The reviewer has not seen the first edition of this work. In the preface of the second edition, the author claims that the revisions consist of various corrections and restatements to overcome certain misprints, ambiguities, and inaccuracies; also, that a chapter on transformations has been added. Since no reference to a review of the first edition in this journal has been found, it seems advisable to review the present book in its entirety. Apparently, the work is intended for those students and workers who have passed the elementary stages of statistical analysis and for this reason some topics are omitted or are given only brief mention. All through the volume the author assumes that such elements are known to the reader and therefore no explanation or discussion is given when referring to them.

Doctor Mather has crowded a wealth of statistical analysis, including the derivation of numerous equations, in the 267 pages of the book. The wide range of essential topics discussed makes it a valuable reference work as well as a manual. The analyses of many of the subjects differ from those found in many textbooks and manuals, but these unusual methods help the average worker in understanding better some of the intricate mathematics as well as giving a new viewpoint of the logic underlying some of the processes used in analyzing data. Probably the chapter on Degrees of Freedom and Analysis of Variance is the most outstanding example of the departure from the usual methods of analysis. Throughout the book the chief emphasis is placed on tests of significance, but the care to be used in planning experiments is also strongly stressed. The discussion of methods of estimation and the analysis of frequency data, while given less emphasis, is usually adequate for understanding the subjects, although, in the opinion of the reviewer, some topics might well have been given somewhat wider treatment. Perhaps the writer decided that much of this should be familiar to the reader. Most of the examples used to illustrate the various analyses throughout the book are taken from the field of genetics (the author's specialty) and for this reason the work should appeal to those biologists who are interested in plant or animal breeding. A goodly number of examples from other phases of agriculture are also given. The popularity of the earlier edition among biologists is a high commendation of the quality of the book.

A list of the chapter headings together with a summary of the sections included in each is as follows: Introductory (nature of statistics, population and samples, diagrams and graphs), Probability and Significance (simple and compound probability, agreement with hypothesis, significance), Distributions (normal, mean, and standard Deviation, fitting, skewness and kurtosis, Poisson series, mean and variance of the binomial distribution), Tests of Significance (normal