

that if a trigonometrical series converges except in an enumerable set to a finite and integrable function, then it is the Fourier series of this function.

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*The advanced theory of statistics*. Vol. 1. By Maurice G. Kendall. Philadelphia, Lippincott, 1944. 12+457 pp. \$16.00.

Modern statistics is built around sampling theory. It is not well presented by books in the tradition of a quarter-century ago which exalted an extreme and sterile empiricism and ignored or deprecated probability and mathematics in general, even when such books are revised to mention modern developments. Neither is it adequately presented in the books, now becoming available to research workers in an increasing number of fields, which give sound practical advice and formulae, but without the derivations. For the serious student of statistics nothing is wholly satisfactory short of a treatment starting from first principles and proceeding by fully stated definitions and derivations to the methods needed for the entire array of situations with which statistics deals. To get on as far as possible with this program has been the object of only a few of the many books on statistics. Of these, Mr. Kendall's is the largest, and covers in fullest detail the subjects treated.

In spite of the title, this book is not "advanced" in the sense of requiring of the reader a prior knowledge of statistics. It does call for more of a mathematical background than is possessed by most students of statistics. Anyone who has mastered advanced calculus should get along fairly well with it, though there are occasional uses of such relatively advanced mathematics as complex integration and evaluation of integrals by residues, the Euler-Maclaurin sum formula, Stirling's formula (which is used without proof or explicit statement), the integral form of the remainder in Taylor's theorem, and definite quadratic forms. For a reader who is not troubled by these purely mathematical matters the style is unusually clear and explicit. There are many illustrations drawn from actual observations. Each chapter ends with a collection of problems; these are of a superior quality, suitable for testing mathematical skill and mastery of the material, not merely numerical data to be substituted in formulae. The work therefore possesses qualifications as an excellent textbook for suitably prepared students in the hands of a suitable teacher. The teacher, however, should not only be prepared to help the students over the mathematical hurdles noted and others, but should also be enough