This reviewer has some reservations about attempting to introduce students to programming and to numerical analysis in the same course. He believes that it is better to defer the introduction of computers until the students have mastered some of the basic ideas of numerical analysis. However, this book could be most useful for those instructors who think otherwise, and would like to teach both subjects more or less simultaneously.

K. W. Smillie, University of Alberta

Théorie des Probabilitiés et Quelques Applications, by P. L. Hennequin and A. Tortrat. Masson et Cie., Paris, 1965. 458 pages. Price: 88 F.

This book breaks down into two parts. The first begins with a thorough and elegant presentation of the basic mathematical tools of probability theory, namely, measure and integration theory, the concept of compact pavings of sets, the Riemann-Stieltjes integral and the Radon-Nikodym theorem. This is followed by a careful exposition of characteristic functions including the application to the study of infinitely divisible laws. There is a chapter on conditional probabilities including Jirina's result on the existence of regular conditional probabilities (unfortunately stated only for σ-algebras of countable type). Finally there is a chapter on limit theorems for sequences of random variables including an exposition of the Prohorov convergence theorem which does not appear in any of the older texts on probability.

The second part is devoted to a study of a few more specialized topics. This begins with a short discussion of estimation, decision theory and hypothesis testing in statistics followed by a discussion of Kolmogorov-Smirnov statistics and the determination of their asymptotic distributions by the method of Doob. The book closes with one of the best discussions of Markov chains to be found in the literature including an introduction to the potential theory of Markov chains.

The book is well referenced and contains a modest supply of exercises. It would make a good text for a course in probability theory for the mathematically mature student.

Donald Dawson, McGill University

Elements of Finite Probability, by J. L. Hodges, Jr. and E. L. Lehmann. Holden-Day, Inc., San Francisco, London, Amsterdam, 1965. vi + 227 pages.

This book is Part I of the earlier book Basic Concepts of Probability and Statistics, written by the same two authors and is supplemented by two new sections on the law of large numbers and sequential stopping at the end of Chapter 6. It is an ideal text for a one quarter or one semester

course in probability at the pre-calculus level. Consequently, its attention is restricted to finite probability models, i.e., to models representing experiments with a finite number of outcomes. To facilitate numerical illustrations, a discussion (without proof) of the normal and Poisson approximations is included. The book contains over 400 problems, some of which provide simple exercises while others extend the ideas and results of the text, and instructors may obtain answer books by writing to the publisher.

Anyone facing the problem of having to teach an elementary course in probability at the pre-calculus level should definitely consider this book as a possible text, for it is a well written, rigorous treatment of probability restricted to finite models.

Miklos Csörgő, McGill University

Multidimensional Gaussian Distributions, by K.S. Miller. John Wiley and Sons, 1965. vii + 129 pages. $9.50.

This is a book on the properties of the multivariate normal distributions and some of its various aspects. In the preface the author states that: "Our objective has been to present the basic facts concerning multidimensional Gaussian distributions in a concise, crisp, and we hope elegant form."

The author has done just that, and has done it in exactly the "concise, crisp" spirit. Hence, this book cannot in any sense be recommended as a text, but only as a reference. To statisticians, it will be somewhat disappointing, since no attention is given to sampling distribution theory from the multivariate normal. These are the negative aspects of the book.

On the positive side, however, one should note the following:

(i) The clear definition of Rayleigh Distributions and their use to find the distribution of various functions of X_n, where X_n is an $(n \times 1)$ column vector having the n-variate normal distribution.

(ii) The attention given to non-central univariate-distributions.

(iii) The use of matrices and vectors including a well written introductory chapter on needed matrix theorems, quadratic forms, etc.

(iv) A chapter giving applications to Gaussian noise problems.

Irwin Guttman, University of Wisconsin

Elements of the Theory of Probability, by Émile Borel. Translated by John E. Freund. Prentice-Hall, Inc., Englewood Cliffs, N.J. 1965. xiv + 178 pages.

In 1909 the author published a book, under the same title as this one, which is no longer in print. This new edition was originally pub-