BOOK REVIEWS

Correspondence concerning reviews should be addressed to the Book Review Editor, Professor William Kruskal, Department of Statistics, University of Chicago, Chicago 37, Illinois.

MAURICE G. KENDALL AND ALAN STUART, *The Advanced Theory of Statistics, Volume 2, "Inference and Relationship."* Hafner Publishing Company, New York, 1961. $21.00, 132 shillings, x + 676 pp.

Review by J. KIEFER

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The preface to this second volume of the three-volume work (hereafter referred to as K-S) states that the volume bears little resemblance to the original Volume 2 of Kendall (1946) (hereafter referred to as K), and that it was "planned and written practically *ab initio*, owing to the rapid development of the subject over the past fifteen years." Even superficial page counting shows that the three new volumes will contain much more material than did the old two, and the list of references indicates the extent to which the authors have updated the work.

A chief asset of the work is this large content, which will probably not be surpassed by any other reference work in statistics for many years. Also on the positive side is the successful presentation of the material of some of the more classical and unmathematical chapters. My main criticism of the book is that it has a very high density of errors in statements and proofs. Another negative aspect is the exclusion, in a work of this encyclopaedic nature, of much of the content and almost all of the spirit of modern mathematical statistics (as typified, for example, by the papers in these *Annals* which have elicited the most interest in the last two decades). I shall expand on these assessments in the next few paragraphs, and shall then list more detailed comments. My attempt will be to criticize this book in terms of what its aims appear to be, although this attempt may not be successful, since the aims are not stated.

One notices almost immediately that the book is written on an unfortunate mixture of mathematical levels, especially in view of the promise of its title. Unquestionably, one could produce a valuable reference work which lists statistical topics, models, procedures, etc., without giving proofs. One could also write a book which proves precisely stated results, but which keeps the level down by doing this only under restricted but stated conditions. But it seems uneven to make mention of sets of measure zero on one page and then, repeatedly, to give proofs which are only stated to hold "under regularity conditions" which are not specified. (A footnote on page 8 is evidently meant to justify this loose approach, but it is unsatisfactory both because the necessary regularity conditions vary, and also because they are sometimes assumed to hold where they