, when a tentative co-operative venture of writing such a treatise was upset by the outbreak of the war, continued alone with the project.

Volume I contains sixteen chapters. The first six introduce the concept of frequency distributions via observational data on groups and aggregates, and their mathematical representation (Ch. 1), measures of location and dispersion (Ch. 2) and moments and cumulants in general (Ch. 3), characteristic functions (Ch. 4), and ending with a description of the standard distribution functions, such as the binomial, Poisson, hypergeometric and normal distributions, and the Pearson and Gram-Charlier systems. The next section opens with probability (Ch. 7) and proceeds to sampling theory (Chs. 8–11), including a chapter (Ch. 10) on exact sampling distributions, many of the standard sampling distributions being used in this chapter to illustrate the mathematical methods available for obtaining sampling distributions. Chapter 11 deals with the general sampling theory of cumulants, including a useful reference list of formulae and a demonstration, due to the author, of the validity of Fisher's combinatorial rules for obtaining these formulas. The section concludes with a chapter on the Chi-square distribution and some of its applications. The last four chapters of Volume I deal with association and contingency, correlation, including partial and multiple correlation, and rank correlation; this last chapter being a comprehensive treatment including comparatively recent results of the author.

It will be convenient to list also the contents of Volume II before any critical comment on either volume. The first section of the second volume comprises four chapters on the theory of estimation, including a derivation of the properties of the maximum likelihood estimate (Ch. 17) and separate chapters on Fisher's theory of fiducial probability and Neyman's theory of confidence intervals. The