All the values in Tables III, VI, and VII were checked by the reviewer. Table III contains two entries that are in error by a unit in the last place: at $x = 0.039$ *read* 0.9621164, and at $x = 9.69$ *read* 0.1299204. Table VII, which is taken directly from [2] (cited as reference (30) in the introduction) contains a single error: at $k = 1.2, c = 0.4$ *read* 0.7358558. Table VI is free from error. The remaining tables were not checked.

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1. A. R. Di Donato & M. P. Jarnagin, "A method for computing the circular coverage function," *Math. Comp.*, v. 16, 1963, pp. 347–355.
2. H. L. Harter, "Circular error probabilities," *J. Amer. Statist. Assoc.*, v. 55, 1960, pp. 723–731.

29[K, X].—F. N. David, M. G. Kendall & D. E. Barton, *Symmetric Function and Allied Tables*, Cambridge University Press, Cambridge, England, 1966, x + 278 pp., 29 cm. Price $13.50.

This elaborate, attractively printed set of tables is accompanied by a detailed introduction of 63 pages, which constitutes a self-contained treatment of symmetric functions and their applications in statistics.

The senior author has written a preface giving some of the historical developments in combinatorial algebra and outlining the statistical uses of the tables. He also states there that all the tables were calculated anew and were checked against such similar tables as then existed.

The introduction is divided into nine parts, with the respective headings: Symmetric Functions; Moments, Cumulants and k-Functions; Sampling Cumulants of k-Statistics and Moments of Moments; Partitions; Quantities Based on the First n Natural Numbers; "Runs" Distributions; Randomization Distributions; Tables for the Solution of the Exponential Equations $\exp(-a) + ka = 1$, $\exp a - a/(1 - p) = 1$; and Partition Coefficients for the Inversion of Functions.

The 49 major tables in this collection are arranged according to the relevant parts of the introduction, and cross references thereto are given in the table of contents. At the end of the introduction there appears a list of 48 references; this is augmented at the end of the tables by a supplementary bibliography of 59 publications intended for those table-users who might desire to read more deeply in one or more of the areas covered by these tables.

The entries in most of the tables appear exactly as integers; however, Table 5.4.2, Difference of reciprocals of unity (decimals), gives 10D values of $\Delta^n(1/1^r)$ for $r = 1(1)20$, $n = 1(1)20$, while Tables 8.1 and 8.2 give 7D approximations to the roots of the equations $\exp(-a) + ka = 1$ $(0 < k < 1)$ and $\exp(b) - b/(1 - p) = 1$ $(0 < p < 1)$, respectively, for $k = 0.050\,(0.001)1$ and $p = 0(0.001)$-0.999. The authors illustrate the use of these roots in obtaining approximations to distributions outside the scope and range of the tables associated with the distribution of runs and the randomization distributions.

The multiplicity of tables represented in this book generally precludes their detailed description here or even their enumeration. It must suffice to state this definitive compilation should be accessible to statisticians and to others working in combinatorial analysis and its applications.

J. W. W.

30[K, X].—Paul A. Meyer, *Probability and Potentials*, Blaisdell Publishing Company, Waltham, Mass., 1966, xiii + 266 pp., 26 cm. Price $12.50.

Potential theory is one of the more interesting branches of modern mathematics, the main reason being that it has so many useful connections with other branches of mathematics. The application of potential theory to the theory of functions of a complex variable are well known; less well known perhaps are the connections between potential theory and modern probability theory, in particular the theory of Markov processes. In recent years much research has been done in this area and Meyer's book is an attempt to give a systematic account of the probabilistic and analytical techniques that are used in these researches. Before proceeding to discuss the book in more detail I should like to mention some of the more interesting results that have so far been obtained; the reader of this review will then be able to better appreciate the structure and contents of this book.

The first result I should like to mention is due to S. Kakutani (1944). It may rightly be considered as the starting point for all subsequent researches in this area. Kakutani considered the following problem: Let G be a bounded two-dimensional region in the plane with boundary ∂G and let A be a measurable subset of ∂G. Let x be an interior point of G and denote by $\{W(t), t \geqq 0\}$ the two-dimensional Brownian motion process starting at x. Denote by τ_x the first passage time of the Brownian motion process through ∂G (note that τ_x is a random variable, indeed it is what probabilists call a "stopping time"). Kakutani showed that $\Pr\{W(\tau_x) \in A\} = \mu(x, A)$, where $\mu(x, A)$ denotes the harmonic measure of the set A relative to the point x and the region G. More generally, one may solve the Dirichlet problem for the region G with continuous boundary values f in the following "probabilistic way": $u(x) = E\{f(W(\tau_x))\}$, where E denotes the expected value and $u(x)$ is the classical solution to the Dirichlet problem. This probabilistic solution to the Dirichlet problem has been exploited by Doob who, using martingale methods, obtained new results on the boundary behavior of harmonic and superharmonic functions. Hunt, in a series of papers that appeared in the *Illinois J. Math.* (1957–1958) put many of these results in the more general context of Markov processes and their "potential theories".

In all these researches there has been a mutually beneficial interplay between probability and potential theory and what Meyer's book does is to bring together, for the first time, the various techniques that are used in these studies. The book contains 11 chapters divided in the following way: The first three chapters are devoted to probability theory and some of the finer points of measure theory, e.g. Choquet's theory of capacities. The fourth chapter is entitled stochastic processes but as no examples of the concepts discussed are given, its value to an analyst is somewhat doubtful. The next three chapters are devoted to the theory of martingales and includes the author's proof of the existence of a Doob decomposition for continuous parameter martingales satisfying certain conditions. The author does not however discuss the applications of these techniques to Doob's "fine limit theorems". Chapters 9 and 10 discuss those topics in the theory of semigroups